Savannah River NUCLEAR SOLUTIONS℠
FLUOR • NEWPORT NEWS NUCLEAR • HONEYWELL

ARF-022450

Removal Action Report for the 488-1D Ash Basin and 489-D Coal Pile Runoff Basin (U)

SEMS Number: 63

SRNS-RP-2018-01091

Volume III (Includes Appendices Q through U)

Revision 1

August 2019

SAVANNAH RIVER SITE • AIKEN, SOUTH CAROLINA

DISCLAIMER

This document was prepared in conjunction with work accomplished under Contract No. DE-AC09-08SR22470 with the U.S. Department of Energy.

This work was prepared under an agreement with and funded by the U.S. Government. Neither the U.S. Government or its employees, nor any of its contractors, subcontractors or their employees, makes any express or implied: 1.) warranty or assumes any legal liability for the accuracy, completeness, or for the use or results of such use of any information, product, or process disclosed; or 2.) representation that such use or results of such use would not infringe privately owned rights; or 3.) endorsement or recommendation of any specifically identified commercial product, process, or service. Any views and opinions of authors expressed in this work do not necessarily state or reflect those of the United States Government, or its contractors, or subcontractors.

Printed in the United States of America

Prepared for
U.S. Department of Energy
and
Savannah River Nuclear Solutions, LLC
Aiken, South Carolina

TABLE OF CONTENTS

Appendix		Page
APPENDIX Q	COMPLETED COVER ACCEPTANCE REPORTS	Q
Appendix Q1	Finished Ash Subgrade Verification & Data	Q1-1
Appendix Q2	CCSI LLDPE Subgrade Surface Acceptance	Q2-1
Appendix Q3	CCSI Geotextile Subgrade Acceptance Records	Q3-1
Appendix Q4	LLDPE Destructive Testing Conformance Test Reports (Geotechnics)	Q4-1
Appendix Q5	LLDPE As-built (Includes repairs and supporting data)	Q5-1
Appendix Q6	Final LLDPE & Geotextile Acceptance Inspection Report	Q6-1
Appendix Q7	20 Inch Soil Cover Compaction Reports	Q7-1
Appendix Q8	Cover Thickness Verification Data	Q8-1
APPENDIX R	CLEAN FILL EVALUATION OF BERM SOILS FROM THE 488-1D ASH BASIN AND INLET BASINS	R-1
APPENDIX S	DATA USABILITY REPORTS	S
Appendix S1	DUR for Confirmation Sampling-489-D CPBR	S1-1
Appendix S2	DUR for Confirmation Sampling-488-1D Ash Basin	S2-1
Appendix S3	DUR for Confirmation Sampling-488-1D Inlet Basins	S3-1
APPENDIX T	AS-BUILT DRAWINGS	T
Appendix T1	488-1D (Cover) As-Built Drawings	T1-1
Appendix T2	Other As-Built Drawings	T2-1
APPENDIX U	WELLS	U
Appendix U1	SCDHEC Well Installation/Abandonment Approvals	U1-1
Appendix U2	SRNS Well Installation Records	U2-1
Appendix U3	SRNS Well Abandonment Records	U3-1

This page was intentionally left blank.

APPENDIX Q

COMPLETED COVER ACCEPTANCE REPORTS

Appendix Q1 Finished Ash Subgrade Verification & Data
Appendix Q2 CCSI LLDPE Subgrade Surface Acceptance
Appendix Q3 CCSI Geotextile Subgrade Acceptance Records
Appendix Q4 LLDPE Destructive Testing Conformance Test Reports (Geotechnics)
Appendix Q5 LLDPE As-built (Includes Repairs and Supporting Data)
Appendix Q6 Final LLDPE & Geotextile Acceptance Inspection Report
Appendix Q7 20 Inch Soil Cover Compaction Reports
Appendix Q8 Cover Thickness Verification Data

This page was intentionally left blank.

APPENDIX Q1

Finished Ash Subgrade Verification & Data

SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.

SURVEY NOTES

1. THIS EXHIBIT SHOWS THE SURVEY DATA (POINT DATA) COLLECTED AT VARIOUS TIMES PRIOR TO GEOTEXTILE FABRIC BEING PLACED ON THE ASH LANDFILL CLOSURE AREA. SURVEY DATA IS ON A 25 FOOT BY 25 FOOT GRID. SEE ACCOMPANYING SPREADSHEET FOR COORDINATE INFORMATION FOR EACH GRID LOCATION.
2. BENCHMARKS UTIILIZED– MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

GRAPHIC SCALE
0 40' 80' 120' 160' 200' 240'

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	03/29/2018	N/A
	LAST REVISED: 06-20-2018	
	DRAWING FILENAME: Top of Ash Asbuilt - final.dwg	
	DRAWN/CHECKED: gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

488-1D ASH SURFACE FINAL ASBUILT
25' X 25' SURVEY DATA

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
problem solved
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

e:\lexington office active projects\surveying client files\encn-envirocon 2018\ash base drawings\top of ash asbuilt - final.dwg - 42 X 30 (Plotted: 7/20/2018 4:58:31 PM)

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20001	63365.00	18335.00	124.68	TOA AB	6/7/2018	S-10	FLAT
20002	63365.00	18350.00	124.85	TOA AB	6/7/2018	S-10	FLAT
20003	63365.00	18375.00	124.93	TOA AB	6/7/2018	S-10	FLAT
20004	63365.00	18400.00	125.08	TOA AB	6/7/2018	S-10	FLAT
20005	63365.00	18425.00	125.27	TOA AB	6/7/2018	S-10	FLAT
20006	63365.00	18450.00	125.29	TOA AB	6/7/2018	S-10	FLAT
20007	63365.00	18475.00	125.45	TOA AB	6/7/2018	S-10	FLAT
20008	63365.00	18500.00	125.52	TOA AB	6/7/2018	S-10	FLAT
20009	63365.00	18525.00	125.62	TOA AB	6/7/2018	S-10	FLAT
20010	63365.00	18550.00	125.66	TOA AB	6/7/2018	S-10	FLAT
20011	63365.00	18575.00	125.83	TOA AB	6/7/2018	S-10	FLAT
20012	63365.00	18600.00	125.93	TOA AB	6/7/2018	S-10	FLAT
20013	63365.00	18625.00	126.09	TOA AB	6/7/2018	S-10	FLAT
20014	63365.00	18650.00	125.85	TOA AB	6/13/2018	S-11	FLAT
20015	63365.00	18675.00	125.94	TOA AB	6/13/2018	S-11	FLAT
20016	63365.00	18700.00	125.79	TOA AB	6/13/2018	S-11	FLAT
20017	63365.00	18725.00	125.65	TOA AB	6/13/2018	S-11	FLAT
20018	63365.00	18750.00	125.64	TOA AB	6/13/2018	S-11	FLAT
20019	63365.00	18775.00	125.54	TOA AB	6/13/2018	S-11	FLAT
20020	63365.00	18800.00	125.33	TOA AB	6/13/2018	S-11	FLAT
20021	63365.00	18825.00	125.36	TOA AB	6/13/2018	S-11	FLAT
20022	63365.00	18850.00	125.24	TOA AB	6/13/2018	S-11	FLAT
20023	63365.00	18875.00	125.08	TOA AB	6/13/2018	S-11	FLAT
20024	63365.00	18900.00	125.02	TOA AB	6/13/2018	S-11	FLAT
20025	63365.00	18925.00	124.90	TOA AB	6/13/2018	S-11	FLAT
20026	63365.00	18950.00	124.78	TOA AB	6/13/2018	S-11	FLAT
20027	63365.00	18975.00	124.62	TOA AB RS	6/20/2018	S-13	FLAT
20028	63365.00	19000.00	124.46	TOA AB RS	6/20/2018	S-13	FLAT
20029	63365.00	19025.00	124.28	TOA AB RS	6/20/2018	S-13	FLAT
20030	63365.00	19050.00	124.11	TOA AB RS	6/20/2018	S-13	FLAT
20031	63365.00	19075.00	124.35	TOA AB	6/20/2018	S-13	FLAT
20032	63365.00	19100.00	124.13	TOA AB	6/20/2018	S-13	FLAT
20033	63365.00	19115.00	124.17	TOA AB	6/20/2018	S-13	FLAT
20034	63354.00	18334.98	124.79	TOA AB	6/7/2018	S-9	FLAT
20035	63359.23	18334.98	124.64	TOA AB	6/7/2018	S-10	FLAT
20036	63359.23	18350.00	124.75	TOA AB	6/7/2018	S-10	FLAT
20037	63359.23	18375.00	124.83	TOA AB	6/7/2018	S-10	FLAT
20038	63359.23	18400.00	124.96	TOA AB	6/7/2018	S-10	FLAT
20039	63359.23	18425.00	125.07	TOA AB	6/7/2018	S-10	FLAT
20040	63359.23	18450.00	125.21	TOA AB	6/7/2018	S-10	FLAT
20041	63359.23	18475.00	125.33	TOA AB	6/7/2018	S-10	FLAT
20042	63359.23	18500.00	125.47	TOA AB	6/7/2018	S-10	FLAT
20043	63359.23	18525.00	125.57	TOA AB	6/7/2018	S-10	FLAT
20044	63359.23	18550.00	125.62	TOA AB	6/7/2018	S-10	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20045	63359.23	18575.00	125.71	TOA AB	6/7/2018	S-10	FLAT
20046	63359.23	18600.00	125.84	TOA AB	6/7/2018	S-10	FLAT
20047	63359.23	18625.00	125.94	TOA AB	6/7/2018	S-10	FLAT
20048	63359.23	18650.00	125.86	TOA AB	6/13/2018	S-11	FLAT
20049	63359.23	18675.00	125.81	TOA AB	6/13/2018	S-11	FLAT
20050	63359.23	18700.00	125.67	TOA AB	6/13/2018	S-11	FLAT
20051	63359.23	18725.00	125.57	TOA AB	6/13/2018	S-11	FLAT
20052	63359.23	18750.00	125.50	TOA AB	6/13/2018	S-11	FLAT
20053	63359.23	18775.00	125.45	TOA AB	6/13/2018	S-11	FLAT
20054	63359.23	18800.00	125.29	TOA AB	6/13/2018	S-11	FLAT
20055	63359.23	18825.00	125.18	TOA AB	6/13/2018	S-11	FLAT
20056	63359.23	18850.00	125.09	TOA AB	6/13/2018	S-11	FLAT
20057	63359.23	18875.00	124.98	TOA AB	6/13/2018	S-11	FLAT
20058	63359.23	18900.00	124.87	TOA AB	6/13/2018	S-11	FLAT
20059	63359.23	18925.00	124.80	TOA AB	6/13/2018	S-11	FLAT
20060	63359.23	18950.00	124.69	TOA AB	6/13/2018	S-11	FLAT
20061	63359.23	18975.00	124.58	TOA AB RS	6/20/2018	S-13	FLAT
20062	63359.23	19000.00	124.36	TOA AB RS	6/20/2018	S-13	FLAT
20063	63359.23	19025.00	124.31	TOA AB RS	6/20/2018	S-13	FLAT
20064	63359.23	19050.00	124.14	TOA AB RS	6/20/2018	S-13	FLAT
20065	63359.23	19075.00	124.08	TOA AB	6/20/2018	S-13	FLAT
20066	63359.23	19100.00	124.01	TOA AB	6/20/2018	S-13	FLAT
20067	63359.23	19115.00	123.91	TOA AB	6/20/2018	S-13	FLAT
20068	63354.00	19115.00	123.88	TOA AB	6/20/2018	S-13	FLAT
20069	63334.23	18334.98	124.21	TOA AB	6/7/2018	S-9	FLAT
20070	63334.23	18350.00	125.02	TOA AB	6/7/2018	S-9	3:1
20071	63334.34	18353.93	126.15	TOA AB	6/7/2018	S-9	3:1
20072	63334.63	18375.00	126.17	TOA AB	6/7/2018	S-10	3:1
20073	63334.98	18400.00	126.27	TOA AB	6/7/2018	S-10	3:1
20074	63335.32	18425.00	126.26	TOA AB	6/7/2018	S-10	3:1
20075	63335.67	18450.00	126.34	TOA AB	6/7/2018	S-10	3:1
20076	63336.01	18475.00	126.27	TOA AB	6/7/2018	S-10	3:1
20077	63334.23	18475.00	126.45	TOA AB	6/7/2018	S-10	FLAT
20078	63336.36	18500.00	126.36	TOA AB	6/7/2018	S-10	3:1
20079	63334.23	18500.00	126.44	TOA AB	6/7/2018	S-10	FLAT
20080	63336.71	18525.00	126.37	TOA AB	6/7/2018	S-10	3:1
20081	63334.23	18525.00	126.43	TOA AB	6/7/2018	S-10	FLAT
20082	63337.05	18550.00	126.28	TOA AB	6/7/2018	S-10	3:1
20083	63334.23	18550.00	126.41	TOA AB	6/7/2018	S-10	FLAT
20084	63337.40	18575.00	126.24	TOA AB	6/7/2018	S-10	3:1
20085	63334.23	18575.00	126.35	TOA AB	6/7/2018	S-10	FLAT
20086	63337.74	18600.00	126.35	TOA AB	6/7/2018	S-10	3:1
20087	63334.23	18600.00	126.32	TOA AB	6/7/2018	S-10	FLAT
20088	63338.09	18625.00	126.38	TOA AB	6/7/2018	S-10	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20089	63334.23	18625.00	126.42	TOA AB	6/7/2018	S-10	FLAT
20090	63337.98	18650.00	126.36	TOA AB	6/13/2018	S-11	3:1
20091	63334.23	18650.00	126.51	TOA AB	6/13/2018	S-11	FLAT
20092	63337.62	18675.00	126.37	TOA AB	6/13/2018	S-11	3:1
20093	63334.23	18675.00	126.47	TOA AB	6/13/2018	S-11	FLAT
20094	63337.27	18700.00	126.19	TOA AB	6/13/2018	S-11	3:1
20095	63334.23	18700.00	126.38	TOA AB	6/13/2018	S-11	FLAT
20096	63336.91	18725.00	126.42	TOA AB	6/13/2018	S-11	3:1
20097	63334.23	18725.00	126.45	TOA AB	6/13/2018	S-11	FLAT
20098	63336.56	18750.00	126.37	TOA AB	6/13/2018	S-11	3:1
20099	63334.23	18750.00	126.42	TOA AB	6/13/2018	S-11	FLAT
20100	63336.20	18775.00	126.38	TOA AB	6/13/2018	S-11	3:1
20101	63334.23	18775.00	126.45	TOA AB	6/13/2018	S-11	FLAT
20102	63335.85	18800.00	126.32	TOA AB	6/13/2018	S-11	3:1
20103	63334.23	18800.00	126.40	TOA AB	6/13/2018	S-11	FLAT
20104	63334.23	18825.00	126.47	TOA AB	6/13/2018	S-11	FLAT
20105	63334.23	18850.00	126.43	TOA AB	6/13/2018	S-11	FLAT
20106	63334.23	18875.00	126.44	TOA AB	6/13/2018	S-11	FLAT
20107	63334.23	18900.00	126.40	TOA AB	6/13/2018	S-11	FLAT
20108	63334.23	18925.00	126.42	TOA AB	6/13/2018	S-11	3:1
20109	63334.23	18950.00	126.41	TOA AB	6/13/2018	S-11	3:1
20110	63334.23	18975.00	126.42	TOA AB RS	6/20/2018	S-13	3:1
20111	63334.23	19000.00	126.30	TOA AB RS	6/20/2018	S-13	3:1
20112	63334.23	19025.00	126.16	TOA AB RS	6/20/2018	S-13	3:1
20113	63332.65	19025.00	126.47	TOA AB RS	6/20/2018	S-13	3:1
20114	63334.23	19050.00	126.03	TOA AB RS	6/20/2018	S-13	3:1
20115	63332.29	19050.00	126.52	TOA AB RS	6/20/2018	S-13	3:1
20116	63334.23	19075.00	125.99	TOA AB	6/20/2018	S-13	3:1
20117	63331.94	19075.00	126.39	TOA AB	6/20/2018	S-13	3:1
20118	63331.69	19092.73	126.35	TOA AB	6/20/2018	S-13	3:1
20119	63334.23	19100.00	124.21	TOA AB	6/20/2018	S-13	3:1
20120	63334.23	19115.00	123.92	TOA AB	6/20/2018	S-13	FLAT
20121	63309.23	18334.98	124.73	TOA AB	6/7/2018	S-9	FLAT
20122	63309.23	18350.00	125.09	TOA AB	6/7/2018	S-9	3:1
20123	63309.23	18354.04	126.19	TOA AB	6/7/2018	S-9	3:1
20124	63309.23	18375.00	126.95	TOA AB	6/7/2018	S-9	FLAT
20125	63309.23	18400.00	127.21	TOA AB	6/7/2018	S-10	FLAT
20126	63309.23	18425.00	127.31	TOA AB	6/7/2018	S-10	FLAT
20127	63309.23	18450.00	127.34	TOA AB	6/7/2018	S-10	FLAT
20128	63309.23	18475.00	127.34	TOA AB	6/7/2018	S-10	FLAT
20129	63309.23	18500.00	127.32	TOA AB	6/7/2018	S-10	FLAT
20130	63309.23	18525.00	127.29	TOA AB	6/7/2018	S-10	FLAT
20131	63309.23	18550.00	127.35	TOA AB	6/7/2018	S-10	FLAT
20132	63309.23	18575.00	127.34	TOA AB	6/7/2018	S-10	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20133	63309.23	18600.00	127.34	TOA AB	6/7/2018	S-10	FLAT
20134	63309.23	18625.00	127.37	TOA AB	6/7/2018	S-10	FLAT
20135	63309.23	18650.00	127.27	TOA AB	6/7/2018	S-10	FLAT
20136	63309.23	18675.00	127.33	TOA AB	6/13/2018	S-11	FLAT
20137	63309.23	18700.00	127.23	TOA AB	6/13/2018	S-11	FLAT
20138	63309.23	18725.00	127.25	TOA AB	6/13/2018	S-11	FLAT
20139	63309.23	18750.00	127.39	TOA AB	6/13/2018	S-11	FLAT
20140	63309.23	18775.00	127.30	TOA AB	6/13/2018	S-11	FLAT
20141	63309.23	18800.00	127.34	TOA AB	6/13/2018	S-11	FLAT
20142	63309.23	18825.00	127.38	TOA AB	6/13/2018	S-11	FLAT
20143	63309.23	18850.00	127.34	TOA AB	6/13/2018	S-11	FLAT
20144	63309.23	18875.00	127.32	TOA AB	6/13/2018	S-11	FLAT
20145	63309.23	18900.00	127.29	TOA AB	6/13/2018	S-11	FLAT
20146	63309.23	18925.00	127.28	TOA AB	6/13/2018	S-11	FLAT
20147	63309.23	18950.00	127.24	TOA AB	6/13/2018	S-11	FLAT
20148	63309.23	18975.00	127.30	TOA AB RS	6/20/2018	S-13	FLAT
20149	63309.23	19000.00	127.27	TOA AB RS	6/20/2018	S-13	FLAT
20150	63309.23	19025.00	127.25	TOA AB RS	6/20/2018	S-13	FLAT
20151	63309.23	19050.00	127.24	TOA AB RS	6/20/2018	S-13	FLAT
20152	63309.23	19075.00	127.11	TOA AB RS	6/20/2018	S-13	FLAT
20153	63309.23	19093.32	126.44	TOA AB	6/20/2018	S-13	3:1
20154	63309.23	19115.00	124.10	TOA AB	6/20/2018	S-13	FLAT
20155	63284.23	18334.98	124.780	TOA AB RS	6/7/2018	S-9	FLAT
20156	63284.23	18350.00	125.113	TOA AB RS	6/7/2018	S-9	3:1
20157	63284.23	18354.15	126.151	TOA AB RS	6/7/2018	S-9	3:1
20158	63284.23	18375.00	126.969	TOA AB RS	6/7/2018	S-9	FLAT
20159	63284.23	18400.00	127.875	TOA AB RS	6/7/2018	S-9	FLAT
20160	63284.23	18425.00	127.955	TOA AB	5/11/2018	S-9	FLAT
20161	63284.23	18450.00	128.14	TOA AB	6/7/2018	S-10	FLAT
20162	63284.23	18475.00	128.14	TOA AB	6/7/2018	S-10	FLAT
20163	63284.23	18500.00	128.15	TOA AB	6/7/2018	S-10	FLAT
20164	63284.23	18525.00	128.09	TOA AB	6/7/2018	S-10	FLAT
20165	63284.23	18550.00	128.09	TOA AB	6/7/2018	S-10	FLAT
20166	63284.23	18575.00	128.17	TOA AB RS	6/13/2018	S-11	FLAT
20167	63284.23	18600.00	128.21	TOA AB RS	6/13/2018	S-11	FLAT
20168	63284.23	18625.00	128.12	TOA AB	6/7/2018	S-10	FLAT
20169	63284.23	18650.00	128.14	TOA AB	6/7/2018	S-10	FLAT
20170	63284.23	18675.00	128.12	TOA AB	6/13/2018	S-11	FLAT
20171	63284.23	18700.00	128.18	TOA AB	6/13/2018	S-11	FLAT
20172	63284.23	18725.00	128.18	TOA AB	6/13/2018	S-11	FLAT
20173	63284.23	18750.00	128.20	TOA AB	6/13/2018	S-11	FLAT
20174	63284.23	18775.00	128.13	TOA AB	6/13/2018	S-11	FLAT
20175	63284.23	18800.00	128.11	TOA AB	6/13/2018	S-11	FLAT
20176	63284.23	18825.00	128.13	TOA AB	6/13/2018	S-11	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20177	63284.23	18850.00	128.16	TOA AB	6/13/2018	S-11	FLAT
20178	63284.23	18875.00	128.14	TOA AB	6/13/2018	S-11	FLAT
20179	63284.23	18900.00	128.12	TOA AB	6/13/2018	S-11	FLAT
20180	63284.23	18925.00	128.11	TOA AB	6/13/2018	S-11	FLAT
20181	63284.23	18950.00	128.11	TOA AB	6/13/2018	S-11	FLAT
20182	63284.23	18975.00	128.18	TOA AB RS	6/20/2018	S-13	FLAT
20183	63284.23	19000.00	128.16	TOA AB RS	6/20/2018	S-13	FLAT
20184	63284.23	19025.00	128.16	TOA AB RS	6/20/2018	S-13	FLAT
20185	63284.23	19050.00	127.98	TOA AB RS	6/20/2018	S-13	FLAT
20186	63284.23	19075.00	127.05	TOA AB	6/20/2018	S-13	FLAT
20187	63284.23	19093.98	126.42	TOA AB	6/20/2018	S-13	3:1
20188	63284.23	19115.00	124.32	TOA AB	6/20/2018	S-13	FLAT
20189	63259.23	18334.98	125.004	TOA AB RS	6/7/2018	S-9	FLAT
20190	63259.23	18350.00	125.112	TOA AB RS	6/7/2018	S-9	3:1
20191	63259.23	18354.26	126.065	TOA AB RS	6/7/2018	S-9	3:1
20192	63259.23	18375.00	126.916	TOA AB RS	6/7/2018	S-9	FLAT
20193	63259.23	18400.00	127.794	TOA AB RS	6/7/2018	S-9	FLAT
20194	63259.23	18425.00	128.761	TOA AB RS	6/7/2018	S-9	FLAT
20195	63259.23	18428.77	128.927	TOA AB RS	6/7/2018	S-9	FLAT
20196	63259.23	18450.00	128.964	TOA AB RS	6/7/2018	S-10	FLAT
20197	63259.23	18475.00	129.06	TOA AB	6/7/2018	S-10	FLAT
20198	63259.23	18500.00	128.99	TOA AB	6/7/2018	S-10	FLAT
20199	63259.23	18525.00	129.02	TOA AB	6/7/2018	S-10	FLAT
20200	63259.23	18550.00	129.00	TOA AB	6/7/2018	S-10	FLAT
20201	63259.23	18575.00	129.02	TOA AB	6/7/2018	S-10	FLAT
20202	63259.23	18600.00	129.04	TOA AB	6/7/2018	S-10	FLAT
20203	63259.23	18625.00	129.00	TOA AB	6/7/2018	S-10	FLAT
20204	63259.23	18650.00	128.99	TOA AB	6/7/2018	S-10	FLAT
20205	63259.23	18675.00	129.06	TOA AB	6/13/2018	S-11	FLAT
20206	63259.23	18700.00	129.00	TOA AB	6/13/2018	S-11	FLAT
20207	63259.23	18725.00	129.00	TOA AB	6/13/2018	S-11	FLAT
20208	63259.23	18750.00	128.96	TOA AB	6/13/2018	S-11	FLAT
20209	63259.23	18775.00	129.04	TOA AB	6/13/2018	S-11	FLAT
20210	63259.23	18800.00	129.06	TOA AB	6/13/2018	S-11	FLAT
20211	63259.23	18825.00	129.03	TOA AB	6/13/2018	S-11	FLAT
20212	63259.23	18850.00	129.07	TOA AB	6/13/2018	S-11	FLAT
20213	63259.23	18875.00	129.06	TOA AB	6/13/2018	S-11	FLAT
20214	63259.23	18900.00	129.07	TOA AB	6/13/2018	S-11	FLAT
20215	63259.23	18925.00	129.05	TOA AB	6/13/2018	S-11	FLAT
20216	63259.23	18950.00	129.02	TOA AB	6/13/2018	S-11	FLAT
20217	63259.23	18975.00	129.03	TOA AB RS	6/20/2018	S-13	FLAT
20218	63259.23	19000.00	129.00	TOA AB RS	6/20/2018	S-13	FLAT
20219	63259.23	19020.67	128.85	TOA AB RS	6/20/2018	S-13	FLAT
20220	63259.23	19025.00	128.75	TOA AB RS	6/20/2018	S-13	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20221	63259.23	19050.00	127.80	TOA AB	6/20/2018	S-13	FLAT
20222	63259.23	19075.00	127.03	TOA AB	6/20/2018	S-13	FLAT
20223	63259.23	19094.64	126.25	TOA AB	6/20/2018	S-13	3:1
20224	63259.23	19115.00	124.48	TOA AB	6/20/2018	S-13	FLAT
20225	63234.23	18334.98	125.102	TOA AB RS	6/7/2018	S-9	FLAT
20226	63234.23	18350.00	125.161	TOA AB RS	6/7/2018	S-9	3:1
20227	63234.23	18354.37	126.188	TOA AB RS	6/7/2018	S-9	3:1
20228	63234.23	18375.00	126.978	TOA AB RS	6/7/2018	S-9	FLAT
20229	63234.23	18400.00	127.921	TOA AB RS	6/7/2018	S-9	FLAT
20230	63234.23	18425.00	128.861	TOA AB RS	6/7/2018	S-9	FLAT
20231	63234.23	18450.00	129.706	TOA AB RS	6/7/2018	S-9	FLAT
20232	63234.23	18475.00	129.909	TOA AB RS	6/7/2018	S-10	FLAT
20233	63234.23	18500.00	129.91	TOA AB	6/7/2018	S-10	FLAT
20234	63234.23	18525.00	129.91	TOA AB	6/7/2018	S-10	FLAT
20235	63234.23	18550.00	129.89	TOA AB	6/7/2018	S-10	FLAT
20236	63234.23	18575.00	129.89	TOA AB	6/7/2018	S-10	FLAT
20237	63234.23	18600.00	129.93	TOA AB RS	6/13/2018	S-11	FLAT
20238	63234.23	18625.00	129.91	TOA AB RS	6/13/2018	S-11	FLAT
20239	63234.23	18650.00	129.86	TOA AB RS	6/13/2018	S-11	FLAT
20240	63234.23	18675.00	129.85	TOA AB	6/13/2018	S-11	FLAT
20241	63234.23	18700.00	129.81	TOA AB	6/13/2018	S-11	FLAT
20242	63234.23	18725.00	129.81	TOA AB	6/13/2018	S-11	FLAT
20243	63234.23	18750.00	129.82	TOA AB	6/13/2018	S-11	FLAT
20244	63234.23	18775.00	129.86	TOA AB	6/13/2018	S-11	FLAT
20245	63234.23	18800.00	129.82	TOA AB	6/13/2018	S-11	FLAT
20246	63234.23	18825.00	129.85	TOA AB	6/13/2018	S-11	FLAT
20247	63234.23	18850.00	129.86	TOA AB	6/13/2018	S-11	FLAT
20248	63234.23	18875.00	129.79	TOA AB	6/13/2018	S-11	FLAT
20249	63234.23	18900.00	129.85	TOA AB	6/13/2018	S-11	FLAT
20250	63234.23	18925.00	129.86	TOA AB	6/13/2018	S-11	FLAT
20251	63234.23	18950.00	129.84	TOA AB	6/13/2018	S-11	FLAT
20252	63234.23	18975.00	129.82	TOA AB RS	6/20/2018	S-13	FLAT
20253	63234.23	19000.00	129.64	TOA AB RS	6/20/2018	S-13	FLAT
20254	63234.23	19025.00	128.70	TOA AB	6/20/2018	S-13	FLAT
20255	63234.23	19050.00	127.80	TOA AB	6/20/2018	S-13	FLAT
20256	63234.23	19075.00	127.02	TOA AB	6/20/2018	S-13	FLAT
20257	63234.23	19095.30	126.26	TOA AB	6/20/2018	S-13	3:1
20258	63234.23	19115.00	124.64	TOA AB	6/20/2018	S-13	FLAT
20259	63209.23	18334.98	125.218	TOA AB RS	6/7/2018	S-9	FLAT
20260	63209.23	18350.00	125.137	TOA AB RS	6/7/2018	S-9	3:1
20261	63209.23	18354.11	126.181	TOA AB RS	6/7/2018	S-9	3:1
20262	63209.23	18375.00	126.974	TOA AB RS	6/7/2018	S-9	FLAT
20263	63209.23	18400.00	127.866	TOA AB RS	6/7/2018	S-9	FLAT
20264	63209.23	18425.00	128.842	TOA AB RS	6/7/2018	S-9	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20265	63209.23	18450.00	129.732	TOA AB RS	6/7/2018	S-9	FLAT
20266	63209.23	18475.00	130.575	TOA AB RS	6/7/2018	S-9	FLAT
20267	63209.23	18500.00	130.783	TOA AB	6/7/2018	S-10	FLAT
20268	63209.23	18525.00	130.82	TOA AB	6/7/2018	S-10	FLAT
20269	63209.23	18550.00	130.92	TOA AB	6/7/2018	S-10	FLAT
20270	63209.23	18575.00	130.89	TOA AB	6/7/2018	S-10	FLAT
20271	63209.23	18600.00	130.84	TOA AB RS	6/13/2018	S-11	FLAT
20272	63209.23	18625.00	130.86	TOA AB	6/7/2018	S-10	FLAT
20273	63209.23	18650.00	130.86	TOA AB	6/7/2018	S-10	FLAT
20274	63209.23	18675.00	130.75	TOA AB	6/13/2018	S-11	FLAT
20275	63209.23	18700.00	130.77	TOA AB	6/13/2018	S-11	FLAT
20276	63209.23	18725.00	130.74	TOA AB	6/13/2018	S-11	FLAT
20277	63209.23	18750.00	130.76	TOA AB	6/13/2018	S-11	FLAT
20278	63209.23	18775.00	130.74	TOA AB	6/13/2018	S-11	FLAT
20279	63209.23	18800.00	130.77	TOA AB	6/13/2018	S-11	FLAT
20280	63209.23	18825.00	130.75	TOA AB	6/13/2018	S-11	FLAT
20281	63209.23	18850.00	130.68	TOA AB	6/13/2018	S-11	FLAT
20282	63209.23	18875.00	130.73	TOA AB	6/13/2018	S-11	FLAT
20283	63209.23	18900.00	130.63	TOA AB	6/13/2018	S-11	FLAT
20284	63209.23	18925.00	130.63	TOA AB	6/13/2018	S-11	FLAT
20285	63209.23	18950.00	130.68	TOA AB	6/13/2018	S-11	FLAT
20286	63209.23	18975.00	130.53	TOA AB RS	6/20/2018	S-13	FLAT
20287	63209.23	19000.00	129.60	TOA AB	6/20/2018	S-13	FLAT
20288	63209.23	19025.00	128.72	TOA AB	6/20/2018	S-13	FLAT
20289	63209.23	19050.00	127.78	TOA AB	6/20/2018	S-13	FLAT
20290	63209.23	19075.00	127.10	TOA AB	6/20/2018	S-13	FLAT
20291	63209.23	19095.95	126.24	TOA AB	6/20/2018	S-13	3:1
20292	63209.23	19115.00	124.87	TOA AB	6/20/2018	S-13	FLAT
20293	63184.23	18334.98	125.442	TOA AB RS	6/7/2018	S-9	FLAT
20294	63184.23	18350.00	125.488	TOA AB RS	6/7/2018	S-9	3:1
20295	63184.23	18353.42	126.089	TOA AB RS	6/7/2018	S-9	3:1
20296	63184.23	18375.00	126.922	TOA AB RS	6/7/2018	S-9	FLAT
20297	63184.23	18400.00	127.801	TOA AB RS	6/7/2018	S-9	FLAT
20298	63184.23	18425.00	128.733	TOA AB RS	6/7/2018	S-9	FLAT
20299	63184.23	18450.00	129.567	TOA AB RS	6/7/2018	S-9	FLAT
20300	63184.23	18475.00	130.475	TOA AB RS	6/7/2018	S-9	FLAT
20301	63184.23	18500.00	131.326	TOA AB RS	6/7/2018	S-9	FLAT
20302	63184.23	18503.49	131.495	TOA AB RS	6/7/2018	S-9	FLAT
20303	63184.23	18525.00	131.653	TOA AB	6/7/2018	S-10	FLAT
20304	63184.23	18550.00	131.73	TOA AB	6/7/2018	S-10	FLAT
20305	63184.23	18575.00	131.74	TOA AB	6/7/2018	S-10	FLAT
20306	63184.23	18600.00	131.74	TOA AB	6/7/2018	S-10	FLAT
20307	63184.23	18625.00	131.77	TOA AB	6/7/2018	S-10	FLAT
20308	63184.23	18650.00	131.72	TOA AB	6/7/2018	S-10	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20309	63184.23	18675.00	131.62	TOA AB	6/13/2018	S-11	FLAT
20310	63184.23	18700.00	131.66	TOA AB	6/13/2018	S-11	FLAT
20311	63184.23	18725.00	131.68	TOA AB	6/13/2018	S-11	FLAT
20312	63184.23	18750.00	131.59	TOA AB	6/13/2018	S-11	FLAT
20313	63184.23	18775.00	131.65	TOA AB	6/13/2018	S-11	FLAT
20314	63184.23	18800.00	131.54	TOA AB	6/13/2018	S-11	FLAT
20315	63184.23	18825.00	131.59	TOA AB	6/13/2018	S-11	FLAT
20316	63184.23	18850.00	131.63	TOA AB	6/13/2018	S-11	FLAT
20317	63184.23	18875.00	131.60	TOA AB	6/13/2018	S-11	FLAT
20318	63184.23	18900.00	131.55	TOA AB	6/13/2018	S-11	FLAT
20319	63184.23	18925.00	131.59	TOA AB	6/13/2018	S-11	FLAT
20320	63184.23	18946.09	131.51	TOA AB	6/13/2018	S-11	FLAT
20321	63184.23	18950.00	131.37	TOA AB RS	6/20/2018	S-13	FLAT
20322	63184.23	18975.00	130.49	TOA AB	6/20/2018	S-13	FLAT
20323	63184.23	19000.00	129.63	TOA AB	6/20/2018	S-13	FLAT
20324	63184.23	19025.00	128.70	TOA AB	6/20/2018	S-13	FLAT
20325	63184.23	19050.00	127.79	TOA AB	6/20/2018	S-13	FLAT
20326	63184.23	19075.00	127.04	TOA AB	6/20/2018	S-13	FLAT
20327	63184.23	19096.61	126.27	TOA AB	6/20/2018	S-13	3:1
20328	63184.23	19115.00	125.20	TOA AB	6/20/2018	S-13	FLAT
20329	63159.23	18334.98	125.096	TOA AB RS	6/7/2018	S-9	FLAT
20330	63159.23	18350.00	125.742	TOA AB RS	6/7/2018	S-9	3:1
20331	63159.23	18352.74	126.084	TOA AB RS	6/7/2018	S-9	3:1
20332	63159.23	18375.00	126.931	TOA AB RS	6/7/2018	S-9	FLAT
20333	63159.23	18400.00	127.821	TOA AB RS	6/7/2018	S-9	FLAT
20334	63159.23	18425.00	128.691	TOA AB RS	6/7/2018	S-9	FLAT
20335	63159.23	18450.00	129.595	TOA AB RS	6/7/2018	S-9	FLAT
20336	63159.23	18475.00	130.406	TOA AB RS	6/7/2018	S-9	FLAT
20337	63159.23	18500.00	131.293	TOA AB RS	6/7/2018	S-9	FLAT
20338	63159.23	18525.00	132.244	TOA AB RS	6/7/2018	S-9	FLAT
20339	63159.23	18550.00	132.404	TOA AB RS	6/7/2018	S-10	FLAT
20340	63159.23	18575.00	132.52	TOA AB RS	6/7/2018	S-10	FLAT
20341	63159.23	18600.00	132.57	TOA AB	6/7/2018	S-10	FLAT
20342	63159.23	18625.00	132.52	TOA AB	6/7/2018	S-10	FLAT
20343	63159.23	18650.00	132.52	TOA AB	6/7/2018	S-10	FLAT
20344	63159.23	18675.00	132.52	TOA AB	6/13/2018	S-11	FLAT
20345	63159.23	18700.00	132.44	TOA AB	6/13/2018	S-11	FLAT
20346	63159.23	18725.00	132.46	TOA AB	6/13/2018	S-11	FLAT
20347	63159.23	18750.00	132.46	TOA AB	6/13/2018	S-11	FLAT
20348	63159.23	18775.00	132.46	TOA AB	6/13/2018	S-11	FLAT
20349	63159.23	18800.00	132.43	TOA AB	6/13/2018	S-11	FLAT
20350	63159.23	18825.00	132.44	TOA AB	6/13/2018	S-11	FLAT
20351	63159.23	18850.00	132.38	TOA AB	6/13/2018	S-11	FLAT
20352	63159.23	18875.00	132.32	TOA AB	6/13/2018	S-11	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20353	63159.23	18900.00	132.34	TOA AB	6/13/2018	S-11	FLAT
20354	63159.23	18925.00	132.28	TOA AB RS	6/20/2018	S-13	FLAT
20355	63159.23	18950.00	131.40	TOA AB	6/20/2018	S-13	FLAT
20356	63159.23	18975.00	130.51	TOA AB	6/20/2018	S-13	FLAT
20357	63159.23	19000.00	129.63	TOA AB	6/20/2018	S-13	FLAT
20358	63159.23	19025.00	128.75	TOA AB	6/20/2018	S-13	FLAT
20359	63159.23	19050.00	127.93	TOA AB	6/20/2018	S-13	FLAT
20360	63159.23	19075.00	127.06	TOA AB	6/20/2018	S-13	FLAT
20361	63159.13	19097.27	126.25	TOA AB	6/20/2018	S-13	3:1
20362	63159.23	19115.00	125.48	TOA AB	6/20/2018	S-13	FLAT
20363	63134.45	18334.98	125.565	TOA AB	5/11/2018	S-8	FLAT
20364	63134.23	18350.00	125.699	TOA AB	5/11/2018	S-8	3:1
20365	63134.23	18352.06	126.118	TOA AB	5/11/2018	S-8	3:1
20366	63134.23	18375.00	126.969	TOA AB	5/11/2018	S-8	FLAT
20367	63134.23	18400.00	127.843	TOA AB	5/11/2018	S-8	FLAT
20368	63134.23	18425.00	128.639	TOA AB	5/11/2018	S-8	FLAT
20369	63134.23	18450.00	129.572	TOA AB	5/11/2018	S-8	FLAT
20370	63134.23	18475.00	130.362	TOA AB	5/11/2018	S-8	FLAT
20371	63134.23	18500.00	131.361	TOA AB	5/11/2018	S-8	FLAT
20372	63134.23	18525.00	132.191	TOA AB	5/11/2018	S-8	FLAT
20373	63134.23	18550.00	133.144	TOA AB	5/11/2018	S-8	FLAT
20374	63134.23	18575.00	133.260	TOA AB RS	6/7/2018	S-10	FLAT
20375	63134.23	18600.00	133.22	TOA AB	6/7/2018	S-10	FLAT
20376	63134.23	18625.00	133.28	TOA AB	6/7/2018	S-10	FLAT
20377	63134.23	18650.00	133.28	TOA AB	6/7/2018	S-10	FLAT
20378	63134.23	18675.00	133.29	TOA AB	6/13/2018	S-11	FLAT
20379	63134.23	18700.00	133.26	TOA AB	6/13/2018	S-11	FLAT
20380	63134.23	18725.00	133.22	TOA AB	6/13/2018	S-11	FLAT
20381	63134.23	18750.00	133.19	TOA AB	6/13/2018	S-11	FLAT
20382	63134.23	18775.00	133.21	TOA AB	6/13/2018	S-11	FLAT
20383	63134.23	18800.00	133.15	TOA AB	6/13/2018	S-11	FLAT
20384	63134.23	18825.00	133.22	TOA AB	6/13/2018	S-11	FLAT
20385	63134.23	18850.00	133.25	TOA AB	6/13/2018	S-11	FLAT
20386	63134.23	18875.00	133.17	TOA AB	6/13/2018	S-11	FLAT
20387	63134.23	18900.00	133.19	TOA AB RS	6/20/2018	S-13	FLAT
20388	63134.23	18925.00	132.23	TOA AB	6/20/2018	S-13	FLAT
20389	63134.23	18950.00	131.37	TOA AB	6/20/2018	S-13	FLAT
20390	63134.23	18975.00	130.51	TOA AB	6/20/2018	S-13	FLAT
20391	63134.23	19000.00	129.65	TOA AB	6/20/2018	S-13	FLAT
20392	63134.23	19025.00	128.74	TOA AB	6/20/2018	S-13	FLAT
20393	63134.23	19050.00	127.95	TOA AB	6/20/2018	S-13	FLAT
20394	63134.23	19075.00	127.02	TOA AB	6/20/2018	S-13	FLAT
20395	63134.23	19097.94	126.17	TOA AB	6/20/2018	S-13	3:1
20396	63134.23	19100.00	125.96	TOA AB	6/20/2018	S-13	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20397	63134.23	19115.00	125.61	TOA AB	6/20/2018	S-13	FLAT
20398	63109.23	18334.98	125.491	TOA AB	5/11/2018	S-8	FLAT
20399	63109.23	18351.37	126.076	TOA AB	5/11/2018	S-8	3:1
20400	63109.23	18375.00	126.974	TOA AB	5/11/2018	S-8	FLAT
20401	63109.23	18400.00	127.786	TOA AB	5/11/2018	S-8	FLAT
20402	63109.23	18425.00	128.653	TOA AB	5/11/2018	S-8	FLAT
20403	63109.23	18450.00	129.541	TOA AB	5/11/2018	S-8	FLAT
20404	63109.23	18475.00	130.408	TOA AB	5/11/2018	S-8	FLAT
20405	63109.23	18500.00	131.283	TOA AB	5/11/2018	S-8	FLAT
20406	63109.23	18525.00	132.188	TOA AB	5/11/2018	S-8	FLAT
20407	63109.23	18550.00	133.130	TOA AB	5/11/2018	S-8	FLAT
20408	63109.23	18575.00	133.992	TOA AB	5/11/2018	S-8	FLAT
20409	63109.23	18578.22	134.187	TOA AB	5/11/2018	S-8	FLAT
20410	63109.23	18600.00	134.171	TOA AB RS	6/7/2018	S-10	FLAT
20411	63109.23	18625.00	134.10	TOA AB	6/7/2018	S-10	FLAT
20412	63109.23	18650.00	134.12	TOA AB	6/7/2018	S-10	FLAT
20413	63109.23	18675.00	134.08	TOA AB	6/13/2018	S-11	FLAT
20414	63109.23	18700.00	134.12	TOA AB	6/13/2018	S-11	FLAT
20415	63109.23	18725.00	134.10	TOA AB	6/13/2018	S-11	FLAT
20416	63109.23	18750.00	134.16	TOA AB	6/13/2018	S-11	FLAT
20417	63109.23	18775.00	134.09	TOA AB	6/13/2018	S-11	FLAT
20418	63109.23	18800.00	134.11	TOA AB	6/13/2018	S-11	FLAT
20419	63109.23	18825.00	134.07	TOA AB	6/13/2018	S-11	FLAT
20420	63109.23	18850.00	134.09	TOA AB	6/13/2018	S-11	FLAT
20421	63109.23	18871.51	134.05	TOA AB	6/13/2018	S-11	FLAT
20422	63109.23	18875.00	133.95	TOA AB	6/13/2018	S-11	FLAT
20423	63109.23	18900.00	133.09	TOA AB RS	6/20/2018	S-13	FLAT
20424	63109.23	18925.00	132.20	TOA AB RS	6/20/2018	S-13	FLAT
20425	63109.23	18950.00	131.38	TOA AB RS	6/20/2018	S-13	FLAT
20426	63109.23	18975.00	130.52	TOA AB RS	6/20/2018	S-13	FLAT
20427	63109.23	19000.00	129.63	TOA AB RS	6/20/2018	S-13	FLAT
20428	63109.23	19025.00	128.73	TOA AB RS	6/20/2018	S-13	FLAT
20429	63109.23	19050.00	127.86	TOA AB RS	6/20/2018	S-13	FLAT
20430	63109.23	19075.00	127.00	TOA AB RS	6/20/2018	S-13	FLAT
20431	63109.23	19100.00	126.05	TOA AB RS	6/20/2018	S-13	3:1
20432	63109.23	19115.00	125.54	TOA AB RS	6/20/2018	S-13	FLAT
20433	63084.23	18334.98	125.494	TOA AB	5/11/2018	S-8	FLAT
20434	63084.23	18350.89	126.122	TOA AB	5/11/2018	S-8	3:1
20435	63084.23	18375.00	127.002	TOA AB	5/11/2018	S-8	FLAT
20436	63084.23	18400.00	127.837	TOA AB	5/11/2018	S-8	FLAT
20437	63084.23	18425.00	128.659	TOA AB	5/11/2018	S-8	FLAT
20438	63084.23	18450.00	129.565	TOA AB	5/11/2018	S-8	FLAT
20439	63084.23	18475.00	130.416	TOA AB	5/11/2018	S-8	FLAT
20440	63084.23	18500.00	131.280	TOA AB	5/11/2018	S-8	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20441	63084.23	18525.00	132.227	TOA AB	5/11/2018	S-8	FLAT
20442	63084.23	18550.00	133.110	TOA AB	5/11/2018	S-8	FLAT
20443	63084.23	18575.00	133.955	TOA AB	5/11/2018	S-8	FLAT
20444	63084.23	18600.00	134.860	TOA AB	5/11/2018	S-8	FLAT
20445	63084.23	18625.00	134.991	TOA AB RS	6/7/2018	S-10	FLAT
20446	63084.23	18650.00	134.97	TOA AB	6/7/2018	S-10	FLAT
20447	63084.23	18675.00	134.98	TOA AB	6/13/2018	S-11	FLAT
20448	63084.23	18700.00	134.98	TOA AB	6/13/2018	S-11	FLAT
20449	63084.23	18725.00	134.95	TOA AB	6/13/2018	S-11	FLAT
20450	63084.23	18750.00	134.99	TOA AB	6/13/2018	S-11	FLAT
20451	63084.23	18775.00	134.95	TOA AB	6/13/2018	S-11	FLAT
20452	63084.23	18800.00	134.99	TOA AB	6/13/2018	S-11	FLAT
20453	63084.23	18825.00	134.99	TOA AB	6/13/2018	S-11	FLAT
20454	63084.23	18850.00	134.79	TOA AB	6/13/2018	S-11	FLAT
20455	63084.23	18875.00	133.97	TOA AB	6/15/2018	S-12	FLAT
20456	63084.23	18900.00	133.16	TOA AB	6/15/2018	S-12	FLAT
20457	63084.23	18925.00	132.23	TOA AB	6/15/2018	S-12	FLAT
20458	63084.23	18950.00	131.35	TOA AB	6/15/2018	S-12	FLAT
20459	63084.23	18975.00	130.51	TOA AB	6/15/2018	S-12	FLAT
20460	63084.23	19000.00	129.61	TOA AB	6/15/2018	S-12	FLAT
20461	63084.23	19025.00	128.72	TOA AB	6/15/2018	S-12	FLAT
20462	63084.23	19050.00	127.89	TOA AB	6/15/2018	S-12	FLAT
20463	63084.23	19075.00	126.97	TOA AB	6/15/2018	S-12	FLAT
20464	63084.23	19100.00	126.09	TOA AB	6/15/2018	S-12	3:1
20465	63084.23	19115.00	125.84	TOA AB	6/15/2018	S-12	FLAT
20466	63059.23	18334.98	125.366	TOA AB	5/11/2018	S-8	FLAT
20467	63059.23	18350.00	125.908	TOA AB	5/11/2018	S-8	3:1
20468	63059.23	18375.00	127.025	TOA AB	5/11/2018	S-8	FLAT
20469	63059.23	18400.00	127.830	TOA AB	5/11/2018	S-8	FLAT
20470	63059.23	18425.00	128.739	TOA AB	5/11/2018	S-8	FLAT
20471	63059.23	18450.00	129.631	TOA AB	5/11/2018	S-8	FLAT
20472	63059.23	18475.00	130.429	TOA AB	5/11/2018	S-8	FLAT
20473	63059.23	18500.00	131.359	TOA AB	5/11/2018	S-8	FLAT
20474	63059.23	18525.00	132.225	TOA AB	5/11/2018	S-8	FLAT
20475	63059.23	18550.00	133.100	TOA AB	5/11/2018	S-8	FLAT
20476	63059.23	18575.00	133.958	TOA AB	5/11/2018	S-8	FLAT
20477	63059.23	18600.00	134.778	TOA AB	5/11/2018	S-8	FLAT
20478	63059.23	18625.00	135.723	TOA AB	5/11/2018	S-8	FLAT
20479	63059.23	18650.00	135.834	TOA AB RS	6/7/2018	S-10	FLAT
20480	63059.23	18675.00	135.87	TOA AB	6/13/2018	S-11	FLAT
20481	63059.23	18700.00	135.88	TOA AB	6/13/2018	S-11	FLAT
20482	63059.23	18725.00	135.88	TOA AB	6/13/2018	S-11	FLAT
20483	63059.23	18750.00	135.96	TOA AB	6/13/2018	S-11	FLAT
20484	63059.23	18775.00	135.77	TOA AB	6/13/2018	S-11	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20485	63059.23	18800.00	135.87	TOA AB	6/13/2018	S-11	FLAT
20486	63059.23	18825.00	135.65	TOA AB	6/13/2018	S-11	FLAT
20487	63059.23	18850.00	134.90	TOA AB	6/15/2018	S-12	FLAT
20488	63059.23	18875.00	134.03	TOA AB	6/15/2018	S-12	FLAT
20489	63059.23	18900.00	133.04	TOA AB	6/15/2018	S-12	FLAT
20490	63059.23	18925.00	132.23	TOA AB	6/15/2018	S-12	FLAT
20491	63059.23	18950.00	131.41	TOA AB	6/15/2018	S-12	FLAT
20492	63059.23	18975.00	130.54	TOA AB	6/15/2018	S-12	FLAT
20493	63059.23	19000.00	129.66	TOA AB	6/15/2018	S-12	FLAT
20494	63059.23	19025.00	128.79	TOA AB	6/15/2018	S-12	FLAT
20495	63059.23	19050.00	127.85	TOA AB	6/15/2018	S-12	FLAT
20496	63059.23	19075.00	127.11	TOA AB	6/15/2018	S-12	FLAT
20497	63059.23	19100.00	126.07	TOA AB	6/15/2018	S-12	3:1
20498	63059.23	19115.00	125.63	TOA AB	6/15/2018	S-12	FLAT
20499	63034.23	18334.98	125.281	TOA AB	5/11/2018	S-8	FLAT
20500	63034.23	18350.00	125.762	TOA AB	5/11/2018	S-8	3:1
20501	63034.23	18352.26	126.213	TOA AB	5/11/2018	S-8	3:1
20502	63034.23	18375.00	126.978	TOA AB	5/11/2018	S-8	FLAT
20503	63034.23	18400.00	127.814	TOA AB	5/11/2018	S-8	FLAT
20504	63034.23	18425.00	128.703	TOA AB	5/11/2018	S-8	FLAT
20505	63034.23	18450.00	129.604	TOA AB	5/11/2018	S-8	FLAT
20506	63034.23	18475.00	130.452	TOA AB	5/11/2018	S-8	FLAT
20507	63034.23	18500.00	131.341	TOA AB	5/11/2018	S-8	FLAT
20508	63034.23	18525.00	132.241	TOA AB	5/11/2018	S-8	FLAT
20509	63034.23	18550.00	133.073	TOA AB	5/11/2018	S-8	FLAT
20510	63034.23	18575.00	133.935	TOA AB	5/11/2018	S-8	FLAT
20511	63034.23	18600.00	134.792	TOA AB	5/11/2018	S-8	FLAT
20512	63034.23	18625.00	135.616	TOA AB	5/11/2018	S-8	FLAT
20513	63034.23	18650.00	136.581	TOA AB	5/11/2018	S-8	FLAT
20514	63034.23	18652.94	136.637	TOA AB	5/11/2018	S-8	FLAT
20515	63034.23	18675.00	136.742	TOA AB	5/11/2018	S-8	FLAT
20516	63034.23	18700.00	136.74	TOA AB	6/13/2018	S-11	FLAT
20517	63034.23	18725.00	136.76	TOA AB	6/13/2018	S-11	FLAT
20518	63034.23	18750.00	136.74	TOA AB	6/13/2018	S-11	FLAT
20519	63034.23	18775.00	136.72	TOA AB	6/13/2018	S-11	FLAT
20520	63034.23	18796.92	136.61	TOA AB	6/13/2018	S-11	FLAT
20521	63034.23	18800.00	136.55	TOA AB	6/13/2018	S-11	FLAT
20522	63034.23	18825.00	135.71	TOA AB	6/15/2018	S-12	FLAT
20523	63034.23	18850.00	134.86	TOA AB	6/15/2018	S-12	FLAT
20524	63034.23	18875.00	134.00	TOA AB	6/15/2018	S-12	FLAT
20525	63034.23	18900.00	133.09	TOA AB	6/15/2018	S-12	FLAT
20526	63034.23	18925.00	132.21	TOA AB	6/15/2018	S-12	FLAT
20527	63034.23	18950.00	131.36	TOA AB	6/15/2018	S-12	FLAT
20528	63034.23	18975.00	130.49	TOA AB	6/15/2018	S-12	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20529	63034.23	19000.00	129.63	TOA AB	6/15/2018	S-12	FLAT
20530	63034.23	19025.00	128.75	TOA AB	6/15/2018	S-12	FLAT
20531	63034.23	19050.00	127.82	TOA AB	6/15/2018	S-12	FLAT
20532	63034.23	19075.00	127.10	TOA AB RS	6/15/2018	S-12	FLAT
20533	63034.23	19097.74	126.12	TOA AB	6/15/2018	S-12	3:1
20534	63034.23	19100.00	125.79	TOA AB	6/15/2018	S-12	3:1
20535	63034.23	19115.00	125.34	TOA AB	6/15/2018	S-12	FLAT
20536	63009.23	18334.98	125.045	TOA AB	5/11/2018	S-8	FLAT
20537	63009.23	18350.00	125.556	TOA AB	5/11/2018	S-8	3:1
20538	63009.23	18352.95	126.238	TOA AB	5/11/2018	S-8	3:1
20539	63009.23	18375.00	127.051	TOA AB	5/11/2018	S-8	FLAT
20540	63009.23	18400.00	127.824	TOA AB	5/11/2018	S-8	FLAT
20541	63009.23	18425.00	128.707	TOA AB	5/11/2018	S-8	FLAT
20542	63009.23	18450.00	129.626	TOA AB	5/11/2018	S-8	FLAT
20543	63009.23	18475.00	130.452	TOA AB	5/11/2018	S-8	FLAT
20544	63009.23	18500.00	131.357	TOA AB	5/11/2018	S-8	FLAT
20545	63009.23	18525.00	132.251	TOA AB	5/11/2018	S-8	FLAT
20546	63009.23	18550.00	133.151	TOA AB	5/11/2018	S-8	FLAT
20547	63009.23	18575.00	134.018	TOA AB	5/11/2018	S-8	FLAT
20548	63009.23	18600.00	134.841	TOA AB	5/11/2018	S-8	FLAT
20549	63009.23	18625.00	135.678	TOA AB	5/11/2018	S-8	FLAT
20550	63009.23	18650.00	136.523	TOA AB	5/11/2018	S-8	FLAT
20551	63009.23	18675.00	137.404	TOA AB	5/11/2018	S-8	FLAT
20552	63009.23	18700.00	137.610	TOA AB	5/11/2018	S-8	FLAT
20553	63009.23	18725.00	137.63	TOA AB	6/13/2018	S-11	FLAT
20554	63009.23	18750.00	137.57	TOA AB	6/13/2018	S-11	FLAT
20555	63009.23	18775.00	137.45	TOA AB	6/13/2018	S-11	FLAT
20556	63009.23	18800.00	136.61	TOA AB RS	6/15/2018	S-12	FLAT
20557	63009.23	18825.00	135.78	TOA AB RS	6/15/2018	S-12	FLAT
20558	63009.23	18850.00	134.89	TOA AB RS	6/15/2018	S-12	FLAT
20559	63009.23	18875.00	134.08	TOA AB RS	6/15/2018	S-12	FLAT
20560	63009.23	18900.00	133.16	TOA AB RS	6/15/2018	S-12	FLAT
20561	63009.23	18925.00	132.31	TOA AB RS	6/15/2018	S-12	FLAT
20562	63009.23	18950.00	131.44	TOA AB RS	6/15/2018	S-12	FLAT
20563	63009.23	18975.00	130.57	TOA AB RS	6/15/2018	S-12	FLAT
20564	63009.23	19000.00	129.67	TOA AB RS	6/15/2018	S-12	FLAT
20565	63009.23	19025.00	128.75	TOA AB RS	6/15/2018	S-12	FLAT
20566	63009.23	19050.00	127.81	TOA AB RS	6/15/2018	S-12	FLAT
20567	63009.23	19075.00	127.14	TOA AB RS	6/15/2018	S-12	FLAT
20568	63009.23	19097.06	126.21	TOA AB	6/15/2018	S-12	3:1
20569	63009.23	19100.00	125.55	TOA AB	6/15/2018	S-12	3:1
20570	63009.23	19115.00	125.26	TOA AB	6/15/2018	S-12	FLAT
20571	62984.23	18334.98	125.051	TOA AB	5/11/2018	S-8	FLAT
20572	62984.23	18350.00	125.292	TOA AB	5/11/2018	S-8	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20573	62984.23	18353.63	126.259	TOA AB	5/11/2018	S-8	3:1
20574	62984.23	18375.00	126.995	TOA AB	5/11/2018	S-8	FLAT
20575	62984.23	18400.00	127.667	TOA AB	5/11/2018	S-8	FLAT
20576	62984.23	18425.00	128.713	TOA AB	5/11/2018	S-8	FLAT
20577	62984.23	18450.00	129.617	TOA AB	5/11/2018	S-8	FLAT
20578	62984.23	18475.00	130.476	TOA AB	5/11/2018	S-8	FLAT
20579	62984.23	18500.00	131.381	TOA AB	5/11/2018	S-8	FLAT
20580	62984.23	18525.00	132.218	TOA AB	5/11/2018	S-8	FLAT
20581	62984.23	18550.00	133.099	TOA AB	5/11/2018	S-8	FLAT
20582	62984.23	18575.00	133.955	TOA AB	5/11/2018	S-8	FLAT
20583	62984.23	18600.00	134.751	TOA AB	5/11/2018	S-8	FLAT
20584	62984.23	18625.00	135.641	TOA AB	5/11/2018	S-8	FLAT
20585	62984.23	18650.00	136.548	TOA AB	5/11/2018	S-8	FLAT
20586	62984.23	18675.00	137.428	TOA AB RS	5/11/2018	S-8	FLAT
20587	62984.23	18700.00	138.329	TOA AB RS	5/11/2018	S-8	FLAT
20588	62984.23	18725.00	138.553	TOA AB RS	5/11/2018	S-8	FLAT
20589	62984.23	18750.00	138.28	TOA AB RS	6/13/2018	S-11	FLAT
20590	62984.23	18775.00	137.42	TOA AB RS	6/15/2018	S-12	FLAT
20591	62984.23	18800.00	136.55	TOA AB RS	6/15/2018	S-12	FLAT
20592	62984.23	18825.00	135.73	TOA AB RS	6/15/2018	S-12	FLAT
20593	62984.23	18850.00	134.83	TOA AB RS	6/15/2018	S-12	FLAT
20594	62984.23	18875.00	134.00	TOA AB RS	6/15/2018	S-12	FLAT
20595	62984.23	18900.00	133.21	TOA AB RS	6/15/2018	S-12	FLAT
20596	62984.23	18925.00	132.23	TOA AB RS	6/15/2018	S-12	FLAT
20597	62984.23	18950.00	131.32	TOA AB RS	6/15/2018	S-12	FLAT
20598	62984.23	18975.00	130.43	TOA AB RS	6/15/2018	S-12	FLAT
20599	62984.23	19000.00	129.64	TOA AB RS	6/15/2018	S-12	FLAT
20600	62984.23	19025.00	128.72	TOA AB RS	6/15/2018	S-12	FLAT
20601	62984.23	19050.00	127.88	TOA AB RS	6/15/2018	S-12	FLAT
20602	62984.23	19075.00	127.07	TOA AB RS	6/15/2018	S-12	FLAT
20603	62984.23	19096.37	126.25	TOA AB	6/15/2018	S-12	3:1
20604	62984.23	19100.00	125.39	TOA AB	6/15/2018	S-12	3:1
20605	62984.23	19115.00	125.07	TOA AB	6/15/2018	S-12	FLAT
20606	62959.23	18334.98	124.96	TOA AB	5/7/2018	S-7	FLAT
20607	62959.23	18350.00	125.07	TOA AB	5/7/2018	S-7	3:1
20608	62959.23	18354.31	126.29	TOA AB	5/7/2018	S-7	3:1
20609	62959.23	18375.00	126.96	TOA AB	5/7/2018	S-7	FLAT
20610	62959.23	18400.00	127.79	TOA AB	5/7/2018	S-7	FLAT
20611	62959.23	18425.00	128.72	TOA AB	5/7/2018	S-7	FLAT
20612	62959.23	18450.00	129.65	TOA AB	5/7/2018	S-7	FLAT
20613	62959.23	18475.00	130.47	TOA AB	5/7/2018	S-7	FLAT
20614	62959.23	18500.00	131.39	TOA AB	5/7/2018	S-7	FLAT
20615	62959.23	18525.00	132.20	TOA AB	5/7/2018	S-7	FLAT
20616	62959.23	18550.00	133.12	TOA AB	5/7/2018	S-7	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20617	62959.23	18575.00	134.01	TOA AB	5/7/2018	S-7	FLAT
20618	62959.23	18600.00	134.80	TOA AB	5/7/2018	S-7	FLAT
20619	62959.23	18625.00	135.69	TOA AB	5/7/2018	S-7	FLAT
20620	62959.23	18650.00	136.64	TOA AB	5/7/2018	S-7	FLAT
20621	62959.23	18675.00	137.50	TOA AB RS	5/7/2018	S-7	FLAT
20622	62959.23	18700.00	138.41	TOA AB RS	5/7/2018	S-7	FLAT
20623	62961.90	18725.00	139.32	TOA AB RS	5/7/2018	S-7	FLAT
20624	62959.23	18725.00	139.31	TOA AB RS	5/7/2018	S-7	FLAT
20625	62959.23	18750.00	138.35	TOA AB RS	5/7/2018	S-7	FLAT
20626	62959.23	18775.00	137.43	TOA AB RS	5/7/2018	S-7	FLAT
20627	62959.23	18800.00	136.60	TOA AB RS	5/7/2018	S-7	FLAT
20628	62959.23	18825.00	135.73	TOA AB RS	5/7/2018	S-7	FLAT
20629	62959.23	18850.00	134.88	TOA AB RS	5/7/2018	S-7	FLAT
20630	62959.23	18875.00	133.99	TOA AB RS	6/15/2018	S-12	FLAT
20631	62959.23	18900.00	133.10	TOA AB RS	6/15/2018	S-12	FLAT
20632	62959.23	18925.00	132.21	TOA AB RS	6/15/2018	S-12	FLAT
20633	62959.23	18950.00	131.37	TOA AB RS	6/15/2018	S-12	FLAT
20634	62959.23	18975.00	130.55	TOA AB RS	6/15/2018	S-12	FLAT
20635	62959.23	19000.00	129.65	TOA AB RS	6/15/2018	S-12	FLAT
20636	62959.23	19025.00	128.74	TOA AB RS	6/15/2018	S-12	FLAT
20637	62959.23	19050.00	127.85	TOA AB RS	6/15/2018	S-12	FLAT
20638	62959.23	19075.00	126.87	TOA AB RS	6/15/2018	S-12	FLAT
20639	62959.23	19095.69	126.27	TOA AB	6/15/2018	S-12	3:1
20640	62959.23	19100.00	125.31	TOA AB	6/15/2018	S-12	3:1
20641	62959.23	19115.00	124.92	TOA AB	6/15/2018	S-12	FLAT
20642	62934.23	18334.98	124.76	TOA AB	5/7/2018	S-7	FLAT
20643	62934.23	18350.00	124.92	TOA AB	5/7/2018	S-7	3:1
20644	62934.23	18355.00	126.39	TOA AB	5/7/2018	S-7	3:1
20645	62934.23	18375.00	127.03	TOA AB	5/7/2018	S-7	FLAT
20646	62934.23	18400.00	127.83	TOA AB	5/7/2018	S-7	FLAT
20647	62934.23	18425.00	128.76	TOA AB	5/7/2018	S-7	FLAT
20648	62934.23	18450.00	129.65	TOA AB	5/7/2018	S-7	FLAT
20649	62934.23	18475.00	130.55	TOA AB	5/7/2018	S-7	FLAT
20650	62934.23	18500.00	131.42	TOA AB	5/7/2018	S-7	FLAT
20651	62934.23	18525.00	132.28	TOA AB	5/7/2018	S-7	FLAT
20652	62934.23	18550.00	133.16	TOA AB	5/7/2018	S-7	FLAT
20653	62934.23	18575.00	134.05	TOA AB	5/7/2018	S-7	FLAT
20654	62934.23	18600.00	134.79	TOA AB	4/30/2018	S-5	FLAT
20655	62934.23	18625.00	135.72	TOA AB	4/30/2018	S-5	FLAT
20656	62934.23	18650.00	136.62	TOA AB	4/30/2018	S-5	FLAT
20657	62934.23	18675.00	137.54	TOA AB RS	4/30/2018	S-5	FLAT
20658	62934.23	18700.00	138.40	TOA AB RS	4/30/2018	S-5	FLAT
20659	62934.23	18725.00	139.20	TOA AB RS	4/30/2018	S-5	FLAT
20660	62934.23	18750.00	138.33	TOA AB RS	4/30/2018	S-5	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20661	62934.23	18775.00	137.44	TOA AB RS	4/30/2018	S-5	FLAT
20662	62934.23	18800.00	136.57	TOA AB RS	4/30/2018	S-5	FLAT
20663	62934.23	18825.00	135.71	TOA AB RS	4/30/2018	S-5	FLAT
20664	62934.23	18850.00	134.86	TOA AB RS	4/30/2018	S-5	FLAT
20665	62934.23	18875.00	133.96	TOA AB RS	4/30/2018	S-5	FLAT
20666	62934.23	18900.00	133.04	TOA AB RS	4/30/2018	S-5	FLAT
20667	62934.23	18925.00	132.25	TOA AB RS	4/30/2018	S-5	FLAT
20668	62934.23	18950.00	131.36	TOA AB RS	4/30/2018	S-5	FLAT
20669	62934.23	18975.00	130.55	TOA AB RS	4/30/2018	S-5	FLAT
20670	62934.23	19000.00	129.70	TOA AB RS	4/30/2018	S-5	FLAT
20671	62934.23	19025.00	128.78	TOA AB RS	4/30/2018	S-5	FLAT
20672	62934.23	19050.00	127.85	TOA AB RS	4/30/2018	S-5	FLAT
20673	62934.23	19075.00	127.03	TOA AB RS	4/30/2018	S-5	FLAT
20674	62934.23	19095.01	126.22	TOA AB	4/30/2018	S-5	3:1
20675	62934.23	19100.00	125.06	TOA AB	4/30/2018	S-5	3:1
20676	62934.23	19115.00	124.47	TOA AB	4/30/2018	S-5	FLAT
20677	62909.23	18334.98	124.53	TOA AB	5/7/2018	S-7	FLAT
20678	62909.23	18350.00	124.81	TOA AB	5/7/2018	S-7	3:1
20679	62909.23	18355.68	126.40	TOA AB	5/7/2018	S-7	3:1
20680	62909.23	18375.00	127.09	TOA AB	5/7/2018	S-7	FLAT
20681	62909.23	18400.00	127.92	TOA AB	5/7/2018	S-7	FLAT
20682	62909.23	18425.00	128.78	TOA AB	5/7/2018	S-7	FLAT
20683	62909.23	18450.00	129.63	TOA AB	5/7/2018	S-7	FLAT
20684	62909.23	18475.00	130.54	TOA AB	5/7/2018	S-7	FLAT
20685	62909.23	18500.00	131.40	TOA AB	5/7/2018	S-7	FLAT
20686	62909.23	18525.00	132.24	TOA AB	5/7/2018	S-7	FLAT
20687	62909.23	18550.00	133.14	TOA AB	5/7/2018	S-7	FLAT
20688	62909.23	18575.00	134.00	TOA AB	5/7/2018	S-7	FLAT
20689	62909.23	18600.00	134.80	TOA AB	4/30/2018	S-5	FLAT
20690	62909.23	18625.00	135.71	TOA AB	4/30/2018	S-5	FLAT
20691	62909.23	18650.00	136.56	TOA AB	4/30/2018	S-5	FLAT
20692	62909.23	18675.00	137.44	TOA AB RS	4/30/2018	S-5	FLAT
20693	62909.23	18700.00	138.36	TOA AB RS	4/30/2018	S-5	FLAT
20694	62909.23	18725.00	139.21	TOA AB RS	4/30/2018	S-5	FLAT
20695	62909.23	18750.00	138.37	TOA AB RS	4/30/2018	S-5	FLAT
20696	62909.23	18775.00	137.40	TOA AB RS	4/30/2018	S-5	FLAT
20697	62909.23	18800.00	136.61	TOA AB RS	4/30/2018	S-5	FLAT
20698	62909.23	18825.00	135.65	TOA AB RS	4/30/2018	S-5	FLAT
20699	62909.23	18850.00	134.80	TOA AB RS	4/30/2018	S-5	FLAT
20700	62909.23	18875.00	133.96	TOA AB RS	4/30/2018	S-5	FLAT
20701	62909.23	18900.00	133.11	TOA AB RS	4/30/2018	S-5	FLAT
20702	62909.23	18925.00	132.27	TOA AB RS	4/30/2018	S-5	FLAT
20703	62909.23	18950.00	131.37	TOA AB RS	4/30/2018	S-5	FLAT
20704	62909.23	18975.00	130.60	TOA AB RS	4/30/2018	S-5	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20705	62909.23	19000.00	129.67	TOA AB RS	4/30/2018	S-5	FLAT
20706	62909.23	19025.00	128.72	TOA AB RS	4/30/2018	S-5	FLAT
20707	62909.23	19050.00	127.86	TOA AB RS	4/30/2018	S-5	FLAT
20708	62909.23	19075.00	127.00	TOA AB RS	4/30/2018	S-5	FLAT
20709	62909.23	19094.32	126.26	TOA AB	4/30/2018	S-5	3:1
20710	62909.23	19100.00	124.75	TOA AB	4/30/2018	S-5	3:1
20711	62909.23	19115.00	124.44	TOA AB	4/30/2018	S-5	FLAT
20712	62884.23	18334.98	124.43	TOA AB	5/7/2018	S-7	FLAT
20713	62884.23	18350.00	124.61	TOA AB	5/7/2018	S-7	3:1
20714	62884.23	18356.36	126.48	TOA AB	5/7/2018	S-7	3:1
20715	62884.23	18375.00	127.14	TOA AB	5/7/2018	S-7	FLAT
20716	62884.23	18400.00	127.93	TOA AB	5/7/2018	S-7	FLAT
20717	62884.23	18425.00	128.85	TOA AB	5/7/2018	S-7	FLAT
20718	62884.23	18450.00	129.65	TOA AB	5/7/2018	S-7	FLAT
20719	62884.23	18475.00	130.53	TOA AB	5/7/2018	S-7	FLAT
20720	62884.23	18500.00	131.42	TOA AB	5/7/2018	S-7	FLAT
20721	62884.23	18525.00	132.26	TOA AB	5/7/2018	S-7	FLAT
20722	62884.23	18550.00	133.14	TOA AB	5/7/2018	S-7	FLAT
20723	62884.23	18575.00	133.98	TOA AB	5/7/2018	S-7	FLAT
20724	62884.23	18600.00	134.87	TOA AB	4/30/2018	S-5	FLAT
20725	62884.23	18625.00	135.65	TOA AB	4/30/2018	S-5	FLAT
20726	62884.23	18650.00	136.54	TOA AB	4/30/2018	S-5	FLAT
20727	62884.23	18675.00	137.43	TOA AB RS	4/30/2018	S-5	FLAT
20728	62884.23	18700.00	138.37	TOA AB RS	4/30/2018	S-5	FLAT
20729	62884.23	18725.00	139.26	TOA AB RS	4/30/2018	S-5	FLAT
20730	62884.23	18750.00	138.28	TOA AB RS	4/30/2018	S-5	FLAT
20731	62884.23	18775.00	137.39	TOA AB RS	4/30/2018	S-5	FLAT
20732	62884.23	18800.00	136.55	TOA AB RS	4/30/2018	S-5	FLAT
20733	62884.23	18825.00	135.71	TOA AB RS	4/30/2018	S-5	FLAT
20734	62884.23	18850.00	134.81	TOA AB RS	4/30/2018	S-5	FLAT
20735	62884.23	18875.00	133.98	TOA AB RS	4/30/2018	S-5	FLAT
20736	62884.23	18900.00	133.10	TOA AB RS	4/30/2018	S-5	FLAT
20737	62884.23	18925.00	132.27	TOA AB RS	4/30/2018	S-5	FLAT
20738	62884.23	18950.00	131.39	TOA AB RS	4/30/2018	S-5	FLAT
20739	62884.23	18975.00	130.56	TOA AB RS	4/30/2018	S-5	FLAT
20740	62884.23	19000.00	129.71	TOA AB RS	4/30/2018	S-5	FLAT
20741	62884.23	19025.00	128.71	TOA AB RS	4/30/2018	S-5	FLAT
20742	62884.23	19050.00	127.79	TOA AB RS	4/30/2018	S-5	FLAT
20743	62884.23	19075.00	126.99	TOA AB RS	4/30/2018	S-5	FLAT
20744	62884.23	19093.64	126.27	TOA AB	4/30/2018	S-5	3:1
20745	62884.23	19100.00	124.71	TOA AB	4/30/2018	S-5	3:1
20746	62884.23	19115.00	124.21	TOA AB	4/30/2018	S-5	FLAT
20747	62859.23	18334.98	124.10	TOA AB	5/7/2018	S-7	FLAT
20748	62859.23	18350.00	124.46	TOA AB	5/7/2018	S-7	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20749	62859.23	18357.05	126.45	TOA AB	5/7/2018	S-7	3:1
20750	62859.23	18375.00	127.10	TOA AB	5/7/2018	S-7	FLAT
20751	62859.23	18400.00	127.90	TOA AB	5/7/2018	S-7	FLAT
20752	62859.23	18425.00	128.74	TOA AB	5/7/2018	S-7	FLAT
20753	62859.23	18450.00	129.65	TOA AB	5/7/2018	S-7	FLAT
20754	62859.23	18475.00	130.55	TOA AB	5/7/2018	S-7	FLAT
20755	62859.23	18500.00	131.42	TOA AB	5/7/2018	S-7	FLAT
20756	62859.23	18525.00	132.33	TOA AB	5/7/2018	S-7	FLAT
20757	62859.23	18550.00	133.16	TOA AB	5/7/2018	S-7	FLAT
20758	62859.23	18575.00	134.04	TOA AB	5/7/2018	S-7	FLAT
20759	62859.23	18600.00	134.81	TOA AB	4/30/2018	S-4	FLAT
20760	62859.23	18625.00	135.74	TOA AB	4/30/2018	S-4	FLAT
20761	62859.23	18650.00	136.56	TOA AB	4/30/2018	S-4	FLAT
20762	62859.23	18675.00	137.45	TOA AB RS	4/30/2018	S-4	FLAT
20763	62859.23	18700.00	138.41	TOA AB RS	4/30/2018	S-4	FLAT
20764	62859.23	18725.00	139.27	TOA AB RS	4/27/2018	S-5	FLAT
20765	62859.23	18750.00	138.31	TOA AB RS	4/27/2018	S-5	FLAT
20766	62859.23	18775.00	137.40	TOA AB RS	4/27/2018	S-5	FLAT
20767	62859.23	18800.00	136.54	TOA AB RS	4/27/2018	S-5	FLAT
20768	62859.23	18825.00	135.71	TOA AB RS	4/27/2018	S-5	FLAT
20769	62859.23	18850.00	134.84	TOA AB RS	4/27/2018	S-5	FLAT
20770	62859.23	18875.00	133.98	TOA AB RS	4/27/2018	S-5	FLAT
20771	62859.23	18900.00	133.13	TOA AB RS	4/27/2018	S-5	FLAT
20772	62859.23	18925.00	132.30	TOA AB RS	4/27/2018	S-5	FLAT
20773	62859.23	18950.00	131.41	TOA AB RS	4/27/2018	S-5	FLAT
20774	62859.23	18975.00	130.60	TOA AB RS	4/27/2018	S-5	FLAT
20775	62859.23	19000.00	129.75	TOA AB RS	4/27/2018	S-5	FLAT
20776	62859.23	19025.00	128.75	TOA AB RS	4/27/2018	S-5	FLAT
20777	62859.23	19050.00	127.82	TOA AB RS	4/27/2018	S-5	FLAT
20778	62859.23	19075.00	126.97	TOA AB RS	4/30/2018	S-5	FLAT
20779	62859.23	19092.95	126.27	TOA AB	4/30/2018	S-5	3:1
20780	62859.23	19100.00	124.43	TOA AB	4/30/2018	S-5	3:1
20781	62859.23	19115.00	124.04	TOA AB	4/30/2018	S-5	FLAT
20782	62834.23	18334.98	124.05	TOA AB	5/7/2018	S-7	FLAT
20783	62834.23	18350.00	124.20	TOA AB	5/7/2018	S-7	3:1
20784	62834.23	18357.73	126.61	TOA AB	5/7/2018	S-7	3:1
20785	62834.23	18375.00	127.19	TOA AB	5/7/2018	S-7	FLAT
20786	62834.23	18400.00	127.99	TOA AB	5/7/2018	S-7	FLAT
20787	62834.23	18425.00	128.78	TOA AB	5/7/2018	S-7	FLAT
20788	62834.23	18450.00	129.71	TOA AB	5/7/2018	S-7	FLAT
20789	62834.23	18475.00	130.52	TOA AB	5/7/2018	S-7	FLAT
20790	62834.23	18500.00	131.42	TOA AB	5/7/2018	S-7	FLAT
20791	62834.23	18525.00	132.27	TOA AB	5/7/2018	S-7	FLAT
20792	62834.23	18550.00	133.16	TOA AB	5/7/2018	S-7	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20793	62834.23	18575.00	133.98	TOA AB	5/7/2018	S-7	FLAT
20794	62834.23	18600.00	134.80	TOA AB	4/30/2018	S-4	FLAT
20795	62834.23	18625.00	135.68	TOA AB	4/30/2018	S-4	FLAT
20796	62834.23	18650.00	136.58	TOA AB	4/30/2018	S-4	FLAT
20797	62834.23	18675.00	137.40	TOA AB RS	4/30/2018	S-4	FLAT
20798	62834.23	18700.00	138.41	TOA AB RS	4/30/2018	S-4	FLAT
20799	62834.23	18725.00	139.24	TOA AB RS	4/27/2018	S-5	FLAT
20800	62834.23	18750.00	138.33	TOA AB RS	4/27/2018	S-5	FLAT
20801	62834.23	18775.00	137.47	TOA AB RS	4/27/2018	S-5	FLAT
20802	62834.23	18800.00	136.61	TOA AB RS	4/27/2018	S-5	FLAT
20803	62834.23	18825.00	135.74	TOA AB RS	4/27/2018	S-5	FLAT
20804	62834.23	18850.00	134.84	TOA AB RS	4/27/2018	S-5	FLAT
20805	62834.23	18875.00	134.02	TOA AB RS	4/27/2018	S-5	FLAT
20806	62834.23	18900.00	133.15	TOA AB RS	4/27/2018	S-5	FLAT
20807	62834.23	18925.00	132.28	TOA AB RS	4/27/2018	S-5	FLAT
20808	62834.23	18950.00	131.43	TOA AB RS	4/27/2018	S-5	FLAT
20809	62834.23	18975.00	130.58	TOA AB RS	4/27/2018	S-5	FLAT
20810	62834.23	19000.00	129.67	TOA AB RS	4/27/2018	S-5	FLAT
20811	62834.23	19025.00	128.78	TOA AB RS	4/27/2018	S-5	FLAT
20812	62834.23	19050.00	127.90	TOA AB RS	4/27/2018	S-5	FLAT
20813	62834.23	19075.00	127.11	TOA ASB RS	4/28/2018	S-5	FLAT
20814	62834.23	19092.27	126.28	TOA AB	4/30/2018	S-5	3:1
20815	62834.23	19100.00	124.22	TOA AB	4/30/2018	S-5	3:1
20816	62834.23	19115.00	123.92	TOA AB	4/30/2018	S-5	FLAT
20817	62809.23	18334.98	123.89	TOA AB	5/7/2018	S-7	FLAT
20818	62809.23	18350.00	124.30	TOA AB	5/7/2018	S-7	3:1
20819	62809.23	18357.71	126.51	TOA AB	5/7/2018	S-7	3:1
20820	62809.23	18375.00	127.19	TOA AB	5/7/2018	S-7	FLAT
20821	62809.23	18400.00	127.94	TOA AB	5/7/2018	S-7	FLAT
20822	62809.23	18425.00	128.83	TOA AB	5/7/2018	S-7	FLAT
20823	62809.23	18450.00	129.72	TOA AB	5/7/2018	S-7	FLAT
20824	62809.23	18475.00	130.57	TOA AB	5/7/2018	S-7	FLAT
20825	62809.23	18500.00	131.41	TOA AB	5/7/2018	S-7	FLAT
20826	62809.23	18525.00	132.31	TOA AB	5/7/2018	S-7	FLAT
20827	62809.23	18550.00	133.12	TOA AB	5/7/2018	S-7	FLAT
20828	62809.23	18575.00	134.02	TOA AB	5/7/2018	S-7	FLAT
20829	62809.23	18600.00	134.87	TOA AB	4/30/2018	S-4	FLAT
20830	62809.23	18625.00	135.71	TOA AB	4/30/2018	S-4	FLAT
20831	62809.23	18650.00	136.58	TOA AB	4/30/2018	S-4	FLAT
20832	62809.23	18675.00	137.46	TOA AB RS	4/30/2018	S-4	FLAT
20833	62809.23	18700.00	138.40	TOA AB RS	4/30/2018	S-4	FLAT
20834	62809.23	18725.00	139.23	TOA AB RS	4/27/2018	S-5	FLAT
20835	62809.23	18750.00	138.35	TOA AB RS	4/27/2018	S-5	FLAT
20836	62809.23	18775.00	137.43	TOA AB RS	4/27/2018	S-5	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20837	62809.23	18800.00	136.60	TOA AB RS	4/27/2018	S-5	FLAT
20838	62809.23	18825.00	135.78	TOA AB RS	4/27/2018	S-5	FLAT
20839	62809.23	18850.00	134.87	TOA AB RS	4/27/2018	S-5	FLAT
20840	62809.23	18875.00	133.97	TOA AB RS	4/27/2018	S-5	FLAT
20841	62809.23	18900.00	133.10	TOA AB RS	4/27/2018	S-5	FLAT
20842	62809.23	18925.00	132.24	TOA AB RS	4/27/2018	S-5	FLAT
20843	62809.23	18950.00	131.41	TOA AB RS	4/27/2018	S-5	FLAT
20844	62809.23	18975.00	130.66	TOA AB RS	4/27/2018	S-5	FLAT
20845	62809.23	19000.00	129.67	TOA AB RS	4/27/2018	S-5	FLAT
20846	62809.23	19025.00	128.77	TOA AB RS	4/27/2018	S-5	FLAT
20847	62809.23	19050.00	127.92	TOA AB RS	4/27/2018	S-5	FLAT
20848	62809.23	19075.00	127.10	TOA ASB RS	4/28/2018	S-5	FLAT
20849	62809.23	19092.29	126.41	TOA AB	4/30/2018	S-5	3:1
20850	62809.23	19100.00	124.26	TOA AB	4/30/2018	S-5	3:1
20851	62809.23	19115.00	123.76	TOA AB	4/30/2018	S-5	FLAT
20852	62784.23	18334.98	124.29	TOA AB	5/7/2018	S-7	FLAT
20853	62784.23	18350.00	124.38	TOA AB	5/7/2018	S-7	3:1
20854	62784.23	18357.03	126.45	TOA AB	5/7/2018	S-7	3:1
20855	62784.23	18375.00	127.19	TOA AB	5/7/2018	S-7	FLAT
20856	62784.23	18400.00	127.91	TOA AB	5/7/2018	S-7	FLAT
20857	62784.23	18425.00	128.69	TOA AB	5/7/2018	S-7	FLAT
20858	62784.23	18450.00	129.58	TOA AB	5/7/2018	S-7	FLAT
20859	62784.23	18475.00	130.49	TOA AB	5/7/2018	S-7	FLAT
20860	62784.23	18500.00	131.33	TOA AB	5/7/2018	S-7	FLAT
20861	62784.23	18525.00	132.26	TOA AB	5/7/2018	S-7	FLAT
20862	62784.23	18550.00	133.13	TOA AB	5/7/2018	S-7	FLAT
20863	62784.23	18575.00	134.00	TOA AB	5/7/2018	S-7	FLAT
20864	62784.23	18600.00	134.82	TOA AB	4/30/2018	S-4	FLAT
20865	62784.23	18625.00	135.70	TOA AB	4/30/2018	S-4	FLAT
20866	62784.23	18650.00	136.58	TOA AB	4/30/2018	S-4	FLAT
20867	62784.23	18675.00	137.46	TOA AB RS	4/30/2018	S-4	FLAT
20868	62784.23	18700.00	138.37	TOA AB RS	4/30/2018	S-4	FLAT
20869	62784.23	18725.00	139.24	TOA AB RS	4/27/2018	S-3	FLAT
20870	62784.23	18750.00	138.30	TOA AB RS	4/27/2018	S-3	FLAT
20871	62784.23	18775.00	137.45	TOA AB RS	4/27/2018	S-3	FLAT
20872	62784.23	18800.00	136.57	TOA AB RS	4/27/2018	S-3	FLAT
20873	62784.23	18825.00	135.77	TOA AB RS	4/27/2018	S-3	FLAT
20874	62784.23	18850.00	134.84	TOA AB RS	4/27/2018	S-3	FLAT
20875	62784.23	18875.00	134.02	TOA AB RS	4/27/2018	S-3	FLAT
20876	62784.23	18900.00	133.18	TOA AB RS	4/27/2018	S-3	FLAT
20877	62784.23	18925.00	132.28	TOA AB RS	4/27/2018	S-3	FLAT
20878	62784.23	18950.00	131.40	TOA AB RS	4/27/2018	S-3	FLAT
20879	62784.23	18975.00	130.56	TOA AB RS	4/27/2018	S-3	FLAT
20880	62784.23	19000.00	129.66	TOA AB RS	4/27/2018	S-3	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20881	62784.23	19025.00	128.79	TOA AB RS	4/27/2018	S-3	FLAT
20882	62784.23	19050.00	127.92	TOA AB RS	4/27/2018	S-3	FLAT
20883	62784.23	19075.00	126.94	TOA ASB	4/28/2018	S-3	FLAT
20884	62784.23	19092.97	126.35	TOA ASB	4/28/2018	S-3	3:1
20885	62784.23	19100.00	124.47	TOA ASB	4/28/2018	S-3	3:1
20886	62784.23	19115.00	124.29	TOA ASB	4/28/2018	S-3	FLAT
20887	62759.23	18334.98	124.23	TOA AB	5/7/2018	S-7	FLAT
20888	62759.23	18350.00	124.71	TOA AB	5/7/2018	S-7	3:1
20889	62759.23	18356.35	126.41	TOA AB	5/7/2018	S-7	3:1
20890	62759.23	18375.00	127.18	TOA AB	5/7/2018	S-7	FLAT
20891	62759.23	18400.00	127.94	TOA AB	5/7/2018	S-7	FLAT
20892	62759.23	18425.00	128.81	TOA AB	5/7/2018	S-7	FLAT
20893	62759.23	18450.00	129.71	TOA AB	5/7/2018	S-7	FLAT
20894	62759.23	18475.00	130.55	TOA AB	5/7/2018	S-7	FLAT
20895	62759.23	18500.00	131.44	TOA AB	5/7/2018	S-7	FLAT
20896	62759.23	18525.00	132.29	TOA AB	5/7/2018	S-7	FLAT
20897	62759.23	18550.00	133.09	TOA AB	5/7/2018	S-7	FLAT
20898	62759.23	18575.00	134.04	TOA AB	5/7/2018	S-7	FLAT
20899	62759.23	18600.00	134.82	TOA AB	4/30/2018	S-4	FLAT
20900	62759.23	18625.00	135.65	TOA AB	4/30/2018	S-4	FLAT
20901	62759.23	18650.00	136.51	TOA AB	4/30/2018	S-4	FLAT
20902	62759.23	18675.00	137.50	TOA AB RS	4/30/2018	S-4	FLAT
20903	62759.23	18700.00	138.42	TOA AB RS	4/30/2018	S-4	FLAT
20904	62759.23	18725.00	139.17	TOA AB RS	4/27/2018	S-3	FLAT
20905	62759.23	18750.00	138.30	TOA AB RS	4/27/2018	S-3	FLAT
20906	62759.23	18775.00	137.43	TOA AB RS	4/27/2018	S-3	FLAT
20907	62759.23	18800.00	136.57	TOA AB RS	4/27/2018	S-3	FLAT
20908	62759.23	18825.00	135.70	TOA AB RS	4/27/2018	S-3	FLAT
20909	62759.23	18850.00	134.82	TOA AB RS	4/27/2018	S-3	FLAT
20910	62759.23	18875.00	134.02	TOA AB RS	4/27/2018	S-3	FLAT
20911	62759.23	18900.00	133.09	TOA AB RS	4/27/2018	S-3	FLAT
20912	62759.23	18925.00	132.26	TOA AB RS	4/27/2018	S-3	FLAT
20913	62759.23	18950.00	131.40	TOA AB RS	4/27/2018	S-3	FLAT
20914	62759.23	18975.00	130.59	TOA AB RS	4/27/2018	S-3	FLAT
20915	62759.23	19000.00	129.63	TOA AB RS	4/27/2018	S-3	FLAT
20916	62759.23	19025.00	128.70	TOA AB RS	4/27/2018	S-3	FLAT
20917	62759.23	19050.00	127.90	TOA AB RS	4/27/2018	S-3	FLAT
20918	62759.23	19075.00	126.98	TOA ASB	4/28/2018	S-3	FLAT
20919	62759.23	19093.65	126.27	TOA ASB	4/28/2018	S-3	3:1
20920	62759.23	19100.00	124.70	TOA ASB	4/28/2018	S-3	3:1
20921	62759.23	19115.00	124.31	TOA ASB	4/28/2018	S-3	FLAT
20922	62734.23	18334.98	124.51	TOA AB	5/7/2018	S-7	FLAT
20923	62734.23	18350.00	124.82	TOA AB	5/7/2018	S-7	3:1
20924	62734.23	18355.66	126.36	TOA AB	5/7/2018	S-7	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20925	62734.23	18375.00	127.19	TOA AB	5/7/2018	S-7	FLAT
20926	62734.23	18400.00	127.98	TOA AB	5/7/2018	S-7	FLAT
20927	62734.23	18425.00	128.86	TOA AB	5/7/2018	S-7	FLAT
20928	62734.23	18450.00	129.70	TOA AB	5/7/2018	S-7	FLAT
20929	62734.23	18475.00	130.55	TOA AB	5/7/2018	S-7	FLAT
20930	62734.23	18500.00	131.37	TOA AB	5/7/2018	S-7	FLAT
20931	62734.23	18525.00	132.26	TOA AB	5/7/2018	S-7	FLAT
20932	62734.23	18550.00	133.14	TOA AB	5/7/2018	S-7	FLAT
20933	62734.23	18575.00	134.02	TOA AB	5/7/2018	S-7	FLAT
20934	62734.23	18600.00	134.81	TOA AB	4/30/2018	S-4	FLAT
20935	62734.23	18625.00	135.67	TOA AB	4/30/2018	S-4	FLAT
20936	62734.23	18650.00	136.60	TOA AB RS	4/30/2018	S-4	FLAT
20937	62734.23	18675.00	137.44	TOA AB RS	4/30/2018	S-4	FLAT
20938	62734.23	18700.00	138.37	TOA AB RS	4/30/2018	S-4	FLAT
20939	62734.23	18725.00	139.27	TOA AB RS	4/27/2018	S-3	FLAT
20940	62734.23	18750.00	138.32	TOA AB RS	4/27/2018	S-3	FLAT
20941	62734.23	18775.00	137.47	TOA AB RS	4/27/2018	S-3	FLAT
20942	62734.23	18800.00	136.61	TOA AB RS	4/27/2018	S-3	FLAT
20943	62734.23	18825.00	135.75	TOA AB RS	4/27/2018	S-3	FLAT
20944	62734.23	18850.00	134.84	TOA AB RS	4/27/2018	S-3	FLAT
20945	62734.23	18875.00	133.99	TOA AB RS	4/27/2018	S-3	FLAT
20946	62734.23	18900.00	133.15	TOA AB RS	4/27/2018	S-3	FLAT
20947	62734.23	18925.00	132.28	TOA AB RS	4/27/2018	S-3	FLAT
20948	62734.23	18950.00	131.52	TOA AB RS	4/27/2018	S-3	FLAT
20949	62734.23	18975.00	130.64	TOA AB RS	4/27/2018	S-3	FLAT
20950	62734.23	19000.00	129.68	TOA AB RS	4/27/2018	S-3	FLAT
20951	62734.23	19025.00	128.72	TOA AB RS	4/27/2018	S-3	FLAT
20952	62734.23	19050.00	127.91	TOA AB RS	4/27/2018	S-3	FLAT
20953	62734.23	19075.00	127.00	TOA ASB	4/28/2018	S-3	FLAT
20954	62734.23	19094.34	126.34	TOA ASB	4/28/2018	S-3	3:1
20955	62734.23	19100.00	124.88	TOA ASB	4/28/2018	S-3	3:1
20956	62734.23	19115.00	124.48	TOA ASB	4/28/2018	S-3	FLAT
20957	62709.23	18334.98	124.83	TOA AB	5/7/2018	S-7	FLAT
20958	62709.23	18350.00	124.99	TOA AB	5/7/2018	S-7	3:1
20959	62709.23	18354.98	126.35	TOA AB	5/7/2018	S-7	3:1
20960	62709.23	18375.00	127.18	TOA AB	5/7/2018	S-7	FLAT
20961	62709.23	18400.00	128.03	TOA AB	5/7/2018	S-7	FLAT
20962	62709.23	18425.00	128.75	TOA AB	5/7/2018	S-7	FLAT
20963	62709.23	18450.00	129.63	TOA AB	5/7/2018	S-7	FLAT
20964	62709.23	18475.00	130.57	TOA AB	5/7/2018	S-7	FLAT
20965	62709.23	18500.00	131.40	TOA AB	5/7/2018	S-7	FLAT
20966	62709.23	18525.00	132.24	TOA AB	5/7/2018	S-7	FLAT
20967	62709.23	18550.00	133.12	TOA AB	5/7/2018	S-7	FLAT
20968	62709.23	18575.00	134.03	TOA AB	4/30/2018	S-4	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
20969	62709.23	18600.00	134.86	TOA AB	4/30/2018	S-4	FLAT
20970	62709.23	18625.00	135.68	TOA AB	4/30/2018	S-4	FLAT
20971	62709.23	18650.00	136.67	TOA AB	4/30/2018	S-4	FLAT
20972	62709.23	18675.00	137.55	TOA ASB RS	4/30/2018	S-4	FLAT
20973	62709.23	18700.00	138.38	TOA ASB RS	4/30/2018	S-4	FLAT
20974	62709.23	18725.00	139.26	TOA AB RS	4/27/2018	S-3	FLAT
20975	62709.23	18750.00	138.39	TOA AB RS	4/27/2018	S-3	FLAT
20976	62709.23	18775.00	137.46	TOA AB RS	4/27/2018	S-3	FLAT
20977	62709.23	18800.00	136.61	TOA AB RS	4/27/2018	S-3	FLAT
20978	62709.23	18825.00	135.75	TOA AB RS	4/27/2018	S-3	FLAT
20979	62709.23	18850.00	134.85	TOA AB RS	4/27/2018	S-3	FLAT
20980	62709.23	18875.00	134.03	TOA AB RS	4/27/2018	S-3	FLAT
20981	62709.23	18900.00	133.15	TOA AB RS	4/27/2018	S-3	FLAT
20982	62709.23	18925.00	132.23	TOA AB RS	4/27/2018	S-3	FLAT
20983	62709.23	18950.00	131.46	TOA AB RS	4/27/2018	S-3	FLAT
20984	62709.23	18975.00	130.58	TOA AB RS	4/27/2018	S-3	FLAT
20985	62709.23	19000.00	129.67	TOA AB RS	4/27/2018	S-3	FLAT
20986	62709.23	19025.00	128.70	TOA AB RS	4/27/2018	S-3	FLAT
20987	62709.23	19050.00	127.81	TOA AB RS	4/27/2018	S-3	FLAT
20988	62709.23	19075.00	126.92	TOA ASB	4/28/2018	S-3	FLAT
20989	62709.23	19095.02	126.17	TOA ASB	4/28/2018	S-3	3:1
20990	62709.23	19100.00	125.10	TOA ASB	4/28/2018	S-3	3:1
20991	62709.23	19115.00	124.80	TOA ASB	4/28/2018	S-3	FLAT
20992	62684.23	18334.98	124.94	TOA AB	5/7/2018	S-7	FLAT
20993	62684.23	18350.00	125.19	TOA AB	5/7/2018	S-7	3:1
20994	62684.23	18354.30	126.31	TOA AB	5/7/2018	S-7	3:1
20995	62684.23	18375.00	127.09	TOA AB	5/7/2018	S-7	FLAT
20996	62684.23	18400.00	128.06	TOA AB	5/7/2018	S-7	FLAT
20997	62684.23	18425.00	128.84	TOA AB	5/7/2018	S-7	FLAT
20998	62684.23	18450.00	129.68	TOA AB	5/7/2018	S-7	FLAT
20999	62684.23	18475.00	130.58	TOA AB	5/7/2018	S-7	FLAT
21000	62684.23	18500.00	131.44	TOA AB	5/7/2018	S-7	FLAT
21001	62684.23	18525.00	132.26	TOA AB	5/7/2018	S-7	FLAT
21002	62684.23	18550.00	133.16	TOA AB	5/7/2018	S-7	FLAT
21003	62684.23	18575.00	134.01	TOA AB	4/30/2018	S-4	FLAT
21004	62684.23	18600.00	134.88	TOA AB	4/30/2018	S-4	FLAT
21005	62684.23	18625.00	135.67	TOA AB	4/30/2018	S-4	FLAT
21006	62684.23	18650.00	136.59	TOA AB	4/30/2018	S-4	FLAT
21007	62684.23	18675.00	137.47	TOA AB RS	4/30/2018	S-4	FLAT
21008	62684.23	18700.00	138.37	TOA AB RS	4/30/2018	S-4	FLAT
21009	62684.23	18725.00	139.25	TOA AB RS	4/27/2018	S-3	FLAT
21010	62681.65	18725.00	139.24	TOA AB RS	4/27/2018	S-1	FLAT
21011	62684.23	18750.00	138.35	TOA AB RS	4/27/2018	S-3	FLAT
21012	62684.23	18775.00	137.47	TOA AB RS	4/27/2018	S-3	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21013	62684.23	18800.00	136.56	TOA AB RS	4/27/2018	S-3	FLAT
21014	62684.23	18825.00	135.74	TOA AB RS	4/27/2018	S-3	FLAT
21015	62684.23	18850.00	134.86	TOA AB RS	4/27/2018	S-3	FLAT
21016	62684.23	18875.00	134.04	TOA AB RS	4/27/2018	S-3	FLAT
21017	62684.23	18900.00	133.16	TOA AB RS	4/27/2018	S-3	FLAT
21018	62684.23	18925.00	132.31	TOA AB RS	4/27/2018	S-3	FLAT
21019	62684.23	18950.00	131.44	TOA AB RS	4/27/2018	S-3	FLAT
21020	62684.23	18975.00	130.54	TOA AB RS	4/27/2018	S-3	FLAT
21021	62684.23	19000.00	129.62	TOA AB RS	4/27/2018	S-3	FLAT
21022	62684.23	19025.00	128.72	TOA AB RS	4/27/2018	S-3	FLAT
21023	62684.23	19050.00	127.84	TOA AB RS	4/27/2018	S-3	FLAT
21024	62684.23	19075.00	126.90	TOA ASB	4/28/2018	S-3	FLAT
21025	62684.23	19095.70	126.21	TOA ASB	4/28/2018	S-3	3:1
21026	62684.23	19100.00	125.28	TOA ASB	4/28/2018	S-3	3:1
21027	62684.23	19115.00	125.07	TOA ASB	4/28/2018	S-3	FLAT
21028	62659.23	18334.98	125.09	TOA AB	5/3/2018	S-6	FLAT
21029	62659.23	18350.00	125.39	TOA AB	5/3/2018	S-6	3:1
21030	62659.23	18353.61	126.29	TOA AB	5/3/2018	S-6	3:1
21031	62659.23	18375.00	127.09	TOA AB	5/3/2018	S-6	FLAT
21032	62659.23	18400.00	128.04	TOA AB	5/3/2018	S-6	FLAT
21033	62659.23	18425.00	128.72	TOA AB	5/2/2018	S-6	FLAT
21034	62659.23	18450.00	129.76	TOA AB RS	5/2/2018	S-6	FLAT
21035	62659.23	18475.00	130.46	TOA AB	5/2/2018	S-6	FLAT
21036	62659.23	18500.00	131.41	TOA AB	5/2/2018	S-6	FLAT
21037	62659.23	18525.00	132.34	TOA AB	5/2/2018	S-6	FLAT
21038	62659.23	18550.00	133.02	TOA AB	4/30/2018	S-6	FLAT
21039	62659.23	18575.00	133.92	TOA AB	4/30/2018	S-6	FLAT
21040	62659.23	18600.00	134.86	TOA AB	4/30/2018	S-6	FLAT
21041	62659.23	18625.00	135.71	TOA AB	4/30/2018	S-6	FLAT
21042	62659.23	18650.00	136.60	TOA AB	4/30/2018	S-6	FLAT
21043	62659.23	18675.00	137.53	TOA AB RS	4/30/2018	S-6	FLAT
21044	62659.23	18700.00	138.33	TOA AB	3/29/2018	S-1	FLAT
21045	62659.23	18725.00	138.46	TOA AB	3/29/2018	S-1	FLAT
21046	62659.23	18750.00	138.27	TOA AB RS	4/27/2018	S-3	FLAT
21047	62659.23	18775.00	137.51	TOA AB RS	4/27/2018	S-3	FLAT
21048	62659.23	18800.00	136.58	TOA AB RS	4/27/2018	S-3	FLAT
21049	62659.23	18825.00	135.75	TOA AB RS	4/27/2018	S-3	FLAT
21050	62659.23	18850.00	134.84	TOA AB RS	4/27/2018	S-3	FLAT
21051	62659.23	18875.00	133.97	TOA AB RS	4/27/2018	S-3	FLAT
21052	62659.23	18900.00	133.01	TOA AB RS	4/27/2018	S-3	FLAT
21053	62659.23	18925.00	132.17	TOA AB RS	4/27/2018	S-3	FLAT
21054	62659.23	18950.00	131.35	TOA AB RS	4/27/2018	S-3	FLAT
21055	62659.23	18975.00	130.57	TOA AB RS	4/27/2018	S-3	FLAT
21056	62659.23	19000.00	129.58	TOA AB RS	4/27/2018	S-3	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21057	62659.23	19025.00	128.71	TOA AB RS	4/27/2018	S-3	FLAT
21058	62659.23	19050.00	127.74	TOA AB RS	4/27/2018	S-3	FLAT
21059	62659.23	19075.00	126.93	TOA ASB	4/28/2018	S-3	FLAT
21060	62659.23	19096.39	126.23	TOA ASB	4/28/2018	S-3	3:1
21061	62659.23	19100.00	125.29	TOA ASB	4/28/2018	S-3	3:1
21062	62659.23	19115.00	125.15	TOA ASB	4/28/2018	S-3	FLAT
21063	62634.23	18334.98	125.38	TOA AB	5/3/2018	S-6	FLAT
21064	62634.23	18350.00	125.62	TOA AB	5/3/2018	S-6	3:1
21065	62634.23	18352.93	126.23	TOA AB	5/3/2018	S-6	3:1
21066	62634.23	18375.00	126.94	TOA AB	5/3/2018	S-6	FLAT
21067	62634.23	18400.00	127.93	TOA AB	5/3/2018	S-6	FLAT
21068	62634.23	18425.00	128.71	TOA AB	5/2/2018	S-6	FLAT
21069	62634.23	18450.00	129.58	TOA AB	5/2/2018	S-6	FLAT
21070	62634.23	18475.00	130.51	TOA AB	5/2/2018	S-6	FLAT
21071	62634.23	18500.00	131.41	TOA AB	5/2/2018	S-6	FLAT
21072	62634.23	18525.00	132.21	TOA AB	5/2/2018	S-6	FLAT
21073	62634.23	18550.00	132.99	TOA AB	4/30/2018	S-6	FLAT
21074	62634.23	18575.00	133.99	TOA AB	4/30/2018	S-6	FLAT
21075	62634.23	18600.00	134.91	TOA AB	4/30/2018	S-6	FLAT
21076	62634.23	18625.00	135.72	TOA AB	4/30/2018	S-6	FLAT
21077	62634.23	18650.00	136.62	TOA AB	4/30/2018	S-6	FLAT
21078	62634.23	18675.00	137.43	TOA AB	3/29/2018	S-1	FLAT
21079	62634.23	18700.00	137.58	TOA AB	3/29/2018	S-1	FLAT
21080	62634.23	18725.00	137.52	TOA AB	3/29/2018	S-1	FLAT
21081	62634.23	18750.00	137.55	TOA AB	3/29/2018	S-1	FLAT
21082	62634.23	18775.00	137.42	TOA AB	3/29/2018	S-3	FLAT
21083	62634.23	18800.00	136.61	TOA AB	3/29/2018	S-3	FLAT
21084	62634.23	18825.00	135.70	TOA AB RS	4/27/2018	S-3	FLAT
21085	62634.23	18850.00	134.79	TOA AB RS	4/27/2018	S-3	FLAT
21086	62634.23	18875.00	133.94	TOA AB RS	4/27/2018	S-3	FLAT
21087	62634.23	18900.00	133.08	TOA AB RS	4/27/2018	S-3	FLAT
21088	62634.23	18925.00	132.20	TOA AB RS	4/27/2018	S-3	FLAT
21089	62634.23	18950.00	131.37	TOA AB RS	4/27/2018	S-3	FLAT
21090	62634.23	18975.00	130.53	TOA AB RS	4/27/2018	S-3	FLAT
21091	62634.23	19000.00	129.62	TOA AB RS	4/27/2018	S-3	FLAT
21092	62634.23	19025.00	128.71	TOA AB RS	4/27/2018	S-3	FLAT
21093	62634.23	19050.00	127.79	TOA AB RS	4/27/2018	S-3	FLAT
21094	62634.23	19075.00	126.91	TOA ASB	4/28/2018	S-3	FLAT
21095	62634.23	19097.07	126.18	TOA ASB	4/28/2018	S-3	3:1
21096	62634.23	19100.00	125.88	TOA ASB	4/28/2018	S-3	3:1
21097	62634.23	19115.00	125.30	TOA ASB	4/28/2018	S-3	FLAT
21098	62609.23	18334.98	125.38	TOA AB	5/3/2018	S-6	FLAT
21099	62609.23	18350.00	125.73	TOA AB	5/3/2018	S-6	3:1
21100	62609.23	18352.25	126.14	TOA AB	5/3/2018	S-6	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21101	62609.23	18375.00	126.93	TOA AB	5/3/2018	S-6	FLAT
21102	62609.23	18400.00	127.88	TOA AB	5/3/2018	S-6	FLAT
21103	62609.23	18425.00	128.71	TOA AB	5/2/2018	S-6	FLAT
21104	62609.23	18450.00	129.55	TOA AB	5/2/2018	S-6	FLAT
21105	62609.23	18475.00	130.47	TOA AB	5/2/2018	S-6	FLAT
21106	62609.23	18500.00	131.33	TOA AB	5/2/2018	S-6	FLAT
21107	62609.23	18525.00	132.21	TOA AB	5/2/2018	S-6	FLAT
21108	62609.23	18550.00	133.04	TOA AB	4/30/2018	S-6	FLAT
21109	62609.23	18575.00	133.98	TOA AB	4/30/2018	S-6	FLAT
21110	62609.23	18600.00	134.88	TOA AB	4/30/2018	S-6	FLAT
21111	62609.23	18625.00	135.77	TOA AB	4/30/2018	S-6	FLAT
21112	62609.23	18650.00	136.56	TOA AB	4/30/2018	S-6	FLAT
21113	62609.23	18652.80	136.64	TOA AB	3/29/2018	S-1	FLAT
21114	62609.23	18675.00	136.77	TOA AB	3/29/2018	S-1	FLAT
21115	62609.23	18700.00	136.76	TOA AB	3/29/2018	S-1	FLAT
21116	62609.23	18725.00	136.73	TOA AB	3/29/2018	S-1	FLAT
21117	62609.23	18750.00	136.66	TOA AB	3/29/2018	S-1	FLAT
21118	62609.23	18775.00	136.61	TOA AB	3/29/2018	S-1	FLAT
21119	62609.23	18796.29	136.53	TOA AB	3/29/2018	S-1	FLAT
21120	62609.23	18800.00	136.60	TOA AB	3/29/2018	S-3	FLAT
21121	62609.23	18825.00	135.77	TOA AB	3/29/2018	S-3	FLAT
21122	62609.23	18850.00	134.86	TOA AB	4/27/2018	S-3	FLAT
21123	62609.23	18875.00	133.87	TOA AB	4/27/2018	S-3	FLAT
21124	62609.23	18900.00	133.13	TOA AB RS	4/27/2018	S-3	FLAT
21125	62609.23	18925.00	132.26	TOA AB RS	4/27/2018	S-3	FLAT
21126	62609.23	18950.00	131.36	TOA AB RS	4/27/2018	S-3	FLAT
21127	62609.23	18975.00	130.54	TOA AB RS	4/27/2018	S-3	FLAT
21128	62609.23	19000.00	129.58	TOA AB RS	4/27/2018	S-3	FLAT
21129	62609.23	19025.00	128.69	TOA AB RS	4/27/2018	S-3	FLAT
21130	62609.23	19050.00	127.79	TOA AB RS	4/27/2018	S-3	FLAT
21131	62609.23	19075.00	126.87	TOA ASB	4/28/2018	S-3	FLAT
21132	62609.23	19097.75	126.09	TOA ASB	4/28/2018	S-3	3:1
21133	62609.23	19100.00	125.90	TOA ASB	4/28/2018	S-3	3:1
21134	62609.23	19115.00	125.49	TOA ASB	4/28/2018	S-3	FLAT
21135	62584.23	18334.98	125.65	TOA AB	5/3/2018	S-6	FLAT
21136	62584.23	18350.00	125.92	TOA AB	5/3/2018	S-6	3:1
21137	62584.23	18375.00	126.93	TOA AB	5/3/2018	S-6	FLAT
21138	62584.23	18400.00	127.84	TOA AB	5/3/2018	S-6	FLAT
21139	62584.23	18425.00	128.73	TOA AB	5/2/2018	S-6	FLAT
21140	62584.23	18450.00	129.60	TOA AB	5/2/2018	S-6	FLAT
21141	62584.23	18475.00	130.56	TOA AB	5/2/2018	S-6	FLAT
21142	62584.23	18500.00	131.38	TOA AB	5/2/2018	S-6	FLAT
21143	62584.23	18525.00	132.25	TOA AB	5/2/2018	S-6	FLAT
21144	62584.23	18550.00	133.07	TOA AB	4/30/2018	S-6	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21145	62584.23	18575.00	133.95	TOA AB	4/30/2018	S-6	FLAT
21146	62584.23	18600.00	134.82	TOA AB	4/30/2018	S-6	FLAT
21147	62584.23	18625.00	135.71	TOA AB	3/29/2018	S-1	FLAT
21148	62584.23	18650.00	135.74	TOA AB	3/29/2018	S-1	FLAT
21149	62584.23	18675.00	135.79	TOA AB	3/29/2018	S-1	FLAT
21150	62584.23	18700.00	135.76	TOA AB	3/29/2018	S-1	FLAT
21151	62584.23	18725.00	135.76	TOA AB	3/29/2018	S-1	FLAT
21152	62584.23	18750.00	135.76	TOA AB	3/29/2018	S-1	FLAT
21153	62584.23	18775.00	135.84	TOA AB	3/29/2018	S-1	FLAT
21154	62584.23	18800.00	135.82	TOA AB	3/29/2018	S-1	FLAT
21155	62584.23	18825.00	135.72	TOA AB RS	4/27/2018	S-3	FLAT
21156	62584.23	18850.00	134.83	TOA AB RS	4/27/2018	S-3	FLAT
21157	62584.23	18875.00	133.93	TOA AB RS	4/27/2018	S-3	FLAT
21158	62584.23	18900.00	133.09	TOA AB RS	4/27/2018	S-3	FLAT
21159	62584.23	18925.00	132.20	TOA AB RS	4/27/2018	S-3	FLAT
21160	62584.23	18950.00	131.31	TOA AB RS	4/27/2018	S-3	FLAT
21161	62584.23	18975.00	130.48	TOA AB RS	4/27/2018	S-3	FLAT
21162	62584.23	19000.00	129.56	TOA AB RS	4/27/2018	S-3	FLAT
21163	62584.23	19025.00	128.65	TOA AB RS	4/27/2018	S-3	FLAT
21164	62584.23	19050.00	127.80	TOA AB RS	4/27/2018	S-3	FLAT
21165	62584.23	19075.00	126.88	TOA ASB	4/28/2018	S-3	FLAT
21166	62584.23	19100.00	126.01	TOA ASB	4/28/2018	S-3	3:1
21167	62584.23	19115.00	125.67	TOA ASB	4/28/2018	S-3	FLAT
21168	62559.23	18334.98	125.86	TOA AB	5/3/2018	S-6	FLAT
21169	62559.23	18350.00	126.02	TOA AB	5/3/2018	S-6	3:1
21170	62559.23	18375.00	127.00	TOA AB	5/3/2018	S-6	FLAT
21171	62559.23	18400.00	127.83	TOA AB	5/3/2018	S-6	FLAT
21172	62559.23	18425.00	128.69	TOA AB	5/2/2018	S-6	FLAT
21173	62559.23	18450.00	129.54	TOA AB	5/2/2018	S-6	FLAT
21174	62559.23	18475.00	130.45	TOA AB	5/2/2018	S-6	FLAT
21175	62559.23	18500.00	131.28	TOA AB	5/2/2018	S-6	FLAT
21176	62559.23	18525.00	132.12	TOA AB	5/2/2018	S-6	FLAT
21177	62559.23	18550.00	132.99	TOA AB	5/2/2018	S-6	FLAT
21178	62559.23	18575.00	133.91	TOA AB	5/2/2018	S-6	FLAT
21179	62559.23	18600.00	134.77	TOA AB	3/29/2018	S-1	FLAT
21180	62559.23	18625.00	134.88	TOA AB	3/29/2018	S-1	FLAT
21181	62559.23	18650.00	134.99	TOA AB	3/29/2018	S-1	FLAT
21182	62559.23	18675.00	134.92	TOA AB	3/29/2018	S-1	FLAT
21183	62559.23	18700.00	134.94	TOA AB	3/29/2018	S-1	FLAT
21184	62559.23	18725.00	134.99	TOA AB	3/29/2018	S-1	FLAT
21185	62559.23	18750.00	134.98	TOA AB	3/29/2018	S-1	FLAT
21186	62559.23	18775.00	134.98	TOA AB	3/29/2018	S-1	FLAT
21187	62559.23	18800.00	135.00	TOA AB	3/29/2018	S-1	FLAT
21188	62559.23	18825.00	134.93	TOA AB	3/29/2018	S-1	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21189	62559.23	18850.00	134.89	TOA AB	3/29/2018	S-2	FLAT
21190	62559.23	18875.00	133.91	TOA AB	3/29/2018	S-2	FLAT
21191	62559.23	18900.00	133.05	TOA AB	3/29/2018	S-2	FLAT
21192	62559.23	18925.00	132.19	TOA AB	3/29/2018	S-2	FLAT
21193	62559.23	18950.00	131.28	TOA AB	3/29/2018	S-2	FLAT
21194	62559.23	18975.00	130.46	TOA AB	3/29/2018	S-2	FLAT
21195	62559.23	19000.00	129.48	TOA AB	3/29/2018	S-2	FLAT
21196	62559.23	19025.00	128.60	TOA AB	3/29/2018	S-2	FLAT
21197	62559.23	19050.00	127.77	TOA AB	3/29/2018	S-2	FLAT
21198	62559.23	19075.00	126.96	TOA AB	4/11/2018	S-2	FLAT
21199	62559.23	19100.00	126.00	TOA AB	4/11/2018	S-2	3:1
21200	62559.23	19115.00	125.88	TOA AB	4/11/2018	S-2	FLAT
21201	62534.23	18334.98	125.74	TOA AB	5/3/2018	S-6	FLAT
21202	62534.23	18350.00	125.93	TOA AB	5/3/2018	S-6	3:1
21203	62534.23	18375.00	126.96	TOA AB	5/3/2018	S-6	FLAT
21204	62534.23	18400.00	127.84	TOA AB	5/3/2018	S-6	FLAT
21205	62534.23	18425.00	128.73	TOA AB	5/2/2018	S-6	FLAT
21206	62534.23	18450.00	129.59	TOA AB	5/2/2018	S-6	FLAT
21207	62534.23	18475.00	130.51	TOA AB	5/2/2018	S-6	FLAT
21208	62534.23	18500.00	131.30	TOA AB	5/2/2018	S-6	FLAT
21209	62534.23	18525.00	132.19	TOA AB	5/2/2018	S-6	FLAT
21210	62534.23	18550.00	132.93	TOA AB	5/2/2018	S-6	FLAT
21211	62534.23	18575.00	133.89	TOA AB	5/2/2018	S-6	FLAT
21212	62534.23	18578.03	133.95	TOA AB RS	5/2/2018	S-6	FLAT
21213	62534.23	18600.00	134.04	TOA AB	3/29/2018	S-1	FLAT
21214	62534.23	18625.00	134.08	TOA AB	3/29/2018	S-1	FLAT
21215	62534.23	18650.00	134.13	TOA AB	3/29/2018	S-1	FLAT
21216	62534.23	18675.00	134.05	TOA AB	3/29/2018	S-1	FLAT
21217	62534.23	18700.00	134.10	TOA AB	3/29/2018	S-1	FLAT
21218	62534.23	18725.00	134.10	TOA AB	3/29/2018	S-1	FLAT
21219	62534.23	18750.00	134.11	TOA AB	3/29/2018	S-1	FLAT
21220	62534.23	18775.00	134.13	TOA AB	3/29/2018	S-1	FLAT
21221	62534.23	18800.00	134.09	TOA AB	3/29/2018	S-1	FLAT
21222	62534.23	18825.00	134.04	TOA AB	3/29/2018	S-1	FLAT
21223	62534.23	18850.00	134.09	TOA AB	3/29/2018	S-1	FLAT
21224	62534.23	18870.11	134.01	TOA AB	3/29/2018	S-2	FLAT
21225	62534.23	18875.00	133.93	TOA AB	3/29/2018	S-2	FLAT
21226	62534.23	18900.00	133.08	TOA AB	3/29/2018	S-2	FLAT
21227	62534.23	18925.00	132.20	TOA AB	3/29/2018	S-2	FLAT
21228	62534.23	18950.00	131.36	TOA AB	3/29/2018	S-2	FLAT
21229	62534.23	18975.00	130.32	TOA AB	3/29/2018	S-2	FLAT
21230	62534.23	19000.00	129.53	TOA AB	3/29/2018	S-2	FLAT
21231	62534.23	19025.00	128.65	TOA AB RS	4/3/2018	S-2	FLAT
21232	62534.23	19050.00	127.75	TOA AB	4/3/2018	S-2	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21233	62534.23	19075.00	126.97	TOA AB	4/11/2018	S-2	FLAT
21234	62534.23	19100.00	125.97	TOA AB	4/11/2018	S-2	3:1
21235	62534.23	19115.00	125.72	TOA AB	4/11/2018	S-2	FLAT
21236	62509.23	18334.98	125.74	TOA AB	5/3/2018	S-6	FLAT
21237	62509.23	18350.00	125.95	TOA AB	5/3/2018	S-6	3:1
21238	62509.23	18352.07	126.21	TOA AB	5/3/2018	S-6	3:1
21239	62509.23	18375.00	126.96	TOA AB	5/3/2018	S-6	FLAT
21240	62509.23	18400.00	127.89	TOA AB	5/3/2018	S-6	FLAT
21241	62509.23	18425.00	128.72	TOA AB	5/2/2018	S-6	FLAT
21242	62509.23	18450.00	129.60	TOA AB	5/2/2018	S-6	FLAT
21243	62509.23	18475.00	130.50	TOA AB	5/2/2018	S-6	FLAT
21244	62509.23	18500.00	131.35	TOA AB	5/2/2018	S-6	FLAT
21245	62509.23	18525.00	132.17	TOA AB	5/2/2018	S-6	FLAT
21246	62509.23	18550.00	132.96	TOA AB RS	5/2/2018	S-6	FLAT
21247	62509.23	18575.00	133.15	TOA AB RS	5/2/2018	S-6	FLAT
21248	62509.23	18600.00	133.13	TOA AB	4/3/2018	S-1	FLAT
21249	62509.23	18625.00	133.16	TOA AB	4/3/2018	S-1	FLAT
21250	62509.23	18650.00	133.18	TOA AB	4/3/2018	S-1	FLAT
21251	62509.23	18675.00	133.18	TOA AB	4/3/2018	S-1	FLAT
21252	62509.23	18700.00	133.14	TOA AB	4/3/2018	S-1	FLAT
21253	62509.23	18725.00	133.20	TOA AB	4/3/2018	S-1	FLAT
21254	62509.23	18750.00	133.16	TOA AB	4/3/2018	S-1	FLAT
21255	62509.23	18775.00	133.14	TOA AB	4/3/2018	S-1	FLAT
21256	62509.23	18800.00	133.15	TOA AB	4/3/2018	S-1	FLAT
21257	62509.23	18825.00	133.20	TOA AB	4/3/2018	S-1	FLAT
21258	62509.23	18850.00	133.16	TOA AB	4/3/2018	S-1	FLAT
21259	62509.23	18875.00	133.18	TOA AB	4/3/2018	S-1	FLAT
21260	62509.23	18900.00	133.09	TOA AB	4/3/2018	S-2	FLAT
21261	62509.23	18925.00	132.15	TOA AB	4/3/2018	S-2	FLAT
21262	62509.23	18950.00	131.34	TOA AB	4/3/2018	S-2	FLAT
21263	62509.23	18975.00	130.45	TOA AB	4/3/2018	S-2	FLAT
21264	62509.23	19000.00	129.51	TOA AB	4/3/2018	S-2	FLAT
21265	62509.23	19025.00	128.61	TOA AB	4/3/2018	S-2	FLAT
21266	62509.23	19050.00	127.87	TOA AB	4/3/2018	S-2	FLAT
21267	62509.23	19075.00	126.90	TOA AB	4/11/2018	S-2	FLAT
21268	62509.23	19098.09	126.10	TOA AB	4/11/2018	S-2	3:1
21269	62509.23	19100.00	125.87	TOA AB	4/11/2018	S-2	3:1
21270	62509.23	19115.00	125.38	TOA AB	4/11/2018	S-2	FLAT
21271	62484.23	18334.98	125.55	TOA AB	5/3/2018	S-6	FLAT
21272	62484.23	18350.00	125.72	TOA AB	5/3/2018	S-6	3:1
21273	62484.23	18352.75	126.18	TOA AB	5/3/2018	S-6	3:1
21274	62484.23	18375.00	126.95	TOA AB	5/3/2018	S-6	FLAT
21275	62484.23	18400.00	127.86	TOA AB	5/3/2018	S-6	FLAT
21276	62484.23	18425.00	128.70	TOA AB	5/2/2018	S-6	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21277	62484.23	18450.00	129.59	TOA AB	5/2/2018	S-6	FLAT
21278	62484.23	18475.00	130.46	TOA AB	5/2/2018	S-6	FLAT
21279	62484.23	18500.00	131.33	TOA AB	5/2/2018	S-6	FLAT
21280	62484.23	18525.00	132.18	TOA AB RS	5/2/2018	S-6	FLAT
21281	62484.23	18550.00	132.24	TOA AB RS	5/2/2018	S-6	FLAT
21282	62484.23	18575.00	132.28	TOA AB RS	5/2/2018	S-6	FLAT
21283	62484.23	18600.00	132.32	TOA AB	4/3/2018	S-1	FLAT
21284	62484.23	18625.00	132.29	TOA AB	4/3/2018	S-1	FLAT
21285	62484.23	18650.00	132.33	TOA AB	4/3/2018	S-1	FLAT
21286	62484.23	18675.00	132.28	TOA AB	4/3/2018	S-1	FLAT
21287	62484.23	18700.00	132.29	TOA AB	4/3/2018	S-1	FLAT
21288	62484.23	18725.00	132.25	TOA AB	4/3/2018	S-1	FLAT
21289	62484.23	18750.00	132.29	TOA AB	4/3/2018	S-1	FLAT
21290	62484.23	18775.00	132.30	TOA AB	4/3/2018	S-1	FLAT
21291	62484.23	18800.00	132.34	TOA AB	4/3/2018	S-1	FLAT
21292	62484.23	18825.00	132.35	TOA AB	4/3/2018	S-1	FLAT
21293	62484.23	18850.00	132.38	TOA AB	4/3/2018	S-1	FLAT
21294	62484.23	18875.00	132.31	TOA AB	4/3/2018	S-1	FLAT
21295	62484.23	18900.00	132.31	TOA AB	3/29/2018	S-1	FLAT
21296	62484.23	18925.00	132.16	TOA AB	3/29/2018	S-2	FLAT
21297	62484.23	18950.00	131.23	TOA AB	3/29/2018	S-2	FLAT
21298	62484.23	18975.00	130.37	TOA AB	3/29/2018	S-2	FLAT
21299	62484.23	19000.00	129.53	TOA AB	3/29/2018	S-2	FLAT
21300	62484.23	19025.00	128.63	TOA AB	3/29/2018	S-2	FLAT
21301	62484.23	19050.00	127.83	TOA AB	3/29/2018	S-2	FLAT
21302	62484.23	19075.00	126.97	TOA AB	4/11/2018	S-2	FLAT
21303	62484.23	19097.50	126.03	TOA AB	4/11/2018	S-2	3:1
21304	62484.23	19100.00	125.66	TOA AB	4/11/2018	S-2	3:1
21305	62484.23	19115.00	125.31	TOA AB	4/11/2018	S-2	FLAT
21306	62459.23	18334.98	125.45	TOA AB	5/3/2018	S-6	FLAT
21307	62459.23	18350.00	125.50	TOA AB	5/3/2018	S-6	3:1
21308	62459.23	18353.44	126.24	TOA AB	5/3/2018	S-6	3:1
21309	62459.23	18375.00	126.99	TOA AB	5/3/2018	S-6	FLAT
21310	62459.23	18400.00	127.86	TOA AB	5/3/2018	S-6	FLAT
21311	62459.23	18425.00	128.73	TOA AB	5/2/2018	S-6	FLAT
21312	62459.23	18450.00	129.53	TOA AB	5/2/2018	S-6	FLAT
21313	62459.23	18475.00	130.47	TOA AB	5/2/2018	S-6	FLAT
21314	62459.23	18500.00	131.29	TOA AB RS	5/2/2018	S-6	FLAT
21315	62459.23	18503.26	131.31	TOA AB RS	5/2/2018	S-6	FLAT
21316	62459.23	18525.00	131.34	TOA AB RS	5/2/2018	S-6	FLAT
21317	62459.23	18550.00	131.34	TOA AB RS	5/2/2018	S-6	FLAT
21318	62459.23	18575.00	131.33	TOA AB RS	5/2/2018	S-6	FLAT
21319	62459.23	18600.00	131.44	TOA AB	3/29/2018	S-1	FLAT
21320	62459.23	18625.00	131.41	TOA AB	3/29/2018	S-1	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21321	62459.23	18650.00	131.42	TOA AB	3/29/2018	S-1	FLAT
21322	62459.23	18675.00	131.44	TOA AB	3/29/2018	S-1	FLAT
21323	62459.23	18700.00	131.43	TOA AB	3/29/2018	S-1	FLAT
21324	62459.23	18725.00	131.45	TOA AB	3/29/2018	S-1	FLAT
21325	62459.23	18750.00	131.45	TOA AB	3/29/2018	S-1	FLAT
21326	62459.23	18775.00	131.44	TOA AB	3/29/2018	S-1	FLAT
21327	62459.23	18800.00	131.47	TOA AB	3/29/2018	S-1	FLAT
21328	62459.23	18825.00	131.45	TOA AB	3/29/2018	S-1	FLAT
21329	62459.23	18850.00	131.46	TOA AB	3/29/2018	S-1	FLAT
21330	62459.23	18875.00	131.49	TOA AB	3/29/2018	S-1	FLAT
21331	62459.23	18900.00	131.48	TOA AB	3/29/2018	S-1	FLAT
21332	62459.23	18925.00	131.48	TOA AB	3/29/2018	S-1	FLAT
21333	62459.23	18943.93	131.45	TOA AB	3/29/2018	S-2	FLAT
21334	62459.23	18950.00	131.33	TOA AB	3/29/2018	S-2	FLAT
21335	62459.23	18975.00	130.44	TOA AB	3/29/2018	S-2	FLAT
21336	62459.23	19000.00	129.58	TOA AB	3/29/2018	S-2	FLAT
21337	62459.23	19025.00	128.68	TOA AB	3/29/2018	S-2	FLAT
21338	62459.23	19050.00	127.83	TOA AB	3/29/2018	S-2	FLAT
21339	62459.23	19075.00	126.92	TOA AB	4/11/2018	S-2	FLAT
21340	62459.23	19096.90	126.05	TOA AB	4/11/2018	S-2	3:1
21341	62459.23	19100.00	125.66	TOA AB	4/11/2018	S-2	3:1
21342	62459.23	19115.00	125.05	TOA AB	4/11/2018	S-2	FLAT
21343	62434.23	18334.98	125.43	TOA AB	5/3/2018	S-6	FLAT
21344	62434.23	18350.00	125.35	TOA AB	5/3/2018	S-6	3:1
21345	62434.23	18354.12	126.24	TOA AB	5/3/2018	S-6	3:1
21346	62434.23	18375.00	126.93	TOA AB	5/3/2018	S-6	FLAT
21347	62434.23	18400.00	127.82	TOA AB	5/3/2018	S-6	FLAT
21348	62434.23	18425.00	128.64	TOA AB	5/2/2018	S-6	FLAT
21349	62434.23	18450.00	129.56	TOA AB	5/2/2018	S-6	FLAT
21350	62434.23	18475.00	130.40	TOA AB RS	5/2/2018	S-6	FLAT
21351	62434.23	18500.00	130.56	TOA AB RS	5/2/2018	S-6	FLAT
21352	62434.23	18525.00	130.49	TOA AB RS	5/2/2018	S-6	FLAT
21353	62434.23	18550.00	130.45	TOA AB RS	5/2/2018	S-6	FLAT
21354	62434.23	18575.00	130.47	TOA AB RS	5/2/2018	S-6	FLAT
21355	62434.23	18600.00	130.53	TOA AB	3/29/2018	S-1	FLAT
21356	62434.23	18625.00	130.54	TOA AB	3/29/2018	S-1	FLAT
21357	62434.23	18650.00	130.60	TOA AB	3/29/2018	S-1	FLAT
21358	62434.23	18675.00	130.56	TOA AB	3/29/2018	S-1	FLAT
21359	62434.23	18700.00	130.47	TOA AB	3/29/2018	S-1	FLAT
21360	62434.23	18725.00	130.53	TOA AB	3/29/2018	S-1	FLAT
21361	62434.23	18750.00	130.55	TOA AB	3/29/2018	S-1	FLAT
21362	62434.23	18775.00	130.57	TOA AB	3/29/2018	S-1	FLAT
21363	62434.23	18800.00	130.53	TOA AB	3/29/2018	S-1	FLAT
21364	62434.23	18825.00	130.55	TOA AB	3/29/2018	S-1	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21365	62434.23	18850.00	130.63	TOA AB	3/29/2018	S-1	FLAT
21366	62434.23	18875.00	130.63	TOA AB	3/29/2018	S-1	FLAT
21367	62434.23	18900.00	130.74	TOA AB	3/29/2018	S-1	FLAT
21368	62434.23	18925.00	130.71	TOA AB	3/29/2018	S-1	FLAT
21369	62434.23	18950.00	130.69	TOA AB	3/29/2018	S-1	FLAT
21370	62434.23	18975.00	130.50	TOA AB	3/29/2018	S-2	FLAT
21371	62434.23	19000.00	129.58	TOA AB	3/29/2018	S-2	FLAT
21372	62434.23	19025.00	128.64	TOA AB	3/29/2018	S-2	FLAT
21373	62434.23	19050.00	127.81	TOA AB	3/29/2018	S-2	FLAT
21374	62434.23	19075.00	126.93	TOA AB	4/11/2018	S-2	FLAT
21375	62434.23	19096.31	126.06	TOA AB	4/11/2018	S-2	3:1
21376	62434.23	19100.00	125.33	TOA AB	4/11/2018	S-2	3:1
21377	62434.23	19115.00	124.93	TOA AB	4/11/2018	S-2	FLAT
21378	62409.23	18334.98	125.25	TOA AB	5/3/2018	S-6	FLAT
21379	62409.23	18350.00	125.33	TOA AB	5/3/2018	S-6	3:1
21380	62409.23	18354.22	126.33	TOA AB	5/3/2018	S-6	3:1
21381	62409.23	18375.00	126.96	TOA AB	5/3/2018	S-6	FLAT
21382	62409.23	18400.00	127.85	TOA AB	5/3/2018	S-6	FLAT
21383	62409.23	18425.00	128.59	TOA AB	5/2/2018	S-6	FLAT
21384	62409.23	18450.00	129.44	TOA AB	5/2/2018	S-6	FLAT
21385	62409.23	18475.00	129.74	TOA AB RS	5/2/2018	S-6	FLAT
21386	62409.23	18500.00	129.62	TOA AB RS	5/2/2018	S-6	FLAT
21387	62409.23	18525.00	129.60	TOA AB RS	5/2/2018	S-6	FLAT
21388	62409.23	18550.00	129.57	TOA AB RS	5/2/2018	S-6	FLAT
21389	62409.23	18575.00	129.61	TOA AB RS	5/2/2018	S-6	FLAT
21390	62409.23	18600.00	129.69	TOA AB	3/29/2018	S-1	FLAT
21391	62409.23	18625.00	129.69	TOA AB	3/29/2018	S-1	FLAT
21392	62409.23	18650.00	129.63	TOA AB	3/29/2018	S-1	FLAT
21393	62409.23	18675.00	129.70	TOA AB	3/29/2018	S-1	FLAT
21394	62409.23	18700.00	129.71	TOA AB	3/29/2018	S-1	FLAT
21395	62409.23	18725.00	129.69	TOA AB	3/29/2018	S-1	FLAT
21396	62409.23	18750.00	129.72	TOA AB	3/29/2018	S-1	FLAT
21397	62409.23	18775.00	129.70	TOA AB	3/29/2018	S-1	FLAT
21398	62409.23	18800.00	129.70	TOA AB	3/29/2018	S-1	FLAT
21399	62409.23	18825.00	129.77	TOA AB	3/29/2018	S-1	FLAT
21400	62409.23	18850.00	129.72	TOA AB	3/29/2018	S-1	FLAT
21401	62409.23	18875.00	129.79	TOA AB	3/29/2018	S-1	FLAT
21402	62409.23	18900.00	129.77	TOA AB	3/29/2018	S-1	FLAT
21403	62409.23	18925.00	129.78	TOA AB	3/29/2018	S-1	FLAT
21404	62409.23	18950.00	129.80	TOA AB	3/29/2018	S-1	FLAT
21405	62409.23	18975.00	129.79	TOA AB	3/29/2018	S-1	FLAT
21406	62409.23	19000.00	129.65	TOA AB	3/29/2018	S-2	FLAT
21407	62409.23	19025.00	128.67	TOA AB	3/29/2018	S-2	FLAT
21408	62409.23	19050.00	127.89	TOA AB	3/29/2018	S-2	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21409	62409.23	19075.00	126.89	TOA AB	4/11/2018	S-2	FLAT
21410	62409.23	19095.71	126.11	TOA AB	4/11/2018	S-2	3:1
21411	62409.23	19100.00	125.07	TOA AB	4/11/2018	S-2	3:1
21412	62409.23	19115.00	124.72	TOA AB	4/11/2018	S-2	FLAT
21413	62384.23	18334.98	125.12	TOA AB	5/3/2018	S-6	FLAT
21414	62384.23	18350.00	125.22	TOA AB	5/3/2018	S-6	3:1
21415	62384.23	18354.21	126.27	TOA AB	5/3/2018	S-6	3:1
21416	62384.23	18375.00	127.02	TOA AB	5/3/2018	S-6	FLAT
21417	62384.23	18400.00	127.87	TOA AB	5/3/2018	S-6	FLAT
21418	62384.23	18425.00	128.60	TOA AB	5/2/2018	S-6	FLAT
21419	62384.23	18428.49	128.66	TOA AB	5/2/2018	S-6	FLAT
21420	62384.23	18450.00	128.71	TOA AB	5/2/2018	S-6	FLAT
21421	62384.23	18475.00	128.81	TOA AB RS	5/2/2018	S-6	FLAT
21422	62384.23	18500.00	128.78	TOA AB RS	5/2/2018	S-6	FLAT
21423	62384.23	18525.00	128.70	TOA AB RS	5/2/2018	S-6	FLAT
21424	62384.23	18550.00	128.73	TOA AB RS	5/2/2018	S-6	FLAT
21425	62384.23	18575.00	128.76	TOA AB RS	5/2/2018	S-6	FLAT
21426	62384.23	18600.00	128.82	TOA AB	3/29/2018	S-1	FLAT
21427	62384.23	18625.00	128.79	TOA AB	3/29/2018	S-1	FLAT
21428	62384.23	18650.00	128.82	TOA AB	3/29/2018	S-1	FLAT
21429	62384.23	18675.00	128.78	TOA AB	3/29/2018	S-1	FLAT
21430	62384.23	18700.00	128.79	TOA AB	3/29/2018	S-1	FLAT
21431	62384.23	18725.00	128.86	TOA AB	3/29/2018	S-1	FLAT
21432	62384.23	18750.00	128.81	TOA AB	3/29/2018	S-1	FLAT
21433	62384.23	18775.00	128.81	TOA AB	3/29/2018	S-1	FLAT
21434	62384.23	18800.00	128.80	TOA AB	3/29/2018	S-1	FLAT
21435	62384.23	18825.00	128.84	TOA AB	3/29/2018	S-1	FLAT
21436	62384.23	18850.00	128.86	TOA AB	3/29/2018	S-1	FLAT
21437	62384.23	18875.00	128.88	TOA AB	3/29/2018	S-1	FLAT
21438	62384.23	18900.00	128.87	TOA AB	3/29/2018	S-1	FLAT
21439	62384.23	18925.00	128.91	TOA AB	3/29/2018	S-1	FLAT
21440	62384.23	18950.00	128.92	TOA AB	3/29/2018	S-1	FLAT
21441	62384.23	18975.00	128.90	TOA AB	3/29/2018	S-1	FLAT
21442	62384.23	19000.00	128.90	TOA AB	3/29/2018	S-1	FLAT
21443	62384.23	19017.75	128.94	TOA AB	3/29/2018	S-2	FLAT
21444	62384.23	19025.00	128.72	TOA AB	3/29/2018	S-2	FLAT
21445	62384.23	19050.00	127.73	TOA AB	3/29/2018	S-2	FLAT
21446	62384.23	19075.00	126.85	TOA AB	4/11/2018	S-2	FLAT
21447	62384.23	19095.11	126.08	TOA AB	4/11/2018	S-2	3:1
21448	62384.23	19100.00	124.81	TOA AB	4/11/2018	S-2	3:1
21449	62384.23	19115.00	124.62	TOA AB	4/11/2018	S-2	FLAT
21450	62359.23	18334.98	124.95	TOA AB	5/3/2018	S-6	FLAT
21451	62359.23	18350.00	125.16	TOA AB	5/3/2018	S-6	3:1
21452	62359.23	18354.19	126.18	TOA AB	5/3/2018	S-6	3:1

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21453	62359.23	18375.00	126.95	TOA AB	5/3/2018	S-6	FLAT
21454	62359.23	18400.00	127.84	TOA AB	5/3/2018	S-6	FLAT
21455	62359.23	18425.00	127.85	TOA AB	5/2/2018	S-6	FLAT
21456	62359.23	18450.00	127.82	TOA AB	5/2/2018	S-6	FLAT
21457	62359.23	18475.00	127.91	TOA AB RS	5/2/2018	S-6	FLAT
21458	62359.23	18500.00	127.94	TOA AB RS	5/2/2018	S-6	FLAT
21459	62359.23	18525.00	127.87	TOA AB RS	5/2/2018	S-6	FLAT
21460	62359.23	18550.00	127.87	TOA AB RS	5/2/2018	S-6	FLAT
21461	62359.23	18575.00	127.90	TOA AB RS	5/2/2018	S-6	FLAT
21462	62359.23	18600.00	127.90	TOA AB	3/29/2018	S-1	FLAT
21463	62359.23	18625.00	127.92	TOA AB	3/29/2018	S-1	FLAT
21464	62359.23	18650.00	127.92	TOA AB	3/29/2018	S-1	FLAT
21465	62359.23	18675.00	127.93	TOA AB	3/29/2018	S-1	FLAT
21466	62359.23	18700.00	127.92	TOA AB	3/29/2018	S-1	FLAT
21467	62359.23	18725.00	127.95	TOA AB	3/29/2018	S-1	FLAT
21468	62359.23	18750.00	127.96	TOA AB	3/29/2018	S-1	FLAT
21469	62359.23	18775.00	127.97	TOA AB	3/29/2018	S-1	FLAT
21470	62359.23	18800.00	128.01	TOA AB	3/29/2018	S-1	FLAT
21471	62359.23	18825.00	128.03	TOA AB	3/29/2018	S-1	FLAT
21472	62359.23	18850.00	128.05	TOA AB	3/29/2018	S-1	FLAT
21473	62359.23	18875.00	128.05	TOA AB	3/29/2018	S-1	FLAT
21474	62359.23	18900.00	128.01	TOA AB	3/29/2018	S-1	FLAT
21475	62359.23	18925.00	128.06	TOA AB	3/29/2018	S-1	FLAT
21476	62359.23	18950.00	128.09	TOA AB	3/29/2018	S-1	FLAT
21477	62359.23	18975.00	128.07	TOA AB	3/29/2018	S-1	FLAT
21478	62359.23	19000.00	128.05	TOA AB	3/29/2018	S-1	FLAT
21479	62359.23	19025.00	128.08	TOA AB	3/29/2018	S-1	FLAT
21480	62359.23	19050.00	127.50	TOA AB	3/29/2018	S-2	FLAT
21481	62359.23	19075.00	126.84	TOA AB	4/11/2018	S-2	FLAT
21482	62359.23	19094.52	126.16	TOA AB	4/11/2018	S-2	3:1
21483	62359.23	19100.00	124.70	TOA AB	4/11/2018	S-2	3:1
21484	62359.23	19115.00	124.26	TOA AB	4/11/2018	S-2	FLAT
21485	62334.23	18334.98	124.81	TOA AB	5/3/2018	S-6	FLAT
21486	62334.23	18350.00	124.99	TOA AB	5/3/2018	S-6	3:1
21487	62334.23	18354.18	126.16	TOA AB	5/3/2018	S-6	3:1
21488	62334.23	18375.00	126.86	TOA AB	5/3/2018	S-6	FLAT
21489	62334.23	18400.00	126.90	TOA AB	5/3/2018	S-6	FLAT
21490	62334.23	18425.00	126.93	TOA AB	5/2/2018	S-6	FLAT
21491	62334.23	18450.00	126.94	TOA AB	5/2/2018	S-6	FLAT
21492	62334.23	18475.00	126.97	TOA AB	5/2/2018	S-6	FLAT
21493	62334.23	18500.00	126.98	TOA AB RS	5/2/2018	S-6	FLAT
21494	62334.23	18525.00	127.00	TOA AB RS	5/2/2018	S-6	FLAT
21495	62334.23	18550.00	126.99	TOA AB RS	5/2/2018	S-6	FLAT
21496	62334.23	18575.00	127.00	TOA AB RS	5/2/2018	S-6	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21497	62334.23	18600.00	127.09	TOA AB	3/29/2018	S-1	FLAT
21498	62334.23	18625.00	127.09	TOA AB	3/29/2018	S-1	FLAT
21499	62334.23	18650.00	127.07	TOA AB	3/29/2018	S-1	FLAT
21500	62334.23	18675.00	127.10	TOA AB	3/29/2018	S-1	FLAT
21501	62334.23	18700.00	127.08	TOA AB	3/29/2018	S-1	FLAT
21502	62334.23	18725.00	127.10	TOA AB	3/29/2018	S-1	FLAT
21503	62334.23	18750.00	127.06	TOA AB	3/29/2018	S-1	FLAT
21504	62334.23	18775.00	127.15	TOA AB RS	4/3/2018	S-1	FLAT
21505	62334.23	18800.00	127.17	TOA AB RS	4/3/2018	S-1	FLAT
21506	62334.23	18825.00	127.10	TOA AB RS	4/3/2018	S-1	FLAT
21507	62334.23	18850.00	127.04	TOA AB RS	4/3/2018	S-1	FLAT
21508	62334.23	18875.00	127.13	TOA AB RS	4/3/2018	S-1	FLAT
21509	62334.23	18900.00	127.12	TOA AB RS	4/3/2018	S-1	FLAT
21510	62334.23	18925.00	126.99	TOA AB RS	4/3/2018	S-1	FLAT
21511	62334.23	18950.00	127.09	TOA AB RS	4/3/2018	S-1	FLAT
21512	62334.23	18975.00	126.76	TOA AB	3/29/2018	S-1	FLAT
21513	62334.23	19000.00	126.74	TOA AB	3/29/2018	S-1	FLAT
21514	62334.23	19025.00	126.88	TOA AB	3/29/2018	S-1	FLAT
21515	62334.23	19050.00	126.85	TOA AB	3/29/2018	S-1	FLAT
21516	62334.23	19075.00	126.80	TOA AB	4/11/2018	S-2	FLAT
21517	62334.23	19093.92	126.21	TOA AB	4/11/2018	S-2	3:1
21518	62334.23	19100.00	124.49	TOA AB	4/11/2018	S-2	3:1
21519	62334.23	19115.00	123.92	TOA AB	4/11/2018	S-2	FLAT
21520	62309.23	18334.98	124.85	TOA AB	5/3/2018	S-6	FLAT
21521	62309.23	18350.00	124.91	TOA AB	5/3/2018	S-6	3:1
21522	62309.23	18353.74	126.12	TOA AB	5/3/2018	S-6	3:1
21523	62309.23	18375.00	125.96	TOA AB	5/3/2018	S-6	3:1
21524	62309.23	18400.00	126.01	TOA AB	5/3/2018	S-6	FLAT
21525	62308.69	18425.00	126.13	TOA AB	5/2/2018	S-6	FLAT
21526	62309.23	18450.00	125.99	TOA AB	5/2/2018	S-6	FLAT
21527	62309.23	18475.00	126.01	TOA AB	5/2/2018	S-6	FLAT
21528	62309.23	18500.00	126.05	TOA AB	5/2/2018	S-6	FLAT
21529	62309.23	18525.00	125.99	TOA AB RS	5/2/2018	S-6	FLAT
21530	62309.23	18550.00	126.04	TOA AB RS	5/2/2018	S-6	FLAT
21531	62306.95	18550.00	125.92	TOA AB RS	5/2/2018	S-6	3:1
21532	62309.23	18575.00	125.95	TOA AB RS	5/2/2018	S-6	FLAT
21533	62306.61	18575.00	126.02	TOA AB RS	5/2/2018	S-6	3:1
21534	62309.23	18600.00	126.10	TOA AB RS	4/3/2018	S-1	FLAT
21535	62306.26	18600.00	126.02	TOA AB RS	4/3/2018	S-1	3:1
21536	62309.23	18625.00	126.07	TOA AB RS	4/3/2018	S-1	FLAT
21537	62305.91	18625.00	126.10	TOA AB RS	4/3/2018	S-1	3:1
21538	62309.23	18650.00	126.12	TOA AB RS	4/3/2018	S-1	FLAT
21539	62306.04	18650.00	125.88	TOA AB RS	4/3/2018	S-1	3:1
21540	62309.23	18675.00	126.07	TOA AB RS	4/3/2018	S-1	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21541	62306.41	18675.00	126.06	TOA AB RS	4/3/2018	S-1	3:1
21542	62309.23	18700.00	126.23	TOA AB RS	4/3/2018	S-1	FLAT
21543	62306.79	18700.00	126.21	TOA AB RS	4/3/2018	S-1	3:1
21544	62309.23	18725.00	126.10	TOA AB RS	4/3/2018	S-1	FLAT
21545	62307.17	18725.00	126.07	TOA AB RS	4/3/2018	S-1	3:1
21546	62309.23	18750.00	126.17	TOA AB RS	4/3/2018	S-1	FLAT
21547	62309.23	18775.00	126.18	TOA AB RS	4/3/2018	S-1	FLAT
21548	62309.23	18800.00	126.11	TOA AB RS	4/3/2018	S-1	FLAT
21549	62309.23	18825.00	126.10	TOA AB RS	4/3/2018	S-1	FLAT
21550	62309.23	18850.00	126.14	TOA AB RS	4/3/2018	S-1	FLAT
21551	62309.23	18875.00	126.11	TOA AB	4/3/2018	S-1	3:1
21552	62309.23	18900.00	126.18	TOA AB	4/3/2018	S-1	3:1
21553	62309.23	18925.00	126.20	TOA AB	4/3/2018	S-1	3:1
21554	62309.23	18950.00	126.00	TOA AB	4/11/2018	S-2	3:1
21555	62309.23	18975.00	126.11	TOA AB	4/11/2018	S-2	3:1
21556	62309.23	19000.00	125.98	TOA AB	4/11/2018	S-2	3:1
21557	62309.23	19025.00	125.83	TOA AB	4/11/2018	S-2	3:1
21558	62309.23	19050.00	125.83	TOA AB	4/11/2018	S-2	3:1
21559	62309.23	19075.00	125.81	TOA AB	4/11/2018	S-2	3:1
21560	62312.27	19093.40	126.14	TOA AB	4/11/2018	S-2	3:1
21561	62309.23	19100.00	124.30	TOA AB	4/11/2018	S-2	3:1
21562	62309.23	19115.00	124.10	TOA AB	4/11/2018	S-2	FLAT
21563	62290.00	18334.98	124.44	TOA AB	5/3/2018	S-6	FLAT
21564	62285.00	18335.00	124.65	TOA AB	5/3/2018	S-6	FLAT
21565	62285.00	18350.00	124.83	TOA AB	5/3/2018	S-6	FLAT
21566	62285.00	18375.00	124.87	TOA AB	5/3/2018	S-6	FLAT
21567	62285.00	18400.00	124.93	TOA AB	5/3/2018	S-6	FLAT
21568	62285.00	18425.00	125.08	TOA AB	5/2/2018	S-6	FLAT
21569	62285.00	18450.00	125.08	TOA AB	5/2/2018	S-6	FLAT
21570	62285.00	18475.00	125.25	TOA AB	5/2/2018	S-6	FLAT
21571	62285.00	18500.00	125.31	TOA AB	5/2/2018	S-6	FLAT
21572	62285.00	18525.00	125.49	TOA AB RS	5/2/2018	S-6	FLAT
21573	62285.00	18550.00	125.65	TOA AB RS	5/2/2018	S-6	FLAT
21574	62285.00	18575.00	125.61	TOA AB RS	5/2/2018	S-6	FLAT
21575	62285.00	18600.00	125.77	TOA AB	4/3/2018	S-1	FLAT
21576	62285.00	18625.00	125.69	TOA AB	4/3/2018	S-1	FLAT
21577	62285.00	18650.00	125.57	TOA AB	4/3/2018	S-1	FLAT
21578	62285.00	18675.00	125.54	TOA AB	4/3/2018	S-1	FLAT
21579	62285.00	18700.00	125.39	TOA AB	4/3/2018	S-1	FLAT
21580	62285.00	18725.00	125.45	TOA AB	4/3/2018	S-1	FLAT
21581	62285.00	18750.00	125.44	TOA AB	4/3/2018	S-1	FLAT
21582	62285.00	18775.00	125.35	TOA AB	4/3/2018	S-1	FLAT
21583	62285.00	18800.00	125.36	TOA AB	4/3/2018	S-1	FLAT
21584	62285.00	18825.00	125.19	TOA AB	4/3/2018	S-1	FLAT

Envirocon

Point	Northing	Easting	Elevation	Description	Date Recorded	Area	Slope Zone
21585	62285.00	18850.00	124.99	TOA AB	4/3/2018	S-1	FLAT
21586	62285.00	18875.00	124.94	TOA AB	4/3/2018	S-1	FLAT
21587	62285.00	18900.00	124.77	TOA AB	4/3/2018	S-1	FLAT
21588	62285.00	18925.00	124.79	TOA AB	4/3/2018	S-1	FLAT
21589	62285.00	18950.00	124.62	TOA AB	4/11/2018	S-2	FLAT
21590	62285.00	18975.00	124.38	TOA AB	4/11/2018	S-2	FLAT
21591	62285.00	19000.00	124.37	TOA AB	4/11/2018	S-2	FLAT
21592	62285.00	19025.00	124.29	TOA AB	4/11/2018	S-2	FLAT
21593	62285.00	19050.00	124.10	TOA AB	4/11/2018	S-2	FLAT
21594	62285.00	19075.00	124.11	TOA AB	4/11/2018	S-2	FLAT
21595	62285.00	19100.00	123.97	TOA AB	4/11/2018	S-2	FLAT
21596	62290.00	19115.00	123.92	TOA AB	4/11/2018	S-2	FLAT
21597	62285.00	19115.00	124.00	TOA AB	4/11/2018	S-2	FLAT

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: South Slope 1D East

AREA ACCEPTED: Area S-1

DATE OF AREA SURVEY: 3/29/18, 4/3/18, 4/4/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): PATRICK TINNES

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

R. Tripp Winfree	Project Quality Officer	4/4/18
Signature	*Title*	*Date*

FIELD ENGINEER or DESIGNEE

	FIELD ENGINEER	4/4/18
Signature	*Title*	*Date*

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: Southeast Corner of 488-1D

AREA ACCEPTED: S-2

DATE OF AREA SURVEY: 3/29/18, 4/11/18, 4/3/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): PATRICK TINNES

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Winfree	Project Quality Officer	4/11/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
Patrick Tinnes	FIELD ENGINEER	4/11/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: East Slope

AREA ACCEPTED: S-3

DATE OF AREA SURVEY: 4/27/18, 4/28/18, 3/29/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winflee

FIELD ENGINEER (ENVIROCON): Patrick Tinnes

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Winflee	Project Quality Officer	4/30/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
Patrick Tinnes	ENGINEER	4/30/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: West Slope

AREA ACCEPTED: 3-4

DATE OF AREA SURVEY: 4/30/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patrick Tinnes

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Wyn	Project Quality Officer	4/30/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
Patrick Tinnes	ENGINEER	4/30/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: East Slope

AREA ACCEPTED: Area S-5

DATE OF AREA SURVEY: 4/30/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patrick Tigges

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

R. Tripp Winfree	Project Quality Officer	5/1/18
Signature	*Title*	*Date*

FIELD ENGINEER or DESIGNEE

	ENGINEER	5/1/18
Signature	*Title*	*Date*

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: Southwest Corner

AREA ACCEPTED: 3-6

DATE OF AREA SURVEY: 4/30/18, 5/2/18, 5/3/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Wiseee

FIELD ENGINEER (ENVIROCON): Patrick Tinnes

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp W...	Project Quality Officer	5/3/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
[signature]	ENGINEER	5/3/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: West Slope

AREA ACCEPTED: S-7

DATE OF AREA SURVEY: 5/7/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patrick Tinnes

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Winfree	Project Quality Officer	5/8/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
Patrick Tinnes	ENGINEER	5/8/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: Northwest Slope

AREA ACCEPTED: S-8

DATE OF AREA SURVEY: 5/11/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patrick Timms

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
B. Tripp Winfree	Project Quality Officer	6/4/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
	ENGINEER	6/4/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: North West Corner

AREA ACCEPTED: 5-9

DATE OF AREA SURVEY: 6/7/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patricks Tiones

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Winfree	Project Quality Officer	6/7/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
Patrick Tiones	ENGINEER	6/7/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: Northwest Corner

AREA ACCEPTED: 3-10

DATE OF AREA SURVEY: 6/7/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Wofford

FIELD ENGINEER (ENVIROCON): Patrick Tinnes

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
	Project Quality Officer	6/7/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
	ENGINEER	6/7/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: North Slope

AREA ACCEPTED: S-11

DATE OF AREA SURVEY: 6/13/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): John Lindsey

FIELD ENGINEER (ENVIROCON): Tripp Winslee

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
John Lindsey	PROJECT MANAGER	6-13-18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
B. Tripp Winslee	Project Quality Officer	6/13/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: East Slope

AREA ACCEPTED: S-12

DATE OF AREA SURVEY: 6/15/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patrick Tinnes

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Winfree	Project Quality Officer	6/18/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
	ENGINEER	6/18/18

Envirocon

VERIFICATION OF SURVEYED SUBGRADE SURFACE ACCEPTANCE

PROJECT NAME: 488-1D Ash Basin Closure PROJECT NUMBER: 1495402

LOCATION: Northeast Corner

AREA ACCEPTED: S-13

DATE OF AREA SURVEY: 6/20/18

AUTHORIZED REPRESENTATIVE (ENVIROCON): Tripp Winfree

FIELD ENGINEER (ENVIROCON): Patrick Tiones

The undersigned representatives verify that the subgrade surface, which was surveyed and found to be acceptable for installation of the geomembrane on the above date, has not been modified or changed since the initial acceptance and survey. The subgrade surface and the survey for the area accepted have both been approved and the area accepted is now ready for installation of the geomembrane.

AUTHORIZED REPRESENTATIVE OF ENVIROCON

Signature	Title	Date
R. Tripp Winfree	Project Quality Officer	6/20/18

FIELD ENGINEER or DESIGNEE

Signature	Title	Date
Patrick Tiones	ENGINEER	6/20/18

This page was intentionally left blank.

This page was intentionally left blank.

APPENDIX Q2

CCSI LLDPE Subgrade Surface Acceptance

This page was intentionally left blank.

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

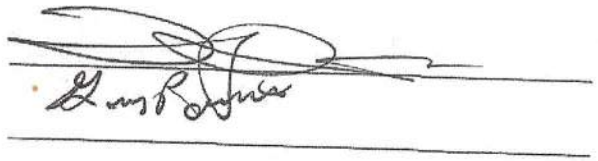
Project Name: 488-1D & 489-D CPRB Ash Basin Closure Customer: Savannah River Nuclear Solutions

Project Number: 1495402 / 17-128 Date: 4/5/18

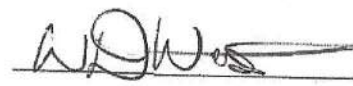
Location: South 1D Slope Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.



For Contractor/Owner/Inspector:



Acceptance Number: 1 Area Accepted: P1 - P11 54,551 ft²

CHESAPEAKE
CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 4/11/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

Acceptance Number: 2
Area Accepted: 44,505 ft2 P-12 - P-17

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: **488-1D and 489-D CPRB Ash Basin Closure** Customer: **Savannah River Nuclear Solutions**

Project Number: **1495402 / 17-128** Date: 4/12/18

Location: Aiken, SC Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

STR 4-12-18

Acceptance Number: 3 Area Accepted: P18 - P30 (29) 37,485 SF

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 4/13/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

Acceptance Number: 4
Area Accepted: 34,674 ft2 P31 IW - P40 30

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 4/14/18
Location: Aiken, SC
Partial: X
Final:

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

Acceptance Number: 5
Area Accepted: 56 ft2 P41

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 4/30/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 4.30.18

Acceptance Number: 6
Area Accepted: 68,810 ft2 P42-P52

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 5/1/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05-01-18

Acceptance Number: 7
Area Accepted: 86,490 ft2 PB TW P63 - P67

CHESAPEAKE
CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: **488-1D and 489-D CPRB Ash Basin Closure** Customer: **Savannah River Nuclear Solutions**

Project Number: **1495402 / 17-128** Date: 5-4-18

Location: _____ Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

5-4-18

Acceptance Number: 8 Area Accepted: 55,913 ft² p 68 - p 86

CHESAPEAKE
CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: **488-1D and 489-D CPRB Ash Basin Closure** Customer: **Savannah River Nuclear Solutions**

Project Number: **1495402 / 17-128** Date: 5-5-18

Location: _____ Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 5-5-18

Acceptance Number: 9 Area Accepted: 23,018 ft² p87-p89

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 5/9/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05-09-18

Acceptance Number: 10
Area Accepted: 26,910 ft2 p90 - p93

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 5/11/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

Acceptance Number: 11
Area Accepted: 68,864 ft2 p94-p99, p100-102, p103-p105

CHESAPEAKE
CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/5/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06-05-18

Acceptance Number: 12
Area Accepted: 49,939 ft2 p106-p116

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/8/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06-08-18

Acceptance Number: 13
Area Accepted: 14,839 ft2 p117 - p123

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/9/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06-09-18

Acceptance Number: 14
Area Accepted: 16,285 ft2 p124 - p132

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17128
Date: 6-12-18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 6-12-18

Acceptance Number: 15
Area Accepted: 43,920 ft2 p133 - p141

CHESAPEAKE
CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/14/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06-14-18

Acceptance Number: 16
Area Accepted: 51,548 ft2 p142 - 149

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/15/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06-15-18

Acceptance Number: 17
Area Accepted: 43,043 ft2 p150 - p159

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure

Customer: Envirocon

Project Number: 17-128

Date: 6/19/18

Location: Aiken, SC

Partial: X

Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 6.19.19

Acceptance Number: 18

Area Accepted: 57,229 ft2 p160 - p170

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/21/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

Acceptance Number: 19
Area Accepted: 42,401 ft2 p171 - p188

This page was intentionally left blank.

APPENDIX Q3

CCSI Geotextile Subgrade Acceptance Records

This page was intentionally left blank.

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: **488-1D and 489-D CPRB Ash Basin Closure** Customer: **Savannah River Nuclear Solutions**

Project Number: **1495402 / 17-128** Date: 4/20/18

Location: _____ Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 4.20.18

Acceptance Number: 1 Area Accepted: P1-P19 Geotextile 32,767

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

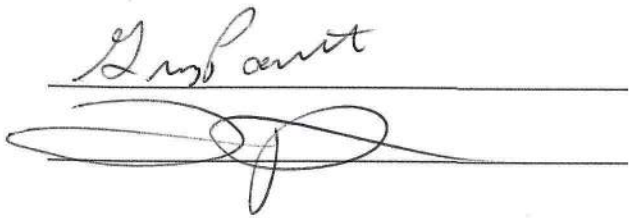
Project Name: **488-1D and 489-D CPRB Ash Basin Closure** Customer: **Savannah River Nuclear Solutions**

Project Number: **1495402 / 17-128** Date: 4/25/18

Location: _____ Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.



For Contractor/Owner/Inspector:

WD Wtt 4.25.18

Acceptance Number: 2 Area Accepted: P20 - P49 60,465 Geotextile

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: **488-1D and 489-D CPRB Ash Basin Closure** Customer: **Savannah River Nuclear Solutions**

Project Number: **1495402 / 17-128** Date: 4/26/18

Location: Aiken, SC Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 4-26-18

Acceptance Number: 3 Area Accepted: P50 - P69 Geotextile 66,544SF

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 5/8/18
Location: Aiken, SC
Partial: X
Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

05-08-18

Acceptance Number: 4
Area Accepted: 53,868 ft2 p70 - p85

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure Customer: Envirocon

Project Number: 17128 Date: 5/16/18

Location: Aiken, SC Partial: X Final: ____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05-16-18

Acceptance Number: 5 Area Accepted: 112,274 ft2 p86- p103

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 5/17/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

05.17.18

Acceptance Number: 6
Area Accepted: 15,936 ft2 p104 - p110

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure

Customer: Envirocon

Project Number: 17128

Date: 5/22/18

Location: Aiken, SC

Partial: X

Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05.23.18

Acceptance Number: 7

Area Accepted: 6,435 ft2 p111 - p118

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name:	Savannah River Basin Closure	Customer:	Envirocon		
Project Number:	17128	Date:	5/23/18		
Location:	Aiken, SC	Partial:	X	Final:	

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05-24-18

Acceptance Number: 8 Area Accepted: 59,682 ft2 p119 - p149

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure Customer: Envirocon

Project Number: 17128 Date: 5/24/18

Location: Aiken, SC Partial: X Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05-24-18

Acceptance Number: 9 Area Accepted: 37,628 ft2 p150 - p160

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure

Customer: Envirocon

Project Number: 17128

Date: 5/29/18

Location: Aiken, SC

Partial: X

Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector: 05-29-18

Acceptance Number: 10

Area Accepted: 43,631 ft2 p161 - p176

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/8/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06.08.18

Acceptance Number: 11
Area Accepted: 73,762 ft2

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/28/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06-28-18

Acceptance Number: 12
Area Accepted: 24,019 ft2 p195 - p205

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 6/29/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

06.29.18

Acceptance Number: 13
Area Accepted: 63,989ft2 p206 - p239

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name:	Savannah River Basin Closure	Customer:	Envirocon		
Project Number:	17-128	Date:	7/2/18		
Location:	Aiken, SC	Partial:	X	Final:	

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

07-02-18

Acceptance Number: 14 Area Accepted: 49,093 ft2 p240 - p256

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 7/5/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

07-05-18

Acceptance Number: 15
Area Accepted: 54,709 ft2 p257 - p283

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

SUBGRADE SURFACE ACCEPTANCE

Project Name: Savannah River Basin Closure
Customer: Envirocon
Project Number: 17-128
Date: 7/6/18
Location: Aiken, SC
Partial: X
Final: _____

This document only applies to the acceptability of surface conditions for installation of geosynthetic products. Chesapeake Containment Systems, Inc. does not accept responsibility for weather damage, compaction, elevation or moisture content, subsurface conditions, nor for the surface condition maintenance during deployment. Structural integrity of the subgrade and maintenance of these conditions are the responsibility of the Owner or Earthwork Contractor.

For Chesapeake Containment Systems, Inc.

For Contractor/Owner/Inspector:

07-06-18

Acceptance Number: 16
Area Accepted: 93,271 ft2 p284 - p326

452 Geotextile Subgrade Acceptance Records
Page 16 of 16

APPENDIX Q4

LLDPE Destructive Testing Conformance Test Reports (Geotechnics)

This page was intentionally left blank.

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-01
LAB ID NO.: L18060-01-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	127.0	SE1	<10
2	119.0	SE1	<10
3	121.0	SE1	<10
4	116.4	SE1	<10
5	120.0	SE1	<10
AVERAGE	**120.7**		
STD. DEV.	3.51		
INSIDE TRACK (WELD "B")			
1	114.8	SE1	<10
2	119.4	SE1	<10
3	108.0	SE1	<10
4	103.3	SE1	<10
5	106.0	SE1	<10
AVERAGE	**110.3**		
STD. DEV.	5.93		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.5	SE1
2	128.4	SE1
3	126.0	SE1
4	128.5	SE1
5	126.1	SE1
AVERAGE	**128.5**	
STD. DEV.	2.72	

CHECKED BY: TH DATE: 4-17-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-01-01 P&S.xls]Sheet1 L18060-01-01 4/17/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-01
LAB ID NO.: L18060-01-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	134.0	SE1	<10
2	128.7	SE1	<10
3	127.9	SE1	<10
4	127.0	SE1	<10
5	128.0	SE1	<10
AVERAGE	**129.1**		
STD. DEV.	2.50		
INSIDE TRACK (WELD "B")			
1	109.6	SE1	<10
2	103.8	SE1	<10
3	105.9	SE1	<10
4	110.0	SE1	<10
5	108.9	SE1	<10
AVERAGE	**107.6**		
STD. DEV.	2.40		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	141.0	SE1
2	136.0	SE1
3	130.3	SE1
4	139.0	SE1
5	141.1	SE1
AVERAGE	**137.5**	
STD. DEV.	4.04	

CHECKED BY: TMP DATE: 4-17-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-01-02 P&S.xls]Sheet1 L18060-01-02 4/17/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-01
LAB ID NO.: L18060-01-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	123.4	SE1	<10
2	124.4	SE1	<10
3	110.5	SE1	<10
4	118.5	SE1	<10
5	107.7	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	6.73		
INSIDE TRACK (WELD "B")			
1	102.1	SE1	<10
2	109.0	SE1	<10
3	103.5	SE1	<10
4	105.7	SE1	<10
5	107.1	SE1	<10
AVERAGE	**105.5**		
STD. DEV.	2.47		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.9	SE1
2	122.1	SE1
3	128.2	SE1
4	134.4	SE1
5	135.8	SE1
AVERAGE	**131.3**	
STD. DEV.	5.39	

CHECKED BY: TMP DATE: 4-17-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-01-03 P&S.xls]Sheet1 L18060-01-03 4/17/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-01
LAB ID NO.: L18060-01-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DS-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	121.0	SE3	<10
2	108.0	SE3	<10
3	110.6	SE3	<10
4	111.3	SE3	<10
5	115.0	SE3	<10
AVERAGE	**113.2**		
STD. DEV.	4.51		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	114.4	SE1
2	115.6	SE1
3	114.1	SE1
4	122.1	SE1
5	125.0	SE1
AVERAGE	**118.2**	
STD. DEV.	4.46	

CHECKED BY: JM DATE: 4-17-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-01-04 Extrusion.xls]Sheet1 L18060-01-04 4/17/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	128.4	SE1	<10
2	120.4	SE1	<10
3	124.0	SE1	<10
4	119.5	SE1	<10
5	121.2	SE1	<10
AVERAGE	**122.7**		
STD. DEV.	3.22		
INSIDE TRACK (WELD "B")			
1	107.6	SE1	<10
2	101.0	SE1	<10
3	105.0	SE1	<10
4	104.6	SE1	<10
5	105.0	SE1	<10
AVERAGE	**104.6**		
STD. DEV.	2.11		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	141.0	SE1
2	139.1	SE1
3	136.5	SE1
4	139.5	SE1
5	136.8	SE1
AVERAGE	**138.6**	
STD. DEV.	1.70	

CHECKED BY: THP DATE: 4-18-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-01 P&S.xls]Sheet1 L18060-02-01 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.3	SE1	<10
2	121.1	SE1	<10
3	118.0	SE1	<10
4	123.0	SE1	<10
5	123.1	SE1	<10
AVERAGE	**121.5**		
STD. DEV.	1.89		
INSIDE TRACK (WELD "B")			
1	104.0	SE1	<10
2	108.4	SE1	<10
3	104.4	SE1	<10
4	102.6	SE1	<10
5	102.5	SE1	<10
AVERAGE	**104.4**		
STD. DEV.	2.15		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.0	SE1
2	135.0	SE1
3	131.2	SE1
4	130.5	SE1
5	132.4	SE1
AVERAGE	**132.2**	
STD. DEV.	1.54	

CHECKED BY: TMP DATE: 4-18-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-02 P&S.xls]Sheet1 L18060-02-02 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	106.8	SE1	<10
2	104.0	SE1	<10
3	101.0	SE1	<10
4	104.4	SE1	<10
5	97.9	SE1	<10
AVERAGE	**102.8**		
STD. DEV.	3.07		
INSIDE TRACK (WELD "B")			
1	109.0	SE1	<10
2	110.6	SE1	<10
3	100.6	SE1	<10
4	103.4	SE1	<10
5	107.1	SE1	<10
AVERAGE	**106.1**		
STD. DEV.	3.67		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	117.8	SE1
2	127.0	SE1
3	120.0	SE1
4	122.5	SE1
5	117.4	SE1
AVERAGE	**120.9**	
STD. DEV.	3.53	

CHECKED BY: TMP DATE: 4.18.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-03 P&S.xls]Sheet1 L18060-02-03 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.8	SE1	<10
2	108.6	SE1	<10
3	108.8	SE1	<10
4	109.0	SE1	<10
5	108.8	SE1	<10
AVERAGE	**109.4**		
STD. DEV.	1.21		
INSIDE TRACK (WELD "B")			
1	107.2	SE1	<10
2	106.2	SE1	<10
3	104.5	SE1	<10
4	106.0	SE1	<10
5	104.0	SE1	<10
AVERAGE	**105.6**		
STD. DEV.	1.17		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	113.0	SE1
2	111.1	SE1
3	112.5	SE1
4	114.6	SE1
5	116.4	SE1
AVERAGE	**113.5**	
STD. DEV.	1.82	

CHECKED BY: TMP DATE: 4-18-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-04 P&S.xls]Sheet1 L18060-02-04 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-05
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.3	SE1	<10
2	120.5	SE1	<10
3	118.6	SE1	<10
4	122.5	SE1	<10
5	117.7	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	1.75		
INSIDE TRACK (WELD "B")			
1	104.3	SE1	<10
2	116.4	SE1	<10
3	117.2	SE1	<10
4	115.5	SE1	<10
5	115.0	SE1	<10
AVERAGE	**113.7**		
STD. DEV.	4.75		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.0	SE1
2	124.1	SE1
3	128.8	SE1
4	126.5	SE1
5	129.0	SE1
AVERAGE	**126.7**	
STD. DEV.	1.97	

CHECKED BY: TMP DATE: 4-18-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-05 P&S.xls]Sheet1 L18060-02-05 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-06
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.1	SE1	<10
2	111.5	SE1	<10
3	112.5	SE1	<10
4	111.0	SE1	<10
5	112.4	SE1	<10
AVERAGE	**112.5**		
STD. DEV.	1.42		
INSIDE TRACK (WELD "B")			
1	104.6	SE1	<10
2	104.8	SE1	<10
3	107.3	SE1	<10
4	99.6	SE1	<10
5	106.0	SE1	<10
AVERAGE	**104.5**		
STD. DEV.	2.62		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	118.3	SE1
2	124.6	SE1
3	123.1	SE1
4	119.5	SE1
5	117.2	SE1
AVERAGE	**120.5**	
STD. DEV.	2.84	

CHECKED BY: MP DATE: 4-18-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-06 P&S.xls]Sheet1 L18060-02-06 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-07
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	102.2	SE1	<10
2	103.0	SE1	<10
3	103.8	SE1	<10
4	102.0	SE1	<10
5	106.3	SE1	<10
AVERAGE	**103.5**		
STD. DEV.	1.56		
INSIDE TRACK (WELD "B")			
1	122.6	SE1	<10
2	109.5	SE1	<10
3	117.4	SE1	<10
4	115.2	SE1	<10
5	115.4	SE1	<10
AVERAGE	**116.0**		
STD. DEV.	4.21		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.0	SE1
2	126.0	SE1
3	128.3	SE1
4	132.0	SE1
5	130.1	SE1
AVERAGE	**129.1**	
STD. DEV.	1.98	

CHECKED BY: MV DATE: 4.18.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-07 P&S.xls]Sheet1 L18060-02-07 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-02
LAB ID NO.: L18060-02-08
MATERIAL: 50 mil LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DS-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	119.2	SE3	<10
2	112.0	SE3	<10
3	112.2	SE3	<10
4	111.0	SE3	<10
5	112.2	SE3	<10
AVERAGE	**113.3**		
STD. DEV.	2.97		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	120.0	SE1
2	118.6	SE1
3	120.0	SE1
4	119.8	SE1
5	117.7	SE1
AVERAGE	**119.2**	
STD. DEV.	0.92	

CHECKED BY: TMP DATE: 4-18-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-02-08 Extrusion.xls]Sheet1 L18060-02-08 4/18/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	105.0	SE1	<10
2	100.8	SE1	<10
3	103.0	SE1	<10
4	99.2	SE1	<10
5	98.2	SE1	<10
AVERAGE	**101.2**		
STD. DEV.	2.48		
INSIDE TRACK (WELD "B")			
1	103.0	SE1	<10
2	103.1	SE1	<10
3	98.0	SE1	<10
4	97.4	SE1	<10
5	103.0	SE1	<10
AVERAGE	**100.9**		
STD. DEV.	2.62		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.0	SE1
2	124.1	SE1
3	120.3	SE1
4	120.3	SE1
5	120.5	SE1
AVERAGE	**122.0**	
STD. DEV.	2.07	

CHECKED BY: TMP DATE: 5-3-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-01 P&S.xls]Sheet1 L18060-04-01 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.3	SE1	<10
2	109.3	SE1	<10
3	108.0	SE1	<10
4	102.4	SE1	<10
5	108.1	SE1	<10
AVERAGE	**108.4**		
STD. DEV.	3.79		
INSIDE TRACK (WELD "B")			
1	107.0	SE1	<10
2	104.2	SE1	<10
3	106.2	SE1	<10
4	101.9	SE1	<10
5	101.7	SE1	<10
AVERAGE	**104.2**		
STD. DEV.	2.16		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	118.0	SE1
2	123.3	SE1
3	118.2	SE1
4	112.0	SE1
5	116.9	SE1
AVERAGE	**117.7**	
STD. DEV.	3.60	

CHECKED BY: TMP DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-02 P&S.xls]Sheet1 L18060-04-02 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	128.4	SE1	<10
2	118.6	SE1	<10
3	117.0	SE1	<10
4	126.1	SE1	<10
5	115.0	SE1	<10
AVERAGE	**121.0**		
STD. DEV.	5.26		
INSIDE TRACK (WELD "B")			
1	106.2	SE1	<10
2	105.0	SE1	<10
3	93.0	SE1	<10
4	123.0	SE1	<10
5	103.0	SE1	<10
AVERAGE	**106.0**		
STD. DEV.	9.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	126.9	SE1
3	129.5	SE1
4	134.2	SE1
5	130.1	SE1
AVERAGE	**129.3**	
STD. DEV.	2.88	

CHECKED BY: TMP DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-03 P&S.xls]Sheet1 L18060-04-03 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	119.5	SE1	<10
2	104.9	SE1	<10
3	116.0	SE1	<10
4	119.7	SE1	<10
5	114.5	SE1	<10
AVERAGE	**114.9**		
STD. DEV.	5.40		
INSIDE TRACK (WELD "B")			
1	127.0	SE1	<10
2	123.5	SE1	<10
3	115.8	SE1	<10
4	118.3	SE1	<10
5	119.9	SE1	<10
AVERAGE	**120.9**		
STD. DEV.	3.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.8	SE1
2	126.7	SE1
3	122.0	SE1
4	127.6	SE1
5	128.2	SE1
AVERAGE	**126.9**	
STD. DEV.	2.63	

CHECKED BY: TM DATE: 5-3-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-04 P&S.xls]Sheet1 L18060-04-04 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-05
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.1	SE1	<10
2	117.1	SE1	<10
3	112.9	SE1	<10
4	124.4	SE1	<10
5	128.1	SE1	<10
AVERAGE	**120.5**		
STD. DEV.	5.34		
INSIDE TRACK (WELD "B")			
1	104.7	SE1	<10
2	125.4	SE1	<10
3	124.0	SE1	<10
4	129.0	SE1	<10
5	124.4	SE1	<10
AVERAGE	**121.5**		
STD. DEV.	8.58		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.0	SE1
2	128.9	SE1
3	132.1	SE1
4	133.8	SE1
5	129.4	SE1
AVERAGE	**131.2**	
STD. DEV.	1.83	

CHECKED BY: IMP DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-05 P&S.xls]Sheet1 L18060-04-05 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-06
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-18

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	129.5	SE1	<10
2	123.0	SE1	<10
3	129.3	SE1	<10
4	128.8	SE1	<10
5	124.5	SE1	<10
AVERAGE	**127.0**		
STD. DEV.	2.72		
INSIDE TRACK (WELD "B")			
1	119.0	SE1	<10
2	132.9	SE1	<10
3	107.4	SE1	<10
4	119.3	SE1	<10
5	117.9	SE1	<10
AVERAGE	**119.3**		
STD. DEV.	8.11		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	153.4	SE1
2	152.4	SE1
3	142.6	SE1
4	152.5	SE1
5	154.2	SE1
AVERAGE	**151.0**	
STD. DEV.	4.26	

CHECKED BY: TM DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-06 P&S.xls]Sheet1 L18060-04-06 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-07
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-19

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.2	SE1	<10
2	116.9	SE1	<10
3	109.1	SE1	<10
4	116.4	SE1	<10
5	110.9	SE1	<10
AVERAGE	**114.9**		
STD. DEV.	4.37		
INSIDE TRACK (WELD "B")			
1	106.3	SE1	<10
2	102.9	SE1	<10
3	97.7	SE1	<10
4	97.4	SE1	<10
5	98.1	SE1	<10
AVERAGE	**100.5**		
STD. DEV.	3.54		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.5	SE1
2	125.9	SE1
3	109.2	SE1
4	125.3	SE1
5	124.8	SE1
AVERAGE	**122.1**	
STD. DEV.	6.48	

CHECKED BY: JM DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-07 P&S.xls]Sheet1 L18060-04-07 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-08
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-20

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	110.8	SE1	<10
2	114.0	SE1	<10
3	103.5	SE1	<10
4	109.3	SE1	<10
5	100.0	SE1	<10
AVERAGE	**107.5**		
STD. DEV.	5.07		
INSIDE TRACK (WELD "B")			
1	131.1	SE1	<10
2	118.3	SE1	<10
3	112.8	SE1	<10
4	116.5	SE1	<10
5	117.7	SE1	<10
AVERAGE	**119.3**		
STD. DEV.	6.21		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.5	SE1
2	123.7	SE1
3	110.8	SE1
4	121.0	SE1
5	122.8	SE1
AVERAGE	**121.2**	
STD. DEV.	5.60	

CHECKED BY: JM DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-08 P&S.xls]Sheet1 L18060-04-08 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-04
LAB ID NO.: L18060-04-09
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-21

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.3	SE1	<10
2	116.0	SE1	<10
3	109.1	SE1	<10
4	96.0	SE1	<10
5	99.2	SE1	<10
AVERAGE	**108.1**		
STD. DEV.	9.36		
INSIDE TRACK (WELD "B")			
1	111.4	SE1	<10
2	102.0	SE1	<10
3	105.4	SE1	<10
4	120.0	SE1	<10
5	115.0	SE1	<10
AVERAGE	**110.8**		
STD. DEV.	6.47		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.0	SE1
2	119.0	SE1
3	115.1	SE1
4	121.5	SE1
5	123.1	SE1
AVERAGE	**121.1**	
STD. DEV.	3.98	

CHECKED BY: JM DATE: 5.3.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-04-09 P&S.xls]Sheet1 L18060-04-09 5/3/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-06
LAB ID NO.: L18060-06-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-22

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.3	SE1	<10
2	118.7	SE1	<10
3	108.0	SE1	<10
4	109.8	SE1	<10
5	103.0	SE1	<10
AVERAGE	**110.2**		
STD. DEV.	5.10		
INSIDE TRACK (WELD "B")			
1	125.0	SE1	<10
2	125.4	SE1	<10
3	114.2	SE1	<10
4	124.0	SE1	<10
5	128.0	SE1	<10
AVERAGE	**123.3**		
STD. DEV.	4.75		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.1	SE1
2	132.4	SE1
3	121.8	SE1
4	135.0	SE1
5	134.6	SE1
AVERAGE	**131.4**	
STD. DEV.	4.88	

CHECKED BY: TM DATE: 5·8·18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-06-01 P&S.xls]Sheet1 L18060-06-01 5/8/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-06
LAB ID NO.: L18060-06-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-23

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	109.0	SE1	<10
2	99.3	SE1	<10
3	109.0	SE1	<10
4	104.0	SE1	<10
5	96.3	SE1	<10
AVERAGE	**103.5**		
STD. DEV.	5.10		
INSIDE TRACK (WELD "B")			
1	122.3	SE1	<10
2	113.3	SE1	<10
3	109.0	SE1	<10
4	116.2	SE1	<10
5	113.8	SE1	<10
AVERAGE	**114.9**		
STD. DEV.	4.36		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.4	SE1
2	116.8	SE1
3	111.4	SE1
4	120.0	SE1
5	120.0	SE1
AVERAGE	**118.7**	
STD. DEV.	4.59	

CHECKED BY: TMP DATE: 5.8.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-06-02 P&S.xls]Sheet1 L18060-06-02 5/8/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-06
LAB ID NO.: L18060-06-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-24

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.2	SE1	<10
2	114.5	SE1	<10
3	114.1	SE1	<10
4	111.0	SE1	<10
5	113.0	SE1	<10
AVERAGE	**114.0**		
STD. DEV.	2.02		
INSIDE TRACK (WELD "B")			
1	117.0	SE1	<10
2	109.0	SE1	<10
3	100.2	SE1	<10
4	104.9	SE1	<10
5	106.0	SE1	<10
AVERAGE	**107.4**		
STD. DEV.	5.56		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	119.9	SE1
2	119.2	SE1
3	117.0	SE1
4	116.5	SE1
5	114.0	SE1
AVERAGE	**117.3**	
STD. DEV.	2.10	

CHECKED BY: TMP DATE: 5.8.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-06-03 P&S.xls]Sheet1 L18060-06-03 5/8/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-06
LAB ID NO.: L18060-06-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-25

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	119.6	SE1	<10
2	121.0	SE1	<10
3	118.1	SE1	<10
4	119.1	SE1	<10
5	116.5	SE1	<10
AVERAGE	**118.9**		
STD. DEV.	1.51		
INSIDE TRACK (WELD "B")			
1	110.2	SE1	<10
2	129.8	SE1	<10
3	114.2	SE1	<10
4	125.4	SE1	<10
5	130.0	SE1	<10
AVERAGE	**121.9**		
STD. DEV.	8.20		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	122.4	SE1
2	120.4	SE1
3	117.6	SE1
4	121.0	SE1
5	122.9	SE1
AVERAGE	**120.9**	
STD. DEV.	1.87	

CHECKED BY: TMP DATE: 5-8-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-06-04 P&S.xls]Sheet1 L18060-06-04 5/8/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-06
LAB ID NO.: L18060-06-05
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	113.0	SE1	<10
2	109.4	SE1	<10
3	102.8	SE1	<10
4	110.0	SE1	<10
5	110.1	SE1	<10
AVERAGE	**109.1**		
STD. DEV.	3.37		
INSIDE TRACK (WELD "B")			
1	103.2	SE1	<10
2	104.2	SE1	<10
3	98.3	SE1	<10
4	104.4	SE1	<10
5	105.6	SE1	<10
AVERAGE	**103.1**		
STD. DEV.	2.54		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.0	SE1
2	118.0	SE1
3	116.5	SE1
4	116.6	SE1
5	120.0	SE1
AVERAGE	**118.8**	
STD. DEV.	2.44	

CHECKED BY: TNP DATE: 5.8.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1

Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-06-05 P&S.xls]Sheet1 L18060-06-05 5/8/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-27

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.3	SE1	<10
2	110.8	SE1	<10
3	104.0	SE1	<10
4	117.8	SE1	<10
5	109.9	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	4.76		
INSIDE TRACK (WELD "B")			
1	119.9	SE1	<10
2	113.7	SE1	<10
3	110.4	SE1	<10
4	109.4	SE1	<10
5	114.8	SE1	<10
AVERAGE	**113.6**		
STD. DEV.	3.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.6	SE1
2	119.8	SE1
3	123.0	SE1
4	130.1	SE1
5	123.4	SE1
AVERAGE	**124.4**	
STD. DEV.	3.41	

CHECKED BY: TMD DATE: 5.23.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-01 P&S.xls]Sheet1 L18060-07-01 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-28

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	133.8	SE1	<10
2	135.4	SE1	<10
3	132.3	SE1	<10
4	128.3	SE1	<10
5	128.9	SE1	<10
AVERAGE	**131.7**		
STD. DEV.	2.75		
INSIDE TRACK (WELD "B")			
1	123.4	SE1	<10
2	112.5	SE1	<10
3	119.5	SE1	<10
4	128.0	SE1	<10
5	127.0	SE1	<10
AVERAGE	**122.1**		
STD. DEV.	5.65		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	142.6	SE1
2	144.0	SE1
3	141.2	SE1
4	148.7	SE1
5	144.6	SE1
AVERAGE	**144.2**	
STD. DEV.	2.53	

CHECKED BY: TMP DATE: 5-23-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-02 P&S.xls]Sheet1 L18060-07-02 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-29

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.7	SE1	<10
2	108.0	SE1	<10
3	103.3	SE1	<10
4	120.0	SE1	<10
5	116.0	SE1	<10
AVERAGE	**114.0**		
STD. DEV.	7.30		
INSIDE TRACK (WELD "B")			
1	128.9	SE1	<10
2	109.5	SE1	<10
3	114.8	SE1	<10
4	125.1	SE1	<10
5	119.2	SE1	<10
AVERAGE	**119.5**		
STD. DEV.	6.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.8	SE1
2	128.4	SE1
3	129.9	SE1
4	132.1	SE1
5	126.4	SE1
AVERAGE	**130.1**	
STD. DEV.	2.62	

CHECKED BY: TM DATE: 5.23.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-03 P&S.xls]Sheet1 L18060-07-03 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-30

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	104.3	SE1	<10
2	104.5	SE1	<10
3	105.0	SE1	<10
4	97.9	SE1	<10
5	108.1	SE1	<10
AVERAGE	**104.0**		
STD. DEV.	3.33		
INSIDE TRACK (WELD "B")			
1	117.7	SE1	<10
2	120.3	SE1	<10
3	113.2	SE1	<10
4	116.3	SE1	<10
5	116.3	SE1	<10
AVERAGE	**116.8**		
STD. DEV.	2.30		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.1	SE1
2	127.2	SE1
3	124.5	SE1
4	117.0	SE1
5	125.8	SE1
AVERAGE	**124.5**	
STD. DEV.	3.95	

CHECKED BY: _____ DATE: 5-23-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1

Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-04 P&S.xls]Sheet1 L18060-07-04 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-05
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-31

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.2	SE1	<10
2	121.1	SE1	<10
3	114.4	SE1	<10
4	115.9	SE1	<10
5	115.1	SE1	<10
AVERAGE	**115.5**		
STD. DEV.	3.21		
INSIDE TRACK (WELD "B")			
1	101.8	SE1	<10
2	102.8	SE1	<10
3	117.0	SE1	<10
4	120.0	SE1	<10
5	112.3	SE1	<10
AVERAGE	**110.8**		
STD. DEV.	7.35		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.5	SE1
2	125.4	SE1
3	122.0	SE1
4	118.7	SE1
5	118.6	SE1
AVERAGE	**122.0**	
STD. DEV.	3.04	

CHECKED BY: TM DATE: 5.23.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-05 P&S.xls]Sheet1 L18060-07-05 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-06
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-32

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.5	SE1	<10
2	99.5	SE1	<10
3	109.0	SE1	<10
4	120.8	SE1	<10
5	113.1	SE1	<10
AVERAGE	**112.8**		
STD. DEV.	8.14		
INSIDE TRACK (WELD "B")			
1	112.5	SE1	<10
2	111.5	SE1	<10
3	104.5	SE1	<10
4	106.3	SE1	<10
5	100.7	SE1	<10
AVERAGE	**107.1**		
STD. DEV.	4.40		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.2	SE1
2	120.4	SE1
3	121.5	SE1
4	121.5	SE1
5	123.6	SE1
AVERAGE	**122.8**	
STD. DEV.	2.41	

CHECKED BY: TH DATE: 5-23-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-06 P&S.xls]Sheet1 L18060-07-06 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-07
MATERIAL: 50 mil LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DS-33

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	113.8	SE3	<10
2	99.0	SE3	<10
3	92.3	SE3	<10
4	93.7	SE3	<10
5	105.4	SE3	<10
AVERAGE	**100.8**		
STD. DEV.	7.95		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	139.8	SE1
2	126.5	SE1
3	127.8	SE1
4	140.3	SE1
5	135.8	SE1
AVERAGE	**134.0**	
STD. DEV.	5.85	

CHECKED BY: TMP DATE: 5-23-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-07 Extrusion.xls]Sheet1 L18060-07-07 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-07
LAB ID NO.: L18060-07-08
MATERIAL: 50 mil LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DS-34

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	104.7	SE3	<10
2	101.3	SE3	<10
3	107.2	SE3	<10
4	100.3	SE3	<10
5	98.6	SE3	<10
AVERAGE	**102.4**		
STD. DEV.	3.11		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.6	SE1
2	109.0	SE1
3	108.3	SE1
4	124.1	SE1
5	134.3	SE1
AVERAGE	**118.3**	
STD. DEV.	9.83	

CHECKED BY: TH DATE: 5-23-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-07-08 Extrusion.xls]Sheet1 L18060-07-08 5/23/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-08
LAB ID NO.: L18060-08-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-35

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.0	SE1	<10
2	118.3	SE1	<10
3	118.4	SE1	<10
4	117.9	SE1	<10
5	121.6	SE1	<10
AVERAGE	**119.2**		
STD. DEV.	1.38		
INSIDE TRACK (WELD "B")			
1	120.1	SE1	<10
2	122.4	SE1	<10
3	107.6	SE1	<10
4	123.3	SE1	<10
5	126.5	SE1	<10
AVERAGE	**120.0**		
STD. DEV.	6.52		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.0	SE1
2	131.0	SE1
3	130.4	SE1
4	136.1	SE1
5	134.5	SE1
AVERAGE	**132.0**	
STD. DEV.	2.92	

CHECKED BY: IMP DATE: 6.7.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-08-01 P&S.xls]Sheet1 L18060-08-01 6/7/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-08
LAB ID NO.: L18060-08-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-36

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	97.4	SE1	<10
2	103.2	SE1	<10
3	100.4	SE1	<10
4	100.4	SE1	<10
5	109.4	SE1	<10
AVERAGE	**102.2**		
STD. DEV.	4.06		
INSIDE TRACK (WELD "B")			
1	113.7	SE1	<10
2	115.5	SE1	<10
3	113.2	SE1	<10
4	116.0	SE1	<10
5	116.0	SE1	<10
AVERAGE	**114.9**		
STD. DEV.	1.19		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.0	SE1
2	131.7	SE1
3	132.0	SE1
4	133.1	SE1
5	131.0	SE1
AVERAGE	**132.8**	
STD. DEV.	1.76	

CHECKED BY: TMF DATE: 6-7-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-08-02 P&S.xls]Sheet1 L18060-08-02 6/7/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-08
LAB ID NO.: L18060-08-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-37

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	134.6	SE1	<10
2	140.7	SE1	<10
3	136.1	SE1	<10
4	130.7	SE1	<10
5	129.2	SE1	<10
AVERAGE	**134.3**		
STD. DEV.	4.08		
INSIDE TRACK (WELD "B")			
1	124.1	SE1	<10
2	122.0	SE1	<10
3	121.0	SE1	<10
4	122.4	SE1	<10
5	123.1	SE1	<10
AVERAGE	**122.5**		
STD. DEV.	1.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	163.6	SE1
2	153.6	SE1
3	154.6	SE1
4	152.9	SE1
5	151.9	SE1
AVERAGE	**155.3**	
STD. DEV.	4.23	

CHECKED BY: TM DATE: 6.7.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-08-03 P&S.xls]Sheet1 L18060-08-03 6/7/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-08
LAB ID NO.: L18060-08-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-38

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	99.9	SE1	<10
2	103.7	SE1	<10
3	96.1	SE1	<10
4	101.7	SE1	<10
5	104.7	SE1	<10
AVERAGE	**101.2**		
STD. DEV.	3.05		
INSIDE TRACK (WELD "B")			
1	118.9	SE1	<10
2	120.6	SE1	<10
3	106.1	SE1	<10
4	106.7	SE1	<10
5	120.0	SE1	<10
AVERAGE	**114.5**		
STD. DEV.	6.61		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.6	SE1
2	134.1	SE1
3	138.7	SE1
4	140.1	SE1
5	144.1	SE1
AVERAGE	**138.1**	
STD. DEV.	3.91	

CHECKED BY: _____ DATE: 6.7.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1

Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-08-04 P&S.xls]Sheet1 L18060-08-04 6/7/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-08
LAB ID NO.: L18060-08-05
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-39

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.3	SE1	<10
2	113.1	SE1	<10
3	114.0	SE1	<10
4	117.5	SE1	<10
5	114.0	SE1	<10
AVERAGE	**115.8**		
STD. DEV.	2.72		
INSIDE TRACK (WELD "B")			
1	126.9	SE1	<10
2	117.9	SE1	<10
3	117.7	SE1	<10
4	121.2	SE1	<10
5	119.9	SE1	<10
AVERAGE	**120.7**		
STD. DEV.	3.35		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.5	SE1
2	126.1	SE1
3	127.0	SE1
4	127.0	SE1
5	128.8	SE1
AVERAGE	**126.9**	
STD. DEV.	1.12	

CHECKED BY: TMP DATE: 6.7.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-08-05 P&S.xls]Sheet1 L18060-08-05 6/7/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-09
LAB ID NO.: L18060-09-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-40

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.2	SE1	<10
2	101.9	SE1	<10
3	104.2	SE1	<10
4	117.0	SE1	<10
5	114.1	SE1	<10
AVERAGE	**109.9**		
STD. DEV.	5.83		
INSIDE TRACK (WELD "B")			
1	124.0	SE1	<10
2	112.1	SE1	<10
3	116.0	SE1	<10
4	123.3	SE1	<10
5	117.4	SE1	<10
AVERAGE	**118.6**		
STD. DEV.	4.51		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	118.3	SE1
3	122.0	SE1
4	125.0	SE1
5	129.1	SE1
AVERAGE	**124.1**	
STD. DEV.	3.67	

CHECKED BY: RO DATE: 6/12/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-09-01 P&S.xls]Sheet1 L18060-09-01 6/12/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-09
LAB ID NO.: L18060-09-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-41

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.9	SE1	<10
2	123.0	SE1	<10
3	119.0	SE1	<10
4	111.5	SE1	<10
5	117.7	SE1	<10
AVERAGE	**117.2**		
STD. DEV.	3.87		
INSIDE TRACK (WELD "B")			
1	128.3	SE1	<10
2	118.0	SE1	<10
3	130.4	SE1	<10
4	132.3	SE1	<10
5	125.3	SE1	<10
AVERAGE	**126.9**		
STD. DEV.	5.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	153.3	SE1
2	153.0	SE1
3	152.1	SE1
4	149.0	SE1
5	150.7	SE1
AVERAGE	**151.6**	
STD. DEV.	1.59	

CHECKED BY: RO DATE: 6/12/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-09-02 P&S.xls]Sheet1 L18060-09-02 6/12/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-09
LAB ID NO.: L18060-09-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-42

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.8	SE1	<10
2	114.1	SE1	<10
3	112.1	SE1	<10
4	112.2	SE1	<10
5	112.0	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	1.50		
INSIDE TRACK (WELD "B")			
1	106.4	SE1	<10
2	112.3	SE1	<10
3	114.6	SE1	<10
4	116.0	SE1	<10
5	114.0	SE1	<10
AVERAGE	**112.7**		
STD. DEV.	3.35		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	141.8	SE1
2	138.3	SE1
3	137.5	SE1
4	138.0	SE1
5	121.2	SE1
AVERAGE	**135.4**	
STD. DEV.	7.24	

CHECKED BY: RO DATE: 6/12/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-09-03 P&S.xls]Sheet1 L18060-09-03 6/12/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-10
LAB ID NO.: L18060-10-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-43

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	118.9	SE1	<10
2	121.1	SE1	<10
3	118.6	SE1	<10
4	116.3	SE1	<10
5	116.2	SE1	<10
AVERAGE	**118.2**		
STD. DEV.	1.83		
INSIDE TRACK (WELD "B")			
1	104.9	SE1	<10
2	106.1	SE1	<10
3	101.0	SE1	<10
4	101.7	SE1	<10
5	100.9	SE1	<10
AVERAGE	**102.9**		
STD. DEV.	2.16		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.6	SE1
2	127.1	SE1
3	122.6	SE1
4	130.8	SE1
5	129.8	SE1
AVERAGE	**128.2**	
STD. DEV.	3.09	

CHECKED BY: TM DATE: 6/14/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-10-01 P&S.xls]Sheet1 L18060-10-01 6/14/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-10
LAB ID NO.: L18060-10-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-44

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.6	SE1	<10
2	112.6	SE1	<10
3	113.5	SE1	<10
4	113.7	SE1	<10
5	117.6	SE1	<10
AVERAGE	**114.4**		
STD. DEV.	1.72		
INSIDE TRACK (WELD "B")			
1	99.9	SE1	<10
2	97.7	SE1	<10
3	98.9	SE1	<10
4	102.2	SE1	<10
5	99.1	SE1	<10
AVERAGE	**99.6**		
STD. DEV.	1.50		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.6	SE1
2	131.0	SE1
3	133.1	SE1
4	127.2	SE1
5	129.9	SE1
AVERAGE	**130.2**	
STD. DEV.	1.92	

CHECKED BY: IM DATE: 6.14.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-10-02 P&S.xls]Sheet1 L18060-10-02 6/14/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-10
LAB ID NO.: L18060-10-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-45

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.0	SE1	<10
2	110.4	SE1	<10
3	112.3	SE1	<10
4	110.8	SE1	<10
5	109.5	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	1.93		
INSIDE TRACK (WELD "B")			
1	114.0	SE1	<10
2	116.0	SE1	<10
3	114.7	SE1	<10
4	113.9	SE1	<10
5	114.9	SE1	<10
AVERAGE	**114.7**		
STD. DEV.	0.76		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	143.6	SE1
2	147.6	SE1
3	142.3	SE1
4	141.4	SE1
5	143.1	SE1
AVERAGE	**143.6**	
STD. DEV.	2.13	

CHECKED BY: _____ DATE: 6.14.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-10-03 P&S.xls]Sheet1 L18060-10-03 6/14/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-46

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.6	SE1	<10
2	114.9	SE1	<10
3	111.7	SE1	<10
4	109:9	SE1	<10
5	107.0	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	2.96		
INSIDE TRACK (WELD "B")			
1	120.6	SE1	<10
2	125.4	SE1	<10
3	127.7	SE1	<10
4	129.6	SE1	<10
5	124.0	SE1	<10
AVERAGE	**125.5**		
STD. DEV.	3.10		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	141.8	SE1
2	142.0	SE1
3	142.9	SE1
4	145.6	SE1
5	143.8	SE1
AVERAGE	**143.2**	
STD. DEV.	1.39	

CHECKED BY: _____ DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-01 P&S.xls]Sheet1 L18060-11-01 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-47

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	124.6	SE1	<10
2	116.9	SE1	<10
3	119.1	SE1	<10
4	116.0	SE1	<10
5	116.7	SE1	<10
AVERAGE	**118.7**		
STD. DEV.	3.15		
INSIDE TRACK (WELD "B")			
1	136.0	SE1	<10
2	129.9	SE1	<10
3	120.9	SE1	<10
4	126.2	SE1	<10
5	129.2	SE1	<10
AVERAGE	**128.4**		
STD. DEV.	4.93		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	152.0	SE1
2	149.0	SE1
3	151.0	SE1
4	149.7	SE1
5	141.9	SE1
AVERAGE	**148.7**	
STD. DEV.	3.56	

CHECKED BY: TH DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-02 P&S.xls]Sheet1 L18060-11-02 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-48

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	110.9	SE1	<10
2	106.7	SE1	<10
3	116.8	SE1	<10
4	110.7	SE1	<10
5	114.0	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	3.40		
INSIDE TRACK (WELD "B")			
1	120.0	SE1	<10
2	120.7	SE1	<10
3	104.9	SE1	<10
4	115.7	SE1	<10
5	121.7	SE1	<10
AVERAGE	**116.6**		
STD. DEV.	6.20		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	139.7	SE1
2	137.1	SE1
3	138.9	SE1
4	139.9	SE1
5	138.1	SE1
AVERAGE	**138.7**	
STD. DEV.	1.04	

CHECKED BY: MH DATE: 6.27.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-03 P&S.xls]Sheet1 L18060-11-03 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-49

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	97.9	SE1	<10
2	113.4	SE1	<10
3	112.7	SE1	<10
4	114.4	SE1	<10
5	118.0	SE1	<10
AVERAGE	**111.3**		
STD. DEV.	6.93		
INSIDE TRACK (WELD "B")			
1	114.9	SE1	<10
2	99.1	SE1	<10
3	96.9	SE1	<10
4	100.4	SE1	<10
5	110.9	SE1	<10
AVERAGE	**104.4**		
STD. DEV.	7.11		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.9	SE1
2	124.1	SE1
3	129.1	SE1
4	124.0	SE1
5	126.8	SE1
AVERAGE	**126.2**	
STD. DEV.	1.92	

CHECKED BY: JM DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-04 P&S.xls]Sheet1 L18060-11-04 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-05
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-50

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.9	SE1	<10
2	120.7	SE1	<10
3	116.1	SE1	<10
4	114.1	SE1	<10
5	114.9	SE1	<10
AVERAGE	**116.5**		
STD. DEV.	2.29		
INSIDE TRACK (WELD "B")			
1	99.1	SE1	<10
2	103.9	SE1	<10
3	98.7	SE1	<10
4	100.9	SE1	<10
5	110.2	SE1	<10
AVERAGE	**102.6**		
STD. DEV.	4.24		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.7	SE1
2	129.1	SE1
3	127.0	SE1
4	124.9	SE1
5	126.9	SE1
AVERAGE	**127.3**	
STD. DEV.	1.50	

CHECKED BY: TM DATE: 6.27.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-05 P&S.xls]Sheet1 L18060-11-05 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-06
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-51

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.8	SE1	<10
2	123.1	SE1	<10
3	125.9	SE1	<10
4	115.9	SE1	<10
5	110.6	SE1	<10
AVERAGE	**119.7**		
STD. DEV.	5.60		
INSIDE TRACK (WELD "B")			
1	119.6	SE1	<10
2	113.8	SE1	<10
3	116.0	SE1	<10
4	109.1	SE1	<10
5	118.2	SE1	<10
AVERAGE	**115.3**		
STD. DEV.	3.69		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	150.4	SE1
2	152.7	SE1
3	147.0	SE1
4	149.0	SE1
5	149.2	SE1
AVERAGE	**149.7**	
STD. DEV.	1.87	

CHECKED BY: TM DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-06 P&S.xls]Sheet1 L18060-11-06 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-07
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-52

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.9	SE1	<10
2	123.1	SE1	<10
3	123.7	SE1	<10
4	124.1	SE1	<10
5	122.0	SE1	<10
AVERAGE	**123.2**		
STD. DEV.	0.72		
INSIDE TRACK (WELD "B")			
1	104.0	SE1	<10
2	112.7	SE1	<10
3	97.0	SE1	<10
4	105.1	SE1	<10
5	104.6	SE1	<10
AVERAGE	**104.7**		
STD. DEV.	4.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.0	SE1
2	127.4	SE1
3	129.3	SE1
4	129.0	SE1
5	127.6	SE1
AVERAGE	**129.1**	
STD. DEV.	1.65	

CHECKED BY: TM DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-07 P&S.xls]Sheet1 L18060-11-07 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-08
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-53

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	124.6	SE1	<10
2	123.1	SE1	<10
3	124.6	SE1	<10
4	123.0	SE1	<10
5	122.9	SE1	<10
AVERAGE	**123.6**		
STD. DEV.	0.79		
INSIDE TRACK (WELD "B")			
1	106.0	SE1	<10
2	111.4	SE1	<10
3	107.9	SE1	<10
4	107.1	SE1	<10
5	109.0	SE1	<10
AVERAGE	**108.3**		
STD. DEV.	1.84		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.6	SE1
2	130.1	SE1
3	132.1	SE1
4	129.8	SE1
5	127.0	SE1
AVERAGE	**129.5**	
STD. DEV.	1.69	

CHECKED BY: JM DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-08 P&S.xls]Sheet1 L18060-11-08 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-09
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-54

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	125.9	SE1	<10
2	121.4	SE1	<10
3	122.6	SE1	<10
4	114.9	SE1	<10
5	120.4	SE1	<10
AVERAGE	**121.0**		
STD. DEV.	3.59		
INSIDE TRACK (WELD "B")			
1	128.9	SE1	<10
2	129.7	SE1	<10
3	123.6	SE1	<10
4	124.4	SE1	<10
5	127.0	SE1	<10
AVERAGE	**126.7**		
STD. DEV.	2.40		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	146.9	SE1
2	154.4	SE1
3	149.1	SE1
4	151.4	SE1
5	150.9	SE1
AVERAGE	**150.5**	
STD. DEV.	2.49	

CHECKED BY: MH DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-09 P&S.xls]Sheet1 L18060-11-09 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-11
LAB ID NO.: L18060-11-10
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-55

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.9	SE1	<10
2	117.0	SE1	<10
3	118.0	SE1	<10
4	120.2	SE1	<10
5	118.1	SE1	<10
AVERAGE	**118.0**		
STD. DEV.	1.19		
INSIDE TRACK (WELD "B")			
1	124.9	SE1	<10
2	112.9	SE1	<10
3	131.0	SE1	<10
4	133.0	SE1	<10
5	127.1	SE1	<10
AVERAGE	**125.8**		
STD. DEV.	7.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	138.9	SE1
2	139.1	SE1
3	141.7	SE1
4	145.0	SE1
5	139.8	SE1
AVERAGE	**140.9**	
STD. DEV.	2.28	

CHECKED BY: _____ DATE: 6-27-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-11-10 P&S.xls]Sheet1 L18060-11-10 6/27/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-12
LAB ID NO.: L18060-12-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-56

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	99.7	SE1	<10
2	96.7	SE1	<10
3	101.6	SE1	<10
4	103.4	SE1	<10
5	96.7	SE1	<10
AVERAGE	**99.6**		
STD. DEV.	2.66		
INSIDE TRACK (WELD "B")			
1	114.6	SE1	<10
2	113.7	SE1	<10
3	120.9	SE1	<10
4	116.6	SE1	<10
5	118.8	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	2.65		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	134.9	SE1
2	129.4	SE1
3	127.6	SE1
4	129.4	SE1
5	126.1	SE1
AVERAGE	**129.5**	
STD. DEV.	2.98	

CHECKED BY: RD DATE: 6/28/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-12-01 P&S.xls]Sheet1 L18060-12-01 6/28/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-12
LAB ID NO.: L18060-12-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-57

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	100.6	SE1	<10
2	99.5	SE1	<10
3	99.6	SE1	<10
4	97.7	SE1	<10
5	96.7	SE1	<10
AVERAGE	**98.8**		
STD. DEV.	1.41		
INSIDE TRACK (WELD "B")			
1	115.9	SE1	<10
2	114.6	SE1	<10
3	111.1	SE1	<10
4	118.1	SE1	<10
5	111.2	SE1	<10
AVERAGE	**114.2**		
STD. DEV.	2.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.9	SE1
2	126.1	SE1
3	128.2	SE1
4	131.8	SE1
5	128.1	SE1
AVERAGE	**128.2**	
STD. DEV.	1.95	

CHECKED BY: RO DATE: 6/28/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-12-02 P&S.xls]Sheet1 L18060-12-02 6/28/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-12
LAB ID NO.: L18060-12-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-58

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.1	SE1	<10
2	115.9	SE1	<10
3	110.1	SE1	<10
4	114.9	SE1	<10
5	106.7	SE1	<10
AVERAGE	**112.7**		
STD. DEV.	3.73		
INSIDE TRACK (WELD "B")			
1	100.9	SE1	<10
2	111.6	SE1	<10
3	108.4	SE1	<10
4	112.8	SE1	<10
5	108.4	SE1	<10
AVERAGE	**108.4**		
STD. DEV.	4.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.9	SE1
2	131.0	SE1
3	126.2	SE1
4	131.4	SE1
5	127.9	SE1
AVERAGE	**130.5**	
STD. DEV.	3.33	

CHECKED BY: RO DATE: 6/28/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-12-03 P&S.xls]Sheet1 L18060-12-03 6/28/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-12
LAB ID NO.: L18060-12-04
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-59

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	109.8	SE1	<10
2	108.6	SE1	<10
3	101.7	SE1	<10
4	103.9	SE1	<10
5	104.0	SE1	<10
AVERAGE	**105.6**		
STD. DEV.	3.08		
INSIDE TRACK (WELD "B")			
1	113.2	SE1	<10
2	110.6	SE1	<10
3	115.0	SE1	<10
4	114.3	SE1	<10
5	116.1	SE1	<10
AVERAGE	**113.8**		
STD. DEV.	1.87		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	124.7	SE1
2	125.0	SE1
3	122.3	SE1
4	121.5	SE1
5	123.6	SE1
AVERAGE	**123.4**	
STD. DEV.	1.35	

CHECKED BY: RO DATE: 6/28/18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
\\geoserver\Data Drive\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-12-04 P&S.xls]Sheet1 L18060-12-04 6/28/2018

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-13
LAB ID NO.: L18060-13-01
MATERIAL: 50 mil LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DS-60

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	119.5	SE3	<10
2	108.6	SE3	<10
3	106.8	SE3	<10
4	105.1	SE3	<10
5	108.7	SE3	<10
AVERAGE	**109.7**		
STD. DEV.	5.06		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.7	SE1
2	128.1	SE1
3	124.0	SE1
4	126.8	SE1
5	125.6	SE1
AVERAGE	**126.0**	
STD. DEV.	1.36	

CHECKED BY: IM DATE: 7.2.18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-13-01 Extrusion.xls]Sheet1 L18060-13-01 7/2/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

Geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-13
LAB ID NO.: L18060-13-02
MATERIAL: 50 mil LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DS-61

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	130.1	SE3	<10
2	104.8	SE3	<10
3	123.0	SE3	<10
4	113.2	SE3	<10
5	90.2	AD1	100
AVERAGE	**112.3**		
STD. DEV.	13.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.4	SE1
2	120.0	SE1
3	121.2	SE1
4	130.4	SE1
5	124.3	SE1
AVERAGE	**123.9**	
STD. DEV.	3.61	

CHECKED BY: TM DATE: 7-2-18

C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-13-02 Extrusion.xls]Sheet1 L18060-13-02 7/2/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics INTEGRITY IN TESTING

CLIENT: Chesapeake Containment Systems, Inc.
CLIENT PROJECT: Savannah River
PROJECT NO.: L18060-13
LAB ID NO.: L18060-13-03
MATERIAL: 50 mil LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-62

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.6	SE1	<10
2	116.1	SE1	<10
3	122.0	SE1	<10
4	119.8	SE1	<10
5	120.7	SE1	<10
AVERAGE	**119.8**		
STD. DEV.	2.00		
INSIDE TRACK (WELD "B")			
1	121.1	SE1	<10
2	120.9	SE1	<10
3	124.6	SE1	<10
4	116.8	SE1	<10
5	124.6	SE1	<10
AVERAGE	**121.6**		
STD. DEV.	2.89		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.9	SE1
2	141.6	SE1
3	140.9	SE1
4	141.7	SE1
5	140.8	SE1
AVERAGE	**140.4**	
STD. DEV.	1.78	

CHECKED BY: JM DATE: 7.2.18

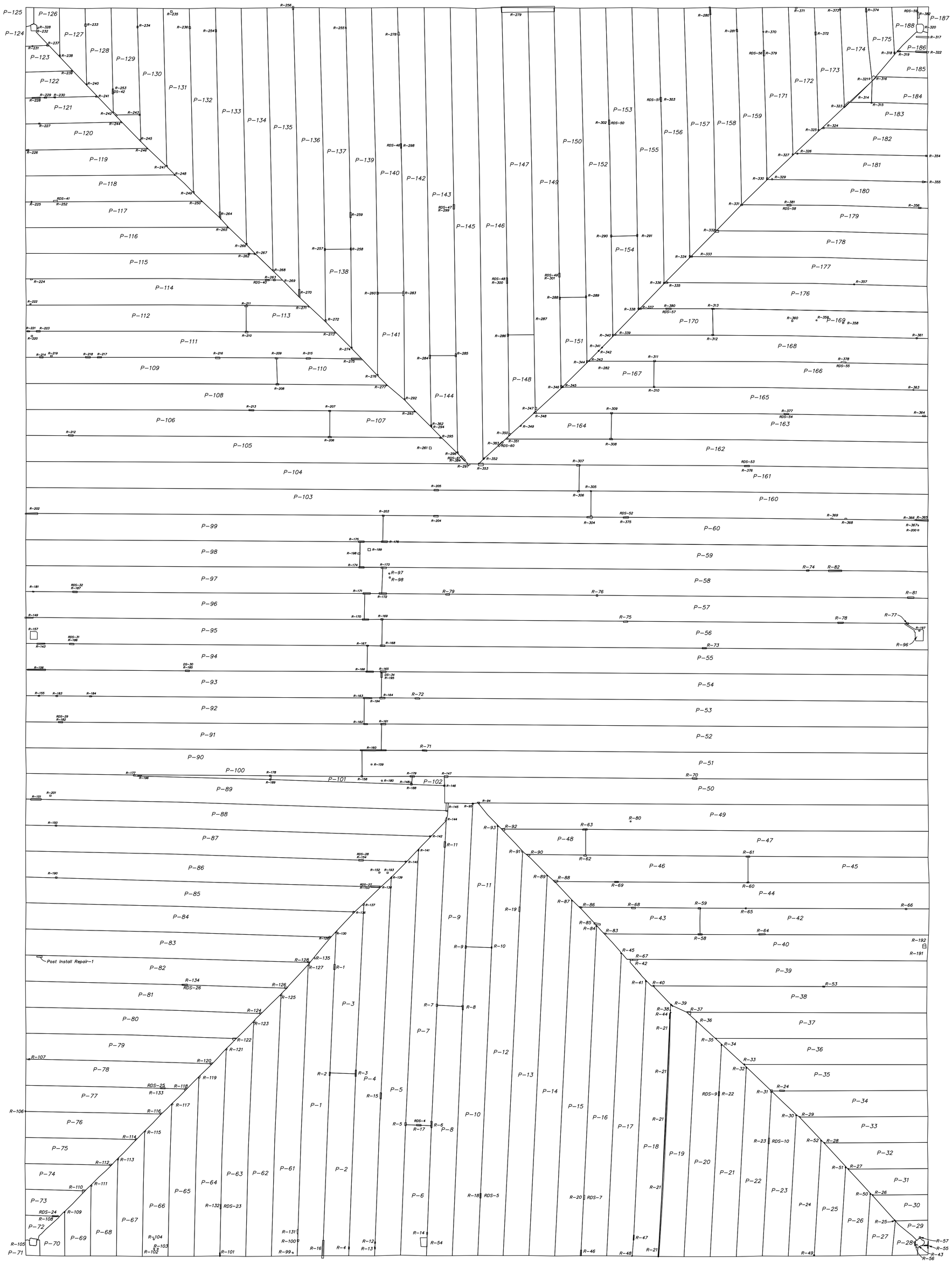
C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1
Z:\Synthetics\2018 Synthetics\060- CHESAPEAKE- Savannah River\[L18060-13-03 P&S.xls]Sheet1 L18060-13-03 7/2/18

544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

APPENDIX Q5

LLDPE As-built (Includes Repairs and Supporting Data)

This page was intentionally left blank.



SURVEY REFERENCES

1. *REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.*

SURVEY NOTES

1. *THIS EXHIBIT SHOWS THE MICRODRAIN LINER MATERIAL AS CONSTRUCTED DURING VARIOUS TIMES PRIOR TO PLACEMENT OF COMMON FILL MATERIAL. MICRODRAIN MATERIAL IS REPRESENTED BY PANEL NUMBERS AND ASSOCIATED REPAIR NUMBERS.*
2. *BENCHMARKS UTILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT*

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	03/29/2018	N/A
	LAST REVISED 06-20-2018	
	DRAWING FILENAME Microdrain-Repairs Asbuilt.dwg	
	DRAWN/CHECKED gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

MICRODRAIN LINER ASBUILT with REPAIRS OF THE 1-D ASH BASIN

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
problem solved
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.

f:\encn-envirocon 2018\microdrain drawings\microdrain-repairs asbuilt.dwg : 24 x 36 (Plotted: 10/29/2018 8:56:33 PM)

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 1	62285.54	18569.83	125.47	1001
Panel 1	62390.78	18573.18	129.03	1002
Panel 1	62537.43	18579.36	134.17	1003
Panel 1	62539.23	18580.77	134.41	1004
Panel 1	62551.94	18591.11	134.56	1005
Panel 1	62561.10	18598.95	134.84	1006
Panel 1	62566.01	18603.42	135.00	1007
Panel 1	62444.44	18598.14	130.87	1008
Panel 1	62404.85	18596.39	129.54	1009
Panel 1	62285.64	18591.84	125.72	1010
Panel 2	62285.63	18591.84	125.72	1011
Panel 2	62404.85	18596.39	129.54	1012
Panel 2	62443.74	18598.11	130.84	1013
Panel 2	62442.94	18620.41	130.90	1014
Panel 2	62285.61	18614.34	125.73	1015
Panel 3	62443.74	18598.11	130.84	1016
Panel 3	62566.01	18603.42	135.00	1017
Panel 3	62582.94	18619.40	135.56	1018
Panel 3	62590.42	18627.48	135.80	1019
Panel 3	62442.94	18620.41	130.90	1020
Panel 4	62285.61	18614.34	125.73	1021
Panel 4	62442.94	18620.41	130.90	1022
Panel 4	62590.42	18627.48	135.80	1023
Panel 4	62604.53	18642.07	136.27	1024
Panel 4	62612.82	18651.12	136.62	1025
Panel 4	62612.82	18651.12	136.62	1026
Panel 4	62399.43	18640.96	129.34	1027
Panel 4	62285.60	18636.74	125.96	1028
Panel 5	62285.60	18636.74	125.96	1029
Panel 5	62399.43	18640.96	129.34	1030
Panel 5	62612.82	18651.12	136.62	1031
Panel 5	62626.40	18664.52	137.15	1032
Panel 5	62637.28	18674.71	137.46	1033
Panel 5	62398.94	18663.49	129.23	1034
Panel 5	62286.14	18659.15	125.63	1035
Panel 6	62286.14	18659.15	125.63	1036
Panel 6	62398.94	18663.49	129.23	1037
Panel 6	62398.12	18685.88	129.21	1038
Panel 6	62285.64	18681.51	125.73	1039
Panel 7	62398.94	18663.49	129.23	1040
Panel 7	62637.28	18674.71	137.46	1041
Panel 7	62648.28	18685.53	137.84	1042

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 7	62661.76	18698.58	138.38	1043
Panel 7	62502.33	18690.67	132.98	1044
Panel 7	62398.12	18685.88	129.21	1045
Panel 8	62285.64	18681.51	125.73	1046
Panel 8	62398.12	18685.88	129.21	1047
Panel 8	62502.33	18690.67	132.98	1048
Panel 8	62501.18	18712.97	132.94	1049
Panel 8	62285.69	18703.83	125.42	1050
Panel 9	62502.33	18690.67	132.98	1051
Panel 9	62661.76	18698.58	138.38	1052
Panel 9	62666.78	18699.76	138.42	1053
Panel 9	62670.49	18699.98	138.56	1054
Panel 9	62677.15	18700.41	138.51	1055
Panel 9	62676.61	18721.62	139.11	1056
Panel 9	62552.84	18715.55	134.80	1057
Panel 9	62501.18	18712.97	132.94	1058
Panel 10	62285.69	18703.83	125.42	1059
Panel 10	62501.18	18712.97	132.94	1060
Panel 10	62552.84	18715.55	134.80	1061
Panel 10	62552.09	18737.91	134.72	1062
Panel 10	62285.90	18725.95	125.45	1063
Panel 11	62552.84	18715.55	134.80	1064
Panel 11	62676.61	18721.62	139.11	1065
Panel 11	62677.24	18726.09	139.05	1066
Panel 11	62667.04	18734.32	138.71	1067
Panel 11	62657.88	18743.27	138.39	1068
Panel 11	62552.09	18737.91	134.72	1069
Panel 12	62285.90	18725.95	125.45	1070
Panel 12	62552.09	18737.91	134.72	1071
Panel 12	62657.88	18743.27	138.39	1072
Panel 12	62654.58	18746.51	138.30	1073
Panel 12	62642.61	18758.02	137.90	1074
Panel 12	62635.46	18764.68	137.62	1075
Panel 12	62285.80	18747.86	125.45	1076
Panel 13	62285.80	18747.86	125.45	1077
Panel 13	62635.46	18764.68	137.62	1078
Panel 13	62633.90	18766.16	137.56	1079
Panel 13	62632.60	18767.96	137.52	1080
Panel 13	62629.24	18771.76	137.33	1081
Panel 13	62616.92	18784.00	136.90	1082
Panel 13	62614.84	18785.97	136.89	1083
Panel 13	62285.85	18770.13	125.20	1084

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 14	62285.85	18770.13	125.20	1085
Panel 14	62614.84	18785.97	136.89	1086
Panel 14	62609.21	18792.34	136.65	1087
Panel 14	62593.28	18807.30	136.15	1088
Panel 14	62285.47	18792.45	125.09	1089
Panel 15	62285.47	18792.45	125.09	1090
Panel 15	62593.28	18807.30	136.15	1091
Panel 15	62587.08	18813.67	135.97	1092
Panel 15	62585.42	18815.52	135.93	1093
Panel 15	62571.29	18828.62	135.37	1094
Panel 15	62285.61	18815.05	125.21	1095
Panel 16	62285.61	18815.05	125.21	1096
Panel 16	62571.29	18828.62	135.37	1097
Panel 16	62567.73	18831.76	135.28	1098
Panel 16	62564.00	18835.28	135.12	1099
Panel 16	62556.07	18842.69	134.85	1100
Panel 16	62547.55	18850.08	134.56	1101
Panel 16	62285.57	18837.37	124.99	1102
Panel 17	62285.57	18837.37	124.99	1103
Panel 17	62547.55	18850.08	134.56	1104
Panel 17	62542.04	18854.85	134.38	1105
Panel 17	62541.87	18857.54	134.42	1106
Panel 17	62541.10	18857.71	134.34	1107
Panel 17	62539.39	18857.63	134.26	1108
Panel 17	62529.95	18865.96	133.92	1109
Panel 17	62527.43	18867.86	133.77	1110
Panel 17	62523.81	18871.30	133.80	1111
Panel 17	62301.35	18860.71	123.80	1112
Panel 17	62285.40	18859.40	124.89	1113
Panel 18	62285.40	18859.40	124.89	1114
Panel 18	62301.35	18860.71	123.80	1115
Panel 18	62523.81	18871.30	133.80	1116
Panel 18	62519.05	18875.92	133.58	1117
Panel 18	62518.75	18876.82	133.52	1118
Panel 18	62518.80	18877.62	133.56	1119
Panel 18	62503.07	18892.61	133.01	1120
Panel 18	62496.30	18892.40	132.82	1121
Panel 18	62396.02	18888.18	129.38	1122
Panel 18	62307.74	18883.46	126.05	1123
Panel 18	62285.01	18882.02	124.90	1124
Panel 19	62285.01	18882.02	124.90	1125
Panel 19	62307.74	18883.46	126.05	1126

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 19	62396.02	18888.18	129.38	1127
Panel 19	62496.30	18892.40	132.82	1128
Panel 19	62503.07	18892.62	132.96	1129
Panel 19	62502.08	18893.75	132.99	1130
Panel 19	62496.14	18906.62	132.71	1131
Panel 19	62488.55	18914.96	132.45	1132
Panel 19	62284.85	18904.25	124.75	1133
Panel 20	62284.85	18904.25	124.75	1134
Panel 20	62488.55	18914.96	132.45	1135
Panel 20	62473.58	18931.29	131.93	1136
Panel 20	62468.62	18936.72	131.77	1137
Panel 20	62284.85	18926.83	124.63	1138
Panel 21	62284.85	18926.83	124.63	1139
Panel 21	62468.62	18936.72	131.77	1140
Panel 21	62454.56	18951.94	131.26	1141
Panel 21	62451.08	18955.84	131.12	1142
Panel 21	62448.91	18958.10	131.03	1143
Panel 21	62284.89	18949.43	124.23	1144
Panel 22	62284.89	18949.43	124.23	1145
Panel 22	62448.91	18958.10	131.03	1146
Panel 22	62428.12	18979.74	130.32	1147
Panel 22	62285.42	18971.94	124.38	1148
Panel 23	62285.42	18971.94	124.38	1149
Panel 23	62428.12	18979.74	130.32	1150
Panel 23	62417.84	18990.41	130.00	1151
Panel 23	62407.61	19001.26	129.61	1152
Panel 23	62285.32	18994.33	124.43	1153
Panel 24	62285.32	18994.33	124.43	1154
Panel 24	62407.61	19001.26	129.61	1155
Panel 24	62405.59	19004.03	129.55	1156
Panel 24	62385.76	19022.74	128.89	1157
Panel 24	62285.40	19016.72	124.32	1158
Panel 25	62285.40	19016.72	124.32	1159
Panel 25	62385.76	19022.74	128.89	1160
Panel 25	62383.14	19025.26	128.79	1161
Panel 25	62362.83	19044.03	128.10	1162
Panel 25	62285.50	19039.19	124.13	1163
Panel 26	62285.50	19039.19	124.13	1164
Panel 26	62362.83	19044.03	128.10	1165
Panel 26	62360.57	19045.94	128.01	1166
Panel 26	62351.55	19054.43	127.69	1167
Panel 26	62339.74	19065.25	127.19	1168

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 26	62285.89	19061.63	124.10	1169
Panel 27	62285.89	19061.63	124.10	1170
Panel 27	62339.74	19065.25	127.19	1171
Panel 27	62338.10	19066.90	127.12	1172
Panel 27	62328.25	19075.76	126.83	1173
Panel 27	62315.80	19086.97	126.34	1174
Panel 27	62285.85	19084.03	124.17	1175
Panel 28	62285.85	19084.03	124.17	1176
Panel 28	62315.80	19086.97	126.34	1177
Panel 28	62313.26	19089.15	126.25	1178
Panel 28	62311.56	19090.95	126.17	1179
Panel 28	62302.80	19101.73	123.37	1180
Panel 28	62299.09	19105.41	120.80	1181
Panel 28	62298.45	19104.25	121.85	1182
Panel 28	62297.79	19104.31	121.03	1183
Panel 28	62294.69	19104.21	122.27	1184
Panel 28	62295.71	19105.76	121.06	1185
Panel 28	62295.01	19105.81	121.33	1186
Panel 28	62292.83	19105.13	122.77	1187
Panel 28	62292.45	19106.39	122.95	1188
Panel 28	62286.14	19105.97	123.86	1189
Panel 29	62294.65	19115.19	123.39	1190
Panel 29	62294.40	19110.02	121.93	1191
Panel 29	62294.92	19110.21	121.69	1192
Panel 29	62294.96	19110.71	121.85	1193
Panel 29	62296.55	19112.00	122.42	1194
Panel 29	62298.18	19111.84	122.28	1195
Panel 29	62299.02	19111.16	121.71	1196
Panel 29	62299.12	19110.08	121.35	1197
Panel 29	62300.61	19108.90	120.83	1198
Panel 29	62300.60	19107.12	120.79	1199
Panel 29	62299.12	19105.98	120.77	1200
Panel 29	62299.09	19105.41	120.80	1201
Panel 29	62302.80	19101.73	123.37	1202
Panel 29	62311.56	19090.95	126.17	1203
Panel 29	62313.26	19089.15	126.25	1204
Panel 29	62315.80	19086.97	126.34	1205
Panel 29	62316.42	19114.95	123.96	1206
Panel 30	62316.42	19114.95	123.96	1207
Panel 30	62315.80	19086.97	126.34	1208
Panel 30	62328.25	19075.76	126.83	1209
Panel 30	62338.10	19066.90	127.12	1210
Panel 30	62338.48	19114.94	123.95	1211

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 31	62338.48	19114.94	123.95	1212
Panel 31	62338.10	19066.90	127.12	1213
Panel 31	62339.74	19065.25	127.19	1214
Panel 31	62351.55	19054.43	127.69	1215
Panel 31	62360.57	19045.94	128.01	1216
Panel 31	62361.06	19115.11	123.90	1217
Panel 32	62361.06	19115.11	123.90	1218
Panel 32	62360.57	19045.94	128.01	1219
Panel 32	62362.83	19044.03	128.10	1220
Panel 32	62383.14	19025.26	128.79	1221
Panel 32	62383.61	19114.67	124.46	1222
Panel 33	62383.61	19114.67	124.46	1223
Panel 33	62383.14	19025.26	128.79	1224
Panel 33	62385.76	19022.74	128.89	1225
Panel 33	62405.59	19004.03	129.55	1226
Panel 33	62406.13	19115.11	124.50	1227
Panel 34	62406.13	19115.11	124.50	1228
Panel 34	62405.59	19004.03	129.55	1229
Panel 34	62407.61	19001.26	129.61	1230
Panel 34	62417.84	18990.41	130.00	1231
Panel 34	62428.12	18979.74	130.32	1232
Panel 34	62428.56	19114.46	124.52	1233
Panel 35	62428.56	19114.46	124.52	1234
Panel 35	62428.12	18979.74	130.32	1235
Panel 35	62448.91	18958.10	131.03	1236
Panel 35	62451.08	18955.84	131.12	1237
Panel 35	62450.92	19114.39	124.84	1238
Panel 36	62450.92	19114.39	124.84	1239
Panel 36	62451.08	18955.84	131.12	1240
Panel 36	62454.56	18951.94	131.26	1241
Panel 36	62468.62	18936.72	131.77	1242
Panel 36	62473.58	18931.29	131.93	1243
Panel 36	62473.33	19114.32	124.86	1244
Panel 37	62473.33	19114.32	124.86	1245
Panel 37	62473.58	18931.29	131.93	1246
Panel 37	62488.55	18914.96	132.45	1247
Panel 37	62496.14	18906.62	132.71	1248
Panel 37	62495.58	19114.02	125.02	1249
Panel 38	62495.58	19114.02	125.02	1250
Panel 38	62496.14	18906.62	132.71	1251
Panel 38	62502.08	18893.75	132.99	1252

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 38	62503.07	18892.62	132.96	1253
Panel 38	62518.80	18877.62	133.56	1254
Panel 38	62518.75	18876.82	133.52	1255
Panel 38	62519.05	18875.92	133.58	1256
Panel 38	62518.05	19114.28	125.12	1257
Panel 39	62518.05	19114.28	125.12	1258
Panel 39	62519.05	18875.92	133.58	1259
Panel 39	62523.81	18871.30	133.80	1260
Panel 39	62527.43	18867.86	133.77	1261
Panel 39	62539.39	18857.63	134.26	1262
Panel 39	62541.10	18857.71	134.34	1263
Panel 39	62541.87	18857.54	134.42	1264
Panel 39	62542.04	18854.85	134.38	1265
Panel 39	62540.60	19114.35	125.32	1266
Panel 40	62540.60	19114.35	125.32	1267
Panel 40	62542.04	18854.85	134.38	1268
Panel 40	62547.55	18850.08	134.56	1269
Panel 40	62556.07	18842.69	134.85	1270
Panel 40	62564.00	18835.28	135.12	1271
Panel 40	62563.44	18918.06	132.51	1272
Panel 40	62562.99	19115.69	124.16	1273
Panel 41	62286.14	19105.97	123.86	1274
Panel 41	62292.45	19106.39	122.95	1275
Panel 41	62294.34	19108.77	121.75	1276
Panel 41	62294.40	19110.02	121.93	1277
Panel 41	62294.65	19115.19	123.39	1278
Panel 41	62286.47	19115.16	123.92	1279
Panel 42	62562.99	19115.69	124.16	1280
Panel 42	62563.44	18918.06	132.51	1281
Panel 42	62574.96	18917.96	132.51	1282
Panel 42	62586.25	18918.21	132.47	1283
Panel 42	62585.60	19116.13	123.63	1284
Panel 43	62563.44	18918.06	132.51	1285
Panel 43	62564.00	18835.28	135.12	1286
Panel 43	62567.73	18831.76	135.28	1287
Panel 43	62571.29	18828.62	135.37	1288
Panel 43	62585.42	18815.52	135.93	1289
Panel 43	62587.08	18813.67	135.97	1290
Panel 43	62586.25	18918.21	132.47	1291
Panel 43	62574.96	18917.96	132.51	1292
Panel 44	62585.60	19116.13	123.63	1293
Panel 44	62586.25	18918.21	132.47	1294

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 44	62587.08	18813.67	135.97	1295
Panel 44	62593.28	18807.30	136.15	1296
Panel 44	62609.21	18792.34	136.65	1297
Panel 44	62608.21	18959.58	131.08	1298
Panel 44	62608.08	19116.10	123.83	1299
Panel 45	62608.08	19116.10	123.83	1300
Panel 45	62608.21	18959.58	131.08	1301
Panel 45	62631.02	18959.58	131.02	1302
Panel 45	62630.17	19115.22	124.97	1303
Panel 46	62608.21	18959.58	131.08	1304
Panel 46	62609.21	18792.34	136.65	1305
Panel 46	62614.84	18785.97	136.89	1306
Panel 46	62616.92	18784.00	136.90	1307
Panel 46	62629.24	18771.76	137.33	1308
Panel 46	62632.60	18767.96	137.52	1309
Panel 46	62632.18	18819.16	135.97	1310
Panel 46	62631.02	18959.58	131.02	1311
Panel 47	62630.17	19115.22	124.97	1312
Panel 47	62631.02	18959.58	131.02	1313
Panel 47	62632.18	18819.16	135.97	1314
Panel 47	62654.34	18819.20	135.92	1315
Panel 47	62653.12	18964.83	130.90	1316
Panel 47	62652.63	19115.62	124.80	1317
Panel 48	62654.34	18819.20	135.92	1318
Panel 48	62632.18	18819.16	135.97	1319
Panel 48	62632.60	18767.96	137.52	1320
Panel 48	62633.90	18766.16	137.56	1321
Panel 48	62635.46	18764.68	137.62	1322
Panel 48	62642.61	18758.02	137.90	1323
Panel 48	62654.58	18746.51	138.30	1324
Panel 49	62652.63	19115.62	124.80	1325
Panel 49	62653.12	18964.83	130.90	1326
Panel 49	62654.34	18819.20	135.92	1327
Panel 49	62654.58	18746.51	138.30	1328
Panel 49	62657.88	18743.27	138.39	1329
Panel 49	62667.04	18734.32	138.71	1330
Panel 49	62677.24	18726.09	139.05	1331
Panel 49	62675.79	18964.95	130.92	1332
Panel 49	62675.30	19115.32	124.81	1333
Panel 50	62675.30	19115.32	124.81	1334
Panel 50	62675.79	18964.95	130.92	1335
Panel 50	62677.24	18726.09	139.05	1336

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 50	62676.61	18721.62	139.11	1337
Panel 50	62677.15	18700.41	138.51	1338
Panel 50	62677.18	18697.32	138.38	1339
Panel 50	62692.16	18697.35	138.38	1340
Panel 50	62699.98	18696.86	138.26	1341
Panel 50	62698.18	18905.10	132.98	1342
Panel 50	62697.66	19011.72	129.21	1343
Panel 50	62697.34	19114.90	124.36	1344
Panel 51	62697.34	19114.90	124.36	1345
Panel 51	62697.66	19011.72	129.21	1346
Panel 51	62698.18	18905.10	132.98	1347
Panel 51	62699.98	18696.86	138.26	1348
Panel 51	62700.16	18669.28	137.23	1349
Panel 51	62699.95	18625.92	135.72	1350
Panel 51	62722.80	18625.77	135.70	1351
Panel 51	62722.73	18642.49	136.32	1352
Panel 51	62722.53	18724.91	139.19	1353
Panel 51	62721.02	18906.31	132.96	1354
Panel 51	62720.69	19012.04	129.19	1355
Panel 51	62720.11	19114.82	124.36	1356
Panel 52	62720.11	19114.82	124.36	1357
Panel 52	62720.69	19012.04	129.19	1358
Panel 52	62721.02	18906.31	132.96	1359
Panel 52	62722.53	18724.91	139.19	1360
Panel 52	62722.73	18642.49	136.32	1361
Panel 52	62745.49	18642.76	136.23	1362
Panel 52	62744.94	18724.71	139.21	1363
Panel 52	62743.35	18952.46	131.34	1364
Panel 52	62742.61	19115.02	124.02	1365
Panel 53	62742.61	19115.02	124.02	1366
Panel 53	62743.35	18952.46	124.36	1367
Panel 53	62744.94	18724.71	139.21	1368
Panel 53	62745.49	18642.76	136.23	1369
Panel 53	62745.43	18627.61	135.82	1370
Panel 53	62767.98	18627.77	135.85	1371
Panel 53	62768.13	18642.53	136.35	1372
Panel 53	62765.01	19094.27	126.29	1373
Panel 53	62764.59	19114.77	123.84	1374
Panel 54	62764.59	19114.77	123.84	1375
Panel 54	62765.01	19094.27	126.29	1376
Panel 54	62768.13	18642.53	136.35	1377
Panel 54	62790.72	18642.81	136.38	1378
Panel 54	62787.90	19093.93	126.24	1379

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 54	62787.58	19114.86	123.75	1380
Panel 55	62787.58	19114.86	123.75	1381
Panel 55	62787.90	19093.93	126.24	1382
Panel 55	62790.72	18642.81	136.38	1383
Panel 55	62790.74	18630.16	135.96	1384
Panel 55	62813.16	18630.54	135.99	1385
Panel 55	62813.00	18643.00	136.38	1386
Panel 55	62809.76	19092.90	126.34	1387
Panel 55	62809.58	19115.20	123.61	1388
Panel 56	62809.58	19115.20	123.61	1389
Panel 56	62809.76	19092.90	126.34	1390
Panel 56	62813.00	18643.00	136.38	1391
Panel 56	62835.99	18643.33	136.41	1392
Panel 56	62832.28	19114.96	123.59	1393
Panel 57	62832.28	19114.96	123.59	1394
Panel 57	62835.99	18643.33	136.41	1395
Panel 57	62835.82	18627.80	135.85	1396
Panel 57	62858.28	18628.20	135.86	1397
Panel 57	62858.24	18642.83	136.39	1398
Panel 57	62854.55	19094.11	126.28	1399
Panel 57	62854.13	19115.16	123.74	1400
Panel 58	62854.13	19115.16	123.74	1401
Panel 58	62854.55	19094.11	126.28	1402
Panel 58	62858.24	18642.83	136.39	1403
Panel 58	62880.89	18643.78	136.42	1404
Panel 58	62877.62	19095.04	126.15	1405
Panel 58	62877.00	19115.01	123.87	1406
Panel 59	62880.89	18643.78	136.42	1407
Panel 59	62877.62	19095.04	126.15	1408
Panel 59	62877.00	19115.01	123.87	1409
Panel 59	62899.02	19114.64	124.18	1410
Panel 59	62903.02	18643.78	136.30	1411
Panel 59	62903.04	18624.20	135.65	1412
Panel 59	62880.97	18623.84	135.68	1413
Panel 60	62921.50	19114.94	124.17	1414
Panel 60	62923.47	18947.10	131.43	1415
Panel 60	62924.37	18823.73	135.77	1416
Panel 60	62925.84	18644.16	136.37	1417
Panel 60	62903.02	18643.78	136.30	1418
Panel 60	62899.02	19114.64	123.87	1419
Panel 61	62285.54	18569.83	125.47	1420
Panel 61	62285.22	18547.46	125.50	1421

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 61	62386.47	18550.42	128.80	1422
Panel 61	62511.92	18555.79	133.22	1423
Panel 61	62514.50	18558.21	133.26	1424
Panel 61	62517.07	18561.02	133.39	1425
Panel 61	62519.17	18562.47	133.44	1426
Panel 61	62529.99	18572.52	133.87	1427
Panel 61	62537.43	18579.36	134.17	1428
Panel 61	62390.78	18573.18	129.03	1429
Panel 62	62285.22	18547.46	125.50	1430
Panel 62	62285.07	18525.28	125.30	1431
Panel 62	62378.11	18527.56	128.54	1432
Panel 62	62488.49	18532.22	132.42	1433
Panel 62	62490.89	18534.25	132.49	1434
Panel 62	62495.02	18538.66	132.75	1435
Panel 62	62503.61	18547.24	132.94	1436
Panel 62	62508.21	18552.06	133.08	1437
Panel 62	62511.92	18555.79	133.22	1438
Panel 62	62386.47	18550.42	128.80	1439
Panel 63	62285.07	18525.28	125.30	1440
Panel 63	62285.53	18502.97	125.31	1441
Panel 63	62372.75	18504.76	128.38	1442
Panel 63	62464.75	18508.48	131.64	1443
Panel 63	62468.19	18511.94	131.74	1444
Panel 63	62473.43	18517.15	131.90	1445
Panel 63	62480.30	18524.12	132.11	1446
Panel 63	62488.49	18532.22	132.42	1447
Panel 63	62378.11	18527.56	128.54	1448
Panel 64	62285.53	18502.97	125.31	1449
Panel 64	62285.16	18480.65	125.13	1450
Panel 64	62366.27	18482.29	128.20	1451
Panel 64	62440.59	18484.81	130.77	1452
Panel 64	62445.85	18490.34	130.95	1453
Panel 64	62451.72	18496.39	131.15	1454
Panel 64	62456.44	18500.85	131.28	1455
Panel 64	62462.50	18506.27	131.55	1456
Panel 64	62464.75	18508.48	131.64	1457
Panel 64	62372.75	18504.76	128.38	1458
Panel 65	62285.16	18480.65	125.13	1459
Panel 65	62285.15	18458.05	125.17	1460
Panel 65	62356.12	18459.41	127.83	1461
Panel 65	62417.14	18461.44	129.90	1462
Panel 65	62422.87	18467.50	130.15	1463
Panel 65	62429.82	18474.31	130.39	1464

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 65	62434.98	18479.28	130.63	1465
Panel 65	62440.59	18484.81	130.77	1466
Panel 65	62366.27	18482.29	128.20	1467
Panel 66	62285.15	18458.05	125.17	1468
Panel 66	62285.13	18435.90	125.11	1469
Panel 66	62346.11	18436.83	127.43	1470
Panel 66	62393.49	18437.94	129.08	1471
Panel 66	62400.54	18445.12	129.33	1472
Panel 66	62408.24	18452.27	129.53	1473
Panel 66	62412.54	18456.98	129.78	1474
Panel 66	62417.14	18461.44	129.90	1475
Panel 66	62356.12	18459.41	127.83	1476
Panel 67	62285.13	18435.90	125.11	1477
Panel 67	62285.43	18413.53	124.93	1478
Panel 67	62336.29	18414.03	127.01	1479
Panel 67	62369.87	18414.81	128.27	1480
Panel 67	62374.93	18420.04	128.42	1481
Panel 67	62383.54	18428.16	128.68	1482
Panel 67	62386.13	18430.82	128.83	1483
Panel 67	62390.30	18434.75	128.97	1484
Panel 67	62393.49	18437.94	129.08	1485
Panel 67	62346.11	18436.83	127.43	1486
Panel 68	62285.43	18413.53	124.93	1487
Panel 68	62285.52	18391.05	124.85	1488
Panel 68	62325.93	18391.37	126.68	1489
Panel 68	62346.90	18391.64	127.46	1490
Panel 68	62353.76	18398.37	127.75	1491
Panel 68	62359.19	18404.46	127.88	1492
Panel 68	62363.93	18409.20	128.05	1493
Panel 68	62366.81	18411.80	128.16	1494
Panel 68	62369.87	18414.81	128.27	1495
Panel 68	62336.29	18414.03	127.01	1496
Panel 69	62285.52	18391.05	124.85	1497
Panel 69	62285.46	18368.81	124.80	1498
Panel 69	62323.84	18368.66	126.64	1499
Panel 69	62330.59	18375.66	126.84	1500
Panel 69	62339.16	18383.84	127.18	1501
Panel 69	62341.76	18386.31	127.26	1502
Panel 69	62344.17	18388.69	127.36	1503
Panel 69	62346.90	18391.64	127.46	1504
Panel 69	62325.93	18391.37	126.68	1505
Panel 70	62285.46	18368.81	124.80	1506

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 70	62285.62	18347.37	124.53	1507
Panel 70	62299.32	18347.15	122.03	1508
Panel 70	62299.24	18345.73	121.53	1509
Panel 70	62303.05	18346.64	123.65	1510
Panel 70	62304.64	18348.69	124.54	1511
Panel 70	62308.24	18352.12	125.94	1512
Panel 70	62318.44	18363.44	126.42	1513
Panel 70	62319.73	18364.28	126.47	1514
Panel 70	62320.51	18365.24	126.51	1515
Panel 70	62322.94	18367.49	126.60	1516
Panel 70	62323.84	18368.66	126.64	1517
Panel 71	62299.05	18334.79	122.82	1518
Panel 71	62299.35	18336.61	123.45	1519
Panel 71	62299.00	18338.20	122.16	1520
Panel 71	62296.01	18338.37	122.39	1521
Panel 71	62294.78	18338.54	122.42	1522
Panel 71	62294.36	18343.85	121.76	1523
Panel 71	62295.31	18344.42	121.55	1524
Panel 71	62299.32	18344.63	121.42	1525
Panel 71	62299.30	18345.18	121.51	1526
Panel 71	62299.24	18345.73	121.53	1527
Panel 71	62299.32	18347.15	122.03	1528
Panel 71	62285.62	18347.37	124.53	1529
Panel 71	62286.02	18335.29	124.19	1530
Panel 72	62299.24	18345.73	121.53	1531
Panel 72	62299.30	18345.18	121.51	1532
Panel 72	62300.07	18344.99	122.06	1533
Panel 72	62300.42	18341.51	120.48	1534
Panel 72	62300.99	18339.69	121.52	1535
Panel 72	62300.50	18338.71	121.95	1536
Panel 72	62298.93	18338.55	122.09	1537
Panel 72	62299.00	18338.20	122.16	1538
Panel 72	62299.35	18336.61	123.45	1539
Panel 72	62299.05	18334.79	122.82	1540
Panel 72	62320.76	18334.85	124.32	1541
Panel 72	62319.73	18364.28	126.47	1542
Panel 72	62318.44	18363.44	126.42	1543
Panel 72	62308.24	18352.12	125.94	1544
Panel 72	62304.64	18348.69	124.54	1545
Panel 72	62303.05	18346.64	123.65	1546
Panel 73	62341.76	18386.31	127.26	1547
Panel 73	62330.59	18375.66	126.84	1548
Panel 73	62323.84	18368.66	126.64	1549

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 73	62322.94	18367.49	126.60	1550
Panel 73	62320.51	18365.24	126.51	1551
Panel 73	62319.73	18364.28	126.47	1552
Panel 73	62320.76	18334.85	124.32	1553
Panel 73	62343.19	18334.86	124.72	1554
Panel 73	62342.26	18371.99	126.86	1555
Panel 74	62363.93	18409.20	128.05	1556
Panel 74	62359.19	18404.46	127.88	1557
Panel 74	62353.76	18398.37	127.75	1558
Panel 74	62346.90	18391.64	127.46	1559
Panel 74	62344.17	18388.69	127.36	1560
Panel 74	62341.76	18386.31	127.26	1561
Panel 74	62342.26	18371.99	126.86	1562
Panel 74	62343.19	18334.86	124.72	1563
Panel 74	62365.38	18334.41	124.96	1564
Panel 74	62364.49	18384.19	127.33	1565
Panel 75	62386.13	18430.82	128.83	1566
Panel 75	62383.54	18428.16	128.68	1567
Panel 75	62374.93	18420.04	128.42	1568
Panel 75	62369.87	18414.81	128.27	1569
Panel 75	62366.81	18411.80	128.16	1570
Panel 75	62363.93	18409.20	128.05	1571
Panel 75	62364.49	18384.19	127.33	1572
Panel 75	62365.38	18334.41	124.96	1573
Panel 75	62387.93	18334.83	125.07	1574
Panel 75	62386.94	18396.90	127.73	1575
Panel 76	62408.24	18452.27	129.53	1576
Panel 76	62400.54	18445.12	129.33	1577
Panel 76	62393.49	18437.94	129.08	1578
Panel 76	62390.30	18434.75	128.97	1579
Panel 76	62386.13	18430.82	128.83	1580
Panel 76	62386.94	18396.90	127.73	1581
Panel 76	62387.93	18334.83	125.07	1582
Panel 76	62410.44	18334.95	125.08	1583
Panel 76	62409.17	18407.58	128.08	1584
Panel 77	62429.82	18474.31	130.39	1585
Panel 77	62422.87	18467.50	130.15	1586
Panel 77	62417.14	18461.44	129.90	1587
Panel 77	62412.54	18456.98	129.78	1588
Panel 77	62408.24	18452.27	129.53	1589
Panel 77	62409.17	18407.58	128.08	1590
Panel 77	62410.44	18334.95	125.08	1591
Panel 77	62433.05	18335.08	125.14	1592

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 77	62431.65	18409.33	128.18	1593
Panel 78	62451.72	18496.39	131.15	1594
Panel 78	62445.85	18490.34	130.95	1595
Panel 78	62440.59	18484.81	130.77	1596
Panel 78	62434.98	18479.28	130.63	1597
Panel 78	62429.82	18474.31	130.39	1598
Panel 78	62431.65	18409.33	128.18	1599
Panel 78	62433.05	18335.08	125.14	1600
Panel 78	62455.72	18335.31	125.21	1601
Panel 78	62454.00	18419.96	128.67	1602
Panel 79	62473.43	18517.15	131.90	1603
Panel 79	62468.19	18511.94	131.74	1604
Panel 79	62464.75	18508.48	131.64	1605
Panel 79	62462.50	18506.27	131.55	1606
Panel 79	62456.44	18500.85	131.28	1607
Panel 79	62451.72	18496.39	131.15	1608
Panel 79	62454.00	18419.96	128.67	1609
Panel 79	62455.72	18335.31	125.21	1610
Panel 79	62478.06	18335.36	125.42	1611
Panel 79	62476.57	18427.25	128.86	1612
Panel 80	62495.02	18538.66	132.75	1613
Panel 80	62490.89	18534.25	132.49	1614
Panel 80	62488.49	18532.22	132.42	1615
Panel 80	62480.30	18524.12	132.11	1616
Panel 80	62473.43	18517.15	131.90	1617
Panel 80	62476.57	18427.25	128.86	1618
Panel 80	62478.06	18335.36	125.42	1619
Panel 80	62500.59	18335.06	125.58	1620
Panel 80	62498.73	18436.21	129.18	1621
Panel 80	62497.69	18469.34	130.32	1622
Panel 81	62517.07	18561.02	133.39	1623
Panel 81	62514.50	18558.21	133.26	1624
Panel 81	62511.92	18555.79	133.22	1625
Panel 81	62508.21	18552.06	133.08	1626
Panel 81	62503.61	18547.24	132.94	1627
Panel 81	62495.02	18538.66	132.75	1628
Panel 81	62497.69	18469.34	130.32	1629
Panel 81	62498.73	18436.21	129.18	1630
Panel 81	62500.59	18335.06	125.58	1631
Panel 81	62523.16	18334.92	125.58	1632
Panel 81	62520.21	18460.31	130.02	1633
Panel 82	62539.23	18580.77	134.41	1634

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 82	62537.43	18579.36	134.17	1635
Panel 82	62529.99	18572.52	133.87	1636
Panel 82	62519.17	18562.47	133.44	1637
Panel 82	62517.07	18561.02	133.39	1638
Panel 82	62520.21	18460.31	130.02	1639
Panel 82	62523.16	18334.92	125.58	1640
Panel 82	62545.68	18334.86	125.81	1641
Panel 82	62542.71	18462.97	130.11	1642
Panel 83	62561.10	18598.95	134.84	1643
Panel 83	62551.94	18591.11	134.56	1644
Panel 83	62539.23	18580.77	134.41	1645
Panel 83	62542.71	18462.97	130.11	1646
Panel 83	62545.68	18334.86	125.81	1647
Panel 83	62568.26	18335.08	125.66	1648
Panel 83	62565.35	18465.99	130.25	1649
Panel 84	62582.94	18619.40	135.56	1650
Panel 84	62566.01	18603.42	135.00	1651
Panel 84	62561.10	18598.95	134.84	1652
Panel 84	62565.35	18465.99	130.25	1653
Panel 84	62568.26	18335.08	125.66	1654
Panel 84	62590.93	18335.39	125.49	1655
Panel 84	62587.68	18470.06	130.37	1656
Panel 85	62604.53	18642.07	136.27	1657
Panel 85	62590.42	18627.48	135.80	1658
Panel 85	62582.94	18619.40	135.56	1659
Panel 85	62587.68	18470.06	130.37	1660
Panel 85	62590.93	18335.39	125.49	1661
Panel 85	62613.16	18335.12	125.18	1662
Panel 86	62626.40	18664.52	137.15	1663
Panel 86	62612.82	18651.12	136.62	1664
Panel 86	62604.53	18642.07	136.27	1665
Panel 86	62613.16	18335.12	125.18	1666
Panel 86	62635.64	18335.05	125.17	1667
Panel 86	62632.99	18463.28	130.11	1668
Panel 86	62626.40	18664.52	137.15	1669
Panel 87	62648.28	18685.53	137.84	1670
Panel 87	62637.28	18674.71	137.46	1671
Panel 87	62626.40	18664.52	137.15	1672
Panel 87	62632.99	18463.28	130.11	1673
Panel 87	62635.64	18335.05	125.17	1674
Panel 87	62658.01	18334.98	124.81	1675
Panel 87	62655.44	18463.84	130.18	1676

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 88	62670.49	18699.98	138.56	1677
Panel 88	62666.78	18699.76	138.42	1678
Panel 88	62661.76	18698.58	138.38	1679
Panel 88	62648.28	18685.53	137.84	1680
Panel 88	62655.44	18463.84	130.18	1681
Panel 88	62658.01	18334.98	124.81	1682
Panel 88	62680.57	18335.28	124.48	1683
Panel 88	62677.90	18467.38	130.24	1684
Panel 89	62692.16	18697.35	138.38	1685
Panel 89	62677.18	18697.32	138.38	1686
Panel 89	62677.15	18700.41	138.51	1687
Panel 89	62670.49	18699.98	138.56	1688
Panel 89	62677.90	18467.38	130.24	1689
Panel 89	62680.57	18335.28	124.48	1690
Panel 89	62702.75	18335.58	124.50	1691
Panel 89	62701.37	18427.99	128.91	1692
Panel 89	62700.52	18428.27	128.86	1693
Panel 89	62697.41	18547.12	133.08	1694
Panel 89	62693.15	18668.89	137.27	1695
Panel 90	62722.80	18625.77	135.70	1696
Panel 90	62699.95	18625.92	135.72	1697
Panel 90	62700.70	18547.29	133.11	1698
Panel 90	62701.58	18429.76	128.96	1699
Panel 90	62701.37	18427.99	128.91	1700
Panel 90	62702.75	18335.58	124.50	1701
Panel 90	62724.92	18335.05	124.46	1702
Panel 90	62723.69	18475.45	130.45	1703
Panel 91	62745.43	18627.61	135.82	1704
Panel 91	62745.49	18642.76	136.23	1705
Panel 91	62722.73	18642.49	136.32	1706
Panel 91	62722.80	18625.77	135.70	1707
Panel 91	62723.69	18475.45	130.45	1708
Panel 91	62724.92	18335.05	124.46	1709
Panel 91	62747.30	18335.16	123.99	1710
Panel 91	62746.25	18477.32	130.63	1711
Panel 92	62767.98	18627.77	135.85	1712
Panel 92	62745.43	18627.61	135.82	1713
Panel 92	62746.25	18477.32	130.63	1714
Panel 92	62747.30	18335.16	123.99	1715
Panel 92	62769.97	18335.56	123.40	1716
Panel 92	62768.81	18478.14	130.60	1717
Panel 93	62790.74	18630.16	135.96	1718

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 93	62790.72	18642.81	136.38	1719
Panel 93	62768.13	18642.53	136.35	1720
Panel 93	62767.98	18627.77	135.85	1721
Panel 93	62768.81	18478.14	130.60	1722
Panel 93	62769.97	18335.56	123.40	1723
Panel 93	62792.51	18335.45	123.79	1724
Panel 93	62791.39	18480.34	130.63	1725
Panel 94	62813.16	18630.54	135.99	1726
Panel 94	62790.74	18630.16	135.96	1727
Panel 94	62791.39	18480.34	130.63	1728
Panel 94	62792.51	18335.45	123.79	1729
Panel 94	62815.10	18335.49	123.25	1730
Panel 94	62814.03	18483.05	130.82	1731
Panel 95	62835.82	18627.80	135.85	1732
Panel 95	62835.99	18643.33	136.41	1733
Panel 95	62813.00	18643.00	136.38	1734
Panel 95	62813.16	18630.54	135.99	1735
Panel 95	62814.03	18483.05	130.82	1736
Panel 95	62815.10	18335.49	123.25	1737
Panel 95	62837.65	18335.41	123.58	1738
Panel 95	62836.30	18485.51	130.89	1739
Panel 96	62858.28	18628.20	135.86	1740
Panel 96	62835.82	18627.80	135.85	1741
Panel 96	62836.30	18485.51	130.89	1742
Panel 96	62837.65	18335.41	123.58	1743
Panel 96	62860.06	18335.04	124.01	1744
Panel 96	62858.85	18487.95	130.95	1745
Panel 97	62880.89	18643.78	136.42	1746
Panel 97	62858.24	18642.83	136.39	1747
Panel 97	62858.28	18628.20	135.86	1748
Panel 97	62858.85	18487.95	130.95	1749
Panel 97	62860.06	18335.04	124.01	1750
Panel 97	62882.41	18335.22	124.15	1751
Panel 97	62881.47	18490.63	131.09	1752
Panel 97	62880.89	18643.78	136.42	1753
Panel 98	62903.04	18624.20	135.65	1754
Panel 98	62880.97	18623.84	135.68	1755
Panel 98	62881.47	18490.63	131.09	1756
Panel 98	62882.41	18335.22	124.15	1757
Panel 98	62904.74	18335.10	124.19	1758
Panel 98	62903.96	18492.48	131.14	1759
Panel 99	62903.02	18643.78	136.30	1760

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 99	62903.04	18624.20	135.65	1761
Panel 99	62903.96	18492.48	131.14	1762
Panel 99	62904.74	18335.10	124.19	1763
Panel 99	62927.58	18335.42	124.35	1764
Panel 99	62925.84	18644.16	136.37	1765
Panel 100	62697.41	18547.12	133.08	1766
Panel 100	62700.52	18428.27	128.86	1767
Panel 100	62701.37	18427.99	128.91	1768
Panel 100	62701.58	18429.76	128.96	1769
Panel 100	62700.70	18547.29	133.11	1770
Panel 101	62697.41	18547.12	133.08	1771
Panel 101	62693.15	18668.89	137.27	1772
Panel 101	62700.16	18669.28	137.23	1773
Panel 101	62699.95	18625.92	135.72	1774
Panel 101	62700.70	18547.29	133.11	1775
Panel 102	62699.98	18696.86	138.26	1776
Panel 102	62692.16	18697.35	138.38	1777
Panel 102	62693.15	18668.89	137.27	1778
Panel 102	62700.16	18669.28	137.23	1779
Panel 103	62946.96	18813.42	136.14	1780
Panel 103	62946.96	18823.86	135.79	1781
Panel 103	62924.37	18823.73	135.77	1782
Panel 103	62925.84	18644.16	136.37	1783
Panel 103	62927.58	18335.42	124.35	1784
Panel 103	62949.92	18335.52	124.50	1785
Panel 103	62946.96	18813.42	136.14	1786
Panel 104	62969.41	18813.75	136.07	1787
Panel 104	62946.96	18813.42	136.14	1788
Panel 104	62949.92	18335.52	124.50	1789
Panel 104	62972.44	18335.47	124.94	1790
Panel 104	62971.74	18508.21	131.69	1791
Panel 104	62970.44	18717.46	138.99	1792
Panel 104	62970.27	18726.67	139.08	1793
Panel 105	62992.96	18694.68	138.09	1794
Panel 105	62979.45	18708.43	138.63	1795
Panel 105	62970.44	18717.46	138.99	1796
Panel 105	62971.74	18508.21	131.69	1797
Panel 105	62972.44	18335.47	124.94	1798
Panel 105	62994.97	18335.46	125.02	1799
Panel 105	62993.64	18597.93	134.79	1800
Panel 106	63016.30	18598.02	134.73	1801
Panel 106	62993.64	18597.93	134.79	1802

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 106	62994.97	18335.46	125.02	1803
Panel 106	63017.35	18335.47	125.40	1804
Panel 106	63017.00	18491.94	131.09	1805
Panel 107	63015.72	18672.06	137.29	1806
Panel 107	63002.26	18685.63	137.84	1807
Panel 107	62992.96	18694.68	138.09	1808
Panel 107	62993.64	18597.93	134.79	1809
Panel 107	63016.30	18598.02	134.73	1810
Panel 108	63038.52	18647.59	136.46	1811
Panel 108	63025.76	18662.51	136.93	1812
Panel 108	63015.72	18672.06	137.29	1813
Panel 108	63016.30	18598.02	134.73	1814
Panel 108	63017.00	18491.94	131.09	1815
Panel 108	63017.35	18335.47	125.40	1816
Panel 108	63039.93	18335.28	125.41	1817
Panel 108	63039.70	18483.78	130.76	1818
Panel 108	63039.24	18552.67	133.18	1819
Panel 109	63062.00	18551.93	133.17	1820
Panel 109	63039.24	18552.67	133.18	1821
Panel 109	63039.93	18335.28	125.41	1822
Panel 109	63062.48	18335.18	125.44	1823
Panel 109	63062.41	18473.90	130.37	1824
Panel 110	63061.10	18625.68	135.71	1825
Panel 110	63046.78	18639.22	136.20	1826
Panel 110	63038.52	18647.59	136.46	1827
Panel 110	63039.24	18552.67	133.18	1828
Panel 110	63062.00	18551.93	133.17	1829
Panel 111	63084.26	18603.02	134.98	1830
Panel 111	63070.20	18616.86	135.41	1831
Panel 111	63061.10	18625.68	135.71	1832
Panel 111	63062.00	18551.93	133.17	1833
Panel 111	63062.41	18473.90	130.37	1834
Panel 111	63062.48	18335.18	125.44	1835
Panel 111	63085.10	18335.24	125.61	1836
Panel 111	63085.09	18467.41	130.14	1837
Panel 111	63084.54	18525.76	132.24	1838
Panel 112	63107.45	18525.67	132.18	1839
Panel 112	63084.54	18525.76	132.24	1840
Panel 112	63085.09	18467.41	130.14	1841
Panel 112	63085.10	18335.24	125.61	1842
Panel 112	63107.63	18335.58	125.58	1843
Panel 112	63107.87	18461.30	129.93	1844

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 113	63106.70	18579.98	134.19	1845
Panel 113	63093.30	18594.27	134.66	1846
Panel 113	63084.26	18603.02	134.98	1847
Panel 113	63084.54	18525.76	132.24	1848
Panel 113	63107.45	18525.67	132.18	1849
Panel 114	63129.28	18557.11	133.32	1850
Panel 114	63114.47	18571.61	133.89	1851
Panel 114	63106.70	18579.98	134.19	1852
Panel 114	63107.45	18525.67	132.18	1853
Panel 114	63107.87	18461.30	129.93	1854
Panel 114	63107.63	18335.58	125.58	1855
Panel 114	63130.38	18335.08	125.34	1856
Panel 114	63130.60	18459.51	129.91	1857
Panel 115	63152.06	18533.63	132.57	1858
Panel 115	63137.23	18548.85	133.01	1859
Panel 115	63129.28	18557.11	133.32	1860
Panel 115	63130.60	18459.51	129.91	1861
Panel 115	63130.38	18335.08	125.34	1862
Panel 115	63152.39	18335.34	125.21	1863
Panel 115	63152.06	18533.63	132.57	1864
Panel 115	63137.23	18548.85	133.01	1865
Panel 116	63174.99	18510.31	131.78	1866
Panel 116	63159.87	18525.98	132.34	1867
Panel 116	63152.06	18533.63	132.57	1868
Panel 116	63152.39	18335.34	125.21	1869
Panel 116	63174.62	18334.97	125.04	1870
Panel 117	63197.58	18487.49	130.95	1871
Panel 117	63182.98	18503.07	131.48	1872
Panel 117	63174.99	18510.31	131.78	1873
Panel 117	63174.62	18334.97	125.04	1874
Panel 117	63196.80	18334.83	125.05	1875
Panel 118	63220.30	18464.16	130.24	1876
Panel 118	63212.89	18472.30	130.45	1877
Panel 118	63204.68	18480.14	130.63	1878
Panel 118	63197.58	18487.49	130.95	1879
Panel 118	63196.80	18334.83	125.05	1880
Panel 118	63219.33	18335.05	124.88	1881
Panel 119	63243.21	18440.50	129.41	1882
Panel 119	63227.42	18457.03	129.97	1883
Panel 119	63220.30	18464.16	130.24	1884
Panel 119	63219.33	18335.05	124.88	1885
Panel 119	63241.64	18334.83	124.81	1886

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 120	63265.87	18418.24	128.64	1887
Panel 120	63248.99	18434.69	129.21	1888
Panel 120	63243.21	18440.50	129.41	1889
Panel 120	63241.64	18334.83	124.81	1890
Panel 120	63264.28	18335.02	124.67	1891
Panel 121	63288.11	18397.07	127.77	1892
Panel 121	63273.64	18410.81	128.33	1893
Panel 121	63272.11	18412.27	128.44	1894
Panel 121	63265.87	18418.24	128.64	1895
Panel 121	63264.28	18335.02	124.67	1896
Panel 121	63286.71	18334.66	124.55	1897
Panel 122	63310.22	18375.91	127.01	1898
Panel 122	63297.80	18387.78	127.42	1899
Panel 122	63288.11	18397.07	127.77	1900
Panel 122	63286.71	18334.66	124.55	1901
Panel 122	63309.10	18334.90	124.47	1902
Panel 123	63332.27	18355.02	126.20	1903
Panel 123	63322.27	18364.56	126.49	1904
Panel 123	63310.22	18375.91	127.01	1905
Panel 123	63309.10	18334.90	124.47	1906
Panel 123	63331.43	18334.93	124.06	1907
Panel 124	63331.43	18334.93	124.06	1908
Panel 124	63348.50	18335.35	124.32	1909
Panel 124	63348.43	18335.70	124.37	1910
Panel 124	63349.37	18339.38	122.63	1911
Panel 124	63350.27	18339.87	122.63	1912
Panel 124	63350.36	18341.45	122.49	1913
Panel 124	63351.02	18341.52	122.74	1914
Panel 124	63350.86	18342.69	122.85	1915
Panel 124	63350.41	18342.72	122.46	1916
Panel 124	63350.34	18343.53	122.36	1917
Panel 124	63349.39	18344.77	121.75	1918
Panel 124	63344.85	18344.66	121.65	1919
Panel 124	63344.76	18344.36	121.61	1920
Panel 124	63343.79	18344.09	121.74	1921
Panel 124	63332.27	18355.02	126.20	1922
Panel 125	63365.13	18335.24	124.11	1923
Panel 125	63348.50	18335.35	124.32	1924
Panel 125	63348.43	18335.70	124.37	1925
Panel 125	63349.37	18339.38	122.63	1926
Panel 125	63350.27	18339.87	122.63	1927
Panel 125	63350.36	18341.45	122.49	1928

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 125	63351.02	18341.52	122.74	1929
Panel 125	63350.94	18342.11	122.80	1930
Panel 125	63364.87	18342.11	124.45	1931
Panel 126	63364.87	18342.11	124.45	1932
Panel 126	63350.94	18342.11	122.80	1933
Panel 126	63350.86	18342.69	122.85	1934
Panel 126	63350.41	18342.72	122.46	1935
Panel 126	63350.34	18343.53	122.36	1936
Panel 126	63349.39	18344.77	121.75	1937
Panel 126	63344.85	18344.66	121.65	1938
Panel 126	63344.76	18344.36	121.61	1939
Panel 126	63343.79	18344.09	121.74	1940
Panel 126	63332.27	18355.02	126.20	1941
Panel 126	63322.27	18364.56	126.49	1942
Panel 126	63364.49	18364.24	124.77	1943
Panel 127	63364.49	18364.24	124.77	1944
Panel 127	63322.27	18364.56	126.49	1945
Panel 127	63310.22	18375.91	127.01	1946
Panel 127	63297.80	18387.78	127.42	1947
Panel 127	63364.07	18386.44	124.85	1948
Panel 128	63364.07	18386.44	124.85	1949
Panel 128	63297.80	18387.78	127.42	1950
Panel 128	63288.11	18397.07	127.77	1951
Panel 128	63273.64	18410.81	128.33	1952
Panel 128	63364.56	18408.88	124.89	1953
Panel 129	63364.56	18408.88	124.89	1954
Panel 129	63273.64	18410.81	128.33	1955
Panel 129	63272.11	18412.27	128.44	1956
Panel 129	63272.38	18433.95	128.61	1957
Panel 129	63364.35	18431.40	125.13	1958
Panel 130	63364.35	18431.40	125.13	1959
Panel 130	63272.38	18433.95	128.61	1960
Panel 130	63248.99	18434.69	129.21	1961
Panel 130	63243.21	18440.50	129.41	1962
Panel 130	63227.42	18457.03	129.97	1963
Panel 130	63364.16	18453.94	125.18	1964
Panel 131	63364.16	18453.94	125.18	1965
Panel 131	63227.42	18457.03	129.97	1966
Panel 131	63220.30	18464.16	130.24	1967
Panel 131	63212.89	18472.30	130.45	1968
Panel 131	63204.68	18480.14	130.63	1969
Panel 131	63364.00	18476.46	125.42	1970

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 132	63364.00	18476.46	125.42	1971
Panel 132	63204.68	18480.14	130.63	1972
Panel 132	63197.58	18487.49	130.95	1973
Panel 132	63182.98	18503.07	131.48	1974
Panel 132	63364.55	18499.13	125.46	1975
Panel 133	63364.55	18499.13	125.46	1976
Panel 133	63182.98	18503.07	131.48	1977
Panel 133	63174.99	18510.31	131.78	1978
Panel 133	63159.87	18525.98	132.34	1979
Panel 133	63270.24	18523.64	128.64	1980
Panel 133	63364.35	18521.31	125.64	1981
Panel 134	63364.35	18521.31	125.64	1982
Panel 134	63270.24	18523.64	128.64	1983
Panel 134	63159.87	18525.98	132.34	1984
Panel 134	63152.06	18533.63	132.57	1985
Panel 134	63137.23	18548.85	133.01	1986
Panel 134	63262.73	18546.31	128.86	1987
Panel 134	63364.61	18543.70	125.66	1988
Panel 135	63364.61	18543.70	125.66	1989
Panel 135	63262.73	18546.31	128.86	1990
Panel 135	63137.23	18548.85	133.01	1991
Panel 135	63129.28	18557.11	133.32	1992
Panel 135	63114.47	18571.61	133.89	1993
Panel 135	63254.32	18569.32	129.19	1994
Panel 135	63364.91	18566.24	125.77	1995
Panel 136	63364.91	18566.24	125.77	1996
Panel 136	63254.32	18569.32	129.19	1997
Panel 136	63114.47	18571.61	133.89	1998
Panel 136	63106.70	18579.98	134.19	1999
Panel 136	63093.30	18594.27	134.66	2000
Panel 136	63155.90	18593.70	132.65	2001
Panel 136	63244.01	18592.14	129.59	2002
Panel 136	63364.84	18588.78	125.71	2003
Panel 137	63364.84	18588.78	125.71	2004
Panel 137	63244.01	18592.14	129.59	2005
Panel 137	63155.90	18593.70	132.65	2006
Panel 137	63156.11	18616.22	132.61	2007
Panel 137	63235.08	18614.95	129.89	2008
Panel 137	63364.62	18611.52	125.83	2009
Panel 138	63155.90	18593.70	132.65	2010
Panel 138	63093.30	18594.27	134.66	2011
Panel 138	63084.26	18603.02	134.98	2012

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 138	63070.20	18616.86	135.41	2013
Panel 138	63156.11	18616.22	132.61	2014
Panel 139	63364.62	18611.52	125.83	2015
Panel 139	63235.08	18614.95	129.89	2016
Panel 139	63156.11	18616.22	132.61	2017
Panel 139	63070.20	18616.86	135.41	2018
Panel 139	63061.10	18625.68	135.71	2019
Panel 139	63046.78	18639.22	136.20	2020
Panel 139	63118.13	18639.32	133.86	2021
Panel 139	63227.57	18637.73	130.19	2022
Panel 139	63364.67	18633.99	125.82	2023
Panel 140	63364.67	18633.99	125.82	2024
Panel 140	63227.57	18637.73	130.19	2025
Panel 140	63118.13	18639.32	133.86	2026
Panel 140	63118.16	18662.06	133.83	2027
Panel 140	63219.83	18660.30	130.46	2028
Panel 140	63364.90	18656.48	125.63	2029
Panel 141	63118.13	18639.32	133.86	2030
Panel 141	63046.78	18639.22	136.20	2031
Panel 141	63038.52	18647.59	136.46	2032
Panel 141	63025.76	18662.51	136.93	2033
Panel 141	63118.16	18662.06	133.83	2034
Panel 142	63364.90	18656.48	125.63	2035
Panel 142	63219.83	18660.30	130.46	2036
Panel 142	63118.16	18662.06	133.83	2037
Panel 142	63025.76	18662.51	136.93	2038
Panel 142	63015.72	18672.06	137.29	2039
Panel 142	63002.26	18685.63	137.84	2040
Panel 142	63063.97	18684.60	135.76	2041
Panel 142	63218.76	18682.32	130.47	2042
Panel 142	63364.91	18679.51	125.70	2043
Panel 143	63364.91	18679.51	125.70	2044
Panel 143	63218.76	18682.32	130.47	2045
Panel 143	63063.97	18684.60	135.76	2046
Panel 143	63064.06	18707.11	135.73	2047
Panel 143	63220.61	18704.78	130.35	2048
Panel 143	63364.87	18702.10	125.70	2049
Panel 144	63063.97	18684.60	135.76	2050
Panel 144	63002.26	18685.63	137.84	2051
Panel 144	62992.96	18694.68	138.13	2052
Panel 144	62979.45	18708.43	138.63	2053
Panel 144	63064.06	18707.11	135.73	2054

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 145	63364.87	18702.10	125.70	2055
Panel 145	63220.61	18704.78	130.35	2056
Panel 145	63064.06	18707.11	135.73	2057
Panel 145	62979.45	18708.43	138.63	2058
Panel 145	62970.44	18717.46	138.99	2059
Panel 145	62970.27	18726.67	139.08	2060
Panel 145	62974.12	18730.35	138.96	2061
Panel 145	63223.94	18727.33	130.30	2062
Panel 145	63364.16	18724.29	125.56	2063
Panel 146	63364.16	18724.29	125.56	2064
Panel 146	63223.94	18727.33	130.30	2065
Panel 146	62974.12	18730.35	138.96	2066
Panel 146	62991.86	18750.00	138.24	2067
Panel 146	62994.75	18752.95	138.10	2068
Panel 146	63081.87	18752.07	135.08	2069
Panel 146	63227.91	18749.91	130.12	2070
Panel 146	63365.02	18746.67	125.56	2071
Panel 147	63365.02	18746.67	125.56	2072
Panel 147	63227.91	18749.91	130.12	2073
Panel 147	63081.87	18752.07	135.08	2074
Panel 147	63082.05	18774.61	135.04	2075
Panel 147	63229.40	18772.43	130.01	2076
Panel 147	63364.87	18769.37	125.48	2077
Panel 148	63081.87	18752.07	135.08	2078
Panel 148	62994.75	18752.95	138.10	2079
Panel 148	63014.14	18774.50	137.45	2080
Panel 148	63015.10	18775.58	137.40	2081
Panel 148	63082.05	18774.61	135.04	2082
Panel 149	63364.87	18769.37	125.48	2083
Panel 149	63229.40	18772.43	130.01	2084
Panel 149	63082.05	18774.61	135.04	2085
Panel 149	63015.10	18775.58	137.40	2086
Panel 149	63035.66	18797.91	136.60	2087
Panel 149	63114.23	18796.79	134.03	2088
Panel 149	63232.58	18794.81	129.93	2089
Panel 149	63364.68	18791.77	125.17	2090
Panel 150	63364.68	18791.77	125.17	2091
Panel 150	63232.58	18794.81	129.93	2092
Panel 150	63114.23	18796.79	134.03	2093
Panel 150	63114.57	18819.59	134.00	2094
Panel 150	63236.02	18817.35	129.77	2095
Panel 150	63364.46	18814.16	125.29	2096

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 151	63114.23	18796.79	134.03	2097
Panel 151	63035.66	18797.91	136.60	2098
Panel 151	63036.70	18798.97	136.57	2099
Panel 151	63057.78	18820.31	135.90	2100
Panel 151	63114.57	18819.59	134.00	2101
Panel 152	63364.46	18814.16	125.29	2102
Panel 152	63236.02	18817.35	129.77	2103
Panel 152	63114.57	18819.59	134.00	2104
Panel 152	63057.78	18820.31	135.90	2105
Panel 152	63059.16	18821.62	135.79	2106
Panel 152	63080.58	18842.70	135.12	2107
Panel 152	63167.16	18841.26	132.16	2108
Panel 152	63239.55	18840.11	129.59	2109
Panel 152	63364.63	18836.53	124.94	2110
Panel 153	63364.63	18836.53	124.94	2111
Panel 153	63239.55	18840.11	129.59	2112
Panel 153	63167.16	18841.26	132.16	2113
Panel 153	63167.67	18863.88	132.17	2114
Panel 153	63241.95	18862.68	129.54	2115
Panel 153	63364.90	18859.19	124.92	2116
Panel 154	63167.16	18841.26	132.16	2117
Panel 154	63080.58	18842.70	135.12	2118
Panel 154	63081.77	18843.78	134.98	2119
Panel 154	63103.42	18864.85	134.35	2120
Panel 154	63167.67	18863.88	132.17	2121
Panel 155	63364.90	18859.19	124.92	2122
Panel 155	63241.95	18862.68	129.54	2123
Panel 155	63167.67	18863.88	132.17	2124
Panel 155	63103.42	18864.85	134.35	2125
Panel 155	63104.54	18865.94	134.24	2126
Panel 155	63117.66	18878.68	133.80	2127
Panel 155	63126.30	18886.99	133.52	2128
Panel 155	63248.17	18885.24	129.34	2129
Panel 155	63364.43	18881.71	124.96	2130
Panel 156	63364.43	18881.71	124.96	2131
Panel 156	63248.17	18885.24	129.34	2132
Panel 156	63126.30	18886.99	133.52	2133
Panel 156	63127.14	18887.76	133.51	2134
Panel 156	63148.74	18909.24	132.79	2135
Panel 156	63253.79	18907.62	129.23	2136
Panel 156	63364.42	18904.22	124.82	2137
Panel 157	63364.42	18904.22	124.82	2138

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 157	63253.79	18907.62	129.23	2139
Panel 157	63148.74	18909.24	132.79	2140
Panel 157	63149.56	18909.99	132.76	2141
Panel 157	63171.26	18931.48	132.00	2142
Panel 157	63261.25	18930.02	128.95	2143
Panel 157	63364.88	18926.75	124.68	2144
Panel 158	63364.88	18926.75	124.68	2145
Panel 158	63261.25	18930.02	128.95	2146
Panel 158	63171.26	18931.48	132.00	2147
Panel 158	63194.51	18953.94	131.19	2148
Panel 158	63275.30	18952.28	128.36	2149
Panel 158	63364.33	18949.29	124.56	2150
Panel 159	63364.33	18949.29	124.56	2151
Panel 159	63275.30	18952.28	128.36	2152
Panel 159	63194.51	18953.94	131.19	2153
Panel 159	63215.90	18975.91	130.44	2154
Panel 159	63266.32	18974.86	128.81	2155
Panel 159	63364.91	18971.90	124.43	2156
Panel 160	62944.00	19115.47	124.32	2157
Panel 160	62921.50	19114.94	124.17	2158
Panel 160	62923.47	18947.10	131.43	2159
Panel 160	62924.37	18823.73	135.77	2160
Panel 160	62946.96	18823.86	135.79	2161
Panel 160	62946.15	18941.61	131.77	2162
Panel 161	62966.57	19115.10	124.67	2163
Panel 161	62944.00	19115.47	124.32	2164
Panel 161	62946.15	18941.61	131.77	2165
Panel 161	62946.96	18823.86	135.79	2166
Panel 161	62946.96	18813.42	136.14	2167
Panel 161	62969.41	18813.75	136.07	2168
Panel 161	62968.76	18946.51	131.55	2169
Panel 162	62988.98	19114.89	124.88	2170
Panel 162	62966.57	19115.10	124.67	2171
Panel 162	62968.76	18946.51	131.55	2172
Panel 162	62969.41	18813.75	136.07	2173
Panel 162	62970.27	18726.67	139.08	2174
Panel 162	62974.12	18730.35	138.86	2175
Panel 162	62991.86	18750.00	138.17	2176
Panel 162	62991.74	18841.19	135.21	2177
Panel 162	62991.22	18956.33	131.15	2178
Panel 163	63011.46	19115.00	125.14	2179
Panel 163	63013.74	18967.04	130.82	2180

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 163	63014.14	18841.53	135.19	2181
Panel 163	62991.74	18841.19	135.21	2182
Panel 163	62991.22	18956.33	131.15	2183
Panel 163	62988.98	19114.89	124.88	2184
Panel 164	63014.14	18841.53	135.19	2185
Panel 164	63014.14	18774.50	137.45	2186
Panel 164	62994.75	18752.95	138.10	2187
Panel 164	62991.86	18750.00	138.24	2188
Panel 164	62991.74	18841.19	135.21	2189
Panel 165	63034.04	19114.81	125.09	2190
Panel 165	63036.38	18974.59	130.52	2191
Panel 165	63036.70	18878.08	133.86	2192
Panel 165	63036.70	18798.97	133.86	2193
Panel 165	63035.66	18797.91	136.60	2194
Panel 165	63015.10	18775.58	137.40	2195
Panel 165	63014.14	18774.50	137.45	2196
Panel 165	63014.14	18841.53	135.19	2197
Panel 165	63013.74	18967.04	130.82	2198
Panel 165	63011.46	19115.00	125.14	2199
Panel 166	63056.46	19115.03	125.37	2200
Panel 166	63058.80	18983.79	130.17	2201
Panel 166	63059.08	18878.30	133.83	2202
Panel 166	63036.70	18878.08	133.86	2203
Panel 166	63036.38	18974.59	130.52	2204
Panel 166	63034.04	19114.81	125.09	2205
Panel 167	63059.08	18878.30	133.83	2206
Panel 167	63059.16	18821.62	135.79	2207
Panel 167	63057.78	18820.31	135.90	2208
Panel 167	63036.70	18798.97	136.57	2209
Panel 167	63036.70	18878.08	133.86	2210
Panel 168	63078.76	19115.17	125.65	2211
Panel 168	63081.25	18992.71	129.85	2212
Panel 168	63081.60	18929.33	132.14	2213
Panel 168	63081.77	18843.78	134.98	2214
Panel 168	63080.58	18842.70	135.12	2215
Panel 168	63059.16	18821.62	135.79	2216
Panel 168	63059.08	18878.30	133.83	2217
Panel 168	63058.80	18983.79	130.17	2218
Panel 168	63056.46	19115.03	125.37	2219
Panel 169	63101.59	19115.07	125.35	2220
Panel 169	63104.54	18928.87	132.12	2221
Panel 169	63081.60	18929.33	132.14	2222

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 169	63081.25	18992.71	129.85	2223
Panel 169	63078.76	19115.17	125.65	2224
Panel 170	63104.54	18928.87	132.12	2225
Panel 170	63104.54	18865.94	134.24	2226
Panel 170	63103.42	18864.85	134.35	2227
Panel 170	63081.77	18843.78	134.98	2228
Panel 170	63081.60	18929.33	132.14	2229
Panel 171	63364.91	18971.90	124.43	2230
Panel 171	63266.32	18974.86	128.81	2231
Panel 171	63215.90	18975.91	130.44	2232
Panel 171	63216.21	18976.07	130.46	2233
Panel 171	63237.34	18998.39	129.77	2234
Panel 171	63284.07	18997.10	128.26	2235
Panel 171	63333.62	18995.66	126.45	2236
Panel 171	63365.18	18994.40	124.38	2237
Panel 172	63365.18	18994.40	124.38	2238
Panel 172	63333.62	18995.66	126.45	2239
Panel 172	63284.07	18997.10	128.26	2240
Panel 172	63237.34	18998.39	129.77	2241
Panel 172	63238.82	18999.95	129.74	2242
Panel 172	63258.25	19020.64	129.01	2243
Panel 172	63298.76	19019.22	127.72	2244
Panel 172	63332.64	19018.25	126.49	2245
Panel 172	63364.79	19016.80	124.28	2246
Panel 173	63364.79	19016.80	124.28	2247
Panel 173	63332.64	19018.25	126.49	2248
Panel 173	63298.76	19019.22	127.72	2249
Panel 173	63258.25	19020.64	129.01	2250
Panel 173	63260.92	19023.77	128.91	2251
Panel 173	63279.06	19042.86	128.23	2252
Panel 173	63311.14	19041.54	127.27	2253
Panel 173	63332.81	19040.61	126.42	2254
Panel 173	63364.91	19039.05	124.37	2255
Panel 174	63364.91	19039.05	124.37	2256
Panel 174	63332.81	19040.61	126.42	2257
Panel 174	63311.14	19041.54	127.27	2258
Panel 174	63279.06	19042.86	128.23	2259
Panel 174	63282.94	19047.02	128.09	2260
Panel 174	63301.44	19066.87	127.41	2261
Panel 174	63332.74	19063.38	126.39	2262
Panel 174	63365.11	19061.52	123.96	2263
Panel 175	63365.11	19061.52	123.96	2264

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 175	63332.74	19063.38	126.39	2265
Panel 175	63301.44	19066.87	127.41	2266
Panel 175	63305.26	19070.08	127.35	2267
Panel 175	63324.28	19086.19	126.75	2268
Panel 175	63365.26	19083.80	124.12	2269
Panel 176	63123.82	19114.32	125.12	2270
Panel 176	63126.42	19015.51	129.04	2271
Panel 176	63127.14	18887.76	133.51	2272
Panel 176	63126.30	18886.99	133.52	2273
Panel 176	63117.66	18878.68	133.80	2274
Panel 176	63104.54	18865.94	134.24	2275
Panel 176	63104.54	18928.87	132.12	2276
Panel 176	63101.59	19115.07	125.35	2277
Panel 177	63146.25	19114.58	124.77	2278
Panel 177	63148.88	19023.58	128.74	2279
Panel 177	63149.56	18909.99	132.76	2280
Panel 177	63127.14	18887.76	133.51	2281
Panel 177	63126.42	19015.51	129.04	2282
Panel 177	63123.82	19114.32	125.12	2283
Panel 178	63168.95	19115.02	125.11	2284
Panel 178	63171.37	19031.38	128.47	2285
Panel 178	63171.91	18932.12	131.98	2286
Panel 178	63149.56	18909.99	132.76	2287
Panel 178	63148.88	19023.58	128.74	2288
Panel 178	63146.25	19114.58	124.77	2289
Panel 179	63191.36	19115.20	124.94	2290
Panel 179	63193.83	19037.88	128.21	2291
Panel 179	63194.51	18953.94	131.19	2292
Panel 179	63171.91	18932.12	131.98	2293
Panel 179	63171.37	19031.38	128.47	2294
Panel 179	63168.95	19115.02	125.11	2295
Panel 180	63214.11	19114.96	124.70	2296
Panel 180	63215.68	19045.84	127.95	2297
Panel 180	63216.21	18976.07	130.46	2298
Panel 180	63215.90	18975.91	130.44	2299
Panel 180	63194.51	18953.94	131.19	2300
Panel 180	63193.83	19037.88	128.21	2301
Panel 180	63191.36	19115.20	124.94	2302
Panel 181	63236.66	19114.69	124.38	2303
Panel 181	63237.85	19055.54	127.64	2304
Panel 181	63238.82	18999.95	129.74	2305
Panel 181	63237.34	18998.39	129.77	2306

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 181	63216.21	18976.07	130.46	2307
Panel 181	63215.68	19045.84	127.95	2308
Panel 181	63214.11	19114.96	124.70	2309
Panel 182	63259.07	19114.54	124.17	2310
Panel 182	63260.32	19065.00	127.32	2311
Panel 182	63260.92	19023.77	128.91	2312
Panel 182	63258.25	19020.64	129.01	2313
Panel 182	63238.82	18999.95	129.74	2314
Panel 182	63237.85	19055.54	127.64	2315
Panel 182	63236.66	19114.69	124.38	2316
Panel 183	63281.59	19115.01	123.89	2317
Panel 183	63282.75	19074.64	127.06	2318
Panel 183	63282.84	19066.27	127.32	2319
Panel 183	63282.94	19047.02	128.09	2320
Panel 183	63279.06	19042.86	128.23	2321
Panel 183	63260.92	19023.77	128.91	2322
Panel 183	63260.32	19065.00	127.32	2323
Panel 183	63259.07	19114.54	124.17	2324
Panel 184	63304.04	19114.78	123.86	2325
Panel 184	63305.11	19075.42	127.17	2326
Panel 184	63305.26	19070.08	127.35	2327
Panel 184	63301.44	19066.87	127.41	2328
Panel 184	63282.84	19066.27	127.32	2329
Panel 184	63282.75	19074.64	127.06	2330
Panel 184	63281.59	19115.01	123.89	2331
Panel 185	63326.36	19114.21	123.83	2332
Panel 185	63327.13	19088.61	126.65	2333
Panel 185	63305.26	19070.08	127.35	2334
Panel 185	63305.11	19075.42	127.17	2335
Panel 185	63304.04	19114.78	123.86	2336
Panel 186	63343.17	19114.86	123.80	2337
Panel 186	63344.41	19110.74	121.59	2338
Panel 186	63343.36	19109.90	121.25	2339
Panel 186	63343.06	19109.23	121.03	2340
Panel 186	63343.31	19106.08	121.24	2341
Panel 186	63344.02	19105.84	121.27	2342
Panel 186	63343.09	19104.40	122.18	2343
Panel 186	63332.46	19093.42	126.38	2344
Panel 186	63327.13	19088.61	126.65	2345
Panel 186	63326.36	19114.21	123.83	2346
Panel 187	63365.48	19106.17	124.02	2347
Panel 187	63350.49	19106.02	122.24	2348

488-1D Microdrain Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
Panel 187	63350.68	19109.99	122.37	2349
Panel 187	63349.79	19110.87	122.34	2350
Panel 187	63348.75	19111.63	122.22	2351
Panel 187	63346.41	19111.41	122.05	2352
Panel 187	63344.41	19110.74	121.59	2353
Panel 187	63343.17	19114.86	123.80	2354
Panel 187	63365.58	19115.74	124.00	2355
Panel 188	63365.26	19083.80	124.12	2356
Panel 188	63324.28	19086.19	126.75	2357
Panel 188	63327.13	19088.61	126.65	2358
Panel 188	63332.46	19093.42	126.38	2359
Panel 188	63343.09	19104.40	122.18	2360
Panel 188	63344.02	19105.84	121.27	2361
Panel 188	63344.53	19105.40	121.20	2362
Panel 188	63348.93	19104.92	121.00	2363
Panel 188	63350.06	19105.23	121.86	2364
Panel 188	63350.49	19106.02	122.24	2365
Panel 188	63365.48	19106.17	124.02	2366

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-1 RDS-1	62532.99	18602.62	134.05	5001
R-1 RDS-1	62533.13	18601.21	134.07	5002
R-1 RDS-1	62537.54	18601.45	134.24	5003
R-1 RDS-1	62537.56	18602.86	134.22	5004
R-2	62441.16	18598.27	130.89	5005
R-2	62441.33	18597.37	130.86	5006
R-2	62444.47	18597.55	130.90	5007
R-2	62444.41	18598.57	130.92	5008
R-3	62440.78	18619.73	130.70	5009
R-3	62446.31	18619.98	131.00	5010
R-3	62446.28	18621.03	131.02	5011
R-3	62440.70	18620.90	130.82	5012
R-4	62291.43	18614.95	125.50	5013
R-4	62291.46	18614.02	125.50	5014
R-4	62293.38	18614.09	124.68	5015
R-4	62293.32	18615.06	124.69	5016
R-5	62398.11	18664.12	129.32	5017
R-5	62398.28	18662.68	129.31	5018
R-5	62400.76	18662.81	129.41	5019
R-5	62400.71	18664.32	129.39	5020
R-6	62396.30	18686.37	129.18	5021
R-6	62396.33	18685.34	129.26	5022
R-6	62397.46	18685.30	129.45	5023
R-6	62397.57	18685.01	129.29	5024
R-6	62398.46	18685.03	129.34	5025
R-6	62398.51	18685.33	129.39	5026
R-6	62400.83	18685.41	129.43	5027
R-6	62400.89	18685.19	129.42	5028
R-6	62402.01	18685.18	129.43	5029
R-6	62401.77	18686.67	129.45	5030
R-7	62501.12	18691.21	132.96	5031
R-7	62501.18	18689.89	132.95	5032
R-7	62503.28	18689.95	132.99	5033
R-7	62503.29	18691.33	132.96	5034
R-8	62498.27	18713.54	132.81	5035
R-8	62498.31	18712.45	132.83	5036
R-8	62500.80	18712.44	132.97	5037
R-8	62501.08	18711.97	132.99	5038
R-8	62501.36	18711.77	133.01	5039
R-8	62501.81	18711.98	133.01	5040
R-8	62502.12	18712.22	133.07	5041
R-8	62501.94	18713.60	133.00	5042

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-9	62551.39	18715.96	134.74	5043
R-9	62551.42	18714.88	134.74	5044
R-9	62553.89	18715.07	134.80	5045
R-9	62553.78	18716.13	134.82	5046
R-10	62551.46	18738.24	134.68	5047
R-10	62551.58	18737.35	134.70	5048
R-10	62552.94	18737.47	134.77	5049
R-10	62552.90	18738.36	134.76	5050
R-11 RDS-3	62638.70	18697.95	137.74	5051
R-11 RDS-3	62638.85	18696.56	137.72	5052
R-11 RDS-3	62643.79	18696.88	137.96	5053
R-11 RDS-3	62643.71	18698.23	137.92	5054
R-12	62296.24	18637.56	123.96	5055
R-12	62296.25	18636.59	123.94	5056
R-12	62297.76	18636.77	123.35	5057
R-12	62297.80	18637.60	123.36	5058
R-13	62291.50	18636.59	125.54	5059
R-13	62293.37	18636.43	124.90	5060
R-13	62293.20	18637.48	124.95	5061
R-13	62291.43	18637.44	125.57	5062
R-14	62305.96	18681.64	126.07	5063
R-14	62306.01	18682.61	126.09	5064
R-14	62304.22	18682.56	125.79	5065
R-14	62304.25	18681.54	125.72	5066
R-15 RDS-2	62421.21	18642.52	130.19	5067
R-15 RDS-2	62421.28	18641.30	130.15	5068
R-15 RDS-2	62426.60	18641.46	130.32	5069
R-15 RDS-2	62426.55	18642.81	130.33	5070
R-16	62283.57	18592.59	124.90	5071
R-16	62283.62	18590.94	124.96	5072
R-16	62299.06	18591.74	124.00	5073
R-16	62298.99	18593.10	123.96	5074
R-17 RDS-4	62397.84	18676.91	129.28	5075
R-17 RDS-4	62397.95	18672.97	129.28	5076
R-17 RDS-4	62399.29	18673.00	129.34	5077
R-17 RDS-4	62399.17	18676.94	129.33	5078
R-18 RDS-5	62335.46	18728.68	127.17	5079
R-18 RDS-5	62335.54	18727.60	127.21	5080
R-18 RDS-5	62339.61	18727.88	127.27	5081
R-18 RDS-5	62339.59	18728.90	127.27	5082

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-19 RDS-6	62583.20	18762.38	135.80	5083
R-19 RDS-6	62583.30	18761.33	135.78	5084
R-19 RDS-6	62587.31	18761.56	135.96	5085
R-19 RDS-6	62587.28	18762.59	135.94	5086
R-20 RDS-7	62334.16	18818.21	127.16	5087
R-20 RDS-7	62334.22	18817.15	127.17	5088
R-20 RDS-7	62338.09	18817.42	127.28	5089
R-20 RDS-7	62338.01	18818.50	127.26	5090
R-21	62284.63	18881.54	124.36	5091
R-21	62284.63	18882.35	124.28	5092
R-21	62295.45	18883.23	123.10	5093
R-21	62295.50	18882.45	123.10	5094
R-21	62307.85	18882.98	126.06	5095
R-21	62307.63	18883.93	126.04	5096
R-21	62317.37	18883.70	126.45	5097
R-21	62317.36	18884.62	126.50	5098
R-21	62335.71	18884.77	127.27	5099
R-21	62335.64	18885.71	127.28	5100
R-21	62354.85	18885.77	127.95	5101
R-21	62354.80	18886.81	127.96	5102
R-21	62381.66	18886.97	128.87	5103
R-21	62381.66	18888.10	128.88	5104
R-21	62396.03	18887.65	129.38	5105
R-21	62396.02	18888.72	129.37	5106
R-21	62416.34	18888.53	130.04	5107
R-21	62416.41	18889.73	130.03	5108
R-21	62431.35	18889.39	130.53	5109
R-21	62431.32	18890.44	130.55	5110
R-21	62468.56	18890.90	131.85	5111
R-21	62468.52	18891.92	131.83	5112
R-21	62490.39	18891.90	132.55	5113
R-21	62490.53	18892.31	132.58	5114
R-21	62492.70	18892.41	132.66	5115
R-21	62495.02	18892.51	132.76	5116
R-21	62495.17	18892.04	132.78	5117
R-21	62496.26	18892.20	132.83	5118
R-21	62496.33	18892.59	132.82	5119
R-21	62496.21	18892.75	132.83	5120
R-21	62496.15	18893.19	132.83	5121
R-22 RDS-9	62423.90	18934.85	130.31	5122
R-22 RDS-9	62423.89	18933.82	130.29	5123
R-22 RDS-9	62427.68	18934.04	130.47	5124
R-22 RDS-9	62427.57	18935.05	130.41	5125

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-23 RDS-10	62382.46	18978.04	128.90	5126
R-23 RDS-10	62382.53	18976.89	128.86	5127
R-23 RDS-10	62387.45	18977.21	129.08	5128
R-23 RDS-10	62387.42	18978.30	129.07	5129
R-24 RDS-11	62427.83	18986.74	130.09	5130
R-24 RDS-11	62428.97	18986.90	130.11	5131
R-24 RDS-11	62428.81	18991.16	129.94	5132
R-24 RDS-11	62427.76	18991.12	129.92	5133
R-25	62315.69	19087.56	126.36	5134
R-25	62315.22	19087.07	126.39	5135
R-25	62316.40	19085.87	126.43	5136
R-25	62316.81	19086.33	126.39	5137
R-26	62337.73	19067.21	127.10	5138
R-26	62338.60	19066.48	127.16	5139
R-26	62338.58	19067.78	127.10	5140
R-26	62337.87	19067.80	127.10	5141
R-27	62361.11	19045.57	128.07	5142
R-27	62361.16	19046.80	128.00	5143
R-27	62360.29	19046.89	128.01	5144
R-27	62360.26	19046.36	128.04	5145
R-28	62383.63	19024.82	128.80	5146
R-28	62383.72	19026.10	128.78	5147
R-28	62382.93	19026.08	128.75	5148
R-28	62382.75	19025.64	128.81	5149
R-29	62405.99	19003.65	129.52	5150
R-29	62406.15	19004.56	129.44	5151
R-29	62405.28	19004.79	129.47	5152
R-29	62405.20	19004.41	129.48	5153
R-30	62407.71	19000.84	129.65	5154
R-30	62407.47	19001.78	129.58	5155
R-30	62406.68	19001.58	129.60	5156
R-30	62406.77	19000.68	129.64	5157
R-31	62429.13	18978.85	130.29	5158
R-31	62429.15	18980.59	130.25	5159
R-31	62427.00	18980.51	130.25	5160
R-31	62426.89	18979.01	130.30	5161
R-32	62449.14	18957.89	131.13	5162
R-32	62448.40	18958.73	131.07	5163
R-32	62447.63	18958.41	131.07	5164
R-32	62447.74	18957.63	131.09	5165
R-33	62451.60	18955.37	131.21	5166

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-33	62451.60	18956.68	131.13	5167
R-33	62450.72	18956.77	131.11	5168
R-33	62450.71	18956.25	131.14	5169
R-34	62468.93	18936.39	131.82	5170
R-34	62468.18	18937.19	131.79	5171
R-34	62467.32	18936.85	131.78	5172
R-34	62467.50	18936.11	131.79	5173
R-35	62473.90	18930.98	132.04	5174
R-35	62473.82	18932.14	132.00	5175
R-35	62473.15	18932.26	132.00	5176
R-35	62473.01	18931.95	132.00	5177
R-36	62488.80	18914.55	132.53	5178
R-36	62488.13	18915.42	132.47	5179
R-36	62487.38	18915.04	132.49	5180
R-36	62487.39	18914.74	132.54	5181
R-36	62487.53	18914.47	132.56	5182
R-37	62496.14	18906.62	132.71	5183
R-37	62496.84	18906.71	132.73	5184
R-37	62496.86	18910.05	132.69	5185
R-37	62494.25	18909.97	132.65	5186
R-37	62494.13	18908.70	132.72	5187
R-37	62496.10	18906.67	132.73	5188
R-38	62497.62	18892.62	132.90	5189
R-38	62497.68	18891.88	132.87	5190
R-38	62498.28	18891.96	132.91	5191
R-38	62498.29	18892.65	132.94	5192
R-39	62502.73	18892.70	133.00	5193
R-39	62503.02	18892.59	133.03	5194
R-39	62503.43	18892.98	133.06	5195
R-39	62501.43	18894.80	132.98	5196
R-39	62501.04	18894.44	133.01	5197
R-40	62518.17	18878.28	133.54	5198
R-40	62518.80	18877.56	133.55	5199
R-40	62519.66	18877.60	133.58	5200
R-40	62519.66	18878.35	133.52	5201
R-40	62518.24	18878.55	133.50	5202
R-41	62523.75	18870.77	133.79	5203
R-41	62523.79	18871.54	133.79	5204
R-41	62522.45	18871.71	133.76	5205
R-41	62522.40	18870.87	133.68	5206
R-42	62541.00	18858.77	134.38	5207

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-42	62540.96	18857.70	134.39	5208
R-42	62542.16	18857.63	134.42	5209
R-42	62542.04	18858.82	134.38	5210
R-42	62541.04	18859.73	134.40	5211
R-42	62542.12	18859.76	134.40	5212
R-43	62292.45	19106.39	122.95	5213
R-43	62292.83	19105.13	122.77	5214
R-43	62295.01	19105.81	121.33	5215
R-43	62295.71	19105.76	121.06	5216
R-43	62294.69	19104.21	122.27	5217
R-43	62297.79	19104.31	121.03	5218
R-43	62298.45	19104.25	121.85	5219
R-43	62299.09	19105.41	120.80	5220
R-43	62299.12	19105.98	120.77	5221
R-43	62300.60	19107.12	120.79	5222
R-43	62300.61	19108.90	120.83	5223
R-43	62299.12	19110.08	121.35	5224
R-43	62299.02	19111.16	121.71	5225
R-43	62298.18	19111.84	122.28	5226
R-43	62296.55	19112.00	122.42	5227
R-43	62294.96	19110.71	121.85	5228
R-43	62294.92	19110.21	121.69	5229
R-43	62294.40	19110.02	121.93	5230
R-43	62294.34	19108.77	121.75	5231
R-44 RDS-12	62490.51	18892.33	132.44	5232
R-44 RDS-12	62490.54	18891.46	132.42	5233
R-44 RDS-12	62495.11	18891.70	132.60	5234
R-44 RDS-12	62495.08	18892.51	132.66	5235
R-45	62548.06	18849.45	134.58	5236
R-45	62547.16	18850.44	134.55	5237
R-45	62546.77	18850.26	134.53	5238
R-45	62546.95	18849.29	134.52	5239
R-46 RDS-8	62285.60	18815.54	125.16	5240
R-46 RDS-8	62285.55	18814.39	125.25	5241
R-46 RDS-8	62290.57	18814.75	125.07	5242
R-46 RDS-8	62290.56	18815.80	125.09	5243
R-47	62299.22	18861.03	123.05	5244
R-47	62299.10	18860.18	123.05	5245
R-47	62303.57	18860.44	124.61	5246
R-47	62303.60	18861.24	124.55	5247
R-48	62541.24	18857.58	134.36	5248
R-48	62285.16	18859.48	124.64	5249

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-48	62284.94	18859.02	124.35	5250
R-48	62285.93	18859.07	124.95	5251
R-48	62285.91	18859.76	124.89	5252
R-49	62285.54	19017.09	124.42	5253
R-49	62285.68	19016.12	124.41	5254
R-49	62286.60	19016.07	124.35	5255
R-49	62286.48	19017.27	124.35	5256
R-50	62339.88	19065.01	127.29	5257
R-50	62339.34	19065.65	127.16	5258
R-50	62338.47	19065.52	127.15	5259
R-50	62338.59	19064.83	127.11	5260
R-51	62363.03	19043.69	128.10	5261
R-51	62362.33	19044.49	128.13	5262
R-51	62361.46	19044.24	128.10	5263
R-51	62361.63	19043.42	128.13	5264
R-52	62386.00	19022.42	128.98	5265
R-52	62385.26	19023.21	128.88	5266
R-52	62384.72	19023.10	128.90	5267
R-52	62384.83	19022.14	128.94	5268
R-53	62517.83	19025.91	128.60	5269
R-53	62517.89	19024.10	128.65	5270
R-53	62518.90	19024.09	128.65	5271
R-53	62518.84	19025.97	128.60	5272
R-54	62293.41	18682.15	124.72	5273
R-54	62293.63	18676.77	124.52	5274
R-54	62294.49	18676.81	124.30	5275
R-54	62294.38	18681.18	124.41	5276
R-54	62300.13	18681.33	124.56	5277
R-54	62300.33	18676.16	124.45	5278
R-54	62301.23	18676.20	124.60	5279
R-54	62301.09	18681.38	124.69	5280
R-54	62301.30	18681.49	124.71	5281
R-54	62301.21	18682.13	124.81	5282
R-54	62294.36	18682.08	124.41	5283
R-54	62294.25	18682.26	124.47	5284
R-55	62292.58	19115.39	123.44	5285
R-55	62292.01	19115.48	123.48	5286
R-55	62292.08	19114.70	123.59	5287
R-55	62292.71	19114.65	123.51	5288
R-55	62292.69	19115.02	123.56	5289
R-55	62294.17	19114.95	123.40	5290
R-55	62294.19	19111.58	122.37	5291

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-55	62294.90	19111.74	122.37	5292
R-55	62295.01	19114.83	123.37	5293
R-55	62297.31	19115.12	123.43	5294
R-55	62297.45	19114.98	123.48	5295
R-55	62298.24	19115.19	123.46	5296
R-55	62298.08	19115.50	123.06	5297
R-55	62297.31	19115.46	123.28	5298
R-56	62296.74	19104.09	121.00	5299
R-56	62296.80	19102.80	121.02	5300
R-56	62297.80	19102.95	121.18	5301
R-56	62297.81	19104.06	121.09	5302
R-57	62302.18	19108.72	120.76	5303
R-57	62301.11	19108.64	120.77	5304
R-57	62301.02	19107.63	120.81	5305
R-57	62302.17	19107.62	120.80	5306
R-58	62564.21	18916.31	132.51	5307
R-58	62564.18	18919.90	132.41	5308
R-58	62562.90	18919.96	132.43	5309
R-58	62562.99	18916.44	132.54	5310
R-59	62585.52	18918.66	132.45	5311
R-59	62586.69	18918.53	132.48	5312
R-59	62586.65	18916.44	132.54	5313
R-59	62585.46	18916.35	132.51	5314
R-60	62607.92	18958.50	131.03	5315
R-60	62608.80	18958.45	131.02	5316
R-60	62609.03	18960.39	130.92	5317
R-60	62608.06	18960.46	130.94	5318
R-61	62630.12	18961.18	130.96	5319
R-61	62630.35	18957.77	131.09	5320
R-61	62631.24	18957.83	131.10	5321
R-61	62631.47	18960.88	130.93	5322
R-62	62631.12	18819.95	135.92	5323
R-62	62631.20	18817.52	135.95	5324
R-62	62632.46	18817.69	136.01	5325
R-62	62632.40	18819.78	135.80	5326
R-63	62654.90	18820.57	135.90	5327
R-63	62653.63	18820.49	135.91	5328
R-63	62653.72	18816.42	136.04	5329
R-63	62654.75	18816.75	136.00	5330
R-64	62563.15	18974.41	130.59	5331
R-64	62564.15	18974.45	130.57	5332

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-64	62564.20	18968.97	130.74	5333
R-64	62562.94	18968.88	130.75	5334
R-65	62585.45	18958.04	131.11	5335
R-65	62586.62	18958.09	131.10	5336
R-65	62586.52	18957.09	131.14	5337
R-65	62585.59	18957.09	131.12	5338
R-66	62585.94	19096.94	126.12	5339
R-66	62584.92	19096.95	126.14	5340
R-66	62584.87	19095.45	126.15	5341
R-66	62586.00	19095.38	126.21	5342
R-67 RDS-13	62540.90	18864.24	134.27	5343
R-67 RDS-13	62541.10	18859.68	134.37	5344
R-67 RDS-13	62542.09	18859.68	134.37	5345
R-67 RDS-13	62541.94	18864.29	134.33	5346
R-68 RDS-14	62585.63	18862.21	134.46	5347
R-68 RDS-14	62586.99	18862.23	134.48	5348
R-68 RDS-14	62587.10	18858.72	134.56	5349
R-68 RDS-14	62585.70	18858.97	134.56	5350
R-69 RDS-15	62609.43	18847.54	134.92	5351
R-69 RDS-15	62608.44	18847.61	134.94	5352
R-69 RDS-15	62608.34	18844.19	135.07	5353
R-69 RDS-15	62609.40	18844.18	135.06	5354
R-70 RDS-16	62699.10	18911.30	132.88	5355
R-70 RDS-16	62697.78	18911.40	132.85	5356
R-70 RDS-16	62697.62	18915.57	132.64	5357
R-70 RDS-16	62698.99	18915.43	132.69	5358
R-71 RDS-17	62721.78	18681.89	137.84	5359
R-71 RDS-17	62722.97	18681.95	137.85	5360
R-71 RDS-17	62723.22	18678.01	137.69	5361
R-71 RDS-17	62722.16	18677.87	137.61	5362
R-72 RDS-18	62766.94	18675.84	137.54	5363
R-72 RDS-18	62767.04	18671.69	137.39	5364
R-72 RDS-18	62768.15	18671.60	137.38	5365
R-72 RDS-18	62768.24	18675.34	137.51	5366
R-73 RDS-19	62810.41	18919.90	132.51	5367
R-73 RDS-19	62811.67	18920.03	132.52	5368
R-73 RDS-19	62811.67	18923.51	132.39	5369
R-73 RDS-19	62810.45	18923.64	132.37	5370
R-74	62878.80	19012.39	129.27	5371
R-74	62877.65	19012.37	129.24	5372
R-74	62877.52	19010.08	129.36	5373

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-74	62878.60	19010.10	129.37	5374
R-75 RDS-20	62834.63	18855.42	134.71	5375
R-75 RDS-20	62833.42	18855.66	134.76	5376
R-75 RDS-20	62833.25	18851.86	134.88	5377
R-75 RDS-20	62834.49	18851.98	134.88	5378
R-76	62857.35	18829.59	135.57	5379
R-76	62855.77	18829.68	135.59	5380
R-76	62855.81	18828.29	135.63	5381
R-76	62857.27	18828.44	135.64	5382
R-77	62831.70	19096.37	125.39	5383
R-77	62832.94	19096.46	125.34	5384
R-77	62831.78	19098.54	124.60	5385
R-78	62832.21	19037.21	128.36	5386
R-78	62833.57	19037.14	128.40	5387
R-78	62833.57	19042.07	128.25	5388
R-78	62832.40	19041.96	128.22	5389
R-79 RDS-21	62858.20	18701.56	138.40	5390
R-79 RDS-21	62856.76	18701.46	138.41	5391
R-79 RDS-21	62856.92	18698.21	138.29	5392
R-79 RDS-21	62858.06	18698.27	138.35	5393
R-80	62661.77	18858.51	134.54	5394
R-80	62660.75	18858.50	134.61	5395
R-80	62660.77	18857.47	134.63	5396
R-80	62661.66	18857.58	134.60	5397
R-81	62854.01	19097.46	125.11	5398
R-81	62855.39	19097.40	125.15	5399
R-81	62855.38	19103.01	123.28	5400
R-81	62853.95	19103.01	123.28	5401
R-82	62878.59	19040.52	128.18	5402
R-82	62877.27	19040.61	128.19	5403
R-82	62877.19	19029.11	128.65	5404
R-82	62878.54	19029.11	128.65	5405
R-83	62563.87	18835.32	135.11	5406
R-83	62563.76	18836.98	135.13	5407
R-83	62564.66	18836.99	135.16	5408
R-83	62564.81	18834.49	135.13	5409
R-84	62570.75	18829.13	135.40	5410
R-84	62571.83	18828.12	135.35	5411
R-84	62570.36	18827.88	135.28	5412
R-84	62570.19	18828.93	135.34	5413

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-85	62571.52	18831.74	135.37	5414
R-85	62572.72	18831.95	135.38	5415
R-85	62573.68	18826.44	135.48	5416
R-85	62572.45	18826.31	135.35	5417
R-86	62586.40	18815.94	135.98	5418
R-86	62587.31	18816.01	136.03	5419
R-86	62587.58	18813.16	136.02	5420
R-86	62586.44	18814.79	136.01	5421
R-87	62592.58	18807.97	136.13	5422
R-87	62592.21	18807.73	136.12	5423
R-87	62592.33	18806.83	136.13	5424
R-87	62593.65	18806.94	136.16	5425
R-88	62608.42	18792.67	136.59	5426
R-88	62608.84	18795.05	136.69	5427
R-88	62610.31	18795.16	136.68	5428
R-88	62610.25	18790.99	136.70	5429
R-89	62614.39	18786.54	136.86	5430
R-89	62614.02	18786.27	136.85	5431
R-89	62614.12	18785.48	136.81	5432
R-89	62615.30	18785.39	136.91	5433
R-90	62631.21	18769.84	137.43	5434
R-90	62631.56	18770.95	137.41	5435
R-90	62632.81	18771.04	137.53	5436
R-90	62632.81	18767.61	137.49	5437
R-91	62636.50	18763.75	137.65	5438
R-91	62634.75	18763.69	137.59	5439
R-91	62634.62	18764.67	137.57	5440
R-91	62635.06	18765.04	137.60	5441
R-92	62652.99	18747.85	138.22	5442
R-92	62654.99	18746.18	138.36	5443
R-92	62655.31	18749.12	138.24	5444
R-92	62653.28	18749.29	138.21	5445
R-93	62657.29	18743.80	138.34	5446
R-93	62656.54	18743.67	138.34	5447
R-93	62656.73	18742.65	138.29	5448
R-93	62658.48	18742.74	138.44	5449
R-94	62677.20	18725.65	139.06	5450
R-94	62677.95	18725.62	139.09	5451
R-94	62677.90	18727.49	139.07	5452
R-94	62676.45	18727.43	139.07	5453
R-94	62676.42	18726.42	139.10	5454

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-95	62677.11	18722.26	139.12	5455
R-95	62676.08	18722.19	139.05	5456
R-95	62676.10	18720.98	139.10	5457
R-95	62677.14	18720.96	139.14	5458
R-96	62831.71	19094.98	125.84	5459
R-96	62832.39	19095.67	125.64	5460
R-96	62823.23	19104.02	122.56	5461
R-96	62824.85	19104.21	122.46	5462
R-96	62825.06	19103.27	122.86	5463
R-96	62826.38	19103.34	123.04	5464
R-96	62827.09	19104.41	122.64	5465
R-96	62827.03	19110.62	122.38	5466
R-96	62826.50	19111.20	122.45	5467
R-96	62817.38	19111.02	122.59	5468
R-96	62817.40	19104.63	122.73	5469
R-96	62817.81	19104.36	122.79	5470
R-96	62821.69	19104.08	122.52	5471
R-97	62874.93	18649.83	136.61	5472
R-97	62876.03	18649.93	136.58	5473
R-97	62875.93	18648.86	136.56	5474
R-97	62875.14	18648.89	136.53	5475
R-98	62872.66	18649.33	136.55	5476
R-98	62872.73	18650.39	136.62	5477
R-98	62871.47	18650.32	136.59	5478
R-98	62871.65	18649.29	136.54	5479
R-99	62288.30	18565.21	125.62	5480
R-99	62287.49	18566.18	125.62	5481
R-99	62288.10	18566.62	125.63	5482
R-99	62288.90	18566.08	125.72	5483
R-100	62297.75	18571.00	123.01	5484
R-100	62297.93	18569.87	122.86	5485
R-100	62299.66	18569.77	124.12	5486
R-100	62299.52	18571.38	124.17	5487
R-101	62288.93	18503.22	125.33	5488
R-101	62285.20	18503.47	123.14	5489
R-101	62284.88	18502.65	123.04	5490
R-101	62288.04	18502.55	125.28	5491
R-102	62290.67	18446.41	124.97	5492
R-102	62290.97	18445.71	124.83	5493
R-102	62292.17	18445.61	124.28	5494
R-102	62292.29	18446.56	124.25	5495

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-103	62292.11	18448.81	124.31	5496
R-103	62292.31	18449.73	124.32	5497
R-103	62291.17	18449.80	124.86	5498
R-103	62291.00	18448.76	124.82	5499
R-104	62300.58	18445.27	123.46	5500
R-104	62300.55	18446.21	123.41	5501
R-104	62299.48	18446.41	122.96	5502
R-104	62299.35	18445.37	122.97	5503
R-105	62294.78	18338.54	122.42	5504
R-105	62294.36	18343.85	121.76	5505
R-105	62295.31	18344.42	121.55	5506
R-105	62299.32	18344.63	121.42	5507
R-105	62299.30	18345.18	121.51	5508
R-105	62300.07	18344.99	122.06	5509
R-105	62300.42	18341.51	120.48	5510
R-105	62300.99	18339.69	121.52	5511
R-105	62300.50	18338.71	121.95	5512
R-105	62298.93	18338.55	122.09	5513
R-105	62296.01	18338.37	122.39	5514
R-106	62411.07	18335.20	125.07	5515
R-106	62409.83	18335.00	125.09	5516
R-106	62410.02	18334.41	124.56	5517
R-106	62411.08	18334.32	124.18	5518
R-107	62455.09	18336.80	124.88	5519
R-107	62454.95	18338.67	124.00	5520
R-107	62456.24	18338.70	124.02	5521
R-107	62455.88	18337.35	124.86	5522
R-108 RDS-24	62319.37	18358.18	126.25	5523
R-108 RDS-24	62320.49	18358.13	126.25	5524
R-108 RDS-24	62320.27	18361.86	126.43	5525
R-108 RDS-24	62319.34	18361.59	126.41	5526
R-108 RDS-24	62319.37	18362.24	126.43	5527
R-108 RDS-24	62320.42	18362.19	126.43	5528
R-108 RDS-24	62320.52	18363.33	126.48	5529
R-108 RDS-24	62319.58	18363.11	126.46	5530
R-109	62324.46	18369.16	126.64	5531
R-109	62323.03	18369.19	126.60	5532
R-109	62322.93	18368.33	126.61	5533
R-109	62323.58	18368.14	126.62	5534
R-110	62342.51	18387.17	127.31	5535
R-110	62342.81	18384.24	127.23	5536
R-110	62339.91	18384.06	127.23	5537

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-110	62339.66	18384.42	127.21	5538
R-111	62347.52	18392.18	127.49	5539
R-111	62345.83	18392.49	127.37	5540
R-111	62345.58	18391.48	127.40	5541
R-111	62346.01	18391.21	127.44	5542
R-112	62364.94	18409.81	128.12	5543
R-112	62364.80	18407.42	128.07	5544
R-112	62363.82	18407.52	128.02	5545
R-112	62363.37	18408.41	128.11	5546
R-113	62370.50	18415.53	128.28	5547
R-113	62368.51	18415.42	128.17	5548
R-113	62368.27	18414.44	128.21	5549
R-113	62368.97	18414.11	128.25	5550
R-114	62386.98	18431.41	128.86	5551
R-114	62387.09	18430.05	128.79	5552
R-114	62385.70	18429.71	128.84	5553
R-114	62385.24	18429.62	128.77	5554
R-115	62394.36	18438.89	129.09	5555
R-115	62392.71	18438.85	129.04	5556
R-115	62392.84	18437.33	129.04	5557
R-116	62409.13	18453.12	129.59	5558
R-116	62409.26	18451.08	129.56	5559
R-116	62408.10	18451.00	129.54	5560
R-116	62407.96	18451.70	129.55	5561
R-117	62417.63	18462.16	129.92	5562
R-117	62416.35	18462.46	129.96	5563
R-117	62415.75	18461.22	129.87	5564
R-117	62416.22	18460.93	129.90	5565
R-118	62430.53	18475.06	130.44	5566
R-118	62430.63	18473.01	130.41	5567
R-118	62429.18	18472.14	130.38	5568
R-118	62428.60	18472.77	130.36	5569
R-119	62441.50	18486.03	130.80	5570
R-119	62439.38	18485.75	130.69	5571
R-119	62439.11	18484.66	130.70	5572
R-119	62439.62	18484.10	130.72	5573
R-120	62452.60	18497.11	131.17	5574
R-120	62452.48	18494.55	131.09	5575
R-120	62451.18	18494.40	131.15	5576
R-120	62450.84	18494.97	131.08	5577

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-121	62465.26	18509.19	131.65	5578
R-121	62463.66	18509.23	131.57	5579
R-121	62463.46	18508.09	131.59	5580
R-121	62464.04	18508.04	131.58	5581
R-122	62473.99	18517.73	131.92	5582
R-122	62472.02	18515.73	131.87	5583
R-122	62473.87	18513.97	131.81	5584
R-122	62472.38	18513.83	131.81	5585
R-123	62489.47	18533.11	132.41	5586
R-123	62487.21	18533.09	132.35	5587
R-123	62487.06	18531.92	132.34	5588
R-123	62487.60	18531.56	132.37	5589
R-124	62495.88	18539.61	132.78	5590
R-124	62496.06	18537.11	132.70	5591
R-124	62494.85	18537.18	132.69	5592
R-124	62494.58	18537.90	132.71	5593
R-125	62512.75	18556.63	133.20	5594
R-125	62510.58	18556.61	133.16	5595
R-125	62510.42	18555.06	133.14	5596
R-125	62510.91	18554.98	133.18	5597
R-126	62518.00	18561.60	133.43	5598
R-126	62518.13	18558.84	133.39	5599
R-126	62516.85	18558.82	133.28	5600
R-126	62516.64	18560.26	133.35	5601
R-127	62538.64	18580.30	134.22	5602
R-127	62536.52	18580.37	134.08	5603
R-127	62536.39	18579.30	134.07	5604
R-127	62536.58	18579.04	134.13	5605
R-128	62539.86	18581.43	134.24	5606
R-128	62540.06	18578.61	134.19	5607
R-128	62539.00	18578.82	134.17	5608
R-128	62538.80	18580.25	134.22	5609
R-129	62561.87	18599.39	134.89	5610
R-129	62561.87	18597.44	134.82	5611
R-129	62560.73	18597.29	134.85	5612
R-129	62560.56	18598.19	134.83	5613
R-130	62566.69	18604.31	135.06	5614
R-130	62564.89	18604.11	134.98	5615
R-130	62564.69	18602.92	134.95	5616
R-130	62565.06	18602.63	134.98	5617
R-131 RDS-22	62304.45	18570.43	125.82	5618

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-131 RDS-22	62304.42	18569.81	125.92	5619
R-131 RDS-22	62307.92	18569.63	126.07	5620
R-131 RDS-22	62308.74	18570.57	126.09	5621
R-132 RDS-23	62330.14	18503.48	126.90	5622
R-132 RDS-23	62330.42	18504.11	126.92	5623
R-132 RDS-23	62326.34	18504.06	126.73	5624
R-132 RDS-23	62326.10	18503.05	126.73	5625
R-133 RDS-25	62430.12	18451.72	129.66	5626
R-133 RDS-25	62430.90	18451.45	129.74	5627
R-133 RDS-25	62431.54	18455.38	129.75	5628
R-133 RDS-25	62429.94	18455.66	129.79	5629
R-134 RDS-26	62519.46	18470.22	130.35	5630
R-134 RDS-26	62520.38	18470.14	130.41	5631
R-134 RDS-26	62520.63	18474.78	130.54	5632
R-134 RDS-26	62519.12	18474.78	130.54	5633
R-135	62542.84	18585.64	134.37	5634
R-135	62543.82	18584.74	134.33	5635
R-135	62543.15	18584.24	134.30	5636
R-135	62542.19	18584.94	134.32	5637
R-136	62583.27	18620.06	135.64	5638
R-136	62581.82	18618.50	135.52	5639
R-136	62582.11	18617.75	135.53	5640
R-136	62583.60	18618.13	135.53	5641
R-136	62561.88	18597.27	134.79	5642
R-136	62561.79	18599.32	134.85	5643
R-136	62560.43	18598.35	134.86	5644
R-136	62560.53	18597.24	134.79	5645
R-137	62590.54	18627.80	135.93	5646
R-137	62588.71	18627.77	135.86	5647
R-137	62588.52	18626.51	135.85	5648
R-137	62589.11	18626.31	135.82	5649
R-138	62605.21	18642.74	136.40	5650
R-138	62603.84	18641.23	136.42	5651
R-138	62603.98	18640.77	136.40	5652
R-138	62605.45	18640.91	136.37	5653
R-139	62613.70	18651.59	136.71	5654
R-139	62611.91	18651.58	136.69	5655
R-139	62611.74	18650.91	136.68	5656
R-139	62611.93	18650.43	136.67	5657
R-139	62612.54	18650.38	136.68	5658
R-140	62626.81	18664.78	137.17	5659

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-140	62625.81	18663.87	137.14	5660
R-140	62625.92	18662.99	137.14	5661
R-140	62627.03	18662.97	137.16	5662
R-141	62637.33	18675.18	137.51	5663
R-141	62635.52	18674.99	137.46	5664
R-141	62635.45	18674.12	137.48	5665
R-141	62636.27	18674.01	137.44	5666
R-142	62648.90	18685.95	137.94	5667
R-142	62647.93	18685.12	137.90	5668
R-142	62647.86	18684.10	137.86	5669
R-142	62648.85	18684.00	137.85	5670
R-143	62815.39	18351.77	124.91	5671
R-143	62814.48	18351.82	124.91	5672
R-143	62814.19	18344.84	122.67	5673
R-143	62815.28	18344.77	122.59	5674
R-144	62664.54	18698.63	138.46	5675
R-144	62664.48	18699.12	138.44	5676
R-144	62661.68	18698.86	138.41	5677
R-144	62661.85	18697.57	138.39	5678
R-145	62677.20	18698.66	138.47	5679
R-145	62677.15	18700.41	138.51	5680
R-145	62669.82	18699.86	138.46	5681
R-145	62669.95	18698.33	138.38	5682
R-146	62691.42	18696.30	138.17	5683
R-146	62692.76	18696.44	138.26	5684
R-146	62692.71	18697.85	138.31	5685
R-146	62691.45	18697.74	138.29	5686
R-147	62699.05	18696.95	138.30	5687
R-147	62700.81	18697.01	138.30	5688
R-147	62700.75	18700.28	138.42	5689
R-147	62699.14	18700.04	138.41	5690
R-148	62695.41	18668.74	137.25	5691
R-148	62694.31	18668.64	137.29	5692
R-148	62694.30	18667.31	137.26	5693
R-148	62695.26	18667.26	137.27	5694
R-148	62695.45	18667.52	137.30	5695
R-149	62836.88	18334.36	122.47	5696
R-149	62837.90	18334.43	122.31	5697
R-149	62837.77	18341.66	120.71	5698
R-149	62836.85	18341.43	120.76	5699
R-150	62657.13	18360.42	126.48	5700

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-150	62658.19	18360.57	126.52	5701
R-150	62658.25	18362.06	126.57	5702
R-150	62656.98	18362.04	126.60	5703
R-151	62681.06	18348.47	124.77	5704
R-151	62680.17	18348.64	124.80	5705
R-151	62679.42	18348.21	124.75	5706
R-151	62679.58	18339.49	123.42	5707
R-151	62680.30	18339.26	123.54	5708
R-151	62680.92	18339.43	123.36	5709
R-152	62616.40	18640.29	136.29	5710
R-152	62617.57	18640.31	136.33	5711
R-152	62617.46	18641.63	136.33	5712
R-152	62616.41	18641.32	136.32	5713
R-153 RDS-27	62604.19	18633.36	136.01	5714
R-153 RDS-27	62605.66	18633.45	136.02	5715
R-153 RDS-27	62605.54	18636.77	136.13	5716
R-153 RDS-27	62604.10	18636.62	136.11	5717
R-154 RDS-28	62626.98	18623.07	135.66	5718
R-154 RDS-28	62628.48	18623.07	135.65	5719
R-154 RDS-28	62628.31	18627.06	135.83	5720
R-154 RDS-28	62626.86	18626.95	135.83	5721
R-155	62769.36	18345.78	123.15	5722
R-155	62770.36	18345.87	123.12	5723
R-155	62770.39	18347.28	123.62	5724
R-155	62769.36	18347.27	123.65	5725
R-156	62791.89	18336.53	123.26	5726
R-156	62792.88	18336.53	123.32	5727
R-156	62792.89	18352.29	125.06	5728
R-156	62791.63	18352.19	125.04	5729
R-157	62825.34	18344.22	121.74	5730
R-157	62824.40	18345.14	122.07	5731
R-157	62818.70	18345.07	122.21	5732
R-157	62818.68	18339.00	121.88	5733
R-157	62825.62	18339.15	121.93	5734
R-158	62699.67	18624.92	135.67	5735
R-158	62701.06	18625.01	135.67	5736
R-158	62701.00	18626.34	135.74	5737
R-158	62699.51	18626.36	135.74	5738
R-159	62709.97	18633.54	136.00	5739
R-159	62710.92	18633.55	135.98	5740
R-159	62710.95	18634.62	135.98	5741

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-159	62710.03	18634.66	135.97	5742
R-160	62722.22	18626.11	135.66	5743
R-160	62722.24	18624.47	135.58	5744
R-160	62722.67	18624.11	135.57	5745
R-160	62723.26	18624.32	135.58	5746
R-160	62723.30	18642.45	136.24	5747
R-160	62723.21	18646.76	136.40	5748
R-160	62722.23	18646.77	136.39	5749
R-160	62722.26	18638.54	136.15	5750
R-160	62722.11	18636.85	136.07	5751
R-161	62744.75	18641.90	136.26	5752
R-161	62746.00	18642.06	136.25	5753
R-161	62746.08	18646.39	136.43	5754
R-161	62744.66	18646.36	136.43	5755
R-162	62744.88	18627.34	135.84	5756
R-162	62745.83	18627.06	135.85	5757
R-162	62745.81	18630.70	135.95	5758
R-162	62744.88	18630.72	135.86	5759
R-163	62768.35	18632.51	135.96	5760
R-163	62767.32	18632.45	135.92	5761
R-163	62767.34	18626.89	135.75	5762
R-163	62768.54	18627.00	135.74	5763
R-164	62767.16	18641.22	136.22	5764
R-164	62768.63	18641.21	136.25	5765
R-164	62768.70	18643.04	136.31	5766
R-164	62768.53	18645.82	136.35	5767
R-164	62767.23	18645.74	136.40	5768
R-164	62767.26	18643.07	136.31	5769
R-164	62767.12	18643.04	136.29	5770
R-164	62767.09	18641.37	136.19	5771
R-165	62790.00	18641.58	136.34	5772
R-165	62791.48	18641.59	136.34	5773
R-165	62791.35	18646.71	136.50	5774
R-165	62789.91	18646.64	136.54	5775
R-166	62790.19	18629.18	135.90	5776
R-166	62791.33	18629.27	135.90	5777
R-166	62791.25	18635.70	136.15	5778
R-166	62790.00	18635.73	136.16	5779
R-167	62812.73	18629.73	135.96	5780
R-167	62813.73	18629.69	135.98	5781
R-167	62813.61	18631.57	136.03	5782

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-167	62812.75	18631.58	136.03	5783
R-168	62812.57	18641.61	136.39	5784
R-168	62813.88	18641.68	136.39	5785
R-168	62813.74	18645.68	136.49	5786
R-168	62812.52	18645.71	136.46	5787
R-169	62835.29	18642.08	136.37	5788
R-169	62836.65	18642.17	136.40	5789
R-169	62836.57	18644.08	136.44	5790
R-169	62835.52	18644.17	136.41	5791
R-169	62835.26	18643.87	136.46	5792
R-170	62835.24	18626.16	135.84	5793
R-170	62836.42	18626.19	135.84	5794
R-170	62836.31	18631.65	136.04	5795
R-170	62835.25	18631.61	136.03	5796
R-171	62857.77	18626.65	135.82	5797
R-171	62859.11	18626.76	135.85	5798
R-171	62859.02	18633.14	136.07	5799
R-171	62857.66	18633.02	136.07	5800
R-172	62857.61	18640.57	136.31	5801
R-172	62859.12	18640.65	136.31	5802
R-172	62858.90	18647.05	136.51	5803
R-172	62857.46	18646.91	136.50	5804
R-173	62879.92	18642.31	136.36	5805
R-173	62881.31	18642.42	136.36	5806
R-173	62881.15	18647.04	136.55	5807
R-173	62879.71	18646.88	136.50	5808
R-174	62880.23	18623.03	135.70	5809
R-174	62881.54	18623.13	135.66	5810
R-174	62881.52	18627.64	135.75	5811
R-174	62880.18	18627.68	135.78	5812
R-175	62902.41	18622.75	135.76	5813
R-175	62903.84	18622.86	135.76	5814
R-175	62903.74	18627.74	135.89	5815
R-175	62902.42	18627.71	135.93	5816
R-176	62902.47	18642.59	136.39	5817
R-176	62903.82	18642.62	136.37	5818
R-176	62903.75	18647.90	136.54	5819
R-176	62902.33	18647.75	136.55	5820
R-177	62700.52	18428.27	128.86	5821
R-177	62701.75	18428.18	128.85	5822
R-177	62701.81	18429.50	128.92	5823

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-177	62700.43	18429.61	128.94	5824
R-178	62699.98	18545.82	132.98	5825
R-178	62701.31	18545.87	133.00	5826
R-178	62701.22	18547.32	133.04	5827
R-178	62699.86	18547.25	133.01	5828
R-179	62699.57	18667.40	137.19	5829
R-179	62700.80	18667.40	137.17	5830
R-179	62700.75	18671.17	137.27	5831
R-179	62699.46	18671.16	137.32	5832
R-180	62696.63	18642.97	136.38	5833
R-180	62696.50	18643.14	136.36	5834
R-180	62696.29	18642.94	136.36	5835
R-180	62696.48	18642.79	136.37	5836
R-180	62697.12	18643.04	136.48	5837
R-180	62696.28	18643.73	136.53	5838
R-180	62695.64	18643.05	136.43	5839
R-180	62696.53	18642.25	136.43	5840
R-181	62859.55	18340.82	121.97	5841
R-181	62860.37	18340.88	122.08	5842
R-181	62860.24	18342.41	120.93	5843
R-181	62859.41	18342.23	120.88	5844
R-182 RDS-29	62746.55	18363.33	126.71	5845
R-182 RDS-29	62747.78	18363.45	126.70	5846
R-182 RDS-29	62747.73	18366.97	126.90	5847
R-182 RDS-29	62746.40	18367.06	126.87	5848
R-183	62769.09	18361.19	126.58	5849
R-183	62770.29	18361.17	126.62	5850
R-183	62770.37	18362.69	126.70	5851
R-183	62769.09	18362.71	126.72	5852
R-184	62768.82	18390.35	127.71	5853
R-184	62769.99	18390.29	127.68	5854
R-184	62769.91	18392.25	127.67	5855
R-184	62768.88	18392.28	127.71	5856
R-185 RDS-30	62790.83	18473.06	130.43	5857
R-185 RDS-30	62792.23	18473.24	130.42	5858
R-185 RDS-30	62792.11	18476.62	130.54	5859
R-185 RDS-30	62790.70	18476.63	130.56	5860
R-186 RDS-31	62814.13	18372.88	127.21	5861
R-186 RDS-31	62815.35	18372.95	127.23	5862
R-186 RDS-31	62815.24	18376.79	127.39	5863
R-186 RDS-31	62813.87	18376.84	127.39	5864

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-187 RDS-32	62858.96	18379.62	127.36	5865
R-187 RDS-32	62859.08	18375.72	127.21	5866
R-187 RDS-32	62860.35	18375.68	127.22	5867
R-187 RDS-32	62860.32	18379.68	127.36	5868
R-188	62692.57	18667.81	137.20	5869
R-188	62694.04	18667.83	137.17	5870
R-188	62693.97	18669.36	137.28	5871
R-188	62692.54	18669.26	137.23	5872
R-189	62696.85	18545.84	133.00	5873
R-189	62698.11	18545.97	133.01	5874
R-189	62698.00	18547.15	133.09	5875
R-189	62696.78	18547.09	133.06	5876
R-190	62613.31	18362.24	126.62	5877
R-190	62611.99	18362.26	126.60	5878
R-190	62612.03	18360.83	126.54	5879
R-190	62613.39	18360.83	126.54	5880
R-191	62551.62	19113.48	125.44	5881
R-191	62551.68	19110.53	124.43	5882
R-191	62553.58	19110.52	124.52	5883
R-191	62553.55	19113.41	125.43	5884
R-192	62555.21	19113.29	125.51	5885
R-192	62553.55	19113.41	125.43	5886
R-192	62554.68	19110.52	124.57	5887
R-192	62555.34	19112.21	125.12	5888
R-192	62553.58	19110.52	124.52	5889
R-193	62616.24	18647.27	136.49	5890
R-193	62617.49	18647.41	136.49	5891
R-193	62617.42	18648.69	136.50	5892
R-193	62616.16	18648.55	136.47	5893
R-194	62767.27	18633.09	135.96	5894
R-194	62768.30	18633.08	135.99	5895
R-194	62768.32	18634.35	136.03	5896
R-194	62767.22	18634.37	136.00	5897
R-195 RDS-34	62785.65	18643.39	136.43	5898
R-195 RDS-34	62785.66	18642.04	136.36	5899
R-195 RDS-34	62789.64	18642.03	136.36	5900
R-195 RDS-34	62789.59	18643.45	136.41	5901
R-196 RDS-33	62700.87	18431.91	129.01	5902
R-196 RDS-33	62701.00	18435.38	129.11	5903
R-196 RDS-33	62700.22	18435.49	129.14	5904
R-196 RDS-33	62700.16	18431.92	129.02	5905

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-197	62826.59	19107.05	120.88	5906
R-197	62826.63	19108.37	120.48	5907
R-197	62825.54	19108.11	120.38	5908
R-197	62825.64	19106.97	120.75	5909
R-198	62893.45	18622.19	135.72	5910
R-198	62893.54	18624.19	135.78	5911
R-198	62892.24	18624.25	135.78	5912
R-198	62892.20	18622.13	135.71	5913
R-199	62895.21	18630.94	135.96	5914
R-199	62897.26	18630.95	135.98	5915
R-199	62897.14	18633.19	136.07	5916
R-199	62895.20	18633.25	136.08	5917
R-200	62912.57	19106.07	122.79	5918
R-200	62913.66	19106.24	122.86	5919
R-200	62913.60	19107.32	121.69	5920
R-200	62912.40	19107.21	121.66	5921
R-201	62684.10	18355.78	126.41	5922
R-201	62684.00	18357.19	126.49	5923
R-201	62682.90	18357.10	126.43	5924
R-201	62682.98	18355.70	126.39	5925
R-202	62928.09	18345.49	123.54	5926
R-202	62926.64	18345.53	123.49	5927
R-202	62926.91	18334.60	123.64	5928
R-202	62927.80	18334.70	123.38	5929
R-203	62926.09	18645.11	136.45	5930
R-203	62925.03	18645.10	136.43	5931
R-203	62925.06	18643.39	136.39	5932
R-203	62926.16	18643.28	136.36	5933
R-204 RDS-35	62925.90	18691.76	138.14	5934
R-204 RDS-35	62924.38	18691.68	138.11	5935
R-204 RDS-35	62924.60	18687.70	137.97	5936
R-204 RDS-35	62925.92	18687.77	138.05	5937
R-205 RDS-36	62948.37	18691.92	138.07	5938
R-205 RDS-36	62947.00	18691.96	138.08	5939
R-205 RDS-36	62947.11	18688.00	137.97	5940
R-205 RDS-36	62948.40	18688.11	137.96	5941
R-206	62992.88	18596.47	134.70	5942
R-206	62994.21	18596.57	134.72	5943
R-206	62994.06	18599.39	134.82	5944
R-206	62992.97	18599.37	134.80	5945
R-207	63016.69	18598.81	134.79	5946

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-207	63015.48	18598.74	134.73	5947
R-207	63015.60	18596.95	134.76	5948
R-207	63016.68	18596.94	134.70	5949
R-208	63038.57	18551.42	133.18	5950
R-208	63039.88	18551.46	133.18	5951
R-208	63039.77	18554.07	133.30	5952
R-208	63038.56	18553.94	133.23	5953
R-209	63061.02	18553.10	133.26	5954
R-209	63061.15	18550.74	133.10	5955
R-209	63062.30	18550.83	133.16	5956
R-209	63062.19	18553.06	133.28	5957
R-210	63085.19	18524.88	132.26	5958
R-210	63085.00	18527.33	132.34	5959
R-210	63083.57	18527.20	132.32	5960
R-210	63083.68	18524.83	132.23	5961
R-211	63106.20	18524.45	132.28	5962
R-211	63107.71	18524.47	132.16	5963
R-211	63107.61	18526.93	132.23	5964
R-211	63106.22	18526.97	132.27	5965
R-212 RDS-37	62994.49	18372.03	126.89	5966
R-212 RDS-37	62995.77	18372.09	126.86	5967
R-212 RDS-37	62995.71	18376.18	127.04	5968
R-212 RDS-37	62994.33	18376.14	127.01	5969
R-213 RDS-38	63017.32	18532.38	132.51	5970
R-213 RDS-38	63016.11	18532.25	132.52	5971
R-213 RDS-38	63016.29	18528.01	132.37	5972
R-213 RDS-38	63017.45	18528.05	132.33	5973
R-214	63063.29	18350.17	125.94	5974
R-214	63061.88	18350.10	125.93	5975
R-214	63062.01	18347.08	125.05	5976
R-214	63063.27	18347.11	125.09	5977
R-215 RDS-39	63062.14	18577.46	134.07	5978
R-215 RDS-39	63062.21	18581.24	134.17	5979
R-215 RDS-39	63060.87	18581.21	134.21	5980
R-215 RDS-39	63060.80	18577.50	134.15	5981
R-216	63061.25	18503.07	131.47	5982
R-216	63061.29	18499.16	131.31	5983
R-216	63062.71	18499.16	131.32	5984
R-216	63062.68	18502.90	131.43	5985
R-217	63061.99	18397.05	127.73	5986
R-217	63063.24	18397.20	127.74	5987

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-217	63063.10	18400.73	127.87	5988
R-217	63062.02	18400.68	127.89	5989
R-218	63061.97	18386.83	127.36	5990
R-218	63063.29	18386.74	127.36	5991
R-218	63063.28	18390.95	127.50	5992
R-218	63061.89	18390.96	127.52	5993
R-219	63063.11	18356.45	126.36	5994
R-219	63064.36	18356.55	126.39	5995
R-219	63064.33	18358.09	126.40	5996
R-219	63063.07	18358.11	126.42	5997
R-220	63080.14	18339.76	124.04	5998
R-220	63081.54	18339.80	124.13	5999
R-220	63081.56	18341.13	123.49	6000
R-220	63080.16	18341.05	123.40	6001
R-221	63084.51	18338.47	124.50	6002
R-221	63084.53	18336.24	125.44	6003
R-221	63085.60	18336.32	125.30	6004
R-221	63085.39	18338.68	124.50	6005
R-222	63108.05	18338.60	124.47	6006
R-222	63108.85	18338.65	124.46	6007
R-222	63109.09	18339.83	124.14	6008
R-222	63108.06	18339.73	124.18	6009
R-223	63085.75	18347.66	125.31	6010
R-223	63084.35	18347.61	125.29	6011
R-223	63084.45	18344.17	124.23	6012
R-223	63085.66	18344.21	124.26	6013
R-224	63130.51	18339.18	124.13	6014
R-224	63130.41	18340.99	122.61	6015
R-224	63129.62	18341.02	122.83	6016
R-224	63129.36	18339.20	124.08	6017
R-225	63196.26	18340.38	123.24	6018
R-225	63196.22	18339.86	123.68	6019
R-225	63197.47	18339.76	123.62	6020
R-225	63197.35	18340.65	123.10	6021
R-226	63241.09	18337.75	123.88	6022
R-226	63241.07	18335.77	124.80	6023
R-226	63242.14	18335.84	124.74	6024
R-226	63242.38	18337.80	123.88	6025
R-227	63264.14	18347.51	124.21	6026
R-227	63264.00	18346.22	123.70	6027
R-227	63265.18	18346.30	123.73	6028

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-227	63265.18	18347.53	124.19	6029
R-228	63286.30	18347.66	124.10	6030
R-228	63287.57	18347.74	124.16	6031
R-228	63286.13	18340.58	122.65	6032
R-228	63287.22	18340.40	122.70	6033
R-229	63287.68	18353.29	126.14	6034
R-229	63286.58	18353.24	126.12	6035
R-229	63286.57	18351.00	125.34	6036
R-229	63287.59	18350.91	125.34	6037
R-230	63286.71	18360.81	126.51	6038
R-230	63286.82	18359.50	126.43	6039
R-230	63287.79	18359.34	126.43	6040
R-230	63287.80	18360.87	126.50	6041
R-231	63331.96	18340.44	122.14	6042
R-231	63332.13	18341.44	121.21	6043
R-231	63330.94	18341.33	121.14	6044
R-231	63331.15	18340.39	122.11	6045
R-232	63344.84	18339.75	122.05	6046
R-232	63349.37	18339.38	122.63	6047
R-232	63350.27	18339.87	122.63	6048
R-232	63350.36	18341.45	122.49	6049
R-232	63351.02	18341.52	122.74	6050
R-232	63350.86	18342.69	122.85	6051
R-232	63350.41	18342.72	122.46	6052
R-232	63350.34	18343.53	122.36	6053
R-232	63349.39	18344.77	121.75	6054
R-232	63344.85	18344.66	121.65	6055
R-232	63345.14	18344.24	121.61	6056
R-232	63349.51	18344.14	121.95	6057
R-232	63349.43	18340.08	122.81	6058
R-232	63345.11	18340.33	121.88	6059
R-233	63350.90	18386.18	123.27	6060
R-233	63350.88	18386.38	123.39	6061
R-233	63348.44	18387.48	122.62	6062
R-233	63348.84	18385.91	122.57	6063
R-234	63347.27	18431.18	121.36	6064
R-234	63348.93	18431.21	122.76	6065
R-234	63348.87	18432.39	122.76	6066
R-234	63347.38	18432.30	121.44	6067
R-235	63362.20	18460.24	125.34	6068
R-235	63362.26	18461.82	125.42	6069

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-235	63360.70	18461.77	125.27	6070
R-235	63360.71	18460.27	125.25	6071
R-236	63346.80	18476.12	121.62	6072
R-236	63348.59	18476.18	123.00	6073
R-236	63348.52	18477.64	122.89	6074
R-236	63346.72	18477.69	121.67	6075
R-237	63333.04	18354.28	126.13	6076
R-237	63332.34	18354.90	126.12	6077
R-237	63331.42	18354.77	126.06	6078
R-237	63331.72	18353.25	126.10	6079
R-237	63333.11	18353.15	126.15	6080
R-238	63321.68	18365.05	126.50	6081
R-238	63322.98	18364.03	126.42	6082
R-238	63324.08	18364.05	126.40	6083
R-238	63324.08	18365.28	126.36	6084
R-239	63310.66	18375.28	126.87	6085
R-239	63310.30	18375.80	126.91	6086
R-239	63309.59	18375.72	126.91	6087
R-239	63309.58	18374.20	126.88	6088
R-239	63309.86	18374.28	127.02	6089
R-239	63310.57	18374.20	126.87	6090
R-240	63297.33	18388.04	127.27	6091
R-240	63298.39	18387.06	127.25	6092
R-240	63299.18	18387.33	127.24	6093
R-240	63299.02	18388.28	127.27	6094
R-241	63287.52	18397.49	127.67	6095
R-241	63287.29	18395.56	127.52	6096
R-241	63288.57	18395.52	127.55	6097
R-241	63288.66	18396.37	127.57	6098
R-242	63273.29	18411.07	128.17	6099
R-242	63274.25	18410.08	128.14	6100
R-242	63274.80	18410.16	128.12	6101
R-242	63274.57	18411.45	128.18	6102
R-243	63272.99	18433.15	128.52	6103
R-243	63272.90	18434.24	128.52	6104
R-243	63271.54	18434.19	128.61	6105
R-243	63271.55	18433.09	128.62	6106
R-244	63265.28	18418.76	128.64	6107
R-244	63265.25	18417.30	128.58	6108
R-244	63266.42	18417.08	128.51	6109
R-244	63266.52	18417.59	128.57	6110

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-245	63249.03	18434.60	129.13	6111
R-245	63249.72	18433.80	129.13	6112
R-245	63250.95	18433.78	129.12	6113
R-245	63250.97	18434.71	129.16	6114
R-246	63242.72	18440.98	129.42	6115
R-246	63242.63	18439.88	129.36	6116
R-246	63243.47	18439.82	129.32	6117
R-246	63243.77	18439.91	129.34	6118
R-247	63227.95	18456.45	129.95	6119
R-247	63228.46	18456.50	129.97	6120
R-247	63228.50	18457.61	129.98	6121
R-247	63226.97	18457.66	130.02	6122
R-248	63219.78	18464.67	130.23	6123
R-248	63219.73	18463.51	130.22	6124
R-248	63220.35	18463.49	130.20	6125
R-248	63220.94	18463.68	130.20	6126
R-249	63203.81	18480.79	130.64	6127
R-249	63205.44	18479.55	130.66	6128
R-249	63205.98	18479.73	130.65	6129
R-249	63205.92	18480.23	130.66	6130
R-249	63205.68	18480.93	130.68	6131
R-250	63196.94	18488.18	131.00	6132
R-250	63197.03	18486.88	130.91	6133
R-250	63198.34	18486.69	130.92	6134
R-251 RDS-40	63128.78	18542.26	132.75	6135
R-251 RDS-40	63130.00	18542.28	132.79	6136
R-251 RDS-40	63130.03	18545.65	132.91	6137
R-251 RDS-40	63128.74	18545.61	132.89	6138
R-252 RDS-41	63196.82	18359.13	126.23	6139
R-252 RDS-41	63198.18	18359.02	126.24	6140
R-252 RDS-41	63198.29	18362.53	126.37	6141
R-252 RDS-41	63196.91	18362.26	126.34	6142
R-253 RDS-42	63290.19	18411.05	127.81	6143
R-253 RDS-42	63290.22	18409.74	127.79	6144
R-253 RDS-42	63294.72	18409.91	127.72	6145
R-253 RDS-42	63294.68	18411.06	127.71	6146
R-254	63345.89	18500.10	123.00	6147
R-254	63343.90	18500.14	123.67	6148
R-254	63343.81	18498.94	123.62	6149
R-254	63345.86	18498.83	123.02	6150
R-255	63348.14	18611.43	123.56	6151

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-255	63348.10	18612.17	123.65	6152
R-255	63346.72	18612.32	122.48	6153
R-255	63346.83	18611.51	122.39	6154
R-256	63365.97	18565.44	123.66	6155
R-256	63365.96	18566.95	123.67	6156
R-256	63363.10	18566.80	125.77	6157
R-256	63363.08	18565.61	125.71	6158
R-257	63156.61	18594.32	132.61	6159
R-257	63154.75	18594.23	132.69	6160
R-257	63154.68	18593.25	132.65	6161
R-257	63156.64	18593.15	132.60	6162
R-258	63155.12	18616.73	132.64	6163
R-258	63155.16	18615.75	132.66	6164
R-258	63157.19	18615.75	132.57	6165
R-258	63157.22	18616.70	132.59	6166
R-259 RDS-45	63183.27	18615.34	131.74	6167
R-259 RDS-45	63187.88	18615.33	131.61	6168
R-259 RDS-45	63187.88	18616.53	131.63	6169
R-259 RDS-45	63183.22	18616.62	131.72	6170
R-260	63118.91	18639.98	133.82	6171
R-260	63117.02	18640.03	133.85	6172
R-260	63116.98	18638.72	133.87	6173
R-260	63119.00	18638.63	133.77	6174
R-261	62985.02	18685.68	137.83	6175
R-261	62983.24	18685.85	137.82	6176
R-261	62983.20	18683.93	137.73	6177
R-261	62985.12	18683.90	137.72	6178
R-262	63152.47	18529.08	132.30	6179
R-262	63151.50	18528.85	132.29	6180
R-262	63151.34	18527.35	132.25	6181
R-262	63152.61	18527.43	132.29	6182
R-263	63128.67	18549.11	133.03	6183
R-263	63129.87	18549.05	133.06	6184
R-263	63129.91	18550.96	133.07	6185
R-263	63128.70	18550.94	133.07	6186
R-264 RDS-43	63181.56	18503.68	131.46	6187
R-264 RDS-43	63183.19	18502.88	131.47	6188
R-264 RDS-43	63184.34	18502.35	131.45	6189
R-264 RDS-43	63188.32	18502.32	131.51	6190
R-264 RDS-43	63188.35	18503.69	131.51	6191
R-265	63174.32	18510.88	131.68	6192

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-265	63174.30	18509.17	131.61	6193
R-265	63175.41	18509.07	131.62	6194
R-265	63175.46	18509.72	131.64	6195
R-266	63159.17	18526.56	132.27	6196
R-266	63160.48	18525.41	132.27	6197
R-266	63161.15	18525.53	132.30	6198
R-266	63161.12	18526.64	132.29	6199
R-267	63151.31	18534.32	132.54	6200
R-267	63151.29	18532.56	132.46	6201
R-267	63152.58	18532.50	132.47	6202
R-267	63152.64	18532.95	132.51	6203
R-268	63137.78	18548.18	132.96	6204
R-268	63138.21	18548.21	132.98	6205
R-268	63138.19	18549.74	133.06	6206
R-268	63136.32	18549.91	133.08	6207
R-269	63128.72	18557.57	133.40	6208
R-269	63128.63	18555.79	133.31	6209
R-269	63129.82	18555.79	133.32	6210
R-269	63129.96	18556.46	133.32	6211
R-269	63129.35	18557.05	133.44	6212
R-270 RDS-44	63114.02	18572.30	133.92	6213
R-270 RDS-44	63115.07	18570.90	133.90	6214
R-270 RDS-44	63121.34	18571.01	133.76	6215
R-270 RDS-44	63121.28	18572.21	133.70	6216
R-271	63105.97	18580.65	134.16	6217
R-271	63105.90	18579.34	134.17	6218
R-271	63107.09	18579.15	134.16	6219
R-271	63107.25	18579.33	134.15	6220
R-272	63092.62	18594.89	134.63	6221
R-272	63093.90	18593.72	134.64	6222
R-272	63095.20	18593.80	134.62	6223
R-272	63095.07	18595.06	134.64	6224
R-273	63083.49	18603.64	135.01	6225
R-273	63083.27	18602.29	134.93	6226
R-273	63084.31	18602.14	134.94	6227
R-273	63084.46	18602.79	134.99	6228
R-274	63069.54	18617.31	135.44	6229
R-274	63070.64	18616.19	135.43	6230
R-274	63071.46	18616.35	135.45	6231
R-274	63071.47	18616.76	135.43	6232
R-274	63071.39	18617.44	135.42	6233

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-275	63061.85	18624.89	135.71	6234
R-275	63060.32	18626.32	135.73	6235
R-275	63060.46	18616.56	135.49	6236
R-275	63061.96	18616.66	135.51	6237
R-276	63046.22	18639.91	136.20	6238
R-276	63047.21	18638.93	136.17	6239
R-276	63047.96	18639.05	136.18	6240
R-276	63047.68	18639.93	136.21	6241
R-277	63038.95	18646.68	136.42	6242
R-277	63038.95	18646.96	136.43	6243
R-277	63038.09	18648.07	136.46	6244
R-277	63037.88	18646.78	136.42	6245
R-278	63341.04	18658.47	125.51	6246
R-278	63341.20	18656.66	125.47	6247
R-278	63343.84	18656.92	124.58	6248
R-278	63343.80	18657.93	124.60	6249
R-279	63366.02	18792.29	123.31	6250
R-279	63361.33	18792.26	125.32	6251
R-279	63361.16	18768.13	125.53	6252
R-279	63360.76	18756.69	125.51	6253
R-279	63360.93	18754.93	125.51	6254
R-279	63360.65	18746.38	125.62	6255
R-279	63365.48	18746.01	123.51	6256
R-280	63358.73	18927.62	124.72	6257
R-280	63358.69	18926.57	124.70	6258
R-280	63365.52	18925.87	122.99	6259
R-280	63365.48	18927.00	122.59	6260
R-280	63358.40	18926.22	124.80	6261
R-280	63358.43	18927.61	124.80	6262
R-280	63365.40	18927.34	123.31	6263
R-280	63365.47	18926.03	123.42	6264
R-281	63346.24	18950.42	121.51	6265
R-281	63343.97	18950.78	123.26	6266
R-281	63344.07	18949.49	123.26	6267
R-281	63346.20	18949.34	121.64	6268
R-281	63346.38	18950.72	121.83	6269
R-281	63343.44	18950.81	123.38	6270
R-281	63343.50	18949.46	123.43	6271
R-281	63345.85	18949.23	121.90	6272
R-282	63054.68	18827.61	135.56	6273
R-282	63054.69	18825.52	135.65	6274
R-282	63052.60	18825.45	135.64	6275

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-282	63052.61	18827.61	135.55	6276
R-283	63115.88	18662.18	133.90	6277
R-283	63115.74	18661.02	133.90	6278
R-283	63119.69	18661.03	133.77	6279
R-283	63119.73	18662.18	133.76	6280
R-284	63064.39	18683.81	135.73	6281
R-284	63064.48	18685.14	135.72	6282
R-284	63061.34	18685.06	135.87	6283
R-284	63061.46	18683.85	135.84	6284
R-285	63062.95	18706.30	135.74	6285
R-285	63065.82	18706.47	135.64	6286
R-285	63065.75	18707.47	135.62	6287
R-285	63062.92	18707.51	135.73	6288
R-286	63080.58	18751.36	135.08	6289
R-286	63082.77	18751.35	135.06	6290
R-286	63082.72	18752.53	135.03	6291
R-286	63080.61	18752.58	135.08	6292
R-287	63080.52	18775.03	135.18	6293
R-287	63080.62	18774.02	135.15	6294
R-287	63095.92	18773.52	134.64	6295
R-287	63118.18	18773.30	133.86	6296
R-287	63118.22	18774.87	133.88	6297
R-287	63095.92	18774.94	134.61	6298
R-287	63088.77	18775.25	134.89	6299
R-288	63114.54	18796.34	133.92	6300
R-288	63114.65	18797.42	133.86	6301
R-288	63112.54	18797.46	133.98	6302
R-288	63112.56	18796.35	133.98	6303
R-289	63113.81	18819.00	134.00	6304
R-289	63115.78	18818.98	133.88	6305
R-289	63115.77	18820.02	133.86	6306
R-289	63113.71	18819.92	133.99	6307
R-290	63168.33	18840.63	132.10	6308
R-290	63168.39	18841.92	132.09	6309
R-290	63166.45	18841.84	132.19	6310
R-290	63166.44	18840.65	132.16	6311
R-291	63166.94	18863.13	132.12	6312
R-291	63168.88	18863.30	132.04	6313
R-291	63168.77	18864.35	132.10	6314
R-291	63166.75	18864.23	132.15	6315
R-292	63026.08	18662.17	136.88	6316

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-292	63026.54	18662.06	136.92	6317
R-292	63026.96	18663.06	136.91	6318
R-292	63024.98	18663.32	136.95	6319
R-292	63026.18	18662.03	136.94	6320
R-292	63026.88	18662.05	136.94	6321
R-292	63026.85	18662.80	136.97	6322
R-292	63025.18	18663.22	137.01	6323
R-293	63016.18	18671.57	137.27	6324
R-293	63015.23	18672.64	137.27	6325
R-293	63015.19	18670.94	137.19	6326
R-293	63016.04	18670.74	137.24	6327
R-293	63016.43	18671.59	137.32	6328
R-293	63016.14	18670.83	137.34	6329
R-293	63015.31	18670.87	137.26	6330
R-293	63015.26	18672.56	137.32	6331
R-294	63002.91	18684.89	137.80	6332
R-294	63004.07	18685.02	137.81	6333
R-294	63004.10	18686.06	137.80	6334
R-294	63001.71	18686.22	137.83	6335
R-295	62993.50	18694.15	138.13	6336
R-295	62992.42	18695.21	138.13	6337
R-295	62992.31	18692.99	138.08	6338
R-295	62993.23	18692.87	138.07	6339
R-295	62993.52	18693.01	138.11	6340
R-295	62993.63	18694.23	138.15	6341
R-295	62992.49	18695.34	138.15	6342
R-295	62992.34	18693.06	138.14	6343
R-296	62979.95	18707.87	138.58	6344
R-296	62980.88	18708.05	138.56	6345
R-296	62980.81	18709.06	138.58	6346
R-296	62978.66	18709.20	138.65	6347
R-297	62969.49	18716.72	138.89	6348
R-297	62970.31	18716.64	138.91	6349
R-297	62970.47	18716.89	138.95	6350
R-297	62970.35	18719.21	139.01	6351
R-297	62969.39	18719.17	139.01	6352
R-298 RDS-46	63243.25	18660.12	129.58	6353
R-298 RDS-46	63243.25	18659.12	129.61	6354
R-298 RDS-46	63247.43	18659.03	129.45	6355
R-298 RDS-46	63247.39	18660.08	129.42	6356
R-299 RDS-47	63190.59	18705.87	131.47	6357
R-299 RDS-47	63190.62	18704.51	131.50	6358

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-299 RDS-47	63194.73	18704.61	131.37	6359
R-299 RDS-47	63194.65	18705.97	131.37	6360
R-300 RDS-48	63131.35	18750.55	133.37	6361
R-300 RDS-48	63131.32	18751.70	133.35	6362
R-300 RDS-48	63126.36	18751.84	133.57	6363
R-300 RDS-48	63126.38	18750.67	133.54	6364
R-301 RDS 49	63131.81	18797.18	133.33	6365
R-301 RDS 49	63131.92	18795.78	133.31	6366
R-301 RDS 49	63135.28	18795.76	133.19	6367
R-301 RDS 49	63135.39	18797.12	133.20	6368
R-302 RDS-50	63267.80	18838.91	128.75	6369
R-302 RDS-50	63267.83	18840.04	128.75	6370
R-302 RDS-50	63263.80	18840.15	128.86	6371
R-302 RDS-50	63263.82	18838.96	128.86	6372
R-303 RDS-51	63287.35	18883.93	128.05	6373
R-303 RDS-51	63287.39	18884.86	128.06	6374
R-303 RDS-51	63283.47	18884.90	128.17	6375
R-303 RDS-51	63283.59	18883.78	128.19	6376
R-304	62924.84	18820.15	135.90	6377
R-304	62923.68	18820.17	135.91	6378
R-304	62923.62	18822.86	135.82	6379
R-304	62922.88	18823.72	135.77	6380
R-304	62922.83	18824.45	135.76	6381
R-304	62924.19	18825.40	135.67	6382
R-304	62925.78	18824.38	135.78	6383
R-304	62925.71	18823.55	135.84	6384
R-304	62925.09	18822.81	135.88	6385
R-305	62947.38	18824.11	135.70	6386
R-305	62946.27	18824.32	135.74	6387
R-305	62946.34	18823.30	135.81	6388
R-305	62947.21	18823.06	135.76	6389
R-306	62947.49	18813.83	136.06	6390
R-306	62946.20	18813.94	136.11	6391
R-306	62946.05	18812.10	136.18	6392
R-306	62947.29	18812.27	136.19	6393
R-307	62969.79	18814.44	136.08	6394
R-307	62968.52	18814.44	136.09	6395
R-307	62968.46	18811.45	136.22	6396
R-307	62969.90	18811.34	136.17	6397
R-308	62992.54	18839.86	135.21	6398
R-308	62991.30	18839.77	135.21	6399

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-308	62991.09	18842.51	135.13	6400
R-308	62992.49	18842.30	135.18	6401
R-309	63014.90	18842.54	135.09	6402
R-309	63013.59	18842.40	135.13	6403
R-309	63013.65	18840.64	135.24	6404
R-309	63014.91	18840.68	135.15	6405
R-310	63037.54	18879.04	133.91	6406
R-310	63036.31	18879.00	133.91	6407
R-310	63036.39	18877.61	133.92	6408
R-310	63037.52	18877.74	133.94	6409
R-311	63060.02	18879.60	133.82	6410
R-311	63058.60	18879.62	133.85	6411
R-311	63058.65	18877.97	133.91	6412
R-311	63059.89	18877.91	133.94	6413
R-312	63082.45	18928.15	132.20	6414
R-312	63081.14	18928.30	132.15	6415
R-312	63081.27	18930.08	132.06	6416
R-312	63082.31	18930.02	132.07	6417
R-313	63103.95	18928.13	132.13	6418
R-313	63104.89	18928.04	132.16	6419
R-313	63105.00	18930.24	132.08	6420
R-313	63103.98	18930.54	132.03	6421
R-314	63282.94	19047.02	128.09	6422
R-314	63301.44	19066.87	127.41	6423
R-314	63282.84	19066.27	127.32	6424
R-315	63282.22	19065.60	127.41	6425
R-315	63282.04	19066.78	127.34	6426
R-315	63283.17	19066.83	127.32	6427
R-315	63283.00	19065.73	127.44	6428
R-316	63301.44	19066.87	127.41	6429
R-316	63304.62	19066.55	127.48	6430
R-316	63304.52	19070.40	127.33	6431
R-316	63304.50	19067.01	127.52	6432
R-316	63304.79	19066.74	127.53	6433
R-316	63306.05	19068.14	127.48	6434
R-317	63339.94	19116.02	121.99	6435
R-317	63338.73	19115.98	122.01	6436
R-317	63339.14	19104.97	122.62	6437
R-317	63340.07	19104.92	122.57	6438
R-317	63326.24	19104.42	122.85	6439
R-317	63327.53	19104.54	122.84	6440

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-317	63326.89	19116.00	122.59	6441
R-317	63325.63	19115.34	122.87	6442
R-318	63324.80	19085.66	126.75	6443
R-318	63326.54	19085.58	126.67	6444
R-318	63326.73	19086.66	126.72	6445
R-318	63325.80	19086.74	126.72	6446
R-319	63326.58	19088.60	126.68	6447
R-319	63326.46	19091.37	126.57	6448
R-319	63327.65	19091.28	126.64	6449
R-319	63327.68	19088.63	126.62	6450
R-320	63347.37	19110.25	121.99	6451
R-320	63343.36	19109.90	121.25	6452
R-320	63343.06	19109.23	121.03	6453
R-320	63343.31	19106.08	121.24	6454
R-320	63350.68	19109.99	122.37	6455
R-320	63349.79	19110.87	122.34	6456
R-320	63348.75	19111.63	122.22	6457
R-320	63346.41	19111.41	122.05	6458
R-320	63344.41	19110.74	121.59	6459
R-320	63344.02	19105.84	121.27	6460
R-320	63344.53	19105.40	121.20	6461
R-320	63348.93	19104.92	121.00	6462
R-320	63350.06	19105.23	121.86	6463
R-320	63350.49	19106.02	122.24	6464
R-321	63302.48	19064.14	127.57	6465
R-321	63303.97	19064.12	127.56	6466
R-321	63304.01	19065.04	127.54	6467
R-321	63303.37	19065.13	127.51	6468
R-322	63326.24	19104.42	122.85	6469
R-322	63327.53	19104.54	122.84	6470
R-322	63326.89	19116.00	122.59	6471
R-322	63325.63	19115.34	122.87	6472
R-323	63278.30	19042.79	128.26	6473
R-323	63279.28	19041.83	128.28	6474
R-323	63283.62	19046.32	128.18	6475
R-323	63282.63	19047.13	128.08	6476
R-324	63260.27	19022.90	128.94	6477
R-324	63260.18	19025.39	128.85	6478
R-324	63261.35	19025.52	128.85	6479
R-324	63261.44	19024.39	128.88	6480
R-325	63257.69	19019.99	129.06	6481

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-325	63259.41	19019.95	128.99	6482
R-325	63259.61	19021.03	128.90	6483
R-325	63258.91	19021.09	128.96	6484
R-326	63238.12	19001.75	129.67	6485
R-326	63239.17	19001.82	129.68	6486
R-326	63239.18	19002.78	129.68	6487
R-326	63238.11	19002.70	129.65	6488
R-327	63236.80	18997.72	129.76	6489
R-327	63238.47	18997.78	129.74	6490
R-327	63238.46	18998.71	129.74	6491
R-327	63237.76	18998.83	129.73	6492
R-328	63348.10	18345.70	120.87	6493
R-328	63347.93	18346.55	121.02	6494
R-328	63346.83	18346.31	120.98	6495
R-328	63346.61	18345.18	120.84	6496
R-329	63215.97	18979.87	130.29	6497
R-329	63215.97	18980.96	130.28	6498
R-329	63217.18	18980.84	130.28	6499
R-329	63217.23	18980.03	130.31	6500
R-330	63215.47	18975.48	130.45	6501
R-330	63217.78	18975.48	130.42	6502
R-330	63218.03	18976.48	130.39	6503
R-330	63216.45	18976.69	130.47	6504
R-331	63193.51	18953.04	131.17	6505
R-331	63194.88	18953.06	131.14	6506
R-331	63194.80	18954.75	131.14	6507
R-331	63193.81	18954.99	131.11	6508
R-332	63172.54	18934.19	131.91	6509
R-332	63170.57	18934.18	131.89	6510
R-332	63170.61	18930.85	132.01	6511
R-332	63172.84	18930.85	131.93	6512
R-332	63172.91	18931.92	131.90	6513
R-332	63172.03	18932.05	131.97	6514
R-332	63172.51	18932.71	131.98	6515
R-333	63149.01	18909.84	132.76	6516
R-333	63149.66	18909.89	132.76	6517
R-333	63150.31	18910.62	132.74	6518
R-333	63150.21	18911.62	132.71	6519
R-333	63149.04	18911.56	132.75	6520
R-334	63148.81	18909.17	132.81	6521
R-334	63148.86	18908.68	132.79	6522

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-334	63150.66	18908.68	132.68	6523
R-334	63150.74	18909.72	132.70	6524
R-334	63149.52	18909.74	132.79	6525
R-335	63126.40	18887.17	133.51	6526
R-335	63127.88	18888.34	133.52	6527
R-335	63127.76	18890.25	133.48	6528
R-335	63126.44	18890.28	133.45	6529
R-335	63126.33	18887.28	133.50	6530
R-336	63125.61	18886.36	133.55	6531
R-336	63127.42	18886.37	133.55	6532
R-336	63127.57	18887.36	133.49	6533
R-336	63126.79	18887.50	133.49	6534
R-337	63105.21	18866.23	134.24	6535
R-337	63105.13	18867.30	134.20	6536
R-337	63103.85	18867.22	134.24	6537
R-337	63103.88	18864.79	134.27	6538
R-338	63103.92	18864.79	134.30	6539
R-338	63104.05	18864.25	134.30	6540
R-338	63105.31	18864.37	134.31	6541
R-338	63105.35	18865.46	134.30	6542
R-338	63104.68	18865.52	134.30	6543
R-339	63082.15	18844.09	135.02	6544
R-339	63081.48	18844.19	135.00	6545
R-339	63081.48	18845.36	134.95	6546
R-339	63082.71	18845.52	134.97	6547
R-339	63082.74	18844.61	134.98	6548
R-340	63080.65	18842.21	135.12	6549
R-340	63081.53	18843.43	135.08	6550
R-340	63082.55	18843.32	135.04	6551
R-340	63082.39	18842.18	135.08	6552
R-341	63070.29	18833.17	135.40	6553
R-341	63070.85	18832.60	135.40	6554
R-341	63071.61	18833.46	135.34	6555
R-341	63071.06	18834.02	135.34	6556
R-342	63067.43	18830.43	135.45	6557
R-342	63068.03	18829.79	135.47	6558
R-342	63068.85	18830.59	135.49	6559
R-342	63068.28	18831.16	135.47	6560
R-343	63058.97	18821.83	135.77	6561
R-343	63059.55	18821.68	135.83	6562
R-343	63060.30	18822.48	135.80	6563

488-1D Microdrain Repairs Asbuilt Point Data

Surveyor: GEL Engineering, LLC

Panel Designation	Northing	Easting	Elevation	Point Number
R-343	63060.06	18823.00	135.73	6564
R-343	63058.93	18822.89	135.74	6565
R-344	63057.71	18819.81	135.87	6566
R-344	63059.79	18819.89	135.82	6567
R-344	63059.74	18821.04	135.81	6568
R-344	63058.85	18821.11	135.83	6569
R-345	63037.73	18799.35	136.56	6570
R-345	63037.63	18799.8709	136.4991	6571
R-345	63036.2826	18799.8173	136.5798	6572
R-345	63036.231	18798.16	136.584	6573
R-346	63036.044	18797.6225	136.594	6574
R-346	63038.2505	18797.467	136.5575	6575

This page was intentionally left blank.

APPENDIX Q6

Final LLDPE & Geotextile Acceptance Inspection Report

This page was intentionally left blank.

2018

CLOSEOUT SUBMITTAL

SAVANNAH RIVER

Prepared For: Envirocon
Prepared By: James Tuttle

2690-D Salisbury Hwy | Statesville, NC 28677 | P: 704.208.3440 | www.ccsliners.com

SECTION | 1

COMPLIANCE LETTER

SECTION | 2

WARRANTIES

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

LIMITED WORKMANSHIP WARRANTY

Warranty No.: 17-128-01
Project No.: 17-128
Effective Date: July 9, 2018

PURCHASER: Envirocon

ADDRESS: 1999 Broadway, Suite 800

CITY/STATE: Denver, CO 80202

PROJECT NAME: Savannah River

DESCRIPTION: 50-mil LLDPE & Geotextile

CHESAPEAKE CONTAINMENT SYSTEMS, INC. (CCSI) warrants each CCSI LINER SYSTEM installed by CCSI to be free from defects in workmanship. This "Workmanship Warranty" shall be in effect from the date the installation of the Liner System is completed and accepted by the Owner for a period of ONE YEAR of normal use in approved applications.

This Limited Warranty does not include damages or defects in the CCSI Liner System resulting from acts of God, casualty or catastrophe including but not limited to: earthquakes, floods, piercing hail, tornadoes or force majeure. The term "normal use" as used herein does not include, among other things, the exposure of CCSI Liner System to harmful chemicals, abuse of CCSI Liner System by machinery, equipment or people, excessive pressures or stress from any source, subsurface or overburdened soil conditions, and total or differential soil settlements and the effect these may have on the liner system.

Should defects or premature loss of use within the scope of the above Limited Workmanship Warranty occur, CCSI will, at its option, repair or replace the CCSI Liner System at the then current price in such manner as to charge the Purchaser/User. CCSI will have the right to inspect and determine the cause of any alleged defect in the CCSI Liner System and to take appropriate steps to repair or replace the CCSI Liner System if a defect exists and is within the term of this Limited Warranty.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail, to the President of CCSI within thirty (30) days after the alleged defect is noticed. Should the required notice not be given, the defect and all warranties shall be deemed to have been waived by the Purchaser, and Purchaser shall have no right of recovery against CCSI. In the event repairs and/or replacements are to be effected, said repairs and/or replacements shall not become due until the area subject to repair and/or replacement of CCSI Liner System is available to CCSI in a clean, dry, unencumbered condition. This includes, but is not limited to, the area made available for repair and/or replacement of CCSI Liner Systems to be free from all water, dirt, sludge, residuals, and liquids of any kind.

CCSI's liability under this warranty shall in no event exceed the replacement cost of the material and installation sold to the Purchaser for the particular installation in which it failed. Further, under no circumstances shall CCSI be liable for any special, direct, indirect, or consequential damages arising from loss of production or any other losses including losses due to personal injuries and product liability owing to the failure of the material or installation and no allowance will be made for repairs, replacements, or alterations made by the Purchaser without the express written consent of CCSI.

CCSI neither assumes nor authorizes any person other than an officer of CCSI to assume for it any other or additional liability in connection with the CCSI Liner System made the basis of the Limited Warranty. The Limited Workmanship Warranty on the CCSI Liner System herein is given in lieu of all other possible material warranties, either express or implied, and by accepting delivery of the material Purchaser waives all other possible workmanship warranties, except those specifically given.

The parties expressly agree that the sale hereunder is for commercial or industrial use only.

CCSI's Limited Warranty is extended to the purchaser/owner and is non transferable and non-assignable.

Purchaser acknowledges by acceptance that the Limited Workmanship Warranty given herein is accepted in preference to any and all other possible workmanship warranties.

WARRANTY BECOMES EFFECTIVE UPON RECEIPT OF FINAL PAYMENT

I hereby state I have read and understood the above and foregoing Limited Warranty and agree to such by signing hereunder

PURCHASER NAME:_____

SIGNATURE:_____

DATE:_____

Chesapeake Containment Systems, Inc.

Ryan Clark Vice President

Limited Material Warranty

OWNER:	Environcon
REQUESTED BY:	Chesapeake Containment Systems Inc.
PROJECT:	Savannah River
TYPE MATERIAL:	50 ML LLDPE MicroDrain ®
LOCATION:	Aiken , SC.
EFFECTIVE DATE:	7/8/18

AGRU AMERICA, Inc. (AGRU) warrants its material for a period of Five (5) YEARS, prorated, from the final project ship date when subsequently properly installed and used for Coal Ash Basin (BURIED). AGRU warrants that the liner will be free from material defects and is manufactured in all material respects to AGRU's product specifications as indicated in the applicable AGRU technical records, catalogs, guidelines, and test certificates in effect at the time when the material is sold. Note: AGRU's products may vary in details of design and construction from descriptions in any literature or from any sample, display, or other model inspected by Customer.

AGRU disclaims all other representations and warranties of any kind, express or implied, in fact or in law, including, without limitation, the implied warranty of merchantability and the implied warranty of fitness for a particular purpose. Every claim under this limited warranty shall be deemed waived unless in writing and received by SELLER within 10 days of delivery if visibly damaged or defective, and, otherwise, within 30 days after the defect to which each claim relates is discovered, or should have been discovered, but in no event longer than Five (5) YEARS after product shipment.

AGRU's liability under this limited warranty is not applicable when damage is caused by: Natural phenomena such as, but not limited to: thunderstorms, floods, earthquakes, or other acts of God; and acts of war, machinery, foreign objects or animals; and Chemicals which are not suitable for LLDPE liner materials.

AGRU's Limited Material Warranty will be void if any of the material is shipped prior to completion and approval of all testing required by the project specifications.

Further, the AGRU limited warranty is voided by, and AGRU in no event shall be liable for damages due to improper site preparation, as well as the misapplication, incorrect installation (including incorrect welding of seams in the installation), and/or damages resulting from any kind of improper handling.

Further, AGRU's warranty will be void in the event that the Customer performs repairs or makes alterations without the express approval of AGRU in writing. Customer shall not repair, replace, remove, alter, or disturb any liner prior to AGRU'S inspection except that the Customer may take emergency action necessary to prevent damage to persons, property or the environment. Failure to comply with this paragraph shall void the warranty.

This warranty is only valid on condition that the generally approved technical standards, and in particular the guidelines for the installation of the liner, are followed in all respects.

AGRU shall be given an opportunity to ascertain the cause of damages. AGRU reserves the right to decide how damages will be settled. Customer agrees that it shall provide AGRU with clean, dry and unobstructed access to the liner in order for AGRU to perform the inspections and repairs which may be required pursuant to the warranty. AGRU shall not be obligated to perform any inspection or be obligated to perform any repair or replacement under this warranty until the area is made available free from all obstructions, water, dirt, sludge, residuals and liquids of any kind. AGRU shall not be liable for any costs relating to providing such access to the liner. If after inspection it is determined that there is no claim under this warranty, Customer shall reimburse AGRU for its costs associated with the site inspection.

Customer's exclusive remedy and the limit of AGRU's liability for breach of this limited warranty, whether based on negligence, breach of warranty, strict liability, or any other theory, at law or in equity, shall be, at AGRU's option: repair, replacement with a like quantity of non-defective product, or refund of the purchase price, plus reasonable handling and transportation charges incurred for approved refunds.

AGRU will not be held responsible for any delays in performing approved material repairs or replacements that are caused by machinery or mechanical failure beyond AGRU's control.

AGRU's maximum liability under this warranty will not exceed the purchase price of the liner and will only be in force when payment has been made in full, and further claims, regardless of the legal suppositions, are not applicable.

All AGRU products (including liners) are sold under AGRU's General Terms and Conditions, including this Limited Material Warranty, and bar on recovery of consequential and other damages.

AGRU AMERICA SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR SPECIAL DAMAGES BASED ON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY, OR ANY OTHER THEORY, FOR FAILURE TO PERFORM ITS OBLIGATIONS UNDER THIS AGREEMENT. ADDITIONALLY, CONSEQUENTIAL AND SPECIAL DAMAGES SHALL NOT BE RECOVERABLE EVEN IF THE REPAIR, REPLACEMENT, OR REFUND REMEDY FOR AGRU AMERICA'S BREACH OF ITS LIMITED WARRANTY FAILS ITS ESSENTIAL PURPOSE OR FOR ANY OTHER REASON.

No warranty made by any representative of AGRU, or any other person, regarding the AGRU material shall be binding upon AGRU except the warranty set forth herein.

SECTION | 4

QC DOCUMENTATION

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
1	4/5/18	9:50	50	M20	ED	860/650		117	108	117	111		148	145	144			Pass	DR	S/S
								125	108	118	105									
2	4/5/18	13:10	58	M20	ED	860/750		102	85	107	90		113	103	116			Pass	DR	S/S
								92	92	94	78									
3	4/5/18	14:10	58	M22	JG	850/750		90	84	86	68		89	78	88			Pass	DR	S/S
								108	76	86	72									
4	4/6/18	11:30	68	X53	JG		500/500	94	83	96	83		108	110	104			Pass	DR	EXT
5	4/6/18	11:45	68	X53	JG		500/500	72	70	67	76		86	98	92			Pass	DR	EXT
6	4/10/18	11:45	68	X53	JG		470/470	98	82	77	75		98	90	104			Pass	DR	EXT
7	4/10/18	13:05	68	X53	JG		470/470	91	97	91	70		107	108	108			Pass	DR	EXT
8	4/11/18	12:50	71	M20	ED	860/750		84	74	77	78		92	88	102			Pass	DR	S/S
								93	73	84	63									
9	4/11/18	12:40	71	M22	JG	860/750		82	68	81	75		112	121	118			Pass	DR	S/S
								81	69	98	84									
10	4/12/18	8:20	71	M20	ED	860/750		110	97	103	96		132	120	123			Pass	DR	S/S
								112	89	108	97									

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

	Fusion:	Extrusion:
Peel:	63	57
Shear:	75	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
11	4/12/18	8:15	71	M22	JG	850/750		105	103	118	103		135	118	132			Pass	DR	S/S
								111	89	116	77									
12	4/12/18	10:15	78	M20	ED	860/750		99	88	101	80		127	137	126			Pass	DR	S/S
								98	97	118	87									
13	4/12/18	14:30	78	M21	ED	860/750		102	92	103	79		109	106	110			Pass	DR	S/S
								104	98	96	90									
14	4/13/18	8:00	78	M21	ED	860/750		82	90	83	78		85	98	112			Pass	DR	S/S
								79	81	83	86									
15	4/13/18	12:47	83	M21	ED	860/750		75	73	85	77		82	98	110			Pass	DR	S/S
								77	84	74	87									
16	4/14/18	12:45	82	X53	JG		490/470	90	95	97	91		98	102	102			Pass	DR	EXT
17	4/17/18	8:20	44	X53	JG		460/460	85	79	85	81		113	108	109			Pass	DR	EXT
18	4/17/18	13:30	72	X53	JG		460/460	98	81	103	97		109	104	106			Pass	DR	EXT
19	4/18/18	8:20	44	X53	JG		470/470	98	82	113	97		116	110	109			Pass	DR	EXT
20	4/18/18	13:30	88	X53	JG		470/470	97	96	91	90		116	114	117			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
21	4/19/18	13:10	88	X53	JG		470/470	99	100	103	105		110	107	109			Pass	DR	EXT
22	4/25/18	8:10	66	X53	JG		470/470	99	104	104	106		111	114	103			Pass	DR	EXT
23	4/26/18	8:20	66	X53	JG		470/470	98	99	101	103		107	102	100			Pass	DR	EXT
24	4/30/18	8:30	62	M22	JG	850/750		114	103	131	117		110	106	107			Pass	DR	S/S
								123	124	116	100									
25	4/30/18	8:33	62	M21	ED	860/750		113	100	120	114		112	105	111			Pass	DR	S/S
								121	111	123	106									
26	4/30/18	13:10	76	M22	JG	850/750		114	103	131	117		110	106	107			Pass	DR	S/S
								123	124	116	100									
27	4/30/18	13:12	76	M21	ED	860/750		113	100	120	114		112	105	111			Pass	DR	S/S
								121	111	123	106									
28	5/1/18	8:03	62	M21	ED	860/750		102	91	101	91		137	128	130			Pass	DR	S/S
								95	87	102	85									
29	5/1/18	8:05	62	M22	JG	850/760		113	108	95	88		119	129	128			Pass	DR	S/S
								101	91	120	98									
30	5/1/18	13:05	82	M22	JG	850/760		113	114	107	111		120	117	115			Pass	DR	S/S
								104	109	107	90									

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
31	5/1/18	13:10	82	M21	ED	860/750		91	79	90	92		112	123	113			Pass	DR	S/S
								87	79	86	78									
32	5/2/18	8:36	66	X53	JG		450/450	118	109	102	104		134	127	136			Pass	DR	EXT
33	5/2/18	13:40	95	X53	JG		450/450	117	106	115	93		111	108	107			Pass	DR	EXT
34	5/3/18	8:30	74	X53	ED		450/450	90	77	98	102		112	113	110			Pass	DR	EXT
35	5/4/18	8:30	67	X53	JG		450/450	101	109	91	110		113	115	117			Pass	DR	EXT
36	5/4/18	8:03	76	M21	ED	860/750		105	103	93	109		116	119	114			Pass	DR	S/S
								105	103	93	109									
37	5/4/18	13:26	92	M21	ED	860/750		98	106	103	102		115	114	119			Pass	DR	S/S
								98	108	96	105									
38	5/4/18	14:20	92	M22	JG	850/760		98	107	101	106		112	117	119			Pass	DR	S/S
								105	101	105	108									
39	5/5/18	7:40	64	M21	ED	860/750		104	100	95	96		113	115	118			Pass	DR	S/S
								97	97	102	107									
40	5/7/18	8:03	72	X53	JG		470/470	98	100	105	106		116	108	109			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
41	5/7/18	13:00	90	X53	JG		470/470	106	101	99	106		113	111	115			Pass	DR	EXT
42	5/8/18	8:25	70	X53	JG		470/470	105	107	101	102		114	109	116			Pass	DR	EXT
43	5/9/18	8:05	73	M22	JG	850/800		104	100	108	111		118	117	111			Pass	DR	S/S
								114	114	97	99									
44	5/9/18	8:58	73	M21	ED	860/780		98	102	109	102		121	114	118			Pass	DR	S/S
								107	113	99	115									
45	5/9/18	13:05	92	X53	JG		470/470	99	110	105	108		120	111	117			Pass	DR	EXT
46	5/11/18	7:35	70	M22	JG	850/800		98	101	108	104		117	120	118			Pass	DR	S/S
								106	104	105	101									
47	5/11/18	7:37	70	M21	ED	860/750		98	108	107	100		119	111	114			Pass	DR	S/S
								105	104	102	108									
48	5/11/18	13:10	92	M21	ED	860/750		103	104	105	98		110	116	118			Pass	DR	S/S
								108	102	105	102									
49	5/11/18	13:20	92	X53	JG		470/470	105	101	102	106		119	117	117			Pass	DR	EXT
50	5/14/18	7:45	70	X53	JG		470/470	110	118	102	116		118	118	120			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
51	5/14/18	13:10	90	X53	JG		470/470	115	109	100	103		120	118	118			Pass	DR	EXT
52	5/21/18	8:05	73	X53	JG		470/470	84	97	94	85		118	121	117			Pass	DR	EXT
53	5/21/18	13:10	86	X53	JG		470/470	94	98	84	98		124	117	123			Pass	DR	EXT
54	5/22/18	7:55	68	X53	JG		470/470	89	84	86	91		125	117	127			Pass	DR	EXT
55	6/5/18	8:30	72	M21	ED	860/750		92	92	96	94		124	128	127			Pass	DR	S/S
								103	95	102	96									
56	6/5/18	11:40	84	M22	JG	850/760		103	92	99	94		122	128	125			Pass	DR	S/S
								98	93	93	96									
57	6/5/18	13:13	88	M21	ED	860/750		104	98	95	98		122	124	124			Pass	DR	S/S
								104	92	103	96									
58	6/6/18	8:10	70	X53	JG		470/470	96	93	92	100		128	121	125			Pass	DR	EXT
59	6/6/18	9:10	82	X53	JV		470/470	92	92	94	94		128	127	125			Pass	DR	EXT
60	6/6/18	13:10	86	X53	JV		470/470	93	105	99	100		123	121	127			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
61	6/8/18	15:10	86	M21	ED	860/750		105	106	108	98		116	97	109			Pass	DR	S/S
								102	106	109	92									
62	6/9/18	9:20	72	M21	ED	860/750		99	103	94	109		113	97	92			Pass	DR	S/S
								97	92	104	94									
63	6/9/18	15:10	92	X53	ED		470/470	103	107	101	101		116	93	109			Pass	DR	EXT
64	6/11/18	8:00	68	X53	JG		470/470	92	96	109	94		116	98	98			Pass	DR	EXT
65	6/11/18	13:10	92	X53	JG		470/470	96	108	103	106		116	92	109			Pass	DR	EXT
66	6/12/18	8:00	72	M21	ED	860/750		111	113	109	106		125	123	120			Pass	DR	S/S
								110	105	105	116									
67	6/12/18	13:10	84	M21	ED	860/750		104	105	102	101		125	127	124			Pass	DR	S/S
								100	98	105	114									
68	6/13/18	8:10	74	X53	JG		470/470	101	104	106	103		126	120	122			Pass	DR	EXT
69	6/13/18	13:11	92	X53	JG		470/470	110	111	107	107		126	124	120			Pass	DR	EXT
70	6/14/18	8:15	72	X53	JG		470/470	116	110	116	117		120	127	125			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
71	6/14/18	8:13	76	M21	ED	860/750		104	109	106	106		123	127	123			Pass	DR	S/S
								104	106	97	115									
72	6/14/18	13:00	90	M21	ED	860/750		105	110	101	98		124	126	123			Pass	DR	S/S
								114	110	114	97									
73	6/15/18	8:14	70	M21	ED	860/750		101	99	107	107		125	120	125			Pass	DR	S/S
								109	97	109	114									
74	6/15/18	13:11	88	M21	ED	860/750		113	100	99	118		127	125	123			Pass	DR	S/S
								100	108	114	107									
75	6/18/18	8:24	70	X53	ED		470/470	116	111	100	98		122	120	125			Pass	DR	EXT
76	6/18/18	13:10	86	X53	ED		470/470	106	100	115	100		121	127	121			Pass	DR	EXT
77	6/19/18	8:05	72	M21	ED	860/750		102	111	110	106		122	125	118			Pass	DR	S/S
								102	98	98	106									
78	6/19/18	13:15	97	M21	ED	860/750		98	106	108	102		116	120	121			Pass	DR	S/S
								104	108	115	102									
79	6/20/18	8:15	75	X53	ED		470/470	102	98	109	112		119	127	120			Pass	DR	EXT
80	6/20/18	13:10	100	X53	ED		470/470	99	99	106	113		124	127	115			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
81	6/21/18	8:22	72	M21	ED	860/750		100	103	107	108		119	129	118			Pass	DR	S/S
								107	99	105	109									
82	6/21/18	13:25	103	M21	ED	860/750		112	103	98	111		123	129	118			Pass	DR	S/S
								111	107	102	98									
83	6/22/18	8:22	73	X53	ED		470/470	102	102	99	113		125	124	129			Pass	DR	EXT
84	6/22/18	13:05	99	X53	ED		470/470	112	103	111	101		124	126	122			Pass	DR	EXT
85	6/25/18	8:22	72	X53	ED		470/470	98	101	106	104		120	127	125			Pass	DR	EXT
86	6/25/18	13:15	98	X53	ED		470/470	111	114	109	100		128	129	117			Pass	DR	EXT
87	6/26/18	8:02	78	X53	ED		470/470	112	103	108	111		125	127	122			Pass	DR	EXT
88	6/26/18	13:02	92	X53	ED		470/470	113	107	106	113		118	120	128			Pass	DR	EXT
89	6/27/18	8:12	71	X53	ED		470/470	101	104	106	103		113	115	118			Pass	DR	EXT
90	6/27/18	13:20	98	X53	ED		470/470	98	100	105	106		116	108	109			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Field Trial Seam Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

Sample #	Date	Time	Ambient Temp.	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
								Peel (ppi) IN/OUT					Shear (ppi)							
				Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
91	7/6/18	10:10	92	X53	ED		470/470	103	104	105	109		122	118	119			Pass	DR	EXT
92	7/9/18	1:00	87	X53	ED		470/470	99	101	102	98		124	120	123			Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
4/5/18	1	9:04	Southwest Corner	3355	22.5	272	6120
4/5/18	2	9:58	Southwest Corner	3355	22.5	158	3555
4/5/18	3	10:13	Southwest Corner	3337	22.5	138.5	3116.25
4/5/18	4	11:11	Southwest Corner	3337	22.5	320.5	7211.25
4/5/18	5	13:02	Southwest Corner	3317	22.5	347.5	7818.75
4/5/18	6	13:21	Southwest Corner	3317	22.5	115	2587.5
4/5/18	7	13:35	Southwest Corner	3290	22.5	259	5827.5
4/5/18	8	13:50	Southwest Corner	3290	22.5	217	4882.5
4/5/18	9	14:10	Southwest Corner	3359	22.5	190	4275
4/5/18	10	15:15	South Corner	3359	22.5	269	6052.5
4/5/18	11	15:35	South Corner	3286	22.5	138	3105
4/11/18	12	13:00	South Corner	3316	22.5	392	8820
4/11/18	13	13:12	South Corner	3303	22.5	365	8212.5
4/11/18	14	13:46	South Corner	3286	22.5	335	7537.5
4/11/18	15	14:11	South Corner	3301	22.5	315	7087.5
4/11/18	16	14:37	South Corner	3327	22.5	296	6660
4/11/18	17	15:16	South Corner	3308	22.5	275	6187.5
4/12/18	18	8:39	Southeast Corner	3324	22.5	236	5310
4/12/18	19	9:01	Southeast Corner	3324	22.5	216	4860
4/12/18	20	9:10	Southeast Corner	3295	22.5	213	4792.5
4/12/18	21	9:42	Southeast Corner	3295	22.5	190	4275
4/12/18	22	10:02	Southeast Corner	3308	22.5	171	3847.5
4/12/18	23	10:15	Southeast Corner	3327	22.5	150	3375
4/12/18	24	10:37	Southeast Corner	3301	22.5	124	2790
4/12/18	25	11:09	Southeast Corner	3296	22.5	104	2340
4/12/18	26	11:26	Southeast Corner	3316	22.5	88	1980
4/12/18	27	14:20	Southeast Corner	3296	22.5	55	1237.5
4/12/18	28	14:30	Southeast Corner	3296	22.5	32	720
4/12/18	29	15:37	Southeast Corner	3296	22.5	32	720
4/13/18	30	15:43	East Slope	3296	22.5	55	1237.5

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
4/13/18	31	8:00	East Slope	3296	22.5	52	1170
4/13/18	32	8:06	East Slope	3338	22.5	79	1777.5
4/13/18	33	8:10	East Slope	3338	22.5	99	2227.5
4/13/18	34	9:30	East Slope	3338	22.5	115	2587.5
4/13/18	35	9:46	East Slope	3303	22.5	136	3060
4/13/18	36	10:00	East Slope	3309	22.5	163	3667.5
4/13/18	37	10:03	East Slope	3309	22.5	188	4230
4/13/18	38	10:43	East Slope	3330	22.5	210	4725
4/13/18	39	12:47	East Slope	3330	22.5	239	5377.5
4/13/18	40	13:45	East Slope	3297	22.5	260	5850
4/30/18	41	1:31	Southeast Corner	3330	7	8	56
4/30/18	42	9:42	East Slope	3297	22.5	196	4410
4/30/18	43	9:52	East Slope	3338	22.5	92	2070
4/30/18	44	9:58	East Slope	3352	22.5	301	6772.5
4/30/18	45	10:11	East Slope	3352	22.5	154	3465
4/30/18	46	10:21	East Slope	3353	22.5	177.5	3993.75
4/30/18	47	10:32	East Slope	3353	22.5	296	6660
4/30/18	48	10:48	East Slope	3309	22.5	60	1350
4/30/18	49	11:26	East Slope	3354	22.5	392.5	8831.25
4/30/18	50	13:29	East Slope	3346	22.5	417	9382.5
4/30/18	51	13:47	East Slope	3340	22.5	490	11025
4/30/18	52	13:57	East Slope	3358	22.5	474	10665
5/1/18	53	8:47	East Slope	3345	22.5	490	11025
5/1/18	54	9:05	East Slope	3343	22.5	474	10665
5/1/18	55	9:22	East Slope	3313	22.5	486	10935
5/1/18	56	9:44	East Slope	3291	22.5	474	10665
5/1/18	57	10:07	East Slope	3329	22.5	486	10935
5/1/18	58	10:12	East Slope	3325	22.5	474	10665
5/1/18	59	13:00	East Slope	3314	22.5	486	10935
5/1/18	60	13:10	East Slope	3336	22.5	474	10665

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
5/1/18	61	9:30	South Slope	3335	22.5	248	5580
5/1/18	62	9:35	South Slope	3331	22.5	224	5040
5/1/18	63	9:40	South Slope	3349	22.5	200	4500
5/1/18	64	9:50	South Slope	3349	22.5	176	3960
5/1/18	65	10:16	South Slope	3289	22.5	152	3420
5/1/18	66	13:02	South Slope	3321	22.5	124	2790
5/1/18	67	13:05	South Slope	3321	22.5	106	2385
5/4/18	68	13:18	South Slope	3321	22.5	82	1845
5/4/18	69	13:24	South Slope	3321	22.5	58	1305
5/4/18	70	13:32	South Slope	3321	22.5	35	787.5
5/4/18	71	13:32	South Slope	3335	10	10	100
5/4/18	72	14:02	West Slope	3249	22.5	32	720
5/4/18	73	14:15	West Slope	3249	22.5	53	1192.5
5/4/18	74	14:28	West Slope	3249	22.5	75	1687.5
5/4/18	75	14:38	West Slope	3249	22.5	97	2182.5
5/4/18	76	14:50	West Slope	3328	22.5	119	2677.5
5/4/18	77	15:05	West Slope	3328	22.5	141	3172.5
5/4/18	78	15:19	West Slope	3328	22.5	162	3645
5/4/18	79	15:30	West Slope	3332	22.5	183	4117.5
5/4/18	80	15:43	West Slope	3332	22.5	206	4635
5/4/18	81	8:15	West Slope	3331	22.5	227	5107.5
5/4/18	82	8:25	West Slope	3299	22.5	247	5557.5
5/4/18	83	8:53	West Slope	3318	22.5	263	5917.5
5/4/18	84	9:20	West Slope	3288	22.5	286	6435
5/4/18	85	9:22	West Slope	3310	22.5	299	6727.5
5/4/18	86	9:32	West Slope	0129	22.5	315	7087.5
5/5/18	87	10:05	West Slope	3322	22.5	344	7740
5/5/18	88	10:20	West Slope	3284	22.5	365	8212.5
5/5/18	89	10:23	West Slope	3347	22.5	374	8415
5/9/18	90	7:50	West Slope	3357	22.5	293	6592.5

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
5/9/18	91	8:25	West Slope	3218	22.5	306	6885
5/9/18	92	8:45	West Slope	3287	22.5	291	6547.5
5/9/18	93	9:15	West Slope	3326	22.5	306	6885
5/11/18	94	9:45	West Slope	3292	22.5	295	6637.5
5/11/18	95	10:15	West Slope	3210	22.5	306	6885
5/11/18	96	10:30	West Slope	3319	22.5	296	6660
5/11/18	97	10:45	West Slope	3215	22.5	312	7020
5/11/18	98	11:02	West Slope	3283	22.5	292	6570
5/11/18	99	11:12	West Slope	3356	22.5	312	7020
5/11/18	100	11:15	West Slope	3284	7	118	826
5/11/18	101	11:20	West Slope	3284	7	123	861
5/11/18	102	11:20	West Slope	3284	7	32	224
5/11/18	103	8:40	West Slope	3306	22.5	488	10980
5/11/18	104	9:35	West Slope	3294	22.5	478	10755
5/11/18	105	10:06	West Slope	0128	22.5	382	8595
6/5/18	106	10:42	West Slope	3348	22.5	262	5895
6/5/18	107	10:45	West Slope	0128	22.5	97	2182.5
6/5/18	108	11:15	West Slope	3342	22.5	337	7582.5
6/5/18	109	13:00	West Slope	3305	22.5	217	4882.5
6/5/18	110	13:32	West Slope	3305	22.5	97	2182.5
6/5/18	111	13:40	West Slope	3323	22.5	293	6592.5
6/5/18	112	14:02	West Slope	3283	22.5	190	4275
6/5/18	113	14:10	West Slope	3322	22.5	79	1777.5
6/5/18	114	14:57	West Slope	3341	22.5	247	5557.5
6/5/18	115	15:45	West Slope	3288	22.5	212.5	4781.25
6/5/18	116	15:30	West Slope	3348	22.5	188	4230
6/8/18	117	15:55	West Slope	3218	22.5	163.5	3678.75
6/8/18	118	16:06	West Slope	3219	22.5	139	3127.5
6/8/18	119	16:34	West Slope	3326	22.5	115.5	2598.75
6/8/18	120	17:03	West Slope	3216	22.5	92.5	2081.25

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
6/8/18	121	17:13	West Slope	3350	22.5	70.5	1586.25
6/8/18	122	17:18	West Slope	3256	22.5	49.5	1113.75
6/8/18	123	17:20	West Slope	3256	22.5	29	652.5
6/9/18	124	9:00	West Slope	3310	22.5	11	247.5
6/9/18	125	9:10	North Slope	3310	6	16	96
6/9/18	126	9:35	North Slope	3310	22.5	29	652.5
6/9/18	127	9:50	North Slope	3210	22.5	53.5	1203.75
6/9/18	128	10:05	North Slope	3309	22.5	78	1755
6/9/18	129	10:19	North Slope	3328	22.5	103	2317.5
6/9/18	130	10:24	North Slope	3215	22.5	126	2835
6/9/18	131	10:32	North Slope	3285	22.5	148.5	3341.25
6/9/18	132	10:35	North Slope	3287	22.5	170.5	3836.25
6/12/18	133	9:20	North Slope	3209	22.5	204	4590
6/12/18	134	9:45	North Slope	3302	22.5	228	5130
6/12/18	135	9:47	North Slope	3293	22.5	254	5715
6/12/18	136	15:18	North Slope	3212	22.5	307	6907.5
6/12/18	137	15:30	North Slope	3212	22.5	208	4680
6/12/18	138	15:38	North Slope	3323	22.5	90	2025
6/12/18	139	15:46	North Slope	3320	22.5	319	7177.5
6/12/18	140	16:10	North Slope	3312	22.5	246	5535
6/12/18	141	16:20	North Slope	3319	22.5	96	2160
6/14/18	142	10:54	North Slope	3216	22.5	372	8370
6/14/18	143	11:22	North Slope	3300	22.5	302	6795
6/14/18	144	13:12	North Slope	3319	22.5	96	2160
6/14/18	145	13:28	North Slope	3208	22.5	397	8932.5
6/14/18	146	13:34	North Slope	3315	22.5	392	8820
6/14/18	147	14:15	North Slope	3214	22.5	283	6367.5
6/14/18	148	15:23	North Slope	3311	22.5	101	2272.5
6/14/18	149	15:33	North Slope	3307	22.5	348	7830
6/15/18	150	8:33	North Slope	3302	22.5	250	5625

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
6/15/18	151	8:45	North Slope	3307	22.5	68	1530
6/15/18	152	8:50	North Slope	3351	22.5	295	6637.5
6/15/18	153	9:00	North Slope	3219	22.5	196	4410
6/15/18	154	9:15	North Slope	3214	22.5	76	1710
6/15/18	155	10:01	North Slope	3341	22.5	249.5	5613.75
6/15/18	156	10:15	North Slope	3298	22.5	227.5	5118.75
6/15/18	157	10:51	North Slope	3312	22.5	206	4635
6/15/18	158	11:20	North Slope	3300	22.5	183.5	4128.75
6/15/18	159	11:30	North Slope	3351	22.5	161.5	3633.75
6/19/18	160	8:47	East Slope	3285	22.5	294	6615
6/19/18	161	9:15	East Slope	3339	22.5	304	6840
6/19/18	162	9:50	East Slope	3217	22.5	382	8595
6/19/18	163	10:17	East Slope	3209	22.5	273	6142.5
6/19/18	164	11:00	East Slope	3217	22.5	83.5	1878.75
6/19/18	165	11:16	East Slope	3213	22.5	332	7470
6/19/18	166	13:20	East Slope	3335	22.5	237	5332.5
6/19/18	167	13:26	East Slope	3323	22.5	71.5	1608.75
6/19/18	168	13:38	East Slope	3311	22.5	283	6367.5
6/19/18	169	14:10	East Slope	3292	22.5	190	4275
6/19/18	170	14:19	East Slope	3311	22.5	93.5	2103.75
6/21/18	171	8:20	North Slope	I	22.5	140.5	3161.25
6/21/18	172	8:30	North Slope	3213	22.5	119	2677.5
6/21/18	173	8:48	North Slope	3211	22.5	95	2137.5
6/21/18	174	9:01	North Slope	3293	22.5	71.5	1608.75
6/21/18	175	9:14	North Slope	3301	22.5	50	1125
6/21/18	176	10:18	East Slope	3298	22.5	241.5	5433.75
6/21/18	177	10:31	East Slope	3289	22.5	217.5	4893.75
6/21/18	178	10:34	East Slope	3299	22.5	193.5	4353.75
6/21/18	179	11:22	East Slope	0129	22.5	171.5	3858.75
6/21/18	180	13:26	East Slope	3289	22.5	147.5	3318.75

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
50 mil

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
6/21/18	181	13:45	East Slope	3293	22.5	123	2767.5
6/21/18	182	14:28	East Slope	3284	22.5	100	2250
6/21/18	183	15:32	East Slope	3356	22.5	77.5	1743.75
6/21/18	184	16:30	East Slope	3355	22.5	50.5	1136.25
6/21/18	185	16:37	East Slope	3299	22.5	30	675
6/21/18	186	16:47	East Slope	3308	22.5	18.5	416.25
6/21/18	187	16:53	North Slope	3327	22.5	30	675
6/21/18	188	17:06	North Slope	3293	21	8	168

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
4/5/18	1/3	10:25	ED	M20	860	650	0+00	1+26	126	30	30	10:56	11:01	DR	4/6/18
4/5/18	1/2	10:40	ED	M20	860	650	0+00	1+58	158	35	35	9:53	9:58	DR	4/6/18
4/10/18	2/3	10:55	JG	X53	470	470	0+00	0+22	22	Extruded				DV	4/19/18
4/5/18	3/4	11:24	ED	M20	860	650	0+00	1+51	151	30	30	10:56	11:01	DR	4/6/18
4/5/18	2/4	11:44	ED	M20	860	650	0+00	1+52	152	35	35	9:38	9:43	DR	4/6/18
4/5/18	2/4	11:44	ED	M20	860	650	1+52	1+58	6	35	35	9:38	9:43	DR	4/6/18
4/5/18	4/5	13:26	ED	M20	860	650	0+00	3+20	320	35	35	9:38	9:43	DR	4/6/18
4/5/18	4/5	13:47	ED	M20	860	650	3+20	3+26	6	35	35	9:38	9:43	DR	4/6/18
4/5/18	4/5	13:48	ED	M20	860	650	3+26	3+32	6	35	35	9:38	9:43	DR	4/6/18
4/5/18	5/7	14:13	ED	M20	860	650	0+00	2+47	247	30	30	10:56	11:01	DR	4/6/18
4/5/18	5/6	14:20	JG	M22	850	750	0+00	1+16	116	35	35	10:13	10:18	DR	4/6/18
4/10/18	6/7	13:30	JG	X53	470	470	0+00	0+22	22	Extruded				DV	4/19/18
4/5/18	7/9	15:08	ED	M20	860	650	0+00	1+64	164	35	35	10:40	10:45	DR	4/6/18
4/5/18	7/8	15:30	ED	M20	860	650	0+00	1+06	106	30	30	10:56	11:01	DR	4/6/18
4/5/18	6/8	15:43	ED	M20	860	650	0+00	0+97	97	35	35	10:13	10:18	DR	4/6/18
4/5/18	6/8	15:43	ED	M20	860	650	0+97	1+16	19	35	35	10:13	10:18	DR	4/6/18
4/10/18	8/9	11:35	JG	X53	470	470	0+00	0+22	22	Extruded				DV	4/19/18
4/5/18	9/11	16:00	ED	M20	860	650	0+00	1+38	138	35	35	10:40	10:45	DR	4/6/18
4/5/18	9/10	16:13	ED	M20	860	650	0+00	0+52	52	35	35	10:40	10:45	DR	4/6/18
4/5/18	8/10	16:19	ED	M20	860	650	0+00	2+17	217	35	35	10:40	10:45	DR	4/6/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
4/10/18	10/11	15:15	JG	X53	470	470	0+00	0+22	22	Extruded				DV	4/19/18
4/11/18	11/12	13:09	ED	M20	860	750	2+70	3+92	122	30	30	10:16	10:21	DR	4/16/18
4/11/18	10/12	13:25	ED	M20	860	750	0+00	2+70	270	30	30	10:16	10:21	DR	4/16/18
4/11/18	12/13	13:35	JG	M22	850	750	0+00	3+65	365	30	28	10:16	10:21	DR	4/16/18
4/11/18	13/14	14:00	ED	M20	860	750	0+00	3+36	336	35	35	10:16	10:21	DR	4/16/18
4/11/18	14/15	14:35	JG	M22	850	750	0+00	3+15	315	30	30	10:52	10:57	DR	4/16/18
4/11/18	15/16	15:15	ED	M20	860	750	0+00	2+96	296	30	30	10:52	10:57	DR	4/16/18
4/11/18	16/17	15:30	JG	M22	850	750	0+00	2+75	275	35	35	10:52	10:57	DR	4/16/18
4/12/18	17/18	8:55	JG	M22	850	750	0+00	0+19	19	30	28	11:21	11:26	DR	4/16/18
4/12/18	17/18	8:55	JG	M22	850	750	0+19	2+37	218	30	30	8:38	8:43	DR	4/17/18
4/12/18	18/19	9:00	ED	M20	860	750	0+00	2+16	216	Extruded				DV	4/19/18
4/12/18	19/20	9:26	JG	M22	850	750	0+00	2+13	213	30	30	11:21	11:26	DR	4/16/18
4/12/18	20/21	10:00	JG	M22	850	750	0+00	1+90	190	30	30	11:59	12:04	DR	4/16/18
4/12/18	21/22	10:25	JG	M22	850	750	0+00	1+71	171	35	35	11:59	12:04	DR	4/16/18
4/12/18	22/23	10:30	ED	M21	860	750	0+00	1+50	150	30	30	13:15	13:20	DR	4/16/18
4/12/18	23/24	11:05	JG	M22	850	750	0+00	1+23	123	30	30	13:15	13:20	DR	4/16/18
4/12/18	24/25	11:30	ED	M21	860	750	0+00	1+04	104	30	30	13:15	13:20	DR	4/16/18
4/12/18	25/26	11:40	JG	M22	850	750	0+00	0+88	88	30	30	15:00	15:05	DR	4/16/18
4/12/18	26/27	14:32	ED	M21	860	750	0+00	0+55	55	30	30	15:00	15:05	DR	4/16/18
4/12/18	27/28	14:48	ED	M21	860	750	0+00	0+32	32	30	30	15:00	15:05	DR	4/16/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
4/12/18	29/30	15:48	ED	M21	860	750	0+00	0+31	31	30	30	15:26	15:31	DR	4/16/18
4/13/18	30/31	8:05	ED	M21	860	750	0+00	0+52	52	30	30	15:26	15:31	DR	4/16/18
4/13/18	31/32	8:28	ED	M21	860	750	0+00	0+79	79	30	30	15:26	15:31	DR	4/16/18
4/13/18	32/33	8:49	ED	M21	860	750	0+00	0+99	99	30	30	15:47	15:52	DR	4/16/18
4/13/18	33/34	9:23	ED	M21	860	750	0+00	1+15	115	30	30	15:47	15:52	DR	4/16/18
4/13/18	34/35	9:38	ED	M21	860	750	0+00	1+36	136	30	30	15:47	15:52	DR	4/16/18
4/13/18	35/36	10:00	ED	M21	860	750	0+00	1+63	163	30	30	16:00	16:05	DR	4/16/18
4/13/18	36/37	10:38	ED	M21	860	750	0+00	1+85	185	30	30	16:00	16:05	DR	4/16/18
4/13/18	37/38	12:56	ED	M21	860	750	0+00	2+08	208	30	30	16:00	16:05	DR	4/16/18
4/13/18	38/39	13:21	ED	M21	860	750	0+00	2+44	244	30	30	16:12	16:17	DR	4/16/18
4/13/18	39/40	13:50	ED	M21	860	750	0+00	2+64	264	30	30	16:12	16:17	DR	4/16/18
4/14/18	28/41	15:20	JG	X53	490	470	0+00	0+08	8	Extruded				DV	4/19/18
4/14/18	29/41	15:28	JG	X53	490	470	0+00	0+08	8	Extruded				DV	4/19/18
4/14/18	28/29	15:10	JG	X53	490	470	0+00	0+31	31	Extruded				DV	4/19/18
4/18/18	27/30	16:14	JG	X53	490	470	0+00	0+29	29	Extruded				DV	4/19/18
4/18/18	27/31	15:55	JG	X53	490	470	0+00	0+01	1	Extruded				DV	4/19/18
4/18/18	26/31	15:50	JG	X53	490	470	0+00	0+29	29	Extruded				DV	4/19/18
4/18/18	26/32	15:39	JG	X53	490	470	0+00	0+02	2	Extruded				DV	4/19/18
4/18/18	25/32	15:35	JG	X53	490	470	0+00	0+28	28	Extruded				DV	4/19/18
4/18/18	25/33	15:25	JG	X53	490	470	0+00	0+04	4	Extruded				DV	4/19/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
4/18/18	24/33	15:15	JG	X53	490	470	0+00	0+27	27	Extruded				DV	4/19/18
4/18/18	24/34	15:05	JG	X53	490	470	0+00	0+04	4	Extruded				DV	4/19/18
4/18/18	23/34	15:05	JG	X53	490	470	0+00	0+27	27	Extruded				DV	4/19/18
4/18/18	22/34	14:50	JG	X53	490	470	0+00	0+03	3	Extruded				DV	4/19/18
4/18/18	22/35	14:30	JG	X53	490	470	0+00	0+27	27	Extruded				DV	4/19/18
4/18/18	21/35	14:25	JG	X53	490	470	0+00	0+09	9	Extruded				DV	4/19/18
4/18/18	21/36	14:20	JG	X53	490	470	0+00	0+25	25	Extruded				DV	4/19/18
4/18/18	20/36	14:05	JG	X53	490	470	0+00	0+06	6	Extruded				DV	4/19/18
4/18/18	20/37	13:55	JG	X53	490	470	0+00	0+28	28	Extruded				DV	4/19/18
4/18/18	19/37	13:50	JG	X53	490	470	0+00	0+05	5	Extruded				DV	4/19/18
4/18/18	19/38	13:30	JG	X53	490	470	0+00	0+20	20	Extruded				DV	4/19/18
4/18/18	18/38	10:07	JG	X53	490	470	0+00	0+23	23	Extruded				DV	4/19/18
4/18/18	18/39	10:05	JG	X53	490	470	0+00	0+08	8	Extruded				DV	4/19/18
4/18/18	17/39	10:10	JG	X53	490	470	0+00	0+23	23	Extruded				DV	4/19/18
4/18/18	17/40	10:00	JG	X53	490	470	0+00	0+09	9	Extruded				DV	4/19/18
4/18/18	16/40	9:40	JG	X53	490	470	0+00	0+23	23	Extruded				DV	4/19/18
4/30/18	40/43	10:05	ED	M21	860	750	0+00	0+83	83	30	30	15:50	15:55	DR	4/30/18
4/30/18	40/42	10:38	ED	M21	860	750	0+00	1+40	140	30	30	15:18	15:23	DR	4/30/18
4/30/18	40/42	10:49	ED	M21	860	750	1+40	1+96	56	30	30	15:40	15:45	DR	4/30/18
4/30/18	42/43	11:40	JG	X53	450	450	0+00	0+22	22	Extruded				CC	5/3/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
4/30/18	43/44	10:58	ED	M21	860	750	0+00	1+03	103	30	30	15:41	15:46	DR	4/30/18
4/30/18	42/44	10:49	ED	M21	860	750	0+00	1+54	154	30	30	15:18	15:23	DR	4/30/18
4/30/18	42/44	10:49	ED	M21	860	750	1+54	1+95	41	30	30	15:18	15:23	DR	4/30/18
4/30/18	44/46	10:45	JG	M22	850	750	0+00	1+62	162	30	30	16:01	16:06	DR	4/30/18
4/30/18	44/45	11:05	JG	M22	850	750	0+00	1+60	160	30	30	16:01	16:06	DR	4/30/18
4/30/18	45/46	11:49	JG	X53	450	450	0+00	0+22	22	Extruded				CC	5/3/18
4/30/18	46/48	11:18	ED	M21	860	750	0+00	0+51	51	30	30	16:13	16:18	DR	4/30/18
4/30/18	46/47	11:23	ED	M21	860	750	0+00	1+42	142	30	30	16:01	16:06	DR	4/30/18
4/30/18	45/47	11:36	ED	M21	860	750	0+00	1+56	156	30	30	16:01	16:06	DR	4/30/18
4/30/18	47/48	11:05	JG	X53	450	450	0+00	0+22	22	Extruded				CC	5/3/18
4/30/18	48/49	11:40	JG	M22	850	750	0+00	0+72	72	30	30	16:13	16:18	DR	4/30/18
4/30/18	47/49	11:47	JG	M22	850	750	0+00	2+98	298	30	30	16:13	16:18	DR	4/30/18
4/30/18	49/50	13:12	ED	M21	860	750	0+00	3+91	391	30	30	16:13	16:18	DR	4/30/18
4/30/18	50/51	14:30	ED	M21	860	750	0+00	4+20	420	30	30	15:27	15:32	DR	4/30/18
4/30/18	51/52	14:30	JG	M22	850	750	0+00	4+76	476	30	30	15:29	15:34	DR	5/1/18
5/1/18	52/53	8:55	ED	M21	860	750	0+00	4+76	476	30	30	15:31	15:36	DR	5/1/18
5/1/18	53/54	1:00	ED	M21	860	750	0+00	4+74	474	30	30	15:39	15:44	DR	5/1/18
5/1/18	54/55	9:55	JG	M22	850	750	0+00	4+74	474	30	30	15:43	15:48	DR	5/1/18
5/1/18	55/56	10:50	JG	M22	850	750	0+00	4+74	474	30	30	15:50	15:55	DR	5/1/18
5/1/18	56/57	10:50	ED	M21	860	750	0+00	0+15	15	30	30	16:00	16:05	DR	5/1/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/1/18	56/57	10:51	ED	M21	860	750	0+15	0+72	57	30	30	16:00	16:05	DR	5/1/18
5/1/18	56/57	10:57	ED	M21	860	750	0+72	4+74	402	30	30	16:03	16:08	DR	5/1/18
5/1/18	57/58	11:35	JG	M22	850	750	0+00	0+11	11	30	30	16:20	16:25	DR	5/1/18
5/1/18	57/58	11:36	JG	M22	850	750	0+11	2+86	275	30	30	16:42	16:47	DR	5/1/18
5/1/18	57/58	11:59	JG	M22	850	750	2+86	4+74	188	30	30	16:42	16:47	DR	5/1/18
5/1/18	58/59	13:18	ED	M21	860	750	0+00	0+74	74	30	30	16:15	16:20	DR	5/1/18
5/1/18	58/59	13:24	ED	M21	860	750	0+74	1+01	27	30	30	16:30	16:35	DR	5/1/18
5/1/18	58/59	13:33	ED	M21	860	750	1+01	4+74	373	30	30	16:30	16:35	DR	5/1/18
5/1/18	59/60	13:30	JG	M22	850	760	0+00	4+74	474	30	30	16:32	16:37	DR	5/1/18
5/2/18	16/43	16:05	JG	X53	450	450	0+00	0+19	19	Extruded				CC	5/3/18
5/2/18	15/43	16:25	JG	X53	450	450	0+00	0+13	13	Extruded				CC	5/3/18
5/2/18	15/44	16:29	JG	X53	450	450	0+00	0+17	17	Extruded				CC	5/3/18
5/2/18	14/44	16:35	JG	X53	450	450	0+00	0+13	13	Extruded				CC	5/3/18
5/3/18	14/46	9:18	JG	X53	450	450	0+00	0+16	16	Extruded				CC	5/3/18
5/3/18	13/46	9:05	ED	X53	450	450	0+00	0+16	16	Extruded				CC	5/3/18
5/3/18	13/48	9:00	ED	X53	450	450	0+00	0+13	13	Extruded				CC	5/3/18
5/3/18	12/48	8:43	ED	X53	450	450	0+00	0+17	17	Extruded				CC	5/3/18
5/3/18	12/49	8:42	ED	X53	450	450	0+00	0+17	17	Extruded				CC	5/3/18
5/3/18	11/49	8:42	ED	X53	450	450	0+00	0+17	17	Extruded				CC	5/3/18
5/14/18	11/50	9:40	JG	X53	470	470	0+00	0+15	15	Extruded				CC	5/3/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/14/18	9/50	9:48	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/4/18	1/61	9:38	ED	M21	860	750	0+00	0+11	11	30	30	8:10	8:15	JV	5/7/18
5/4/18	1/61	9:39	ED	M21	860	750	0+11	2+48	237	30	30	8:10	8:15	JV	5/7/18
5/4/18	61/62	10:10	ED	M21	860	750	0+00	2+24	224	30	30	8:12	8:17	JV	5/7/18
5/4/18	62/63	10:42	ED	M21	860	750	0+00	2+00	200	30	30	8:25	8:30	JV	5/7/18
5/4/18	63/64	11:11	ED	M21	860	750	0+00	1+76	176	30	30	8:27	8:32	JV	5/7/18
5/4/18	64/65	11:33	ED	M21	860	750	0+00	1+52	152	30	30	8:31	8:36	JV	5/7/18
5/4/18	65/66	11:51	ED	M21	860	750	0+00	1+24	124	30	30	8:40	8:45	JV	5/7/18
5/4/18	66/67	13:29	ED	M21	860	750	0+00	1+06	106	30	30	8:43	8:48	JV	5/7/18
5/4/18	67/68	13:43	ED	M21	860	750	0+00	0+82	82	30	30	8:46	8:51	JV	5/7/18
5/4/18	68/69	13:56	ED	M21	860	750	0+00	0+58	58	30	30	8:53	8:58	JV	5/7/18
5/4/18	69/70	14:08	ED	M21	860	750	0+00	0+35	35	30	30	8:56	8:61	JV	5/7/18
5/7/18	70/71	9:40	JG	X53	470	470	0+00	0+12	12	Extruded				CC	5/8/18
5/7/18	71/72	9:20	JG	X53	470	470	0+00	0+12	12	Extruded				CC	5/8/18
5/4/18	72/73	14:22	ED	M21	860	750	0+00	0+32	32	30	30	9:00	9:05	JV	5/7/18
5/4/18	73/74	14:25	JG	M22	850	760	0+00	0+53	53	30	30	9:18	9:23	JV	5/7/18
5/4/18	74/75	14:29	ED	M21	860	750	0+00	0+75	75	30	30	9:21	9:26	JV	5/7/18
5/4/18	75/76	14:46	JG	M22	850	760	0+00	0+97	97	30	30	9:32	9:37	JV	5/7/18
5/4/18	76/77	14:57	ED	M21	860	750	0+00	1+19	119	30	30	9:34	9:39	JV	5/7/18
5/4/18	77/78	15:05	JG	M22	850	760	0+00	1+41	141	30	30	9:37	9:42	JV	5/7/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/4/18	78/79	15:22	ED	M21	860	750	0+00	1+62	162	30	30	9:43	9:48	JV	5/7/18
5/4/18	79/80	15:36	JG	M22	850	760	0+00	1+83	183	30	30	9:45	9:50	JV	5/7/18
5/5/18	80/81	8:25	ED	M21	860	750	0+00	0+01	1	30	30	14:24	14:29	JV	5/7/18
5/5/18	80/81	8:26	ED	M21	860	750	0+01	2+86	285	30	30	9:48	9:53	JV	5/7/18
5/5/18	81/82	8:50	ED	M21	860	750	0+01	2+27	226	30	30	9:52	9:57	JV	5/7/18
5/5/18	82/83	9:17	ED	M21	860	750	0+00	2+47	247	30	30	9:58	9:63	JV	5/7/18
5/5/18	83/84	9:42	ED	M21	860	750	0+00	2+63	263	30	30	10:01	10:06	JV	5/7/18
5/7/18	70/72	11:20	JG	X53	470	470	0+00	0+24	24	Extruded				JV	5/22/18
5/7/18	70/73	11:25	JG	X53	470	470	0+00	0+06	6	Extruded				JV	5/22/18
5/7/18	69/73	11:25	JG	X53	470	470	0+00	0+28	28	Extruded				CC	5/8/18
5/7/18	69/74	11:40	JG	X53	470	470	0+00	0+05	5	Extruded				CC	5/8/18
5/7/18	68/74	11:48	JG	X53	470	470	0+00	0+26	26	Extruded				CC	5/8/18
5/7/18	68/75	11:57	JG	X53	470	470	0+00	0+07	7	Extruded				CC	5/8/18
5/7/18	67/75	13:05	JG	X53	470	470	0+00	0+24	24	Extruded				CC	5/8/18
5/7/18	67/76	13:25	JG	X53	470	470	0+00	0+09	9	Extruded				CC	5/8/18
5/7/18	66/76	13:28	JG	X53	470	470	0+00	0+22	22	Extruded				CC	5/8/18
5/7/18	66/77	13:40	JG	X53	470	470	0+00	0+11	11	Extruded				CC	5/8/18
5/7/18	65/77	13:43	JG	X53	470	470	0+00	0+20	20	Extruded				CC	5/8/18
5/7/18	65/78	13:50	JG	X53	470	470	0+00	0+18	18	Extruded				CC	5/8/18
5/7/18	64/78	15:35	JG	X53	470	470	0+00	0+12	12	Extruded				CC	5/8/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/7/18	64/79	16:05	JG	X53	470	470	0+00	0+21	21	Extruded				CC	5/8/18
5/7/18	63/79	16:14	JG	X53	470	470	0+00	0+09	9	Extruded				CC	5/8/18
5/7/18	63/80	16:21	JG	X53	470	470	0+00	0+24	24	Extruded				CC	5/8/18
5/7/18	62/80	16:30	JG	X53	470	470	0+00	0+25	25	Extruded				CC	5/8/18
5/8/18	62/81	9:23	JG	X53	470	470	0+00	0+27	27	Extruded				CC	5/8/18
5/8/18	61/81	9:31	JG	X53	470	470	0+00	0+04	4	Extruded				CC	5/8/18
5/8/18	61/82	9:34	JG	X53	470	470	0+00	0+29	29	Extruded				CC	5/8/18
5/8/18	1/82	9:57	JG	X53	470	470	0+00	0+02	2	Extruded				JV	5/22/18
5/8/18	1/83	9:56	JG	X53	470	470	0+00	0+28	28	Extruded				CC	5/8/18
5/8/18	1/84	9:57	JG	X53	470	470	0+00	0+08	8	Extruded				CC	5/8/18
5/8/18	3/84	10:05	JG	X53	470	470	0+00	0+23	23	Extruded				CC	5/8/18
5/9/18	84/85	9:20	JG	M22	850	800	0+00	3+15	315	30	30	15:21	15:26	DR	5/9/18
5/9/18	85/86	9:43	ED	M21	860	780	0+00	3+44	344	30	30	15:21	15:26	DR	5/9/18
5/9/18	86/87	9:55	JG	M22	850	800	0+00	3+65	365	30	30	15:21	15:26	DR	5/9/18
5/9/18	87/88	10:28	ED	M21	860	780	0+00	3+74	374	30	30	15:42	15:47	DR	5/9/18
5/9/18	88/89	10:35	JG	M22	850	800	0+00	0+12	12	30	30	15:42	15:47	DR	5/9/18
5/9/18	88/89	10:37	JG	M22	850	800	0+12	3+78	366	30	30	15:42	15:47	DR	5/9/18
5/8/18	3/85	14:45	JG	X53	470	470	0+00	0+10	10	Extruded				JV	5/22/18
5/8/18	4/85	14:50	JG	X53	470	470	0+00	0+21	21	Extruded				JV	5/22/18
5/8/18	4/86	15:03	JG	X53	470	470	0+00	0+13	13	Extruded				JV	5/22/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/8/18	5/86	15:15	JG	X53	470	470	0+00	0+18	18	Extruded				JV	5/22/18
5/8/18	5/87	15:37	JG	X53	470	470	0+00	0+15	15	Extruded				JV	5/22/18
5/8/18	7/87	15:50	JG	X53	470	470	0+00	0+15	15	Extruded				JV	5/22/18
5/8/18	7/88	15:55	JG	X53	470	470	0+00	0+18	18	Extruded				JV	5/22/18
5/14/18	9/88	9:35	JG	X53	470	470	0+00	0+08	8	Extruded				JV	5/22/18
5/14/18	9/89	9:30	JG	X53	470	470	0+00	0+14	14	Extruded				JV	5/22/18
5/11/18	90/91	8:25	ED	M21	860	750	0+00	2+93	293	30	30	8:10	8:15	DR	5/14/18
5/11/18	91/92	9:02	ED	M21	860	750	0+00	2+93	293	30	30	8:40	8:45	DR	5/14/18
5/11/18	92/93	9:59	ED	M21	860	750	0+00	0+11	11	30	30	10:19	10:24	DR	5/14/18
5/11/18	92/93	10:00	ED	M21	860	750	0+11	0+50	39	30	30	10:19	10:24	DR	5/14/18
5/11/18	92/93	10:04	ED	M21	860	750	0+50	2+91	241	30	30	8:40	8:45	DR	5/14/18
5/11/18	93/94	10:15	ED	M21	860	750	0+17	2+91	274	30	30	8:40	8:45	DR	5/14/18
5/11/18	93/94	10:15	ED	M21	860	750	0+00	17	17	30	30	8:40	8:45	DR	5/14/18
5/11/18	94/95	9:40	JG	M22	850	800	0+00	0+16	16	30	30	9:45	9:50	DR	5/14/18
5/11/18	94/95	9:40	JG	M22	850	800	0+16	2+95	279	30	30	9:18	9:23	DR	5/14/18
5/11/18	95/96	11:01	ED	M21	860	750	0+00	2+95	295	30	30	9:18	9:23	DR	5/14/18
5/11/18	96/97	11:32	ED	M21	860	750	0+00	0+13	13	30	30	9:45	9:50	DR	5/14/18
5/11/18	96/97	11:32	ED	M21	860	750	0+13	2+96	283	30	30	9:35	9:40	DR	5/14/18
5/11/18	97/98	11:21	JG	M22	850	800	0+00	2+96	296	30	30	9:35	9:40	DR	5/14/18
5/11/18	98/99	11:51	JG	M22	850	800	0+00	2+92	292	30	30	9:35	9:40	DR	5/14/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/14/18	89/102	8:48	JG	X53	470	470	0+00	0+32	32	Extruded				JV	5/22/18
5/11/18	89/101	16:10	JG	X53	470	470	0+00	1+23	123	Extruded				JV	5/22/18
5/11/18	89/100	15:50	JG	X53	470	470	0+00	1+14	114	Extruded				JV	5/22/18
5/11/18	89/90	13:37	ED	M21	860	750	0+00	0+96	96	30	30	11:35	11:40	DR	5/14/18
5/11/18	100/101	16:00	JG	X53	470	470	0+00	0+03	3	Extruded				JV	5/22/18
5/14/18	101/102	8:45	JG	X53	470	470	0+00	0+07	7	Extruded				JV	5/22/18
5/11/18	90/101	14:18	ED	M21	860	750	0+00	0+79	79	30	30	11:35	11:40	DR	5/14/18
5/11/18	90/100	13:56	ED	M21	860	750	0+00	1+18	118	30	30	11:35	11:40	DR	5/14/18
5/14/18	50/89	9:10	JG	X53	470	470	0+00	0+14	14	Extruded				JV	5/22/18
5/14/18	50/102	9:00	JG	X53	470	470	0+00	0+07	7	Extruded				JV	5/22/18
5/11/18	51/102	14:32	ED	M21	860	750	0+00	0+32	32	30	30	11:35	11:40	DR	5/14/18
5/11/18	51/101	14:26	ED	M21	860	750	0+79	1+23	44	30	30	11:35	11:40	DR	5/14/18
5/21/18	51/90	9:40	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	51/91	9:05	JG	M22	850	800	0+00	0+13	13	Extruded				JV	5/22/18
5/21/18	52/91	10:55	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	53/91	9:31	ED	M21	860	750	0+00	0+15	15	30	29	10:25	10:30	DR	5/14/18
5/21/18	53/92	11:45	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	53/93	10:07	ED	M21	860	750	0+00	0+15	15	30	30	10:25	10:30	DR	5/14/18
5/21/18	54/93	13:10	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	55/93	10:47	ED	M21	860	750	0+00	0+11	11	30	30	10:25	10:30	DR	5/14/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
5/21/18	55/94	14:05	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	55/95	10:05	JG	M22	850	800	0+00	0+11	11	30	30	10:43	10:48	DR	5/14/18
5/21/18	56/95	15:30	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	57/95	10:56	ED	M21	860	750	0+00	0+10	10	30	30	10:43	10:48	DR	5/14/18
5/21/18	57/96	15:55	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	57/97	11:31	ED	M21	860	750	0+00	0+16	16	30	30	10:43	10:48	DR	5/14/18
5/21/18	58/97	16:15	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	59/97	11:20	JG	M22	850	800	0+00	0+20	20	30	30	10:50	10:55	DR	5/14/18
5/22/18	59/98	8:10	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
5/11/18	59/99	11:50	JG	M22	850	800	0+00	0+20	20	30	30	10:50	10:55	DR	5/14/18
5/22/18	60/99	9:00	JG	X53	470	470	0+00	0+22	22	Extruded				JV	5/22/18
6/5/18	60/103	9:10	ED	M21	860	750	0+00	1+74	174	30	30	8:10	8:15	DR	6/6/18
6/5/18	99/103	8:45	ED	M21	860	750	0+00	3+14	314	30	30	8:10	8:15	DR	6/6/18
6/5/18	103/104	9:41	ED	M21	860	750	0+00	4+78	478	30	30	8:10	8:15	DR	6/6/18
6/5/18	104/105	10:40	ED	M21	860	750	0+00	3+82	382	30	30	8:10	8:15	DR	6/6/18
6/5/18	105/107	11:45	JG	M22	850	760	0+00	0+97	97	30	30	8:30	8:35	DR	6/6/18
6/5/18	105/106	11:20	JG	M22	850	760	0+00	2+62	262	30	30	8:10	8:15	DR	6/6/18
6/6/18	106/107	11:45	JV	X53	470	470	0+00	0+22	22	Extruded				DV	6/7/18
6/5/18	107/108	11:44	ED	M21	860	750	0+00	0+74	74	30	30	8:30	8:35	DR	6/6/18
6/5/18	106/108	11:23	ED	M21	860	750	0+00	2+63	263	30	30	9:10	9:15	DR	6/6/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/5/18	108/110	14:12	ED	M21	860	750	0+00	0+97	97	30	30	8:30	8:35	DR	6/6/18
6/5/18	108/109	13:23	ED	M21	860	750	0+00	2+17	217	30	30	8:55	8:60	DR	6/6/18
6/6/18	109/110	11:00	JV	X53	470	470	0+00	0+22	22	Extruded				DV	6/7/18
6/5/18	110/111	14:32	ED	M21	860	750	0+00	0+75	75	30	30	8:45	8:50	DR	6/6/18
6/5/18	109/111	14:00	ED	M21	860	750	0+00	0+50	50	30	30	8:45	8:50	DR	6/6/18
6/5/18	109/111	14:04	ED	M21	860	750	0+50	0+60	10	30	30	8:52	8:57	DR	6/6/18
6/5/18	109/111	14:05	ED	M21	860	750	0+60	1+62	102	30	30	8:52	8:57	DR	6/6/18
6/5/18	109/111	14:13	ED	M21	860	750	1+62	2+17	55	30	30	8:52	8:57	DR	6/6/18
6/5/18	111/113	15:00	ED	M21	860	750	0+00	0+80	80	30	30	9:10	9:15	DR	6/6/18
6/5/18	111/112	14:50	ED	M21	860	750	0+00	0+07	7	30	30	8:45	8:50	DR	6/6/18
6/5/18	111/112	14:51	ED	M21	860	750	0+07	1+91	184	30	30	8:30	8:35	DR	6/6/18
6/6/18	112/113	10:22	JV	X53	470	470	0+00	0+22	22	Extruded				DV	6/7/18
6/5/18	113/114	15:45	ED	M21	860	750	0+00	0+56	56	30	30	9:10	9:15	DR	6/6/18
6/5/18	112/114	15:30	ED	M21	860	750	0+00	1+90	190	30	30	8:45	8:50	DR	6/6/18
6/8/18	114/115	15:30	ED	X53	470	470	0+00	0+11	11	Extruded				DR	6/11/18
6/8/18	114/115	15:31	ED	M21	860	750	0+11	2+24	213	30	30	8:00	8:05	DR	6/11/18
6/8/18	115/116	15:53	ED	M21	860	750	0+00	2+13	213	30	30	8:05	8:10	DR	6/11/18
6/8/18	116/117	16:21	ED	M21	860	750	0+00	1+79	179	30	30	8:12	8:17	DR	6/11/18
6/8/18	117/118	16:42	ED	M21	860	750	0+00	0+11	11	30	30	8:42	8:47	DR	6/11/18
6/8/18	117/118	16:43	ED	M21	860	750	0+11	1+51	140	30	30	8:17	8:22	DR	6/11/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/8/18	118/119	17:03	ED	M21	860	750	0+00	1+27	127	30	30	8:20	8:25	DR	6/11/18
6/8/18	119/120	17:25	ED	M21	860	750	0+00	0+02	2	30	30	8:45	8:50	DR	6/11/18
6/8/18	119/120	17:26	ED	M21	860	750	0+02	1+04	102	30	30	8:40	8:45	DR	6/11/18
6/8/18	120/121	17:36	ED	M21	860	750	0+00	0+10	10	30	30	9:33	9:38	DR	6/11/18
6/8/18	120/121	17:37	ED	M21	860	750	0+10	0+81	71	30	30	8:34	8:39	DR	6/11/18
6/8/18	121/122	16:00	ED	M21	860	750	0+00	0+10	10	30	30	9:45	9:50	DR	6/11/18
6/8/18	121/122	16:01	ED	M21	860	750	0+10	0+20	10	30	30	9:45	9:50	DR	6/11/18
6/8/18	121/122	16:02	ED	M21	860	750	0+20	0+28	8	30	30	9:40	9:45	DR	6/11/18
6/8/18	121/122	16:02	ED	M21	860	750	0+28	0+60	32	30	30	9:40	9:45	DR	6/11/18
6/8/18	122/123	18:10	ED	M21	860	750	0+00	0+39	39	30	30	8:56	8:61	DR	6/11/18
6/9/18	123/124	9:20	ED	M21	860	750	0+00	0+07	7	30	30	9:05	9:10	DR	6/11/18
6/9/18	123/124	9:21	ED	M21	860	750	0+07	0+19	12	30	30	8:56	8:61	DR	6/11/18
6/9/18	124/125	11:15	ED	X53	470	470	0+00	0+03	3	Extruded				EH	6/11/18
6/9/18	125/126	9:42	ED	M21	860	750	0+00	0+14	14	30	30	9:17	9:22	DR	6/11/18
6/9/18	126/127	9:58	ED	M21	860	750	0+00	0+42	42	30	30	9:20	9:25	DR	6/11/18
6/9/18	127/128	10:15	ED	M21	860	750	0+00	0+12	12	30	30	9:25	9:30	DR	6/11/18
6/9/18	127/128	10:16	ED	M21	860	750	0+12	0+65	53	30	30	9:10	9:15	DR	6/11/18
6/9/18	128/129	10:36	ED	M21	860	750	0+00	0+91	91	30	30	10:16	10:21	DR	6/11/18
6/9/18	129/130	11:00	ED	M21	860	750	0+00	0+15	15	30	30	10:18	10:23	DR	6/11/18
6/9/18	129/130	11:01	ED	M21	860	750	0+15	1+15	100	30	30	10:32	10:37	DR	6/11/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/9/18	130/131	11:14	ED	M21	860	750	0+00	1+37	137	30	30	10:20	10:25	DR	6/11/18
6/9/18	131/132	11:36	ED	M21	860	750	0+00	0+14	14	30	30	10:30	10:35	DR	6/11/18
6/9/18	131/132	11:37	ED	M21	860	750	0+14	1+59	145	30	30	10:30	10:35	DR	6/11/18
6/9/18	124/126	15:10	ED	X53	470	470	0+00	0+16	16	Extruded				EH	6/14/18
6/9/18	123/126	15:18	ED	X53	470	470	0+00	0+14	14	Extruded				EH	6/14/18
6/9/18	123/127	15:20	ED	X53	470	470	0+00	0+16	16	Extruded				EH	6/14/18
6/9/18	122/127	15:32	ED	X53	470	470	0+00	0+18	18	Extruded				EH	6/14/18
6/9/18	122/128	15:40	ED	X53	470	470	0+00	0+13	13	Extruded				EH	6/14/18
6/9/18	121/128	15:44	ED	X53	470	470	0+00	0+22	22	Extruded				EH	6/14/18
6/9/18	121/129	16:00	ED	X53	470	470	0+00	0+09	9	Extruded				EH	6/14/18
6/9/18	120/129	16:15	ED	X53	470	470	0+00	0+24	24	Extruded				EH	6/14/18
6/11/18	120/130	14:55	JG	X53	470	470	0+00	0+07	7	Extruded				EH	6/14/18
6/11/18	119/130	15:00	JG	X53	470	470	0+00	0+23	23	Extruded				EH	6/14/18
6/11/18	119/131	15:10	JG	X53	470	470	0+00	0+08	8	Extruded				EH	6/14/18
6/11/18	118/131	15:15	JG	X53	470	470	0+00	0+24	24	Extruded				EH	6/14/18
6/11/18	118/132	15:25	JG	X53	470	470	0+00	0+09	9	Extruded				EH	6/14/18
6/11/18	117/132	15:30	JG	X53	470	470	0+00	0+22	22	Extruded				EH	6/14/18
6/12/18	132/133	9:35	ED	M21	860	750	0+00	0+13	13	Extruded				EH	6/14/18
6/12/18	132/133	9:35	ED	M21	860	750	0+13	1+80	167	30	30	8:29	8:34	DR	6/13/18
6/12/18	133/134	9:48	ED	M21	860	750	0+00	2+04	204	30	30	8:29	8:34	DR	6/13/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/12/18	134/135	10:22	ED	M21	860	750	0+00	2+28	228	30	30	8:22	8:27	DR	6/13/18
6/12/18	135/136	15:28	ED	M21	860	750	0+00	2+54	254	30	30	8:22	8:27	DR	6/13/18
6/12/18	136/138	15:12	ED	M21	860	750	0+00	0+68	68	30	30	8:10	8:15	DR	6/13/18
6/12/18	136/137	15:55	ED	M21	860	750	0+00	2+09	209	30	30	8:13	8:18	DR	6/13/18
6/14/18	137/138	8:45	JG	X53	470	470	0+00	0+22	22	Extruded				EH	6/14/18
6/12/18	138/139	16:25	ED	M21	860	750	0+00	0+87	87	30	30	8:10	8:15	DR	6/13/18
6/12/18	137/139	16:43	ED	M21	860	750	0+00	0+88	88	30	30	8:24	8:29	DR	6/13/18
6/12/18	137/139	16:32	ED	M21	860	750	0+88	2+11	123	30	30	8:24	8:29	DR	6/13/18
6/12/18	139/141	17:19	ED	M21	860	750	0+00	0+76	76	30	30	8:11	8:16	DR	6/13/18
6/12/18	139/140	16:58	ED	M21	860	750	0+00	2+46	246	30	30	8:20	8:25	DR	6/13/18
6/14/18	140/141	8:30	JG	X53	470	470	0+00	0+22	22	Extruded				EH	6/18/18
6/14/18	141/142	12:00	ED	M21	860	750	0+00	0+93	93	30	30	8:13	8:18	DR	6/18/18
6/14/18	140/142	11:39	ED	M21	860	750	0+00	2+46	246	30	30	8:37	8:42	DR	6/18/18
6/14/18	142/144	12:05	JG	M22	860	750	0+00	0+69	69	30	30	8:15	8:20	DR	6/18/18
6/14/18	142/143	11:40	JG	M22	860	750	0+00	3+01	301	30	30	8:35	8:40	DR	6/18/18
6/18/18	143/144	11:35	ED	X53	470	470	0+00	0+22	22	Extruded				EH	6/18/18
6/14/18	144/145	13:51	JG	M22	860	750	0+00	0+96	96	30	30	8:50	8:55	DR	6/18/18
6/14/18	143/145	13:26	JG	M22	860	750	0+00	3+02	302	30	30	8:35	8:40	DR	6/18/18
6/14/18	145/146	14:12	ED	M21	860	750	0+00	3+89	389	30	30	9:00	9:05	DR	6/18/18
6/14/18	146/148	15:49	ED	M21	860	750	0+00	0+87	87	30	30	9:11	9:16	DR	6/18/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/14/18	146/147	15:25	ED	M21	860	750	0+00	2+83	283	30	30	8:50	8:55	DR	6/18/18
6/18/18	147/148	13:12	ED	X53	470	470	0+00	0+22	22	Extruded				EH	6/18/18
6/14/18	148/149	16:31	ED	M21	860	750	0+00	0+65	65	30	30	9:25	9:30	DR	6/18/18
6/14/18	147/149	16:07	ED	M21	860	750	0+00	2+83	283	30	30	9:08	9:13	DR	6/18/18
6/15/18	149/151	9:07	ED	M21	860	750	0+00	0+79	79	30	30	9:36	9:41	DR	6/18/18
6/15/18	149/150	8:56	ED	M21	860	750	0+00	2+50	250	30	30	9:13	9:18	DR	6/18/18
6/18/18	150/151	14:15	ED	X53	470	470	0+00	0+22	22	Extruded				EH	6/18/18
6/15/18	151/152	10:04	ED	M21	860	750	0+00	0+57	57	30	30	10:00	10:05	DR	6/18/18
6/15/18	150/152	9:17	ED	M21	860	750	0+00	2+50	250	30	30	9:28	9:33	DR	6/18/18
6/15/18	152/154	10:42	ED	M21	860	750	0+00	8+77	877	30	30	10:02	10:07	DR	6/18/18
6/15/18	152/153	9:48	ED	M21	860	750	0+00	1+96	196	30	30	9:28	9:33	DR	6/18/18
6/18/18	153/154	14:49	ED	X53	470	470	0+00	0+22	22	Extruded				EH	6/18/18
6/15/18	154/155	10:42	ED	M21	860	750	0+00	0+65	65	30	30	10:03	10:08	DR	6/18/18
6/15/18	153/155	10:26	ED	M21	860	750	0+00	1+96	196	30	30	10:05	10:10	DR	6/18/18
6/15/18	155/156	11:06	ED	M21	860	750	0+00	2+38	238	30	30	10:10	10:15	DR	6/18/18
6/15/18	156/157	11:30	ED	M21	860	750	0+00	2+17	217	30	30	10:17	10:22	DR	6/18/18
6/15/18	157/158	13:10	ED	M21	860	750	0+00	1+95	195	30	30	10:15	10:20	DR	6/18/18
6/15/18	158/159	13:32	ED	M21	860	750	0+00	0+19	19	30	30	10:12	10:17	DR	6/18/18
6/15/18	158/159	13:33	ED	M21	860	750	0+19	1+72	153	30	30	10:12	10:17	DR	6/18/18
6/20/18	117/133	15:03	ED	X53	470	470	0+00	0+11	11	Extruded				EH	7/3/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/20/18	116/133	14:41	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/20/18	116/134	14:32	ED	X53	470	470	0+00	0+09	9	Extruded				EH	7/3/18
6/20/18	115/134	14:19	ED	X53	470	470	0+00	0+23	23	Extruded				EH	7/3/18
6/20/18	115/135	14:10	ED	X53	470	470	0+00	0+09	9	Extruded				EH	7/3/18
6/20/18	114/135	13:50	ED	X53	470	470	0+00	0+20	20	Extruded				EH	7/3/18
6/20/18	114/136	13:38	ED	X53	470	470	0+00	0+12	12	Extruded				EH	7/3/18
6/20/18	113/136	13:26	ED	X53	470	470	0+00	0+21	21	Extruded				EH	7/3/18
6/20/18	113/138	13:05	ED	X53	470	470	0+00	0+11	11	Extruded				EH	7/3/18
6/20/18	111/138	12:44	ED	X53	470	470	0+00	0+21	21	Extruded				EH	7/3/18
6/20/18	111/139	12:33	ED	X53	470	470	0+00	0+11	11	Extruded				EH	7/3/18
6/20/18	110/139	12:11	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/20/18	110/141	12:02	ED	X53	470	470	0+00	0+09	9	Extruded				EH	7/3/18
6/20/18	108/141	11:40	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/20/18	108/142	11:30	ED	X53	470	470	0+00	0+10	10	Extruded				EH	7/3/18
6/18/18	107/142	16:30	ED	X53	470	470	0+00	0+19	19	Extruded				EH	7/3/18
6/18/18	107/144	16:20	ED	X53	470	470	0+00	0+13	13	Extruded				EH	7/3/18
6/18/18	105/144	16:10	ED	X53	470	470	0+00	0+19	19	Extruded				EH	7/3/18
6/18/18	105/145	16:04	ED	X53	470	470	0+00	0+12	12	Extruded				EH	7/3/18
6/18/18	104/145	16:00	ED	X53	470	470	0+00	0+08	8	Extruded				EH	7/3/18
6/19/18	60/160	9:08	ED	M21	860	750	0+00	0+73	73	30	30	9:00	9:05	DR	6/26/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/19/18	60/160	9:14	ED	M21	860	750	0+73	0+85	12	30	30	9:10	9:15	DR	6/26/18
6/19/18	60/160	9:15	ED	M21	860	750	0+85	2+94	209	30	30	9:10	9:15	DR	6/26/18
6/19/18	160/161	9:49	ED	M21	860	750	0+00	2+94	294	30	30	9:00	9:05	DR	6/26/18
6/19/18	104/162	11:11	ED	M21	860	750	0+00	0+87	87	30	30	9:00	9:05	DR	6/26/18
6/19/18	161/162	10:46	ED	M21	860	750	0+00	3+04	304	30	30	9:00	9:05	DR	6/26/18
6/26/18	103/160	13:41	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/26/18	103/161	13:49	ED	X53	470	470	0+00	0+10	10	Extruded				EH	7/3/18
6/26/18	104/161	14:03	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/19/18	162/164	11:43	ED	M21	860	750	0+00	0+96	96	30	30	8:38	8:43	DR	6/26/18
6/19/18	162/163	11:26	ED	M21	860	750	0+00	2+73	273	30	30	9:32	9:37	DR	6/26/18
6/26/18	163/164	11:44	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/19/18	164/165	13:40	ED	M21	860	750	0+00	0+72	72	30	30	8:38	8:43	DR	6/26/18
6/19/18	163/165	13:17	ED	M21	860	750	0+00	2+73	273	30	30	9:32	9:37	DR	6/26/18
6/19/18	165/167	14:16	ED	M21	860	750	0+00	0+84	84	30	30	8:38	8:43	DR	6/26/18
6/19/18	165/166	13:56	ED	M21	860	750	0+00	2+37	237	30	30	9:32	9:37	DR	6/26/18
6/26/18	166/167	11:23	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/19/18	167/168	15:30	ED	M21	860	750	0+00	0+60	60	30	30	8:53	8:58	DR	6/26/18
6/19/18	166/168	15:10	ED	M21	860	750	0+00	2+37	237	30	30	16:20	16:25	DR	6/25/18
6/19/18	168/170	15:57	ED	M21	860	750	0+00	0+86	86	30	30	16:20	16:25	DR	6/25/18
6/19/18	168/169	15:41	ED	M21	860	750	0+00	0+13	13	30	30	16:20	16:25	DR	6/25/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/19/18	168/169	15:42	ED	M21	860	750	0+13	1+89	176	30	30	13:40	13:45	DR	6/25/18
6/27/18	169/170	9:25	ED	X53	470	470	0+00	0+22	22	Extruded				EH	7/3/18
6/22/18	159/171	8:10	ED	X53	470	470	0+00	0+20	20	Extruded				EH	7/3/18
6/21/18	159/171	8:23	ED	M21	860	750	0+20	1+50	130	30	30	14:43	14:48	DR	6/25/18
6/21/18	171/172	8:42	ED	M21	860	750	0+00	1+30	130	30	30	14:43	14:48	DR	6/25/18
6/21/18	172/173	9:00	ED	M21	860	750	0+00	0+21	21	30	30	14:43	14:48	DR	6/25/18
6/21/18	172/173	9:02	ED	M21	860	750	0+21	1+08	87	30	30	14:43	14:48	DR	6/25/18
6/21/18	173/174	9:13	ED	M21	860	750	0+00	0+02	2	30	30	13:42	13:47	DR	6/25/18
6/21/18	173/174	9:14	ED	M21	860	750	0+02	0+82	80	30	30	13:42	13:47	DR	6/25/18
6/21/18	174/175	9:25	ED	M21	860	750	0+00	0+01	1	30	30	13:42	13:47	DR	6/25/18
6/21/18	174/175	9:26	ED	M21	860	750	0+01	0+61	60	30	30	13:42	13:47	DR	6/25/18
6/21/18	170/176	10:51	ED	M21	860	750	0+00	0+63	63	30	30	16:20	16:25	DR	6/25/18
6/21/18	169/176	10:35	ED	M21	860	750	0+00	1+90	190	30	30	16:00	16:05	DR	6/25/18
6/21/18	176/177	11:00	ED	M21	860	750	0+00	0+63	63	30	30	16:20	16:25	DR	6/25/18
6/21/18	176/177	11:05	ED	M21	860	750	0+63	2+29	166	30	30	16:00	16:05	DR	6/25/18
6/21/18	177/178	11:26	ED	M21	860	750	0+00	2+05	205	30	30	16:00	16:05	DR	6/25/18
6/21/18	178/179	13:45	ED	M21	860	750	0+00	1+82	182	30	30	15:30	15:35	DR	6/25/18
6/21/18	179/180	14:07	ED	M21	860	750	0+00	0+05	5	30	30	15:30	15:35	DR	6/25/18
6/21/18	179/180	14:08	ED	M21	860	750	0+05	1+56	151	30	30	16:40	16:45	DR	6/25/18
6/21/18	180/181	14:15	ED	M21	860	750	0+00	1+34	134	30	30	15:30	15:35	DR	6/25/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/21/18	181/182	14:35	ED	M21	860	750	0+00	0+03	3	30	30	15:30	15:35	DR	6/25/18
6/21/18	181/182	14:35	ED	M21	860	750	0+03	1+12	109	30	30	16:32	16:37	DR	6/25/18
6/21/18	182/183	15:48	ED	M21	860	750	0+00	0+88	88	30	30	13:26	13:31	DR	6/25/18
6/21/18	183/184	16:29	ED	M21	860	750	0+00	0+67	67	30	30	13:26	13:31	DR	6/25/18
6/21/18	184/185	16:44	ED	M21	860	750	0+00	0+47	47	30	30	13:26	13:31	DR	6/25/18
6/21/18	185/186	16:50	ED	M21	860	750	0+00	0+26	26	30	30	13:26	13:31	DR	6/25/18
6/22/18	186/187	15:05	ED	X53	470	470	0+00	0+10	10	Extruded				EH	7/3/18
6/21/18	175/188	16:13	ED	M21	860	750	0+00	0+39	39	30	30	13:42	13:47	DR	6/25/18
6/21/18	187/188	17:05	ED	M21	860	750	0+00	0+20	20	30	30	13:42	13:47	DR	6/25/18
6/27/18	145/162	9:35	ED	X53	470	470	0+00	0+05	5	Extruded				EH	7/3/18
6/27/18	146/162	9:37	ED	X53	470	470	0+00	0+27	27	Extruded				EH	7/3/18
6/27/18	146/164	9:46	ED	X53	470	470	0+00	0+03	3	Extruded				EH	7/3/18
6/27/18	148/164	9:50	ED	X53	470	470	0+00	0+29	29	Extruded				EH	7/3/18
6/27/18	148/165	10:30	ED	X53	470	470	0+00	0+02	2	Extruded				EH	7/3/18
6/27/18	149/165	10:33	ED	X53	470	470	0+00	0+29	29	Extruded				EH	7/3/18
6/27/18	151/165	10:58	ED	X53	470	470	0+00	0+02	2	Extruded				EH	7/3/18
6/27/18	151/167	11:01	ED	X53	470	470	0+00	0+30	30	Extruded				EH	7/3/18
6/27/18	152/167	13:28	ED	X53	470	470	0+00	0+02	2	Extruded				EH	7/3/18
6/26/18	152/168	15:42	ED	X53	470	470	0+00	0+29	29	Extruded				EH	7/3/18
6/26/18	154/168	16:22	ED	X53	470	470	0+00	0+01	1	Extruded				EH	7/3/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/26/18	154/170	16:20	ED	X53	470	470	0+00	0+31	31	Extruded				EH	7/3/18
6/26/18	155/170	16:09	ED	X53	470	470	0+00	0+01	1	Extruded				EH	7/3/18
6/26/18	155/176	16:07	ED	X53	470	470	0+00	0+30	30	Extruded				EH	7/3/18
6/26/18	156/176	15:58	ED	X53	470	470	0+00	0+02	2	Extruded				EH	7/3/18
6/26/18	156/177	15:56	ED	X53	470	470	0+00	0+30	30	Extruded				EH	7/3/18
6/27/18	157/177	10:58	ED	X53	470	470	0+00	0+02	2	Extruded				EH	7/3/18
6/27/18	157/178	10:56	ED	X53	470	470	0+00	0+28	28	Extruded				EH	7/3/18
6/27/18	158/178	10:50	ED	X53	470	470	0+00	0+03	3	Extruded				EH	7/3/18
6/27/18	158/179	10:46	ED	X53	470	470	0+00	0+29	29	Extruded				EH	7/3/18
6/27/18	159/179	10:08	ED	X53	470	470	0+00	0+05	5	Extruded				EH	7/3/18
6/27/18	159/180	10:40	ED	X53	470	470	0+00	0+26	26	Extruded				EH	7/3/18
6/26/18	171/180	10:27	ED	X53	470	470	0+00	0+04	4	Extruded				EH	7/3/18
6/26/18	171/181	10:20	ED	X53	470	470	0+00	0+26	26	Extruded				EH	7/3/18
6/26/18	172/181	10:14	ED	X53	470	470	0+00	0+05	5	Extruded				EH	7/3/18
6/26/18	172/182	10:06	ED	X53	470	470	0+00	0+25	25	Extruded				EH	7/3/18
6/26/18	173/182	10:01	ED	X53	470	470	0+00	0+06	6	Extruded				EH	7/3/18
6/26/18	173/183	9:58	ED	X53	470	470	0+00	0+28	28	Extruded				EH	7/3/18
6/26/18	174/183	9:52	ED	X53	470	470	0+00	0+02	2	Extruded				EH	7/3/18
6/26/18	174/184	9:42	ED	X53	470	470	0+00	0+29	29	Extruded				EH	7/3/18
6/26/18	175/184	9:32	ED	X53	470	470	0+00	0+05	5	Extruded				EH	7/3/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Seaming and Non Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness : 50 mil

Weld Date	Seam # (P#/P#)	Weld Time	Tech ID	Machine ID	Machine Temp	Machine Speed or Preheat	Start Point	End Point	Seam Length (Feet)	Air Pressure Test					
										PSI		Time		Tech	Date
										Start	Finish	Start	Finish		
6/26/18	175/185	9:27	ED	X53	470	470	0+00	0+26	26	Extruded				EH	7/3/18
6/26/18	185/188	9:20	ED	X53	470	470	0+00	0+05	5	Extruded				EH	7/3/18
6/22/18	186/188	11:10	ED	X53	470	470	0+00	0+23	23	Extruded				EH	7/3/18

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
1	DS-1	1/3 90' from South	4/10/18	14:39	P	2x6	X53	JG	P	4/19/18	DV
2	T	1/2/3	4/10/18	10:50	P	2x2	X53	JG	P	4/19/18	DV
3	T	2/3/4	4/10/18	11:01	P	2x2	X53	JG	P	4/19/18	DV
4	BO	2/4 6' from South	4/10/18	13:35	P	2x2	X53	JG	P	4/19/18	DV
5	T	5/6/7	4/10/18	13:30	P	2x2	X53	JG	P	4/19/18	DV
6	T	6/7/8	4/10/18	13:40	P	2x2	X53	JG	P	4/19/18	DV
7	T	7/8/9	4/10/18	11:35	P	2x2	X53	JG	P	4/19/18	DV
8	T	8/9/10	4/10/18	11:55	P	2x2	X53	JG	P	4/19/18	DV
9	T	9/10/11	4/10/18	15:15	P	2x2	X53	JG	P	4/19/18	DV
10	T	10/11/12	4/17/18	8:35	P	2x2	X53	JG	P	4/19/18	DV
11	DS-3	7/9 142' from South	4/10/18	14:55	P	2x6	X53	JG	P	4/19/18	DV
12	BO	4/5 12' from South	4/6/18	13:40	P	2x2	X53	JG	P	4/19/18	DV
13	BO	4/5 6' from South	4/6/18	13:46	P	2x2	X53	JG	P	4/19/18	DV
14	BO	6/8 19' from South	4/6/18	13:50	P	2x2	X53	JG	P	4/19/18	DV
15	DS-2	4/5 141' from South	4/10/18	14:03	P	2x6	X53	JG	P	4/19/18	DV
16	AT	1/2 1' from South	4/6/18	13:00	C	2x17	X53	JG	P	4/19/18	DV
17	DS-4	6/7 11' from West	4/10/18	11:10	P	2x6	X53	JG	P	4/19/18	DV
18	DS-5	10/12 50' from South	4/17/18	8:45	P	2x6	X53	JG	P	4/19/18	DV
19	DS-6	12/13 300' from South	4/17/18	8:40	P	2x6	X53	JG	P	4/19/18	DV
20	DS-7	15/16 52' from South	4/17/18	8:55	P	2x6	X53	JG	P	4/19/18	DV
21	FS	18/19 1' from South	4/17/18	9:25	P	2x216	X53	JG	P	4/19/18	DV
22	DS-9	20/21 38' from North	4/17/18	14:11	P	2x6	X53	JG	P	4/19/18	DV
23	DS-10	22/23 100' from South	4/17/18	14:05	P	2x6	X53	JG	P	4/19/18	DV
24	DS-11	34/35 125' from East	4/17/18	14:25	P	2x6	X53	JG	P	4/19/18	DV
25	T	27/28/29/30	4/18/18	16:30	P	2x2	X53	JG	P	4/19/18	DV
26	T	27/30/31	4/18/18	16:20	P	2x2	X53	JG	P	4/19/18	DV
27	T	26/31/32	4/18/18	15:55	P	2x2	X53	JG	P	4/19/18	DV
28	T	25/32/33	4/18/18	15:39	P	2x2	X53	JG	P	4/19/18	DV
29	T	24/33/34	4/18/18	15:25	P	2x2	X53	JG	P	4/19/18	DV
30	T	23/24/34	4/18/18	15:15	P	2x2	X53	JG	P	4/19/18	DV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
31	T	22/23/34/35	4/18/18	15:05	C	2x5	X53	JG	P	4/19/18	DV
32	T	21/22/35	4/18/18	14:50	P	2x2	X53	JG	P	4/19/18	DV
33	T	21/35/36	4/18/18	14:30	P	2x2	X53	JG	P	4/19/18	DV
34	T	20/21/36	4/18/18	14:25	P	2x2	X53	JG	P	4/19/18	DV
35	T	20/36/37	4/18/18	14:20	P	2x2	X53	JG	P	4/19/18	DV
36	T	19/20/37	4/18/18	14:05	P	2x2	X53	JG	P	4/19/18	DV
37	T	19/37/38	4/18/18	13:55	P	3x3	X53	JG	P	4/19/18	DV
38	T	18/19/38	4/18/18	13:50	P	2x2	X53	JG	P	4/19/18	DV
39	T	18/38 5' from South	4/18/18	13:30	P	2x2	X53	JG	P	4/19/18	DV
40	T	18/38/39	4/18/18	10:07	P	2x2	X53	JG	P	4/19/18	DV
41	T	17/18/39	4/18/18	10:05	P	2x2	X53	JG	P	4/19/18	DV
42	T	17/39/40	4/18/18	10:10	P	2x2	X53	JG	P	4/19/18	DV
43	CS	28/29/41	4/14/18	15:20	P	6x6	X53	JG	P	4/18/18	DR
44	DS-12	18/R-21 210' from South	4/17/18	14:20	P	2x6	X53	JG	P	4/19/18	DV
45	T	16/17/40	4/17/18	10:00	P	2x2	X53	JG	P	4/19/18	DV
46	DS-8	15/16 1' from South	4/17/18	9:10	P	2x6	X53	JG	P	4/19/18	DV
47	AT	17/18 14' from South	4/18/18	14:00	P	2x6	X53	JG	P	4/19/18	DV
48	AT	17/18 1' from South	4/18/18	10:20	P	2x2	X53	JG	P	4/19/18	DV
49	AT	24/25 1' from South	4/18/18	10:31	P	2x2	X53	JG	P	4/19/18	DV
50	T	26/27/31	4/18/18	16:12	P	2x2	X53	JG	P	4/19/18	DV
51	T	25/26/32	4/18/18	15:50	P	2x2	X53	JG	P	4/19/18	DV
52	T	24/25/33	4/18/18	15:35	P	2x2	X53	JG	P	4/19/18	DV
53	MD	38/39 86' from East	4/19/18	15:20	P	2x2	X53	JG	P	4/19/18	DV
54	MD	6/8 7' from South	4/19/18	15:40	P	7x8	X53	JG	P	4/19/18	DV
55	MD	29/41 1' from South	4/25/18	10:11	P	2x2	X53	JG	P	4/25/18	JG
56	MD	P28 18' from P41, 7' from East	4/25/18	8:57	P	2x2	X53	JG	P	4/25/18	JG
57	DD	P29 14' from P30, 7' from East	4/25/18	9:20	P	2x8	X53	JG	P	4/25/18	JG
58	T	40/42/43	5/2/18	11:40	P	2x2	X53	JG	P	5/3/18	CC
59	T	42/43/44	5/2/18	11:45	P	2x2	X53	JG	P	5/3/18	CC
60	T	44/45/46	5/2/18	11:49	P	2x2	X53	JG	P	5/3/18	CC

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
61	T	45/46/47	5/2/18	12:00	P	2x2	X53	JG	P	5/3/18	CC
62	T	46/47/48	5/2/18	11:05	P	2x2	X53	JG	P	5/3/18	CC
63	T	47/48/49	5/2/18	11:10	P	2x2	X53	JG	P	5/3/18	CC
64	AT	40/42 140' from East	5/2/18	13:45	P	2x2	X53	JG	P	5/3/18	CC
65	FM	42/44 156' from East	5/2/18	11:48	P	2x2	X53	JG	P	5/3/18	CC
66	FM	42/44 17' from East	5/2/18	13:55	P	2x2	X53	JG	P	5/3/18	CC
67	DS-13	39/40 1' from West	5/2/18	14:05	P	2x6	X53	JG	P	5/3/18	CC
68	DS-14	43/44 56' from East	5/2/18	11:35	P	2x6	X53	JG	P	5/3/18	CC
69	DS-15	44/46 112' from East	5/2/18	11:30	P	2x6	X53	JG	P	5/3/18	CC
70	DS-16	50/51 199' from East	5/2/18	10:10	P	2x6	X53	JG	P	5/3/18	CC
71	DS-17	51/52 433' from East	5/2/18	10:25	P	2x6	X53	JG	P	5/3/18	CC
72	DS-18	53/54 441' from East	5/2/18	10:20	P	2x6	X53	JG	P	5/3/18	CC
73	DS-19	55/56 191' from East	5/2/18	9:05	P	2x6	X53	JG	P	5/3/18	CC
74	AT	58/59 101' from East	5/2/18	9:15	P	2x2	X53	JG	P	5/3/18	CC
75	DS-20	56/57 259' from East	5/2/18	8:45	P	2x6	X53	JG	P	5/3/18	CC
76	AT	57/58 286' from East	5/2/18	8:40	P	2x2	X53	JG	P	5/3/18	CC
77	AT	56/57 15' from East	5/2/18	9:59	P	2x2	X53	JG	P	5/3/18	CC
78	AT	56/57 72' from East	5/2/18	9:55	P	2x2	X53	JG	P	5/3/18	CC
79	DS-21	57/58 418' from East	5/2/18	8:55	P	2x6	X53	JG	P	5/3/18	CC
80	AT	P49 260' from East, 7' from P47	5/2/18	10:05	P	2x2	X53	JG	P	5/3/18	CC
81	AT	57/58 11' from East	5/2/18	10:00	P	2x2	X53	JG	P	5/3/18	CC
82	AT	58/59 74' from East	5/2/18	9:45	P	2x12	X53	JG	P	5/3/18	CC
83	T	16/40/43	5/2/18	16:45	P	2x2	X53	JG	P	5/3/18	CC
84	T	16/43 14' from Southeast	5/2/18	16:37	P	2x2	X53	JG	P	5/3/18	CC
85	T	15/16/43	5/2/18	16:35	P	2x2	X53	JG	P	5/3/18	CC
86	T	15/43/44	5/2/18	16:29	P	2x2	X53	JG	P	5/3/18	CC
87	T	14/15/44	5/2/18	16:25	P	2x2	X53	JG	P	5/3/18	CC
88	T	14/44/46	5/2/18	16:05	P	2x2	X53	JG	P	5/3/18	CC
89	T	13/14/46	5/3/18	9:18	P	2x2	X53	ED	P	5/3/18	CC
90	T	13/46/48	5/3/18	9:05	P	2x2	X53	ED	P	5/3/18	CC

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
91	T	12/13/48	5/3/18	9:00	P	2x2	X53	ED	P	5/3/18	CC
92	T	12/48/49	5/3/18	8:43	P	2x2	X53	ED	P	5/3/18	CC
93	T	11/12/49	5/3/18	8:42	P	2x2	X53	ED	P	5/3/18	CC
94	T	11/49/50	5/14/18	9:50	P	2x2	X53	JG	P	5/22/18	JV
95	T	9/11/50	5/14/18	9:48	P	2x2	X53	JG	P	5/22/18	JV
96	CS	P56 7' from P57, 5' from East	5/4/18	9:30	P	8x9	X53	JG	P	5/4/18	DR
97	MD	P58 466' from East, 5' from P59	5/3/18	10:06	P	2x2	X53	ED	P	5/3/18	CC
98	MD	P58 466' from East, 7' from P59	5/3/18	10:10	P	2x2	X53	ED	P	5/3/18	CC
99	MD	P61 4' from South, 3' from P1	5/7/18	15:10	P	2x2	X53	JG	P	5/8/18	CC
100	AT	1/61 11' from South	5/7/18	10:25	P	2x2	X53	JG	P	5/8/18	CC
101	AT	63/64 1' from South	5/7/18	11:05	P	2x6	X53	JG	P	5/8/18	CC
102	MD	P66 3' from South, 10' from P65	5/7/18	15:00	P	2x2	X53	JG	P	5/8/18	CC
103	MD	P66 3' from South, 6' from P65	5/7/18	15:20	P	2x2	X53	JG	P	5/8/18	CC
104	MD	P66 12' from South, 10' from P65	5/7/18	15:05	P	2x2	X53	JG	P	5/8/18	CC
105	CS	P71 5' from South, 1' from P70	5/7/18	9:30	P	6x6	X53	JG	P	5/8/18	CC
106	AT	78/79 1' from West	5/7/18	14:10	P	2x2	X53	JG	P	5/8/18	CC
107	AT	80/81 3' from West	5/7/18	14:15	P	2x2	X53	JG	P	5/8/18	CC
108	T/DS-24	70/72/73 (72/73)	5/7/18	11:20	P	2x8	X53	JG	P	5/8/18	CC
109	T	69/70/73	5/7/18	11:25	P	2x2	X53	JG	P	5/8/18	CC
110	T	69/73/74	5/7/18	11:40	P	2x2	X53	JG	P	5/8/18	CC
111	T	68/69/74	5/7/18	11:48	P	2x2	X53	JG	P	5/8/18	CC
112	T	68/74/75	5/7/18	11:57	P	2x2	X53	JG	P	5/8/18	CC
113	T	67/68/75	5/7/18	13:05	P	2x2	X53	JG	P	5/8/18	CC
114	T	67/75/76	5/7/18	13:25	P	2x2	X53	JG	P	5/8/18	CC
115	T	66/67/76	5/7/18	13:28	P	2x2	X53	JG	P	5/8/18	CC
116	T	66/76/77	5/7/18	13:40	P	2x2	X53	JG	P	5/8/18	CC
117	T	65/66/77	5/7/18	13:43	P	2x2	X53	JG	P	5/8/18	CC
118	T	65/77/78	5/7/18	13:50	P	2x2	X53	JG	P	5/8/18	CC
119	T	64/65/78	5/7/18	15:35	P	2x2	X53	JG	P	5/8/18	CC
120	T	64/78/79	5/7/18	16:05	P	2x2	X53	JG	P	5/8/18	CC

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
121	T	63/64/79	5/7/18	16:14	P	2x2	X53	JG	P	5/8/18	CC
122	T	63/79/80	5/7/18	16:21	P	2x2	X53	JG	P	5/8/18	CC
123	T	62/63/80	5/7/18	16:30	P	2x2	X53	JG	P	5/8/18	CC
124	T	62/80/81	5/8/18	9:23	P	2x2	X53	JG	P	5/8/18	CC
125	T	61/62/81	5/8/18	9:31	P	2x2	X53	JG	P	5/8/18	CC
126	T	61/81/82	5/8/18	9:34	P	2x2	X53	JG	P	5/8/18	CC
127	T	1/61/82	5/8/18	9:56	P	2x2	X53	JG	P	5/8/18	CC
128	T	1/82/83	5/8/18	9:57	P	2x2	X53	JG	P	5/8/18	CC
129	T	1/83/84	5/8/18	10:05	P	2x2	X53	JG	P	5/8/18	CC
130	T	1/3/84	5/8/18	10:08	P	2x2	X53	JG	P	5/8/18	CC
131	DS-22	1/61 20' from South	5/7/18	10:42	P	2x6	X53	JG	P	5/8/18	CC
132	DS-23	63/64 41' from South	5/7/18	10:56	P	2x6	X53	JG	P	5/8/18	CC
133	DS-25	77/78 117' from West	5/7/18	13:55	P	2x6	X53	JG	P	5/8/18	CC
134	DS-26	81/82 79' from West	5/7/18	16:29	P	2x6	X53	JG	P	5/8/18	CC
135	MD	P1 256' from South, 15' from P3	5/8/18	10:00	P	2x2	X53	JG	P	5/8/18	CC
136	T	3/84/85	5/9/18	14:45	P	2x2	X53	JG	P	5/22/18	JV
137	T	3/4/85	5/9/18	14:50	P	2x2	X53	JG	P	5/22/18	JV
138	T	4/85/86	5/9/18	15:03	P	2x2	X53	JG	P	5/22/18	JV
139	T	4/5/86	5/9/18	15:15	P	2x2	X53	JG	P	5/22/18	JV
140	T	5/86/87	5/9/18	15:37	P	2x2	X53	JG	P	5/22/18	JV
141	T	5/7/87	5/9/18	15:50	P	2x2	X53	JG	P	5/22/18	JV
142	T	7/87/88	5/9/18	15:55	P	2x2	X53	JG	P	5/22/18	JV
143	AT	94/95 16' from West	5/14/18	13:40	P	2x8	X53	JG	P	5/22/18	JV
144	T	7/9/88	5/14/18	9:35	P	2x2	X53	JG	P	5/22/18	JV
145	T	9/50/88/89	5/14/18	9:30	C	2x9	X53	JG	P	5/22/18	JV
146	T	50/89/102	5/21/18	10:00	P	2x2	X53	JG	P	5/22/18	JV
147	T	50/51/102	5/14/18	9:00	P	2x2	X53	JG	P	5/22/18	JV
148	FM	P101 121' from P100, 3' from P51	5/22/18	7:55	P	2x2	X53	JG	P	5/22/18	JV
149	FM	95/96 1' from West	5/14/18	13:50	P	2x9	X53	JG	P	5/22/18	JV
150	AT	87/88 25' from West	5/21/18	8:10	P	2x2	X53	JG	P	5/22/18	JV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
151	AT	88/89 3' from West	5/14/18	11:48	P	2x10	X53	JG	P	5/22/18	JV
152	MD	P86 304' from West, 11' from P85	5/21/18	10:35	P	2x2	X53	JG	P	5/22/18	JV
153	DS-27	85/86 298' from West	5/21/18	10:05	P	2x6	X53	JG	P	5/22/18	JV
154	DS-28	86/87 287' from West	5/21/18	10:25	P	2x6	X53	JG	P	5/22/18	JV
155	MD	92/93 13' from West	5/14/18	13:09	P	2x2	X53	JG	P	5/22/18	JV
156	FM	93/94 1' from West	5/14/18	13:15	P	2x17	X53	JG	P	5/22/18	JV
157	CS	P95 6' from West, 3' from P94	5/14/18	13:50	P	8x8	X53	JG	P	5/22/18	JV
158	T	51/90/101	5/21/18	9:40	P	2x2	X53	JG	P	5/22/18	JV
159	DD	P51 6' from P90, 9' from P101	5/21/18	9:46	P	2x2	X53	JG	P	5/22/18	JV
160	T	51/52/90/91	5/21/18	10:55	C	2x19	X53	JG	P	5/22/18	JV
161	T	52/53/91	5/21/18	11:15	P	2x6	X53	JG	P	5/22/18	JV
162	T	53/91/92	5/21/18	11:59	P	2x6	X53	JG	P	5/22/18	JV
163	T	53/92/93	5/21/18	11:45	P	2x6	X53	JG	P	5/22/18	JV
164	T	53/54/93	5/21/18	13:10	P	2x2	X53	JG	P	5/22/18	JV
165	T	54/55/93	5/21/18	13:25	P	2x2	X53	JG	P	5/22/18	JV
166	T	55/93/94	5/21/18	14:40	P	2x8	X53	JG	P	5/22/18	JV
167	T	55/94/95	5/21/18	14:05	P	2x2	X53	JG	P	5/22/18	JV
168	T	55/56/95	5/21/18	15:40	P	2x2	X53	JG	P	5/22/18	JV
169	T	56/57/95	5/21/18	15:30	P	2x2	X53	JG	P	5/22/18	JV
170	T	57/95/96	5/21/18	16:10	P	2x5	X53	JG	P	5/22/18	JV
171	T	57/96/97	5/21/18	15:55	P	2x6	X53	JG	P	5/22/18	JV
172	T	57/58/97	5/21/18	16:40	P	2x6	X53	JG	P	5/22/18	JV
173	T	58/59/97	5/21/18	16:15	P	2x2	X53	JG	P	5/22/18	JV
174	T	59/97/98	5/22/18	8:10	P	2x5	X53	JG	P	5/22/18	JV
175	T	59/98/99	5/22/18	8:55	P	2x6	X53	JG	P	5/22/18	JV
176	T	59/60/99	5/22/18	9:00	P	2x6	X53	JG	P	5/22/18	JV
177	T	89/90/100	5/21/18	9:15	P	2x2	X53	JG	P	5/22/18	JV
178	T	90/100/101	5/21/18	9:25	P	2x2	X53	JG	P	5/22/18	JV
179	T	51/101/102	5/21/18	9:55	P	2x2	X53	JG	P	5/22/18	JV
180	MD	P101 94' from West, 1' from P89	5/21/18	15:05	P	2x2	X53	JG	P	5/22/18	JV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
181	AT	96/97 14' from West	5/14/18	14:00	P	2x2	X53	JG	P	5/22/18	JV
182	DS-29	91/92 31' from West	5/21/18	8:30	P	2x6	X53	JG	P	5/22/18	JV
183	AT	92/93 28' from West	5/21/18	8:34	P	2x2	X53	JG	P	5/22/18	JV
184	FM	92/93 57' from West	5/21/18	8:35	P	2x2	X53	JG	P	5/22/18	JV
185	DS-30	93/94 140' from West	5/21/18	9:55	P	2x6	X53	JG	P	5/22/18	JV
186	DS-31	94/95 40' from West	5/21/18	8:45	P	2x6	X53	JG	P	5/22/18	JV
187	DS-32	96/97 43' from West	5/21/18	8:50	P	2x6	X53	JG	P	5/22/18	JV
188	T	89/100/101	5/21/18	9:50	P	2x2	X53	JG	P	5/22/18	JV
189	T	89/101/102	5/21/18	9:28	P	2x2	X53	JG	P	5/22/18	JV
190	FM	85/86 26' from West	5/21/18	8:25	P	2x2	X53	JG	P	5/22/18	JV
191	MD	P40 1' from East, 10' from P39	5/14/18	5:52	P	2x2	X53	JG	P	5/22/18	JV
192	MD	P40 1' from East, 14' from P39	5/14/18	5:48	P	2x2	X53	JG	P	5/22/18	JV
193	MD	P86 308' from West, 8' from P87	5/21/18	10:30	P	2x2	X53	JG	P	5/22/18	JV
194	AT	53/93 5' from West	5/21/18	11:50	P	2x2	X53	JG	P	5/22/18	JV
195	DS-34	54/93 11' from South	5/21/18	15:45	P	2x6	X53	JG	P	5/22/18	JV
196	DS-33	89/100 1' from West	5/21/18	14:54	P	2x6	X53	JG	P	5/22/18	JV
197	MD	P56 5' from P57, 12' from East	5/21/18	10:50	P	2x2	X53	JG	P	5/22/18	JV
198	WR	P98 289' from West, 10' from P99	5/22/18	8:30	P	2x2	X53	JG	P	5/22/18	JV
199	WR	P59 8' from P98, 8' from P99	5/22/18	8:40	P	2x2	X53	JG	P	5/22/18	JV
200	MD	P60 12' from East, 9' from P160	7/9/18	9:45	P	2x2	X53	ED	P	7/9/18	JV
201	MD	P89 17' from West, 5' from P88	5/14/18	11:50	P	2x2	X53	JG	P	5/22/18	JV
202	T	99/103 1' from West	6/6/18	8:30	C	2x16	X53	JG	P	6/7/18	DV
203	T	60/99/103	6/6/18	14:20	P	2x2	X53	JV	P	6/7/18	DV
204	DS-35	60/103 41' from West	6/6/18	14:35	P	2x6	X53	JV	P	6/7/18	DV
205	DS-36	103/104 357' from West	6/6/18	14:40	P	2x6	X53	JV	P	6/7/18	DV
206	T	105/106/107	6/6/18	11:57	P	2x2	X53	JV	P	6/7/18	DV
207	T	106/107/108	6/6/18	11:45	P	2x2	X53	JV	P	6/7/18	DV
208	T	108/109/110	6/6/18	11:10	P	2x2	X53	JV	P	6/7/18	DV
209	T	109/110/111	6/6/18	11:00	P	2x2	X53	JV	P	6/7/18	DV
210	T	111/112/113	6/6/18	10:22	P	2x2	X53	JG	P	6/7/18	DV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
211	T	112/113/114	6/6/18	10:32	P	2x2	X53	JG	P	6/7/18	DV
212	DS-37	105/106 39' from West	6/6/18	13:10	P	2x6	X53	JG	P	6/7/18	DV
213	DS-38	106/108 195' from West	6/6/18	13:43	P	2x6	X53	JV	P	6/7/18	DV
214	FM	109/111 13' from West	6/6/18	16:10	P	2x4	X53	JG	P	6/7/18	DV
215	DS-39	110/111 27' from West	6/6/18	13:35	P	2x6	X53	JV	P	6/7/18	DV
216	MD	109/111 161' from West	6/6/18	9:42	P	2x2	X53	JG	P	6/7/18	DV
217	MD	109/111 57' from West	6/6/18	9:40	P	2x6	X53	JG	P	6/7/18	DV
218	MD	109/111 47' from West	6/6/18	9:35	P	2x6	X53	JG	P	6/7/18	DV
219	MD	109/111 19' from West	6/6/18	8:50	P	2x2	X53	JG	P	6/7/18	DV
220	MD	111/112 1' from West	6/6/18	9:10	P	2x2	X53	JG	P	6/7/18	DV
221	DD	P111 2' from West, 4' from P112	6/6/18	9:16	P	2x2	X53	JG	P	6/7/18	DV
222	DD	P114 2' from West, 1' from P112	6/6/18	9:30	P	2x2	X53	JG	P	6/7/18	DV
223	MD	111/112 7' from West	6/6/18	9:15	P	2x4	X53	JG	P	6/7/18	DV
224	WR	114/115 5' from West	6/11/18	8:30	P	2x2	X53	JG	P	6/14/18	EH
225	AT	117/118 5' from West	6/11/18	9:15	P	2x2	X53	JG	P	6/14/18	EH
226	AT	119/120 2' from West	6/11/18	9:30	P	2x2	X53	JG	P	6/14/18	EH
227	AT	120/121 11' from West	6/11/18	9:45	P	2x2	X53	JG	P	6/14/18	EH
228	AT	121/122 4' from West	6/11/18	10:30	P	2x6	X53	JG	P	6/14/18	EH
229	AT	121/122 16' from West	6/11/18	10:25	P	2x2	X53	JG	P	6/14/18	EH
230	AT	121/122 25' from West	6/11/18	10:20	P	2x2	X53	JG	P	6/14/18	EH
231	AT	123/124 7' from West	6/11/18	11:00	P	2x2	X53	JG	P	6/14/18	EH
232	CS	124/125/126	6/9/18	10:55	P	6x6	X53	ED	P	6/14/18	EH
233	AT	127/128 12' from North	6/11/18	11:30	P	2x2	X53	JG	P	6/14/18	EH
234	AT	129/130 16' from North	6/11/18	13:05	P	2x2	X53	JG	P	6/14/18	EH
235	DD	P131 3' from North, 6' from P130	6/11/18	13:30	P	2x2	X53	JG	P	6/14/18	EH
236	AT	131/132 15' from North	6/11/18	13:40	P	2x2	X53	JG	P	6/14/18	EH
237	T	123/124/126	6/11/18	10:55	P	2x2	X53	JG	P	6/14/18	EH
238	T	123/126/127	6/11/18	10:50	P	2x2	X53	JG	P	6/14/18	EH
239	T	122/123/127	6/11/18	14:25	P	2x2	X53	JG	P	6/14/18	EH
240	T	122/127/128	6/11/18	14:28	P	2x2	X53	JG	P	6/14/18	EH

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
241	T	121/122/128	6/11/18	14:31	P	2x2	X53	JG	P	6/14/18	EH
242	T	121/128/129/R-245	6/11/18	14:43	P	2x2	X53	JG	P	6/14/18	EH
243	T	129/130/R-245	6/11/18	14:50	P	2x2	X53	JG	P	6/14/18	EH
244	T	120/121/R-245	6/11/18	14:47	P	2x2	X53	JG	P	6/14/18	EH
245	T	120/121/129/130	6/11/18	14:55	C	22x23	X53	JG	P	6/14/18	EH
246	T/DD	119/120/130	6/11/18	15:00	P	2x2	X53	JG	P	6/14/18	EH
247	T	119/130/131	6/11/18	15:10	P	2x2	X53	JG	P	6/14/18	EH
248	T	118/119/131	6/11/18	15:15	P	2x2	X53	JG	P	6/14/18	EH
249	T	118/131/132	6/11/18	15:25	P	2x2	X53	JG	P	6/14/18	EH
250	T	117/118/132	6/11/18	15:30	P	2x2	X53	JG	P	6/14/18	EH
251	DS-40	114/115 205' from West	6/13/18	13:55	P	2x6	X53	JG	P	6/14/18	EH
252	DS-41	117/118 22' from West	6/11/18	15:40	P	2x6	X53	JG	P	6/14/18	EH
253	DS-42	128/129 69' from North	6/11/18	14:40	P	2x6	X53	JG	P	6/14/18	EH
254	AT	132/133 15' from North	6/13/18	10:00	P	2x2	X53	JG	P	6/14/18	EH
255	AT	137/139 15' from North	6/14/18	7:00	P	2x2	X53	JG	P	6/14/18	EH
256	AT	135/136 1' from North	6/13/18	10:20	P	2x2	X53	JG	P	6/14/18	EH
257	T	136/137/138	6/13/18	10:27	P	2x2	X53	JG	P	6/14/18	EH
258	T	137/138/139	6/13/18	10:33	P	2x2	X53	JG	P	6/14/18	EH
259	DS-45	137/139 177' from North	6/13/18	10:36	P	2x6	X53	JG	P	6/14/18	EH
260	T	139/140/141	6/13/18	10:42	P	2x2	X53	JG	P	6/14/18	EH
261	DD	P105 351' from West, 7' from P107	6/20/18	12:00	P	2x2	X53	ED	P	6/20/18	EH
262	FM	115/116 189' from West	6/13/18	133:30	P	2x2	X53	JG	P	6/14/18	EH
263	FM	114/115 213' from West	6/13/18	13:55	P	2x2	X53	JG	P	6/14/18	EH
264	T/DS-43	117/132/133 (132/133)	6/13/18	10:55	P	2x6	X53	JG	P	6/14/18	EH
265	T	116/117/133	6/13/18	11:05	P	2x2	X53	JG	P	6/14/18	EH
266	T	116/133/134	6/13/18	11:38	P	2x2	X53	JG	P	6/14/18	EH
267	T	115/116/134	6/13/18	11:55	P	2x2	X53	JG	P	6/14/18	EH
268	T	115/134/135	6/13/18	13:40	P	2x2	X53	JG	P	6/14/18	EH
269	T	114/115/135	6/13/18	13:45	P	2x2	X53	JG	P	6/14/18	EH
270	T/DS-44	114/135/136 (135/136)	6/13/18	14:31	P	2x6	X53	JG	P	6/14/18	EH

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
271	T	113/114/136	6/13/18	14:39	P	2x2	X53	JG	P	6/14/18	EH
272	T	113/136/138	6/13/18	14:45	P	2x2	X53	JG	P	6/14/18	EH
273	T	111/113/138	6/13/18	15:00	P	2x2	X53	JG	P	6/14/18	EH
274	T	111/138/139	6/13/18	15:15	P	2x2	X53	JG	P	6/14/18	EH
275	T	110/111/139	6/13/18	15:16	P	2x10	X53	JG	P	6/14/18	EH
276	T	110/139/141	6/13/18	16:33	P	2x2	X53	JG	P	6/14/18	EH
277	T	108/110/141	6/13/18	16:35	P	2x2	X53	JG	P	6/14/18	EH
278	AT	140/142 22' from North	6/20/18	10:40	P	2x2	X53	ED	P	7/3/18	DV
279	C	146/147/149/150	6/20/18	8:56	C	6x48	X53	ED	P	7/3/18	DV
280	AT	157/158 1' from North	6/22/18	8:10	P	2x13	X53	ED	P	7/3/18	DV
281	FM	158/159 19' from North	6/22/18	8:15	P	2x3	X53	ED	P	7/3/18	DV
282	DD	P167 60' from P166, 3' from P168	6/27/18	16:50	P	2x2	X53	ED	P	7/3/18	DV
283	T	140/141/142	6/18/18	11:20	P	2x2	X53	ED	P	7/3/18	DV
284	T	142/143/144	6/18/18	11:35	P	2x2	X53	ED	P	7/3/18	DV
285	T	143/144/145	6/18/18	11:46	P	2x2	X53	ED	P	7/3/18	DV
286	T	146/147/148	6/18/18	13:12	P	2x2	X53	ED	P	7/3/18	DV
287	T	147/148/149	6/18/18	13:30	C	2x39	X53	ED	P	7/3/18	DV
288	T	149/150/151	6/18/18	14:30	P	2x2	X53	ED	P	7/3/18	DV
289	T	150/151/152	6/18/18	14:15	P	2x2	X53	ED	P	7/3/18	DV
290	T	152/153/154	6/18/18	14:49	P	2x2	X53	ED	P	7/3/18	DV
291	T	153/154/155	6/18/18	15:36	P	2x2	X53	ED	P	7/3/18	DV
292	T	108/141/142	6/20/18	11:40	P	2x2	X53	ED	P	7/3/18	DV
293	T	107/108/142	6/20/18	11:30	P	2x2	X53	ED	P	7/3/18	DV
294	T	107/142/144	6/18/18	16:30	P	2x2	X53	ED	P	7/3/18	DV
295	T	105/107/144	6/18/18	16:20	P	2x2	X53	ED	P	7/3/18	DV
296	T	105/144/145	6/18/18	16:10	P	2x2	X53	ED	P	7/3/18	DV
297	T	104/105/145	6/18/18	16:04	P	2x2	X53	ED	P	7/3/18	DV
298	DS-46	140/142 121' from North	6/20/18	14:36	P	2x6	X53	ED	P	7/3/18	DV
299	DS-47	143/145 171' from North	6/20/18	14:43	P	2x6	X53	ED	P	7/3/18	DV
300	DS-48	146/147 234' from North	6/20/18	13:45	P	2x6	X53	ED	P	7/3/18	DV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
301	DS-49	149/150 229' from North	6/20/18	14:00	P	2x6	X53	ED	P	7/3/18	DV
302	DS-50	152/153 96' from North	6/20/18	14:19	P	2x6	X53	ED	P	7/3/18	DV
303	DS-51	155/156 76' from North	6/20/18	14:23	P	2x6	X53	ED	P	7/3/18	DV
304	T	60/103/160	6/26/18	13:41	P	2x6	X53	ED	P	7/3/18	DV
305	T	103/160/161	6/26/18	13:49	P	2x2	X53	ED	P	7/3/18	DV
306	T	103/104/161	6/26/18	14:03	P	2x2	X53	ED	P	7/3/18	DV
307	T	104/161/162	6/26/18	14:13	P	2x6	X53	ED	P	7/3/18	DV
308	T	162/163/164	6/26/18	11:44	P	2x2	X53	ED	P	7/3/18	DV
309	T	163/164/165	6/26/18	11:54	P	2x2	X53	ED	P	7/3/18	DV
310	T	165/166/167	6/26/18	11:23	P	2x2	X53	ED	P	7/3/18	DV
311	T	166/167/168	6/26/18	11:34	P	2x2	X53	ED	P	7/3/18	DV
312	T	168/169/170	6/27/18	9:25	P	2x2	X53	ED	P	7/3/18	DV
313	T	169/170/176	6/27/18	9:30	P	2x2	X53	ED	P	7/3/18	DV
314	T	174/175/183/184	6/22/18	11:10	C	21x21	X53	ED	P	7/3/18	DV
315	T	183/184/R-314	6/27/18	11:25	P	2x2	X53	ED	P	7/3/18	DV
316	T	175/184/185	6/27/18	11:45	P	2x2	X53	ED	P	7/3/18	DV
317	MD	P186 10' from P185, 1' from East	6/28/18	15:50	P	2x10	X53	ED	P	7/3/18	DV
318	T	175/185/188	6/27/18	13:26	P	2x2	X53	ED	P	7/3/18	DV
319	T	185/186/188	6/27/18	13:32	P	2x4	X53	ED	P	7/3/18	DV
320	CS	186/187/188	6/22/18	14:58	P	6x6	X53	ED	P	7/3/18	DV
321	T	174/175R-314	6/27/18	13:16	P	2x2	X53	ED	P	7/3/18	DV
322	MD	185/186 1' from East	6/28/18	16:06	P	2x10	X53	ED	P	7/3/18	DV
323	T	173/174/183/R-314	6/27/18	11:22	C	2x5	X53	ED	P	7/3/18	DV
324	T	173/182/183	6/27/18	11:10	P	2x2	X53	ED	P	7/3/18	DV
325	T	172/173/182	6/27/18	11:18	P	2x2	X53	ED	P	7/3/18	DV
326	T	172/181/182	6/27/18	11:06	P	2x2	X53	ED	P	7/3/18	DV
327	T	171/172/181	6/27/18	11:03	P	2x2	X53	ED	P	7/3/18	DV
328	MD	P126 15' from North, 5' from P127	7/6/18	10:45	P	2x2	X53	ED	P	7/6/18	DV
329	T	171/180/181	6/27/18	10:56	P	2x2	X53	ED	P	7/3/18	DV
330	T	159/171/180	6/27/18	10:58	P	2x2	X53	ED	P	7/3/18	DV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
331	T	158/159/179/180	6/27/18	10:50	P	2x2	X53	ED	P	7/3/18	DV
332	T	157/158/178/179	6/27/18	10:46	P	2x2	X53	ED	P	7/3/18	DV
333	T	157/177/178	6/27/18	10:08	P	2x2	X53	ED	P	7/3/18	DV
334	T	156/157/177	6/27/18	10:00	P	2x2	X53	ED	P	7/3/18	DV
335	T	156/176/177	6/26/18	16:20	P	2x2	X53	ED	P	7/3/18	DV
336	T	155/156/176	6/26/18	16:22	P	2x2	X53	ED	P	7/3/18	DV
337	T	155/170/176	6/26/18	16:09	P	2x2	X53	ED	P	7/3/18	DV
338	T	154/155/170	6/26/18	16:07	P	2x2	X53	ED	P	7/3/18	DV
339	T	154/168/170	6/26/18	15:56	P	2x2	X53	ED	P	7/3/18	DV
340	T	152/154/168	6/26/18	15:58	P	2x2	X53	ED	P	7/3/18	DV
341	MD	152/168 17' from Southwest	6/26/18	15:49	P	2x2	X53	ED	P	7/3/18	DV
342	MD	152/168 13' from Southwest	6/26/18	15:46	P	2x2	X53	ED	P	7/3/18	DV
343	T	152/167/168	6/26/18	15:42	P	2x2	X53	ED	P	7/3/18	DV
344	T	151/152/167	6/26/18	13:28	P	2x2	X53	ED	P	7/3/18	DV
345	T	151/165/167	6/26/18	10:58	P	2x2	X53	ED	P	7/3/18	DV
346	T	149/151/165	6/26/18	11:01	P	2x2	X53	ED	P	7/3/18	DV
347	T	148/149/165	6/26/18	10:33	P	2x2	X53	ED	P	7/3/18	DV
348	T	148/164/165	6/26/18	10:30	P	2x2	X53	ED	P	7/3/18	DV
349	MD	148/164 14' from SouthWest	6/26/18	9:58	P	2x2	X53	ED	P	7/3/18	DV
350	T	146/148/164	6/26/18	9:50	P	2x2	X53	ED	P	7/3/18	DV
351	T	146/162/164	6/26/18	9:46	P	2x2	X53	ED	P	7/3/18	DV
352	T	145/146/162	6/26/18	9:37	P	2x2	X53	ED	P	7/3/18	DV
353	T	104/145/162	6/26/18	9:35	P	2x2	X53	ED	P	7/3/18	DV
354	FM	181/182 1' from East	6/27/18	14:18	P	2x2	X53	ED	P	7/3/18	DV
355	FM	180/181 3' from East	6/27/18	14:20	P	2x2	X53	ED	P	7/3/18	DV
356	FM	179/180 6' from East	6/27/18	14:48	P	2x2	X53	ED	P	7/3/18	DV
357	FM	176/177 65' from East	6/27/18	14:48	P	2x2	X53	ED	P	7/3/18	DV
358	DD	P169 77' from P170, 7' from P176	6/27/18	15:43	P	2x2	X53	ED	P	7/3/18	DV
359	DD	P169 99' from P170, 7' from P176	6/27/18	16:35	P	2x2	X53	ED	P	7/3/18	DV
360	DD	P169 128' from P170, 7' from P176	6/27/18	16:43	P	2x2	X53	ED	P	7/3/18	DV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Repair Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
Thickness: 50 mil

Repair #	Defect Code	Defect Location	Repair Date	Repair Time	Repair Type	Approx Size	Machine ID	Repair Tech	Vacuum Test		
		Seam #							P/F	Date	Tech
361	AT	168/169 13' from East	6/27/18	15:51	P	2x2	X53	ED	P	7/3/18	DV
362	DS-62	142/144 52' from North	6/28/18	16:20	P	2x6	X53	ED	P	7/3/18	DV
363	AT	165/166 15' from East	6/27/18	16:02	P	2x2	X53	ED	P	7/3/18	DV
364	AT	163/165 7' from East	6/27/18	16:05	P	2x2	X53	ED	P	7/3/18	DV
365	AT	60/160 1' from East	6/27/18	16:10	P	2x14	X53	ED	P	7/3/18	DV
366	AT	60/160 13' from East	6/27/18	16:07	P	2x2	X53	ED	P	7/3/18	DV
367	MD	P60 12' from East, 5' from P160	6/22/18	15:10	P	2x2	X53	ED	P	7/3/18	DV
368	AT	60/160 73' from East	6/27/18	16:12	P	2x2	X53	ED	P	7/3/18	DV
369	AT	60/160 85' from East	6/27/18	16:13	P	2x2	X53	ED	P	7/3/18	DV
370	AT	159/171 21' from North	6/27/18	13:43	P	2x2	X53	ED	P	7/3/18	DV
371	MD	P172 1' from North, 5' from P171	6/22/18	9:15	P	2x2	X53	ED	P	7/3/18	DV
372	AT	172/173 20' from North	6/27/18	13:32	P	2x2	X53	ED	P	7/3/18	DV
373	AT	173/174 2' from North	6/27/18	13:28	P	2x2	X53	ED	P	7/3/18	DV
374	AT	174/175 1' from North	6/27/18	13:58	P	2x4	X53	ED	P	7/3/18	DV
375	DS-52	60/160 262' from East	6/26/18	13:54	P	2x6	X53	ED	P	7/3/18	DV
376	DS-53	161/162 157' from East	6/26/18	14:10	P	2x6	X53	ED	P	7/3/18	DV
377	DS-54	163/165 123' from East	6/26/18	14:25	P	2x6	X53	ED	P	7/3/18	DV
378	DS-55	166/168 73' from East	6/26/18	14:32	P	2x6	X53	ED	P	7/3/18	DV
379	DS-56	159/171 37' from North	6/27/18	13:40	P	2x6	X53	ED	P	7/3/18	DV
380	DS-57	170/176 29' from East	6/27/18	16:26	P	2x6	X53	ED	P	7/3/18	DV
381	DS-58	179/180 111' from East	6/27/18	14:53	P	2x6	X53	ED	P	7/3/18	DV
382	DS-59	187/188 4' from North	6/27/18	16:03	P	2x6	X53	ED	P	7/3/18	DV
383	DS-60	146/162 12' from Southwest	6/27/18	16:30	P	2x8	X53	ED	P	7/3/18	DV
384	DS-61	105/145 5' from Northwest	6/27/18	16:39	P	2x8	X53	ED	P	7/3/18	DV

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Seam Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 Mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

DT #	Location	Date Removed	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
							Peel (ppi) IN/OUT					Shear (ppi)							
			Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
1	1/3	4/10/18	M20	ED	860/650		84	83	80	83	97	109	111	112	110	105	Pass	DR	S/S
							81	100	104	92	90								
2	4/5	4/10/18	M20	ED	860/750		97	100	80	90	93	110	108	106	111	110	Pass	DR	S/S
							100	78	96	92	77								
3	7/9	4/10/18	M20	ED	860/750		94	103	83	99	86	107	114	110	109	109	Pass	DR	S/S
							89	85	102	78	89								
4	6/7	4/10/18	X53	JG		470/470	79	86	91	81	78	110	107	108	106	107	Pass	DR	EXT
5	10/12	4/17/18	M20	ED	860/750		108	107	108	105	109	145	137	137	133	121	Pass	DR	S/S
							131	122	129	120	123								
6	12/13	4/17/18	M22	JG	850/750		111	95	107	94	118	136	131	130	109	125	Pass	DR	S/S
							127	121	127	117	120								
7	15/16	4/17/18	M20	ED	860/750		94	94	108	93	114	131	120	120	110	121	Pass	DR	S/S
							121	108	115	112	98								
8	15/16	4/17/18	M20	ED	860/750		94	101	101	93	109	118	122	123	126	125	Pass	DR	S/S
							93	108	103	104	103								
9	20/21	4/17/18	M22	JG	850/750		103	93	112	109	101	123	113	120	110	119	Pass	DR	S/S
							115	106	104	116	98								
10	22/23	4/17/18	M21	ED	860/750		100	96	114	103	92	134	121	120	119	123	Pass	DR	S/S
							108	102	106	91	98								
11	34/35	4/17/18	M21	ED	860/750		89	85	100	87	112	125	122	119	120	121	Pass	DR	S/S
							106	96	109	109	105								

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Seam Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 Mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

DT #	Location	Date Removed	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
							Peel (ppi) IN/OUT					Shear (ppi)							
			Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
12	18/R-21	4/17/18	X53	JG		460/460	111	102	113	98	107	106	103	104	104	103	Pass	DR	EXT
13	39/40	5/2/18	M21	ED	860/750		111	100	112	110	101	120	120	132	130	127	Pass	DR	S/S
							103	111	118	103	117								
14	43/44	5/2/18	M21	ED	860/750		104	102	98	104	114	131	136	129	133	121	Pass	DR	S/S
							110	110	108	109	113								
15	44/46	5/2/18	M22	JG	850/760		118	105	114	103	99	136	130	134	125	120	Pass	DR	S/S
							98	105	106	117	115								
16	50/51	5/2/18	M21	ED	860/750		105	98	111	106	110	131	128	128	127	120	Pass	DR	S/S
							103	104	115	99	99								
17	51/52	5/2/18	M22	JG	850/760		112	98	112	99	110	136	131	131	126	125	Pass	DR	S/S
							107	108	113	101	103								
18	53/54	5/2/18	M21	ED	860/750		99	118	104	111	117	136	123	135	137	133	Pass	DR	S/S
							110	106	99	98	113								
19	55/56	5/2/18	M22	JG	850/760		118	108	115	101	114	135	126	128	126	121	Pass	DR	S/S
							114	109	107	105	101								
20	56/57	5/2/18	M21	ED	860/750		108	100	110	100	115	126	131	126	137	123	Pass	DR	S/S
							110	108	100	108	100								
21	57/58	5/2/18	M22	JG	850/760		105	106	114	108	103	137	121	136	130	134	Pass	DR	S/S
							105	105	118	107	103								
22	1/61	5/7/18	M21	ED	860/750		101	102	113	103	115	124	115	128	127	118	Pass	DR	S/S
							115	106	102	105	112								

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Seam Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 Mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

DT #	Location	Date Removed	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
							Peel (ppi) IN/OUT					Shear (ppi)							
			Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
23	63/64	5/7/18	M21	ED	860/750		111	105	104	107	109	128	119	126	115	121	Pass	DR	S/S
							106	113	104	105	98								
24	72/73	5/7/18	M21	ED	860/750		113	115	106	98	99	126	118	128	127	123	Pass	DR	S/S
							113	108	111	115	115								
25	77/78	5/7/18	M22	JG	850/760		106	115	98	100	112	116	120	127	128	123	Pass	DR	S/S
							113	106	98	105	115								
26	81/82	5/7/18	M21	ED	860/750		111	115	112	106	113	128	126	115	118	124	Pass	DR	S/S
							115	112	103	98	106								
27	85/86	5/21/18	M22	JG	850/760		119	118	118	119	119	128	122	127	123	126	Pass	DR	S/S
							120	118	120	117	116								
28	86/87	5/21/18	M21	ED	860/750		117	119	118	117	119	120	125	123	126	119	Pass	DR	S/S
							117	116	119	120	117								
29	91/92	5/21/18	M21	ED	860/750		117	120	118	120	119	122	124	124	124	126	Pass	DR	S/S
							120	118	117	116	119								
30	93/94	5/21/18	M22	JG	850/800		119	116	120	119	117	124	122	127	122	120	Pass	DR	S/S
							119	120	117	118	117								
31	94/95	5/21/18	M21	ED	860/750		117	118	119	118	117	124	125	128	121	125	Pass	DR	S/S
							118	120	117	120	116								
32	96/97	5/21/18	M21	ED	860/750		117	120	118	117	117	122	120	123	123	125	Pass	DR	S/S
							120	120	119	120	118								
33	89/100	5/21/18	X53	JG		470/470	116	117	120	120	119	119	127	123	123	128	Pass	DR	EXT

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Seam Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 Mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

DT #	Location	Date Removed	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
							Peel (ppi) IN/OUT					Shear (ppi)							
			Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
34	53/93	5/21/18	X53	JG		470/470	118	117	116	117	116	126	125	119	122	128	Pass	DR	EXT
35	60/103	6/6/18	M21	ED	860/750		102	98	99	100	105	123	123	126	125	122	Pass	DR	S/S
							109	99	106	104	110								
36	103/104	6/6/18	M21	ED	860/750		110	99	109	105	101	121	121	122	125	124	Pass	DR	S/S
							109	99	102	104	110								
37	105/106	6/6/18	M22	JG	850/760		103	101	104	106	109	127	122	122	122	121	Pass	DR	S/S
							106	103	103	110	103								
38	106/108	6/6/18	M21	ED	860/750		109	101	102	103	99	124	126	126	122	127	Pass	DR	S/S
							107	101	108	103	101								
39	110/111	6/6/18	M21	ED	860/750		106	109	102	100	101	122	127	123	126	122	Pass	DR	S/S
							109	103	102	100	99								
40	114/115	6/11/18	M21	ED	860/750		98	109	105	103	104	123	124	125	124	121	Pass	DR	S/S
							100	101	101	108	104								
41	117/118	6/11/18	M21	ED	860/750		107	108	98	105	102	121	122	122	126	122	Pass	DR	S/S
							108	102	101	106	105								
42	128/129	6/11/18	M21	ED	860/750		100	106	104	110	103	125	121	123	123	126	Pass	DR	S/S
							109	104	101	110	102								
43	132/133	6/12/18	M21	ED	860/750		111	111	105	103	102	120	118	124	120	120	Pass	DR	S/S
							103	99	108	107	103								
44	135/136	6/12/18	M21	ED	860/750		97	98	100	102	103	120	119	118	125	118	Pass	DR	S/S
							102	102	100	102	107								

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Seam Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE

50 Mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

DT #	Location	Date Removed	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
							Peel (ppi) IN/OUT					Shear (ppi)							
			Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
45	137/139	6/12/18	M21	ED	860/750		96	108	110	110	95	122	119	119	121	121	Pass	DR	S/S
							99	98	92	111	97								
46	140/142	6/15/18	M21	ED	860/750		109	107	107	104	104	127	118	122	127	128	Pass	DR	S/S
							103	110	112	117	114								
47	143/145	6/15/18	M22	JG	850/750		104	104	102	108	112	123	122	126	123	124	Pass	DR	S/S
							117	110	111	115	114								
48	146/147	6/15/18	M21	ED	860/750		102	117	111	104	116	123	118	122	119	127	Pass	DR	S/S
							116	115	113	106	102								
49	149/150	6/15/18	M21	ED	860/750		109	114	103	110	117	126	127	121	123	120	Pass	DR	S/S
							112	116	113	117	111								
50	152/153	6/15/18	M21	ED	860/750		107	103	108	110	114	118	119	118	124	124	Pass	DR	S/S
							102	109	104	112	105								
51	155/156	6/15/18	M21	ED	860/750		105	102	103	112	109	126	125	128	125	125	Pass	DR	S/S
							103	108	113	115	117								
52	60/160	6/26/18	M21	ED	860/750		109	113	102	112	113	122	126	125	127	125	Pass	DR	S/S
							90	96	91	103	91								
53	161/162	6/26/18	M21	ED	860/750		114	110	94	114	106	122	123	124	126	124	Pass	DR	S/S
							89	96	89	96	96								
54	163/165	6/26/18	M21	ED	860/750		99	93	98	106	97	119	128	119	126	124	Pass	DR	S/S
							91	88	109	92	92								
55	166/168	6/26/18	M21	ED	860/750		94	97	108	109	91	123	119	125	122	125	Pass	DR	S/S
							91	103	89	91	103								

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Geomembrane Seam Destructive Test Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Start Date: 4/5/18
Project Location: Aiken, SC

Material: Microdrain LLDPE
50 Mil Thickness

Project Seam Requirements

Fusion:		Extrusion:	
Peel:	63	Peel:	57
Shear:	75	Shear:	75

DT #	Location	Date Removed	Welder ID		Wedge	Extruder	Seam Strength										Pass Fail	Tech ID	Remarks
							Peel (ppi) IN/OUT					Shear (ppi)							
			Machine	Operator	Temp/ Speed °F/fpm (or %max)	Barrel/ Preheat °F/°F	1	2	3	4	5	1	2	3	4	5			
56	159/171	6/27/18	M21	ED	860/750		95	103	114	92	101	126	119	123	126	125	Pass	DR	S/S
							92	103	102	87	115								
57	170/176	6/27/18	M21	ED	860/750		102	106	110	100	109	125	125	121	120	128	Pass	DR	S/S
							99	114	111	99	96								
58	179/180	6/27/18	M21	ED	860/750		111	105	109	88	112	125	118	121	126	126	Pass	DR	S/S
							94	87	110	95	113								
59	187/188	6/27/18	M21	ED	860/750		101	87	97	88	102	128	122	127	120	127	Pass	DR	S/S
							108	99	103	104	106								
60	146/162	6/27/18	X53	ED		470/470	91	90	88	96	114	125	120	125	123	127	Pass	DR	EXT
61	105/145	6/27/18	X53	ED		470/470	110	93	113	94	94	124	118	127	124	118	Pass	DR	EXT
62	142/144	6/28/18	M22	JG	850/750		108	100	98	113	116	125	121	123	123	120	Pass	DR	S/S
							111	98	115	114	111								

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Legends

DEFECT CODE			
BO-	Burn Out	SI-	Soil Surface
CR-	Crease	DD-	Deployment Damage
DS-	Destructive Test Number	MD-	Material Damage
EE-	Earthwork Equipment Damage	WR-	Wrinkle
FM-	Fishmouth	WS-	Welder Restart
FT-	Pressure Test Cut	FD-	Factory Defect
T-	Joint	AT-	Air Test

REPAIR TYPE	
C-	Cap Strip
P-	Patches
B-	Extrudate Bead
GB-	Grind & Bead
BT-	Boot
GV-	Gas Vent
CS-	Concrete Structure

NOTATIONS	
SOS	Start of Seam
EOS	End of Seam
EL	Existing Liner
AT	Anchor Trench

TEST RESULTS	
P-	Pass
F-	Fail

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile

10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
4/20/18	1	9:23	East Slope	1111330846	14.5	249	3610.5
4/20/18	2	9:37	East Slope	1111330846	14.5	234	3393
4/20/18	3	9:55	East Slope	1111330838	14.5	221.5	3211.75
4/20/18	4	9:66	East Slope	1111330838	14.5	205.5	2979.75
4/20/18	5	10:51	East Slope	1111330876	14.5	188	2726
4/20/18	6	11:03	East Slope	1111330876	14.5	171.5	2486.75
4/20/18	7	11:13	East Slope	1111330876	14.5	36	522
4/20/18	8	11:27	East Slope	1111330876	14.5	118.5	1718.25
4/20/18	9	12:50	East Slope	1111330868	14.5	154.5	2240.25
4/20/18	10	12:54	East Slope	1111330868	14.5	139	2015.5
4/20/18	11	12:58	East Slope	1111330868	14.5	125	1812.5
4/20/18	12	13:00	East Slope	1111330868	14.5	110	1595
4/20/18	13	13:01	East Slope	1111330847	14.5	95.5	1384.75
4/20/18	14	13:02	East Slope	1111330847	14.5	81.5	1181.75
4/20/18	15	13:05	East Slope	1111330847	14.5	68	986
4/20/18	16	13:07	East Slope	1111330847	14.5	55	797.5
4/20/18	17	13:08	East Slope	1111330847	14.5	41	594.5
4/20/18	18	13:10	East Slope	1111330847	14.5	26.5	384.25
4/20/18	19	13:10	East Slope	1111330847	14.5	13	188.5
4/25/18	20	10:02	South Slope	1111330847	14.5	55	797.5
4/25/18	21	10:12	South Slope	1111330916	14.5	70	1015
4/25/18	22	10:19	South Slope	1111330916	14.5	85	1232.5
4/25/18	23	10:20	South Slope	1111330916	14.5	100	1450
4/25/18	24	10:30	South Slope	1111330916	14.5	116	1682
4/25/18	25	10:47	South Slope	1111330916	14.5	98	1421
4/25/18	26	10:52	South Slope	1111330916	14.5	32	464
4/25/18	27	10:58	South Slope	1111330914	14.5	145	2102.5
4/25/18	28	11:01	South Slope	1111330914	14.5	160	2320
4/25/18	29	11:07	South Slope	1111330914	14.5	151	2189.5
4/25/18	30	11:08	South Slope	1111330914	14.5	39	565.5

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
4/25/18	31	11:12	South Slope	1111330913	14.5	26	377
4/25/18	32	11:13	South Slope	1111330913	14.5	10	145
4/25/18	33	11:24	South Slope	1111330913	14.5	21	304.5
4/25/18	34	11:26	South Slope	1111330913	14.5	184	2668
4/25/18	35	11:28	South Slope	1111330913	14.5	136	1972
4/25/18	36	11:40	South Slope	1111330858	14.5	61	884.5
4/25/18	37	11:42	South Slope	1111330858	14.5	210	3045
4/25/18	38	13:04	South Slope	1111330858	14.5	223	3233.5
4/25/18	39	13:15	South Slope	1111330922	14.5	234	3393
4/25/18	40	13:25	South Slope	1111330922	14.5	247	3581.5
4/25/18	41	13:47	South Slope	1111330884	14.5	259	3755.5
4/25/18	42	15:20	South Slope	1111330884	14.5	250	3625
4/25/18	43	15:24	South Slope	1111330859	14.5	25	362.5
4/25/18	44	15:30	South Slope	1111330859	14.5	289	4190.5
4/25/18	45	15:39	South Slope	1111330859	14.5	192	2784
4/25/18	46	15:43	South Slope	1111330903	14.5	108	1566
4/25/18	47	15:47	South Slope	1111330903	14.5	317	4596.5
4/25/18	48	16:08	South Slope	1111330903	14.5	68	986
4/25/18	49	16:10	South Slope	1111330888	14.5	259	3755.5
4/26/18	50	8:58	South Slope	1111330888	14.5	242	3509
4/26/18	51	9:10	South Slope	1111330820	14.5	96	1392
4/26/18	52	13:27	South Slope	1111330820	14.5	308	4466
4/26/18	53	9:38	South Slope	1111330825	14.5	353	5118.5
4/26/18	54	9:48	South Slope	1111330826	14.5	366	5307
4/26/18	55	10:02	South Slope	1111330826	14.5	133	1928.5
4/26/18	56	10:14	South Slope	1111330848	14.5	246	3567
4/26/18	57	10:25	South Slope	1111330848	14.5	268	3886
4/26/18	58	10:35	South Slope	1111330870	14.5	116	1682
4/26/18	59	10:47	South Slope	1111330870	14.5	384	5568
4/26/18	60	11:02	South Slope	1111330878	14.5	374	5423

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
4/26/18	61	11:04	South Slope	1111330878	14.5	122	1769
4/26/18	62	11:15	South Slope	1111330883	14.5	234	3393
4/26/18	63	11:25	South Slope	1111330883	14.5	261	3784.5
4/26/18	64	11:37	South Slope	1111330887	14.5	73	1058.5
4/26/18	65	11:49	South Slope	1111330887	14.5	326	4727
4/26/18	66	12:00	South Slope	1111330887	14.5	80	1160
4/26/18	67	13:02	South Slope	1111330823	14.5	226	3277
4/26/18	68	13:13	South Slope	1111330904	14.5	267	3871.5
4/26/18	69	13:24	South Slope	1111330882	14.5	41	594.5
5/8/18	70	13:08	East Slope	1111330825	14.5	181	2624.5
5/8/18	71	13:14	East Slope	1111330901	14.5	74	1073
5/8/18	72	13:20	East Slope	1111330901	14.5	281	4074.5
5/8/18	73	13:26	East Slope	1111330901	14.5	136	1972
5/8/18	74	13:30	East Slope	1111330893	14.5	156	2262
5/8/18	75	13:34	East Slope	1111330893	14.5	325	4712.5
5/8/18	76	13:40	East Slope	1111330845	14.5	329	4770.5
5/8/18	77	13:50	East Slope	1111330845	14.5	161	2334.5
5/8/18	78	14:00	East Slope	1111330844	14.5	181	2624.5
5/8/18	79	14:05	East Slope	1111330843	14.5	356	5162
5/8/18	80	14:17	East Slope	1111330824	14.5	370	5365
5/8/18	81	14:29	East Slope	1111330823	14.5	243	3523.5
5/8/18	82	14:39	East Slope	1111330843	14.5	140	2030
5/8/18	83	14:51	East Slope	1111330844	14.5	270	3915
5/8/18	84	17:04	East Slope	1111330824	14.5	116	1682
5/8/18	85	17:18	East Slope	1111330882	14.5	396	5742
5/16/18	86	7:45	East Slope	1111330008	14.5	500	7250
5/16/18	87	8:00	East Slope	1111330852	14.5	500	7250
5/16/18	88	8:11	East Slope	1111330863	14.5	500	7250
5/16/18	89	8:24	East Slope	1111330860	14.5	500	7250
5/16/18	90	8:35	East Slope	1111330900	14.5	500	7250

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
5/16/18	91	8:49	East Slope	1111330912	14.5	500	7250
5/16/18	92	8:58	East Slope	1111330915	14.5	500	7250
5/16/18	93	9:02	East Slope	1111330919	14.5	500	7250
5/16/18	94	9:12	East Slope	1111330921	14.5	500	7250
5/16/18	95	10:00	East Slope	1111330929	14.5	500	7250
5/16/18	96	10:10	East Slope	1111330931	14.5	500	7250
5/16/18	97	10:23	East Slope	1111330934	14.5	500	7250
5/16/18	98	10:37	East Slope	1111330939	14.5	500	7250
5/16/18	99	10:48	East Slope	1111330XXX	14.5	500	7250
5/16/18	100	13:15	South Slope	1111330827	14.5	280	4060
5/16/18	101	13:20	South Slope	1111330827	14.5	232	3364
5/16/18	102	13:25	South Slope	1111330913	14.5	23	333.5
5/16/18	103	13:36	South Slope	1111330828	14.5	238	3451
5/17/18	104	7:45	South Slope	1111330904	14.5	224	3248
5/17/18	105	7:58	South Slope	1111330828	14.5	209	3030.5
5/17/18	106	8:09	South Slope	1111330923	14.5	179	2595.5
5/17/18	107	8:13	South Slope	1111330913	14.5	95	1377.5
5/17/18	108	8:24	South Slope	1111330822	14.5	83	1203.5
5/17/18	109	8:33	South Slope	1111330822	14.5	163	2363.5
5/17/18	110	8:45	South Slope	1111330822	14.5	146	2117
5/22/18	111	11:00	South Slope	1111330822	14.5	108	1566
5/22/18	112	11:07	South Slope	1111330927	14.5	23	333.5
5/22/18	113	11:14	South Slope	1111330927	14.5	116	1682
5/22/18	114	11:22	South Slope	1111330927	14.5	101	1464.5
5/22/18	115	11:30	South Slope	1111330927	14.5	87	1261.5
5/22/18	116	11:35	South Slope	1111330927	14.5	73	1058.5
5/22/18	117	11:40	South Slope	1111330927	14.5	58	841
5/22/18	118	11:46	South Slope	1111330927	14.5	42	609
5/23/18	119	8:10	South Slope	1111330907	14.5	29	420.5
5/23/18	120	8:17	West Slope	1111330907	14.5	14	203

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
5/23/18	121	8:26	West Slope	1111330907	14.5	23	333.5
5/23/18	122	8:36	West Slope	1111330907	14.5	40	580
5/23/18	123	8:46	West Slope	1111330907	14.5	55	797.5
5/23/18	124	8:53	West Slope	1111330907	14.5	69	1000.5
5/23/18	125	9:01	West Slope	1111330907	14.5	84	1218
5/23/18	126	9:11	West Slope	1111330907	14.5	99	1435.5
5/23/18	127	9:19	West Slope	1111330911	14.5	113	1638.5
5/23/18	128	9:28	West Slope	1111330911	14.5	127	1841.5
5/23/18	129	9:35	West Slope	1111330911	14.5	139	2015.5
5/23/18	130	9:42	West Slope	1111330911	14.5	101	1464.5
5/23/18	131	9:50	West Slope	1111330909	14.5	52	754
5/23/18	132	10:00	West Slope	1111330909	14.5	169	2450.5
5/23/18	133	10:07	West Slope	1111330909	14.5	183	2653.5
5/23/18	134	10:16	West Slope	1111330909	14.5	81	1174.5
5/23/18	135	10:24	West Slope	1111330867	14.5	115	1667.5
5/23/18	136	10:32	West Slope	1111330867	14.5	111	1609.5
5/23/18	137	10:41	West Slope	1111330867	14.5	175	2537.5
5/23/18	138	10:48	West Slope	1111330867	14.5	50	725
5/23/18	139	11:00	West Slope	1111330917	14.5	238	3451
5/23/18	140	11:07	West Slope	1111330917	14.5	199	2885.5
5/23/18	141	11:15	West Slope	1111330867	14.5	51	739.5
5/23/18	142	11:25	West Slope	1111330928	14.5	263	3813.5
5/23/18	143	11:34	West Slope	1111330928	14.5	187	2711.5
5/23/18	144	11:44	West Slope	1111330943	14.5	88	1276
5/23/18	145	13:10	West Slope	1111330943	14.5	293	4248.5
5/23/18	146	13:18	West Slope	1111330943	14.5	120	1740
5/23/18	147	13:27	West Slope	1111330991	14.5	185	2682.5
5/23/18	148	13:36	West Slope	1111330991	14.5	327	4741.5
5/23/18	149	13:43	West Slope	1111330920	14.5	336	4872
5/24/18	150	7:55	West Slope	1111330920	14.5	164	2378

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
5/24/18	151	8:02	West Slope	1111330829	14.5	180	2610
5/24/18	152	8:09	West Slope	1111330829	14.5	362	5249
5/24/18	153	8:17	West Slope	1111330831	14.5	374	5423
5/24/18	154	8:25	West Slope	1111330830	14.5	94	1363
5/24/18	155	8:34	West Slope	1111330832	14.5	286	4147
5/24/18	156	8:41	West Slope	1111330830	14.5	329	4770.5
5/24/18	157	13:00	West Slope	1111330942	14.5	267	3871.5
5/24/18	158	13:10	West Slope	1111330942	14.5	214	3103
5/24/18	159	13:24	West Slope	1111330923	14.5	53	768.5
5/24/18	160	13:36	West Slope	1111330923	14.5	272	3944
5/29/18	161	8:10	West Slope	1111330841	14.5	272	3944
5/29/18	162	8:23	West Slope	1111330841	14.5	234	3393
5/29/18	163	8:40	West Slope	1111330851	14.5	38	551
5/29/18	164	8:52	West Slope	1111330851	14.5	273	3958.5
5/29/18	165	9:00	West Slope	1111330851	14.5	195	2827.5
5/29/18	166	9:16	West Slope	1111330857	14.5	80	1160
5/29/18	167	9:32	West Slope	1111330857	14.5	273	3958.5
5/29/18	168	9:43	West Slope	1111330857	14.5	155	2247.5
5/29/18	169	10:03	West Slope	1111330869	14.5	118	1711
5/29/18	170	10:14	West Slope	1111330869	14.5	274	3973
5/29/18	171	10:24	West Slope	1111330869	14.5	117	1696.5
5/29/18	172	10:40	West Slope	1111330871	14.5	157	2276.5
5/29/18	173	13:10	West Slope	1111330871	14.5	274	3973
5/29/18	174	13:23	West Slope	1111330871	14.5	71	1029.5
5/29/18	175	13:39	West Slope	1111330891	14.5	201	2914.5
5/29/18	176	13:58	West Slope	1111330891	14.5	273	3958.5
6/8/18	177	8:30	West Slope	1111330892	14.5	511	7409.5
6/8/18	178	8:44	West Slope	1111330894	14.5	477	6916.5
6/8/18	179	8:55	West Slope	1111330898	14.5	476	6902
6/8/18	180	9:08	West Slope	1111330899	14.5	476	6902

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
6/8/18	181	9:20	West Slope	1111330906	14.5	382	5539
6/8/18	182	9:34	West Slope	1111330906	14.5	112	1624
6/8/18	183	9:47	West Slope	1111330908	14.5	253	3668.5
6/8/18	184	9:61	West Slope	1111330908	14.5	240	3480
6/8/18	185	11:06	West Slope	1111330918	14.5	111.5	1616.75
6/8/18	186	11:17	West Slope	1111330918	14.5	337	4886.5
6/8/18	187	11:30	West Slope	1111330924	14.5	322	4669
6/8/18	188	11:32	West Slope	1111330924	14.5	207	3001.5
6/8/18	189	11:42	West Slope	1111330925	14.5	99	1435.5
6/8/18	190	13:10	West Slope	1111330925	14.5	292	4234
6/8/18	191	13:20	West Slope	1111330925	14.5	91	1319.5
6/8/18	192	13:30	West Slope	1111330926	14.5	187	2711.5
6/8/18	193	13:43	West Slope	1111330926	14.5	264	3828
6/8/18	194	14:00	West Slope	1111330833	14.5	249.5	3617.75
6/28/18	195	8:10	West Slope	1111330833	14.5	234	3393
6/28/18	196	8:22	West Slope	1111330832	14.5	221	3204.5
6/28/18	197	8:35	West Slope	1111330834	14.5	206.5	2994.25
6/28/18	198	8:45	West Slope	1111330834	14.5	130	1885
6/28/18	199	9:20	West Slope	1111330834	14.5	59.5	862.75
6/28/18	200	9:31	West Slope	1111330835	14.5	175	2537.5
6/28/18	201	9:41	West Slope	1111330835	14.5	159.5	2312.75
6/28/18	202	9:54	West Slope	1111330835	14.5	145	2102.5
6/28/18	203	11:00	West Slope	1111330XXX	14.5	130.5	1892.25
6/28/18	204	11:13	West Slope	1111330XXX	14.5	113.5	1645.75
6/28/18	205	11:25	West Slope	1111330834	14.5	82	1189
6/29/18	206	8:34	West Slope	1111330834	14.5	15	217.5
6/29/18	207	8:43	West Slope	1111330831	14.5	83	1203.5
6/29/18	208	9:08	West Slope	1111330836	14.5	70.5	1022.25
6/29/18	209	9:18	West Slope	1111330836	14.5	57	826.5
6/29/18	210	9:31	West Slope	1111330836	14.5	43.5	630.75

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
6/29/18	211	9:42	West Slope	1111330836	14.5	30	435
6/29/18	212	9:49	West Slope	1111330836	14.5	18.5	268.25
6/29/18	213	10:08	North Slope	1111330836	14.5	32	464
6/29/18	214	10:23	North Slope	1111330836	14.5	46	667
6/29/18	215	10:33	North Slope	1111330836	14.5	62	899
6/29/18	216	10:45	North Slope	1111330836	14.5	77	1116.5
6/29/18	217	10:59	North Slope	1111330XXX	14.5	93	1348.5
6/29/18	218	11:08	North Slope	1111330840	14.5	108.5	1573.25
6/29/18	219	11:23	North Slope	1111330840	14.5	122	1769
6/29/18	220	13:10	North Slope	1111330840	14.5	135.5	1964.75
6/29/18	221	13:18	North Slope	1111330839	14.5	150	2175
6/29/18	222	13:33	North Slope	1111330840	14.5	108	1566
6/29/18	223	13:42	North Slope	1111330839	14.5	57.5	833.75
6/29/18	224	13:57	North Slope	1111330839	14.5	179	2595.5
6/29/18	225	14:00	North Slope	1111330837	14.5	194	2813
6/29/18	226	14:11	North Slope	1111330837	14.5	179	2595.5
6/29/18	227	14:22	North Slope	1111330837	14.5	29.5	427.75
6/29/18	228	14:33	North Slope	1111330854	14.5	222.5	3226.25
6/29/18	229	14:46	North Slope	1111330854	14.5	158	2291
6/29/18	230	14:53	North Slope	1111330854	14.5	79.5	1152.75
6/29/18	231	15:20	North Slope	1111330850	14.5	251.5	3646.75
6/29/18	232	15:25	North Slope	1111330837	14.5	83	1203.5
6/29/18	233	15:35	North Slope	1111330850	14.5	182	2639
6/29/18	234	15:44	North Slope	1111330849	14.5	280.5	4067.25
6/29/18	235	15:56	North Slope	1111330842	14.5	296	4292
6/29/18	236	16:00	North Slope	1111330853	14.5	309.5	4487.75
6/29/18	237	16:14	North Slope	1111330873	14.5	323.5	4690.75
6/29/18	238	16:27	North Slope	1111330874	14.5	278	4031
6/29/18	239	16:37	North Slope	1111330873	14.5	58.5	848.25
7/2/18	240	11:00	North Slope	1111330865	14.5	351	5089.5

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile
10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
7/2/18	241	11:18	North Slope	1111330872	14.5	358	5191
7/2/18	242	11:20	North Slope	1111330872	14.5	14	203
7/2/18	243	13:10	North Slope	1111330864	14.5	381	5524.5
7/2/18	244	13:20	North Slope	1111330879	14.5	286	4147
7/2/18	245	13:34	North Slope	1111330820	14.5	108	1566
7/2/18	246	13:44	North Slope	1111330874	14.5	221	3204.5
7/2/18	247	14:00	North Slope	1111330880	14.5	179.5	2602.75
7/2/18	248	14:07	North Slope	1111330XXX	14.5	331	4799.5
7/2/18	249	14:18	North Slope	1111330910	14.5	54	783
7/2/18	250	14:32	North Slope	1111330881	14.5	374	5423
7/2/18	251	14:45	North Slope	1111330849	14.5	274	3973
7/2/18	252	15:30	North Slope	1111330865	14.5	86	1247
7/2/18	253	15:37	North Slope	1111330842	14.5	229	3320.5
7/2/18	254	15:40	North Slope	1111330930	14.5	118	1711
7/2/18	255	15:41	West Slope	1111330930	14.5	15	217.5
7/2/18	256	15:42	West Slope	1111330930	15	6	90
7/5/18	257	8:10	East Slope	1111330930	14.5	324	4698
7/5/18	258	8:17	East Slope	1111330895	14.5	258	3741
7/5/18	259	8:25	East Slope	1111330875	14.5	49.5	717.75
7/5/18	260	8:35	East Slope	1111330895	14.5	249	3610.5
7/5/18	261	8:44	East Slope	1111330875	14.5	43.5	630.75
7/5/18	262	8:54	East Slope	1111330875	14.5	278.5	4038.25
7/5/18	263	9:00	East Slope	1111330879	14.5	165	2392.5
7/5/18	264	9:10	East Slope	1111330875	14.5	100.5	1457.25
7/5/18	265	9:19	East Slope	1111330896	14.5	253.5	3675.75
7/5/18	266	9:27	East Slope	1111330896	14.5	237.5	3443.75
7/5/18	267	9:36	East Slope	1111330886	14.5	220.5	3197.25
7/5/18	268	9:43	East Slope	1111330886	14.5	162	2349
7/5/18	269	9:53	East Slope	1111330886	14.5	45	652.5
7/5/18	270	10:45	East Slope	1111330885	14.5	193	2798.5

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile

10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
7/5/18	271	10:53	East Slope	1111330885	14.5	176.5	2559.25
7/5/18	272	10:63	East Slope	1111330885	14.5	105	1522.5
7/5/18	273	10:71	East Slope	1111330850	14.5	56	812
7/5/18	274	11:18	East Slope	1111330932	14.5	149.5	2167.75
7/5/18	275	11:27	East Slope	1111330932	14.5	137	1986.5
7/5/18	276	11:35	East Slope	1111330932	14.5	82	1189
7/5/18	277	13:01	East Slope	1111330932	14.5	41	594.5
7/5/18	278	13:10	East Slope	1111330932	14.5	109	1580.5
7/5/18	279	13:18	East Slope	1111330880	14.5	95	1377.5
7/5/18	280	14:02	East Slope	1111330880	14.5	81	1174.5
7/5/18	281	14:11	East Slope	1111330880	14.5	66	957
7/5/18	282	14:18	East Slope	1111330880	14.5	53.5	775.75
7/5/18	283	14:45	East Slope	1111330880	14.5	42	609
7/6/18	284	8:34	East Slope	1111330910	14.5	271	3929.5
7/6/18	285	8:39	East Slope	1111330910	14.5	160	2320
7/6/18	286	8:47	East Slope	1111330856	14.5	140	2030
7/6/18	287	8:54	East Slope	1111330856	14.5	300	4350
7/6/18	288	9:00	East Slope	1111330877	14.5	228	3306
7/6/18	289	9:06	East Slope	1111330856	14.5	70	1015
7/6/18	290	9:14	East Slope	1111330877	14.5	275	3987.5
7/6/18	291	9:22	East Slope	1111330889	14.5	108	1566
7/6/18	292	9:27	East Slope	1111330889	14.5	371	5379.5
7/6/18	293	9:32	East Slope	1111330902	14.5	355	5147.5
7/6/18	294	9:40	East Slope	1111330902	14.5	136	1972
7/6/18	295	9:48	East Slope	1111330897	14.5	203.5	2950.75
7/6/18	296	9:55	East Slope	1111330897	14.5	299	4335.5
7/6/18	297	9:63	East Slope	1111330905	14.5	24.5	355.25
7/6/18	298	10:45	East Slope	1111330905	14.5	308	4466
7/6/18	299	10:52	East Slope	1111330905	14.5	148	2146
7/6/18	300	11:01	East Slope	1111330861	14.5	146	2117

CHESAPEAKE CONTAINMENT SYSTEMS, INC.

Panel Placement Log

Project No.: I17-128
Project Name: Savannah River Basin Closure
Project Start Date: 4/20/18
Project Location: Aiken, SC

Material: Geotextile

10 oz

Date Deployed	Panel No.	Time Deployed	Panel Location	Roll No.	Width (FT)	Length (FT)	Area (SQ FT)
7/6/18	301	11:09	East Slope	1111330861	14.5	280.5	4067.25
7/6/18	302	11:15	East Slope	1111330861	14.5	60	870
7/6/18	303	11:21	East Slope	1111330855	14.5	205.5	2979.75
7/6/18	304	11:27	East Slope	1111330855	14.5	250	3625
7/6/18	305	11:32	East Slope	1111330862	14.5	200	2900
7/6/18	306	11:39	East Slope	1111330855	14.5	34.5	500.25
7/6/18	307	11:52	East Slope	1111330862	14.5	221.5	3211.75
7/6/18	308	13:10	East Slope	1111330890	14.5	131	1899.5
7/6/18	309	13:16	East Slope	1111330862	14.5	78.5	1138.25
7/6/18	310	13:21	East Slope	1111330890	14.5	195.5	2834.75
7/6/18	311	13:26	East Slope	1111330890	14.5	156	2262
7/6/18	312	13:34	East Slope	1111330866	14.5	25	362.5
7/6/18	313	13:39	East Slope	1111330866	14.5	169.5	2457.75
7/6/18	314	13:44	East Slope	1111330866	14.5	155.5	2254.75
7/6/18	315	14:10	East Slope	1111330866	14.5	116	1682
7/6/18	316	14:15	East Slope	1111330866	14.5	24.5	355.25
7/6/18	317	14:23	East Slope	1111330933	14.5	124.5	1805.25
7/6/18	318	14:30	East Slope	1111330933	14.5	109	1580.5
7/6/18	319	14:35	East Slope	1111330933	14.5	95	1377.5
7/6/18	320	14:41	East Slope	1111330933	14.5	80.5	1167.25
7/6/18	321	14:49	East Slope	1111330933	14.5	66.5	964.25
7/6/18	322	16:02	East Slope	1111330864	14.5	53	768.5
7/6/18	323	16:07	East Slope	1111330864	14.5	38	551
7/6/18	324	16:14	East Slope	1111330864	12	23.5	282
7/6/18	325	16:21	East Slope	1111330879	4	35	140
7/6/18	326	16:27	East Slope	1111330844	14.5	36	522

SECTION | 5

TENSIOMETER CERTIFICATIONS

T17

Demtech Services, Inc.

Placerville, California, USA

CALIBRATION CERTIFICATE

Tensiometer Model: Pro-Tester T-0100

Device Calibrated: S-Type load cell
Range: 0 - 750 lbs. Tension
Model No: M2405-750#
Serial No: 9227

Calibration Apparatus:
Pro-Cal unit, model TC-0100/A

A/D Module Model No: T-029
A/D Module Serial No: 5114009227
Channel No: N/A

Dead Weight:		Reference Cell:	
W1	2	R1	2
W2	152	R2	152
W3	302	R3	302

Indicator reading with no load: 0

Offset: -5.631684 Scale: 3.278115

Applied Force lbs.	Cell Response:	Deviation Error:
2	2	0.00
52	52	0.00
102	102	0.00
152	152	0.00
202	202	0.00
252	252	0.00
302	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 5 V DC

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: A/D Module and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated A/D Modules and load cells are not interchangeable.

Ryan Beck Date: 09/26/17

T17

Demtech Services, Inc.

Placerville, California, USA

CALIBRATION CERTIFICATE

Tensiometer Model: Pro-Tester T-0100

Device Calibrated: S-Type load cell
Range: 0 - 750 lbs. Tension
Model No: M2405-750#
Serial No: 30002

Calibration Apparatus:
Pro-Cal unit, model TC-0100/A

A/D Module Model No: T-029
A/D Module Serial No: 1415030002
Channel No: N/A

Dead Weight:

W1	2
W2	152
W3	302

Reference Cell:

R1	2
R2	152
R3	302

Indicator reading with no load: 0

Offset: -4.381103 Scale: 3.277651

Applied Force lbs.	Cell Response:	Deviation Error:
2	2	0.00
52	52	0.00
102	102	0.00
152	152	0.00
202	202	0.00
252	252	0.00
302	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 5 V DC

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: A/D Module and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated A/D Modules and load cells are not interchangeable.

Technician: Ryan Beck Date: 09/26/17

T1703

Demtech Services, Inc.

Placerville, California, USA

CALIBRATION CERTIFICATE

Tensiometer Model: Pro-Tester T-0100

Device Calibrated: S-Type load cell
Range: 0 - 750 lbs. Tension
Model No:
Serial No: 80385

Calibration Apparatus:
Pro-Cal unit, model TC-0100/A

A/D Module Model No: T-029
A/D Module Serial No: 4117080385
Channel No: N/A

Dead Weight:

W1	2
W2	152
W3	302

Reference Cell:

R1	2
R2	152
R3	302

Indicator reading with no load: 0

Offset: 4.742214 Scale: 3.331070

Applied Force lbs.	Cell Response:	Deviation Error:
2	2	0.00
52	52	0.00
102	102	0.00
152	152	0.00
202	202	0.00
252	252	0.00
302	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 5 V DC

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: A/D Module and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated A/D Modules and load cells are not interchangeable.

FK

Date: 11/28/17

T1703

Demtech Services, Inc.

Placerville, California, USA

CALIBRATION CERTIFICATE

Tensiometer Model: Pro-Tester T-0100

Device Calibrated: S-Type load cell
Range: 0 - 750 lbs. Tension
Model No:
Serial No: **80450**

Calibration Apparatus:
Pro-Cal unit, model TC-0100/A

A/D Module Model No: T-029
A/D Module Serial No: **4117080450**
Channel No: N/A

Dead Weight:		Reference Cell:	
W1	2	R1	2
W2	152	R2	152
W3	302	R3	302

Indicator reading with no load: 0

Offset: **3.798620** Scale: **3.335158**

Applied Force lbs.	Cell Response:	Deviation Error:
2	2	0.00
52	52	0.00
102	102	0.00
152	152	0.00
202	202	0.00
252	252	0.00
302	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F
Exitation Voltage: 5 V DC

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: A/D Module and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated A/D Modules and load cells are not interchangeable.

FK

Date: 11/28/17

SECTION | 6

JOB PHOTOS

JCB

APPENDIX Q7

20-Inch Soil Cover Compaction Reports

This page was intentionally left blank.

SRP DRAWING NO. N/A

36° 22'

TRUE NORTH

PLANT NORTH

488-D ASH LANDFILL (CLOSED)

488-4D ASH LANDFILL (CLOSED)

484-17D COAL YARD (CLOSED)

488-2D DETENTION BASIN

BEAVER DAM CREEK

489-D COAL PILE RUNOFF BASIN (CLOSED)

489-D COAL PILE RUNOFF BASIN

NOTES

1. SEE DRAWING C-CG-D-00021 FOR GENERAL NOTES.
2. SEE REFERENCED DRAWINGS FOR 488-1D ASH SETTLING BASIN, 489-D CPRB, AND AREA EAST OF 488-4D ASH LANDFILL FOR LEGEND AND ABBREVIATIONS.

AREA EAST OF 488-4D

C-CG-D-00067: EXISTING SITE PLAN
C-CG-D-00068: E&SC PHASE 1
C-CG-D-00069: EXCAVATION GRADING PLAN
C-CG-D-00070: FINAL GRADING PLAN
C-CG-D-00072: E&SC PHASE 3

Test 1, 7/10/18
ρ: 97.3% m: 6.5%
Passed

Test 2, 7/10/18
ρ: 96.9% m: 5.9%
Passed

Test 1, 7/23/18
ρ: 96.3% m: 5.7%
Passed

Test 2, 7/23/18
ρ: 96.6% m: 6.2%
Passed

Test 3, 7/23/18
ρ: 95.3% m: 4.6%
Passed

Test 4, 7/23/18
ρ: 96.7% m: 4.9%
Passed

Test 1, 6/15/18
ρ: 96.4% m: 8.0%
Passed

Test 2, 6/15/18
ρ: 96.8% m: 5.8%
Passed

Test 3, 6/15/18
ρ: 96.9% m: 8.7%
Passed

Test 4, 6/15/18
ρ: 98.1% m: 6.7%
Passed

Test 1, 6/6/18
ρ:96.4% m:4.0%
Passed

Test 2, 6/6/18
ρ:97.9% m:6.3%
Passed

Test 6, 6/6/18
ρ:95.8% m:9.0%
Passed

Test 5, 6/6/18
ρ:95.4% m:5.4%
Passed

Test 4, 6/6/18
ρ:98.1% m:7.5%
Passed

Test 3, 6/6/18
ρ:98.7% m:7.1%
Passed

Test 1, 5/16/18
ρ:95.1% m:6.1%
Passed

Test 2, 5/16/18
ρ:94.2% m:6.2%
Passed

49,310 sf
50,691 sf
49,916 sf
50,368 sf
49,798 sf
48,611 sf
49,503 sf
48,254 sf
48,328 sf
50,469 sf
48,759 sf
49,561 sf
49,341 sf
49,746 sf
49,920 sf
51,761 sf
50,543 sf

Compaction Tests Taken Locations

20" Cover Compaction Test Dates
Date: 5/16/18, 6/6/18, 6/15/18, 7/10/18, 7/23/18

488-1D ASH SETTLING BASIN (WEST)

C-CG-D-00023: EXISTING SITE PLAN
C-CG-D-00026: E&SC PHASE 1
C-CG-D-00029: FINAL GRADING PLAN
C-CG-D-00032: E&SC PHASE 2
C-CG-D-00037: E&SC PHASE 3

488-1D ASH SETTLING BASIN (EAST)

C-CG-D-00024: EXISTING SITE PLAN
C-CG-D-00027: E&SC PHASE 1
C-CG-D-00030: FINAL GRADING PLAN
C-CG-D-00033: E&SC PHASE 2
C-CG-D-00038: E&SC PHASE 3

489-D COAL PILE RUNOFF BASIN (CPRB)

C-CG-D-00025: EXISTING SITE PLAN
C-CG-D-00028: E&SC PHASE 1
C-CG-D-00031: FINAL GRADING PLAN AND E&SC PHASE 2
C-CG-D-00039: E&SC PHASE 3

0 100 200 300
1" = 100'

C CG D 00022 LATEST REVISION 2

PROJ.	Rev. No.	REVISION	INITIAL AND DATE PRP'D	LEAD ENG	CHK'D/VERIF'D	APV'D	APV'D	APV'D
N/A	0	ISSUED FOR CONSTRUCTION			APPROVALS MAINTAINED	N DCR/EDMS/MICROFILM		
N/A	1	ADDED AREA EAST OF 488-4D - DE			APPROVALS MAINTAINED IN DCR/EDMS			
N/A	2	UPDATED TOPOGRAPHY WITHIN INLET BASIN NO. 2 - DE			APPROVALS MAINTAINED IN DCR/EDMS			

THIS DRAWING HAS BEEN FURNISHED BY THE SAVANNAH RIVER SITE. THE INFORMATION AND KNOW-HOW CONTAINED THEREIN MAY NOT BE USED NOR THE DRAWING REPRODUCED WITHOUT WRITTEN PERMISSION OF THE PRIME CONTRACTOR. ALL REPRODUCTIONS IN WHOLE OR IN PART, INCLUDING VENDOR'S SHOP DRAWINGS SHALL BEAR OR REFER TO THIS STAMP.

UNITED STATES DEPARTMENT OF ENERGY
SAVANNAH RIVER SITE

REFERENCE DRAWINGS

C-CG-D-00021	VIC. MAP, GEN. NOTES & DOC. INDEX
C-CG-D-00023	488-1D EXIST. SITE PLAN (SH. 1/2)
C-CG-D-00024	488-1D EXIST. SITE PLAN (SH. 2/2)
C-CG-D-00025	489-D CPRB EXIST. SITE PLAN
C-CG-D-00067	EXIST. SITE PLAN 488-4D EAST

REFERENCE STANDARDS

BLDG. NO.	SITE CLEARANCE NO.	DESIGN AREA NO.	DESIGN GROUP
488-1D/489-D	SC-7243	D	DE

TITLE

D-AREA OPERABLE UNIT

488-1D ASH BASIN & 489-D CPRB CLOSURE

OVERALL EXISTING SITE PLAN

SCALE	SRP DRAWING NO.	SHEET NO.	LATEST REVISION
1" = 100'	N/A	1 OF 1	2

The scale shown on this drawing is only applicable when plotted at 30" x 42" (actual drawing size)

File Name: CCGD00022-R2.dgn Plot Date: 7/7/2016 Plot Time: 5:37:19 PM By: B0722

csra TESTING AND ENGINEERING CO., INC.

1005 Emmett St., Suite A
Augusta, Georgia 30904
(706) 733-6960
Fax (706) 737-0629

Report No.: T18-U64
Date Issued: May 17, 2018
Date & Time of Test: May 16, 2018 (1:00 pm)

Client: Envirocon, Inc. **Address:** Missoula, Montana
Project Title: 488-1D Ash Basin & 489-D CPRB Closure **Location:** SRS, Aiken Co., South Carolina
Project No.: C-SPP-D-00002 **SRNS PO#:** 258194
Weather: Cloudy and Mild **Activity:** **Compaction**

FIELD DENSITY AND MOISTURE CONTENT
Test Method ASTM D-6938

Soil Description: Brownish-Tan Slightly Silty Sand (TC-20-2)
*Dark Brownish-Tan Slightly Silty Sand (TC-20-4)
**Dark Brownish-Tan Sandy Clay (North Road West Basin #3)

Proctor Density-Optimum Moisture: 120.7 pcf / 5.3% (mod.)/*122.9 pcf / 6.4% (mod.)
**117.7 pcf / 17.6% (mod.)

Test No.	1	*2	**3					
Course Level	Lift 1		Lift 3					
Area to Be	20 in. cover		North Rd					
Dry Density In-Place	113.7	116.9	115.9					
% Proctor Density	94.2	95.1	98.5					
Moisture Content	6.2	6.1	15.8					
% Compaction Required	90.0	90.0	95.0					
Conformance	✓	✓	✓					
Non Conformance								
Sand Cone								

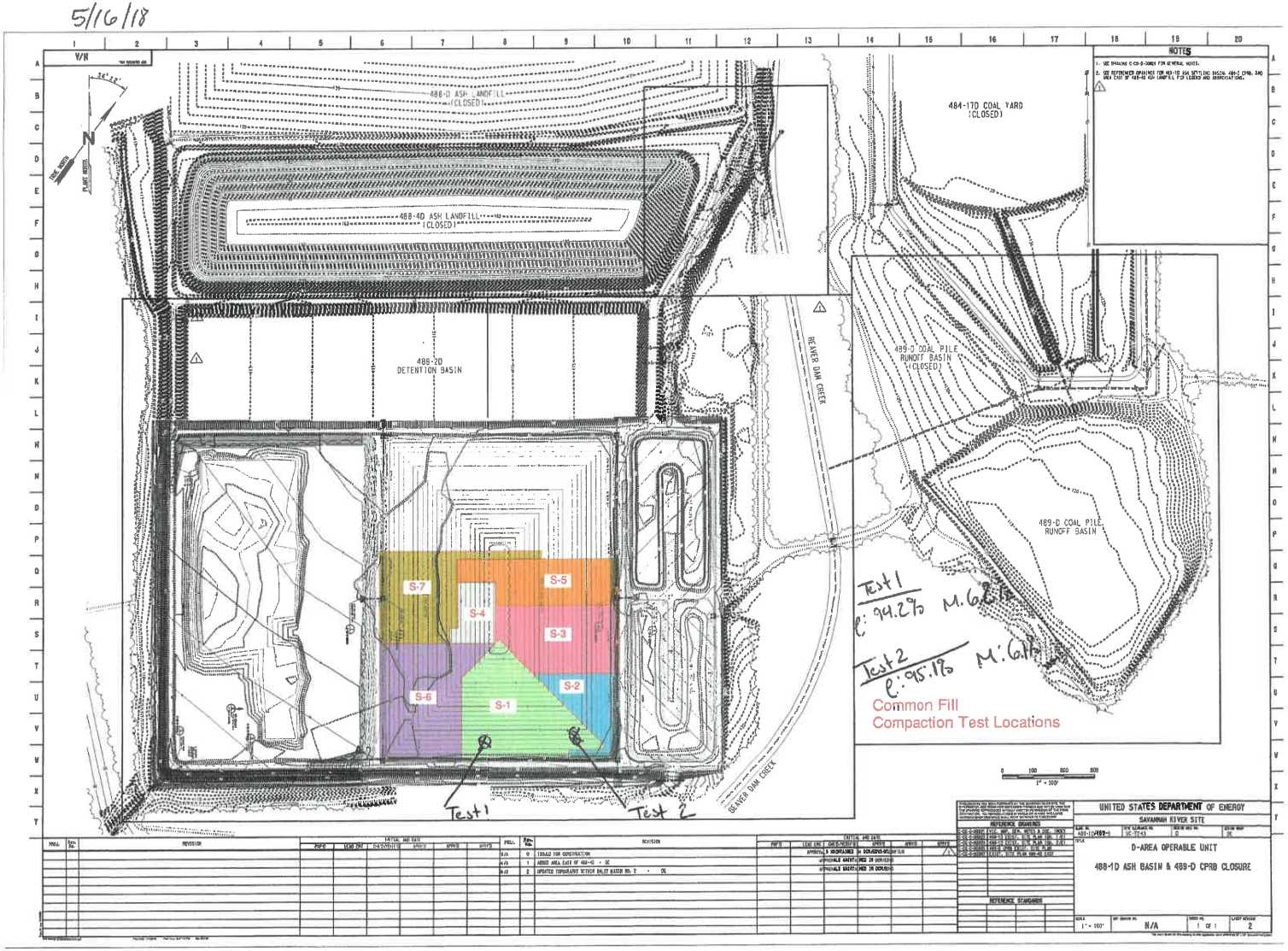
Locations: Please see attached map.

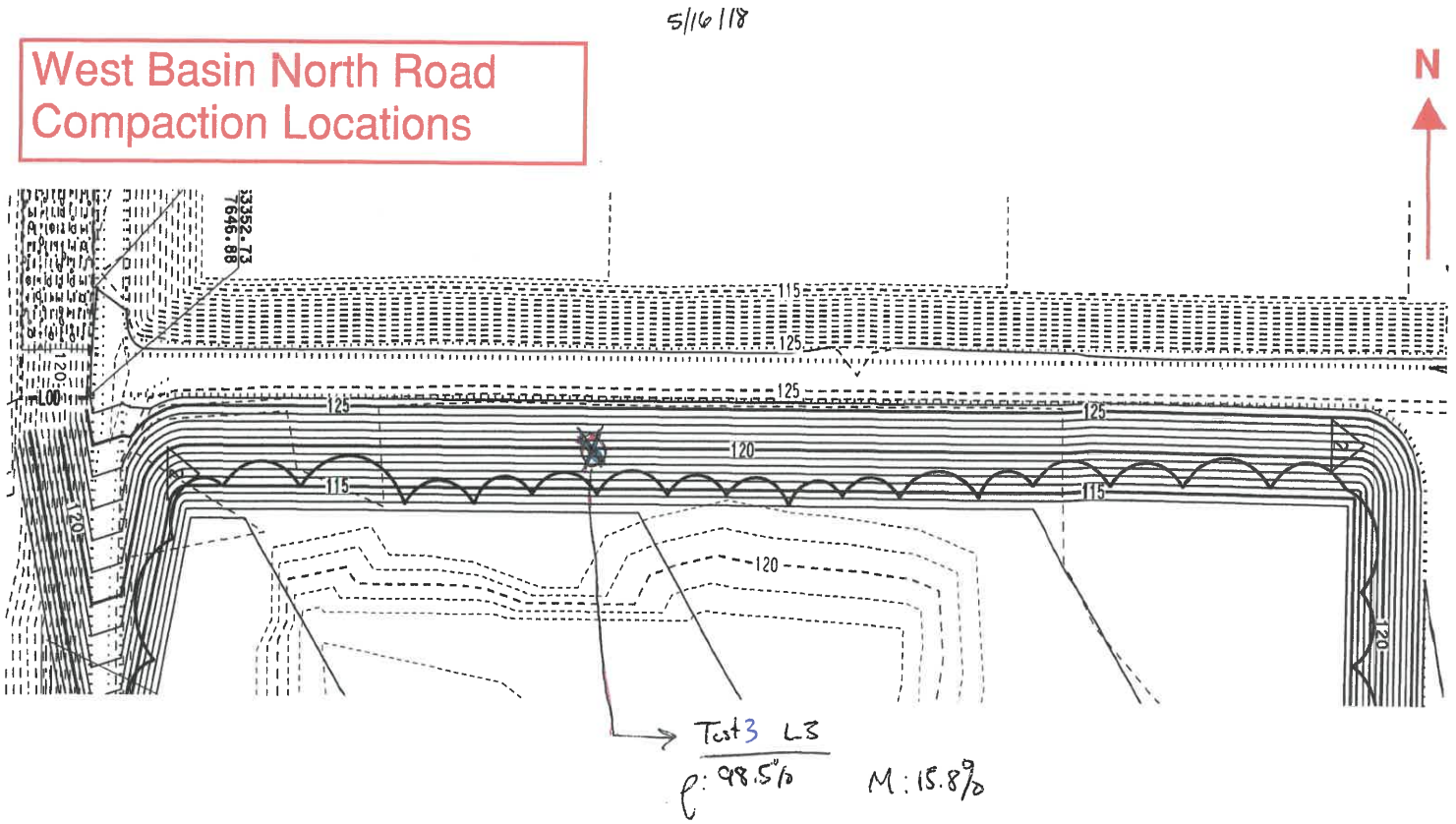
Serial No. of Troxler: 65585

Chip Stewart, Technician

James M. Pope, P.E., Reviewer

Member of American Society for Testing and Materials
Accredited by AASHTO Accreditation Program (AAP)


5/16/18
488-D ASH LANDFILL (CLOSED)
488-4D ASH LANDFILL (CLOSED)
488-2D DETENTION BASIN
484-17D COAL YARD (CLOSED)
489-D COAL PILE RUNOFF BASIN (CLOSED)
489-D COAL PILE RUNOFF BASIN
BEAVER DAM CREEK
S-1
S-2
S-3
S-4
S-5
S-6
S-7
Test 1
Test 2
Common Fill
Compaction Test Locations
NOTES
UNITED STATES DEPARTMENT OF ENERGY
SAVANNAH RIVER SITE
D-AREA OPERABLE UNIT
488-1D ASH BASIN & 489-D CPRB CLOSURE


5/16/18
West Basin North Road
Compaction Locations
N
125
120
115
Test3 L3
ρ: 98.5%
M: 15.8%

csra TESTING AND ENGINEERING CO., INC.
1005 Emmett Street, Suite A, Augusta, Georgia 30904 • (706) 733-6960 • Fax (706) 737-0629

Report No.: T18-W49
Date Issued: June 11, 2018
Date & Time of Test: June 6, 2018 (10:00 am)

Client: Envirocon, Inc. **Address:** Missoula, Montana
Project Title: 488-1D Ash Basin & 489-D CPRB Closure **Location:** SRS, Aiken Co., South Carolina
Project No.: C-SPP-D-00002 **SRNS PO#:** 258194
Weather: Sunny and Warm **Activity:** **Compaction**

FIELD DENSITY AND MOISTURE CONTENT
Test Method ASTM D-6938

Soil Description: Brownish-Tan Slightly Silty Sand (TC-20-1)/*Brownish-Tan Slightly Silty Sand (TC-20-4)

Proctor Density-Optimum Moisture: 124.5 pcf / 6.4% (mod.)/*122.9 pcf / 6.4% (mod.)

Test No.	1	2	*3	*4	*5	*6		
Course Level	Final lift							
Area to Be	20" cover							
Dry Density In-Place	120.0	121.9	121.3	122.1	118.8	119.3		
% Proctor Density	96.4	97.9	98.7	98.1	95.4	95.8		
Moisture Content	4.0	6.3	7.1	7.5	5.4	9.0		
% Compaction Required	95.0	95.0	95.0	95.0	95.0	95.0		
Conformance	✓	✓	✓	✓	✓	✓		
Non Conformance								
Sand Cone								

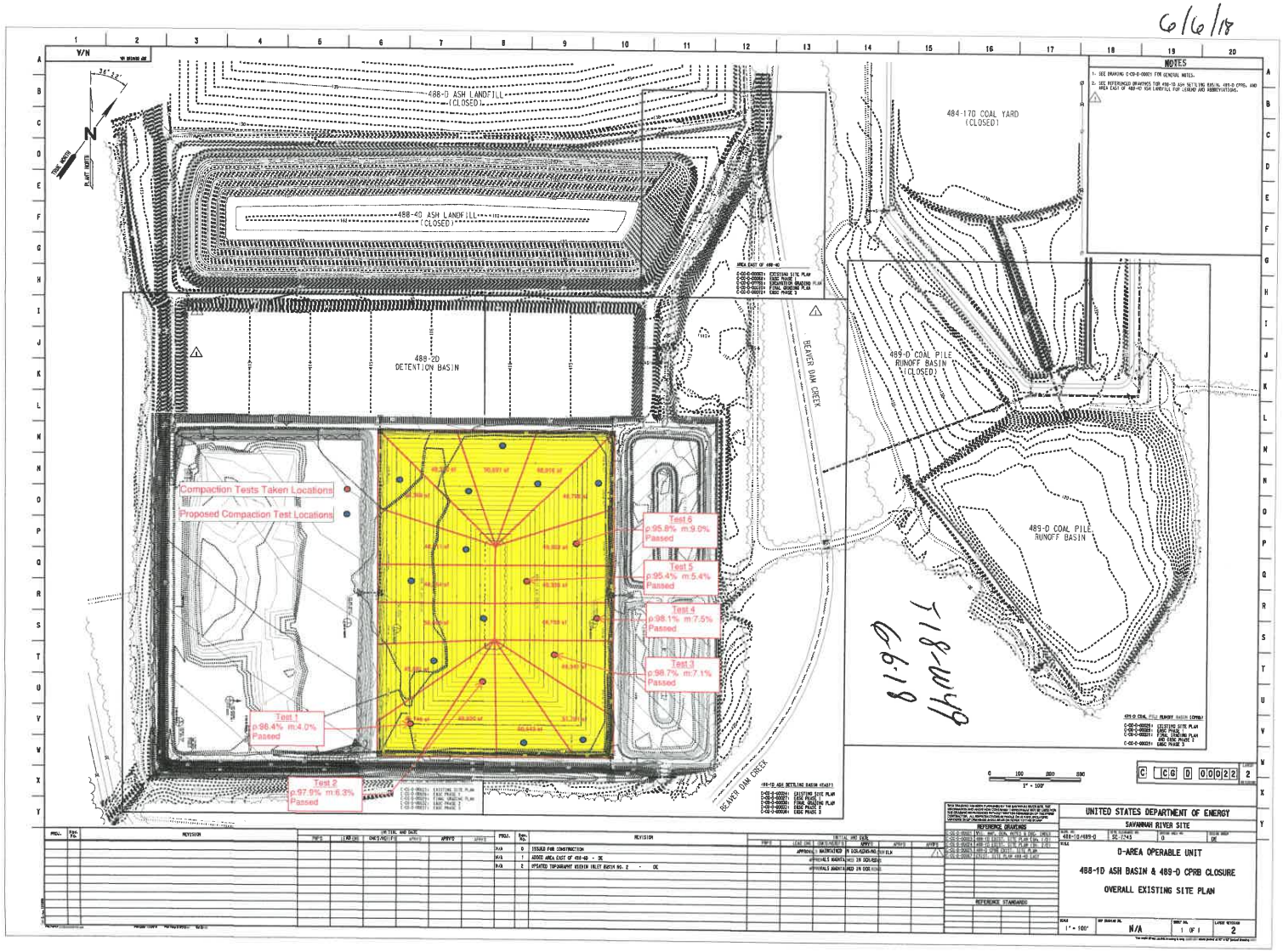
Locations: Please see attached map.

Serial No. of Troxler: 65585

Chip Stewart, Technician

James M. Pope, P.E., Reviewer

Member of American Society for Testing and Materials
Accredited by AASHTO Accreditation Program (AAP)


6/6/18
488-D ASH LANDFILL (CLOSED)
488-4D ASH LANDFILL (CLOSED)
484-17D COAL YARD (CLOSED)
488-2D DETENTION BASIN
BEAVER DAM CREEK
489-D COAL PILE RUNOFF BASIN (CLOSED)
489-D COAL PILE RUNOFF BASIN
Compaction Tests Taken Locations
Proposed Compaction Test Locations
Test 1 ρ:96.4% m:4.0% Passed
Test 2 ρ:97.9% m:6.3% Passed
Test 3 ρ:98.7% m:7.1% Passed
Test 4 ρ:98.1% m:7.5% Passed
Test 5 ρ:95.4% m:5.4% Passed
Test 6 ρ:95.8% m:9.0% Passed
T18-W49
6-6-18
NOTES
UNITED STATES DEPARTMENT OF ENERGY
SAVANNAH RIVER SITE
D-AREA OPERABLE UNIT
488-1D ASH BASIN & 489-D CPRB CLOSURE
OVERALL EXISTING SITE PLAN

csra TESTING & ENGINEERING CO., INC.
1005 Emmett Street, Suite A, Augusta, Georgia 30904 • (706) 733-6960 • Fax (706) 737-0629

Report No.: T18-Y43
Date Issued: June 19, 2018
Date & Time of Test: June 15, 2018 (10:00 am)

Client: Envirocon, Inc.
Project Title: 488-1D Ash Basin & 489-D CPRB Closure
Project No.: C-SPP-D-00002
Weather: Sunny and Warm
Address: Missoula, Montana
Location: SRS, Aiken Co., South Carolina
SRNS PO#: 258194
Activity: **Compaction**

FIELD DENSITY AND MOISTURE CONTENT
Test Method ASTM D-6938

Soil Description: Tan Slightly Clayey Sand (TC-20-5)/*Tan Slightly Clayey Sand (TC-20-6)
**Tan Slightly Clayey Sand (TC-20-7)

Proctor Density-Optimum Moisture: 120.7 pcf / 9.9% (mod.)/*116.4 pcf / 6.4% (mod.)/**117.8 pcf / 6.4% (mod.)

Test No.	*1	*2	3	**4				
Course Level	Final lift							
Area to Be	20" cover							
Dry Density In-Place	112.2	112.7	116.9	115.6				
% Proctor Density	96.4	96.8	96.9	98.1				
Moisture Content	8.0	5.8	8.7	6.7				
% Compaction Required	90.0	90.0	90.0	90.0				
Conformance	✓	✓	✓	✓				
Non Conformance								
Sand Cone								

Locations: Please see attached map.

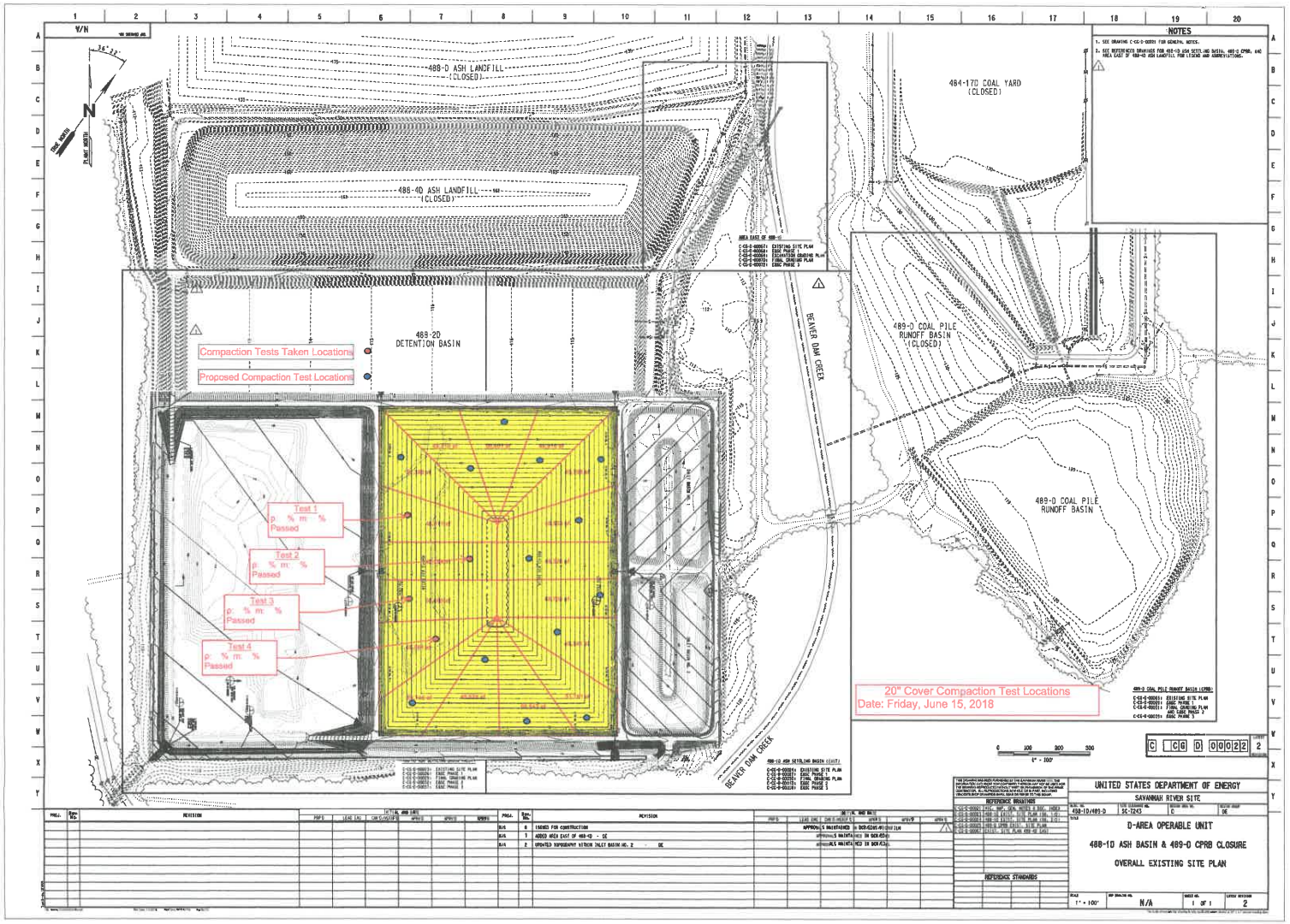
Serial No. of Troxler: 65585

Chip Stewart, Technician

James M. Pope, P.E., Reviewer

Member of American Society for Testing and Materials
Accredited by AASHTO Accreditation Program (AAP)

T18-Y43 6-15-18



csra TESTING & ENGINEERING CO., INC.
1005 Emmett Street, Suite A, Augusta, Georgia 30904 • (706) 733-6960 • Fax (706) 737-0629

Report No.: T18-BB23
Date Issued: July 10, 2018
Date & Time of Test: July 10, 2018 (7:30 am)

Client: Envirocon, Inc. **Address:** Missoula, Montana
Project Title: 488-1D Ash Basin & 489-D CPRB Closure **Location:** SRS, Aiken Co., South Carolina
Project No.: C-SPP-D-00002 **SRNS PO#:** 258194
Weather: Sunny and Mild **Activity:** **Compaction**

FIELD DENSITY AND MOISTURE CONTENT
Test Method ASTM D-6938

Soil Description: Brownish-Tan Slightly Silty Clay (TC-20-3)

Proctor Density-Optimum Moisture: 123.9 pcf / 6.4% (mod.)

Test No.	1	2						
Course Level	Final lift							
Area to Be	20" cover							
Dry Density In-Place	120.5	120.0						
% Proctor Density	97.3	96.9						
Moisture Content	6.5	5.9						
% Compaction Required	95.0	95.0						
Conformance	✓	✓						
Non Conformance								
Sand Cone								

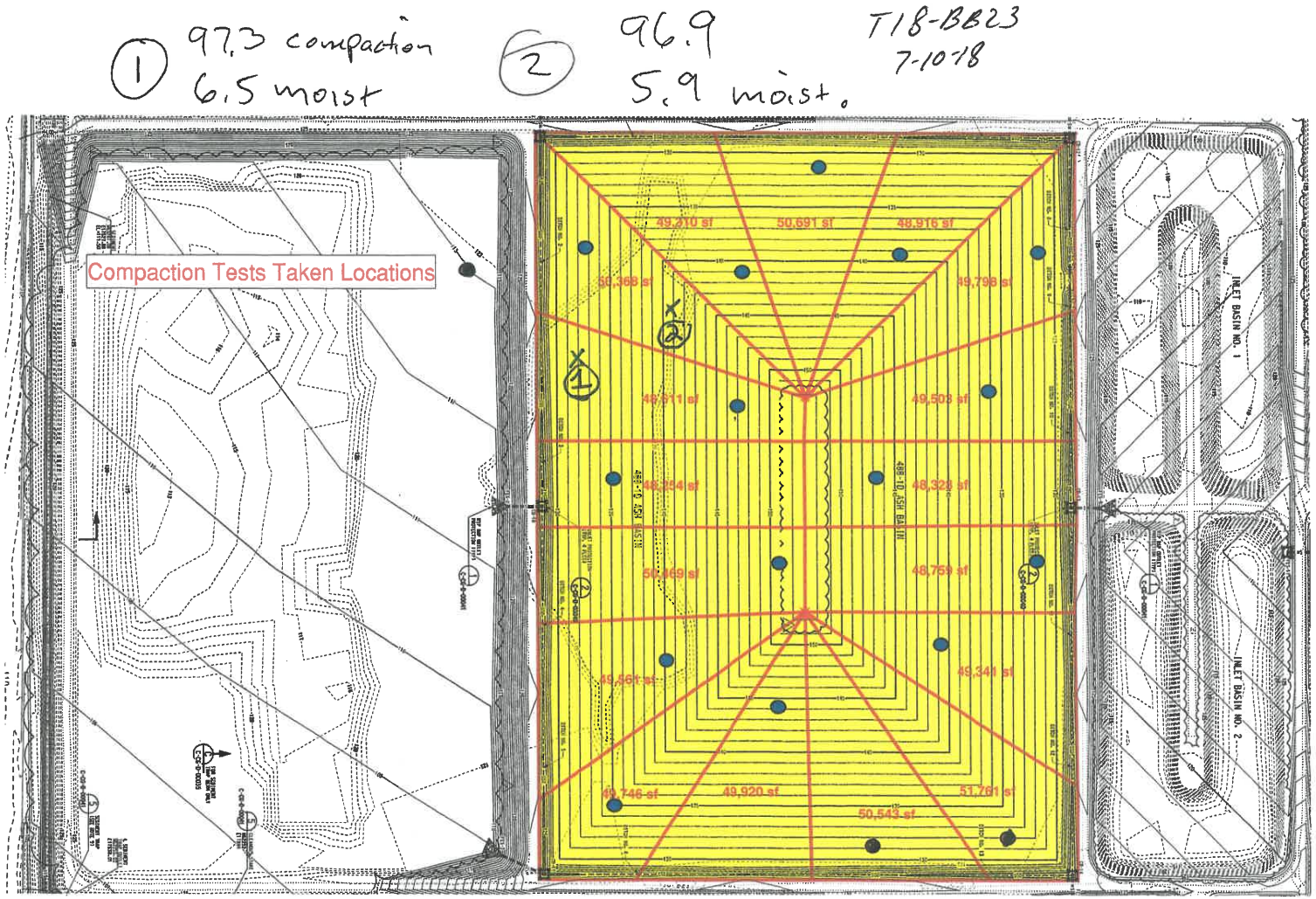
Locations: Please see attached map.

Serial No. of Troxler: 65585

Chip Stewart, Technician

James M. Pope, P.E., Reviewer

Member of American Society for Testing and Materials
Accredited by AASHTO Accreditation Program (AAP)


1 97.3 compaction
6.5 moist
2 96.9
5.9 moist.
T18-BB23
7-10-18
Compaction Tests Taken Locations
49,210 sf
50,691 sf
48,916 sf
50,369 sf
49,798 sf
49,911 sf
49,503 sf
48,354 sf
48,320 sf
50,469 sf
48,759 sf
49,561 sf
49,341 sf
49,746 sf
49,920 sf
51,761 sf
50,543 sf
INLET BASIN NO. 1
INLET BASIN NO. 2

csra TESTING & ENGINEERING CO., INC.
1005 Emmett Street, Suite A, Augusta, Georgia 30904 • (706) 733-6960 • Fax (706) 737-0629

Report No.:	T18-DD30		
Date Issued:	July 24, 2018		
Date & Time of Test:	July 23, 2018 (2:00 pm)		
Client:	Envirocon, Inc.	**Address:**	Missoula, Montana
Project Title:	488-1D Ash Basin & 489-D CPRB Closure	**Location:**	SRS, Aiken Co., South Carolina
Project No.:	C-SPP-D-00002	**SRNS PO#:**	258194
Weather:	Sunny and Warm	**Activity:**	**Compaction**

FIELD DENSITY AND MOISTURE CONTENT
Test Method ASTM D-6938

Soil Description: Brownish-Tan Slightly Silty Sand (TC-20-4)

Proctor Density-Optimum Moisture: 122.9 pcf / 6.4% (mod.)

Test No.	1	2	3	4				
Course Level	Final lift							
Area to Be	20" cover							
Dry Density In-Place	118.4	118.7	117.1	118.9				
% Proctor Density	96.3	96.6	95.3	96.7				
Moisture Content	5.7	6.2	4.6	4.9				
% Compaction Required	95.0	95.0	95.0	95.0				
Conformance	✓	✓	✓	✓				
Non Conformance								
Sand Cone								

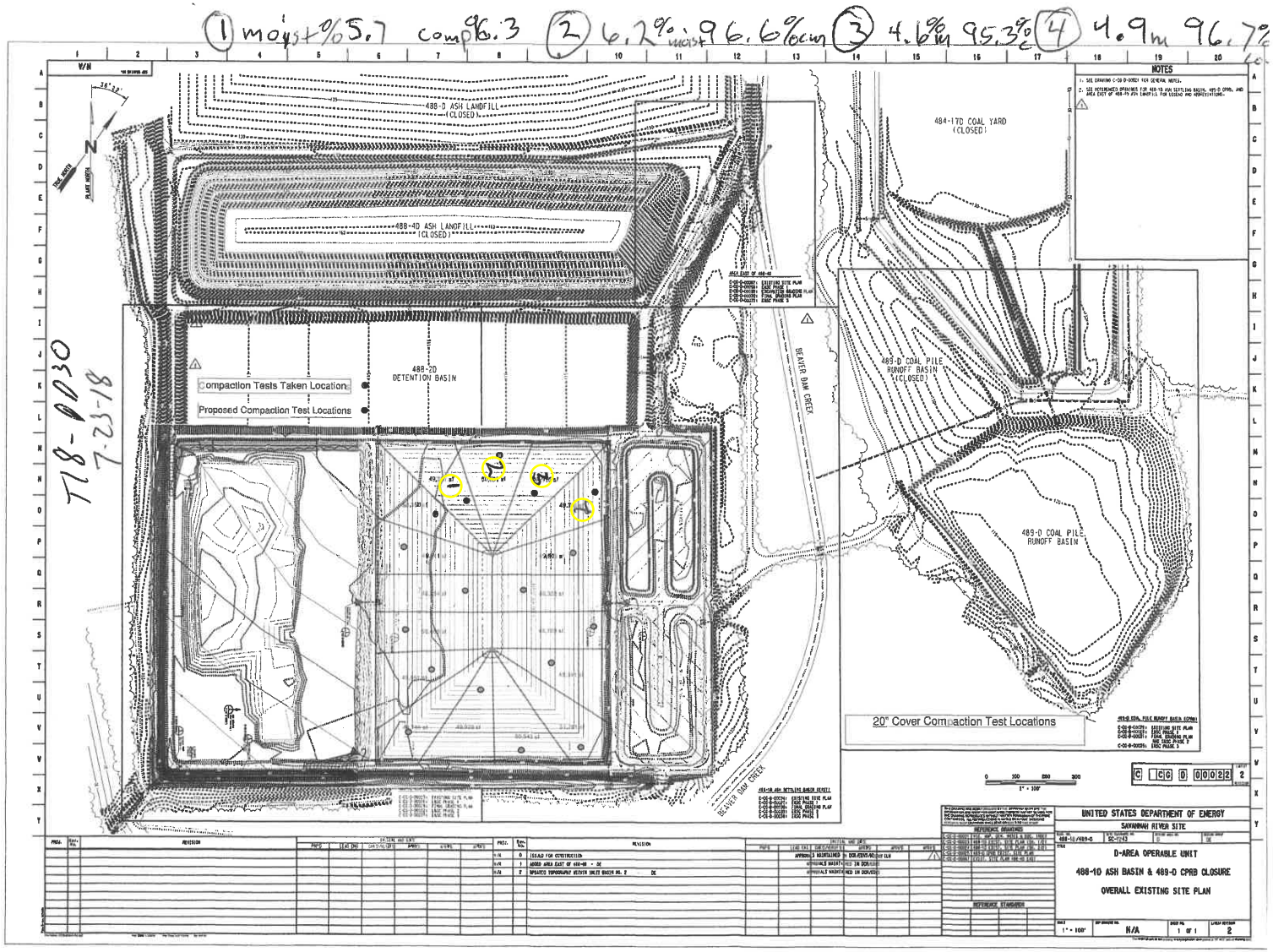
Locations: Please see attached map.

Serial No. of Troxler: 65585

Chip Stewart, Technician

James M. Pope, P.E., Reviewer

Member of American Society for Testing and Materials
Accredited by AASHTO Accreditation Program (AAP)


(1) moist %5.7 comp 96.3 (2) 6.2% moist 96.6% dm (3) 4.6% 95.3% (4) 4.9% 96.7%
T18-0030
7-23-18
488-2D DETENTION BASIN
Compaction Tests Taken Location
Proposed Compaction Test Locations
488-D ASH LANDFILL (CLOSED)
484-17D COAL YARD (CLOSED)
489-D COAL PILE RUNOFF BASIN (CLOSED)
489-D COAL PILE RUNOFF BASIN
BEAVER DAM CREEK
20" Cover Compaction Test Locations
NOTES
UNITED STATES DEPARTMENT OF ENERGY
SAVANNAH RIVER SITE
D-AREA OPERABLE UNIT
488-1D ASH BASIN & 489-D CPRB CLOSURE
OVERALL EXISTING SITE PLAN

APPENDIX Q8

Cover Thickness Verification Data

This page was intentionally left blank.

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10001	63365.03	18334.97	FLAT	6/7/2018	124.68	126.70	126.75	10/24/2018	24.6
10002	63365.01	18349.99	FLAT	6/7/2018	124.85	126.87	127.02	10/24/2018	25.7
10003	63364.98	18375.04	FLAT	6/7/2018	124.93	126.95	127.13	10/24/2018	26.1
10004	63365.04	18399.96	FLAT	6/7/2018	125.08	127.10	127.29	10/24/2018	26.2
10005	63365.00	18425.03	FLAT	6/7/2018	125.27	127.30	127.38	10/24/2018	25.0
10006	63364.97	18450.01	FLAT	6/7/2018	125.29	127.31	127.51	10/24/2018	26.3
10007	63364.95	18475.02	FLAT	6/7/2018	125.45	127.48	127.61	10/24/2018	25.6
10008	63365.02	18500.03	FLAT	6/7/2018	125.52	127.55	127.72	10/24/2018	26.1
10009	63364.94	18524.95	FLAT	6/7/2018	125.62	127.65	127.81	10/24/2018	25.9
10010	63364.98	18550.03	FLAT	6/7/2018	125.66	127.68	127.89	10/24/2018	26.6
10011	63365.07	18575.06	FLAT	6/7/2018	125.83	127.85	128.00	10/24/2018	25.8
10012	63365.00	18599.93	FLAT	6/7/2018	125.93	127.96	128.05	10/24/2018	25.1
10013	63365.04	18624.94	FLAT	6/7/2018	126.09	128.11	128.19	10/24/2018	24.9
10014	63365.00	18650.00	FLAT	6/13/2018	125.85	127.87	128.31	10/24/2018	29.3
10015	63365.07	18674.99	FLAT	6/13/2018	125.94	127.97	128.16	10/24/2018	26.3
10016	63365.03	18699.97	FLAT	6/13/2018	125.79	127.81	128.03	10/24/2018	26.6
10017	63365.07	18725.04	FLAT	6/13/2018	125.65	127.68	127.87	10/24/2018	26.3
10018	63365.03	18749.97	FLAT	6/13/2018	125.64	127.66	127.82	10/24/2018	25.9
10019	63365.00	18774.99	FLAT	6/13/2018	125.54	127.57	127.76	10/24/2018	26.3
10020	63364.98	18800.01	FLAT	6/13/2018	125.33	127.35	127.78	10/24/2018	29.1
10021	63365.00	18824.98	FLAT	6/13/2018	125.36	127.39	127.58	10/24/2018	26.3
10022	63365.01	18849.91	FLAT	6/13/2018	125.24	127.26	127.47	10/24/2018	26.5
10023	63364.98	18874.95	FLAT	6/13/2018	125.08	127.10	127.51	10/24/2018	28.9
10024	63364.96	18900.05	FLAT	6/13/2018	125.02	127.04	127.44	10/24/2018	28.8
10025	63365.00	18924.95	FLAT	6/13/2018	124.90	126.92	127.19	10/24/2018	27.2
10026	63365.05	18950.03	FLAT	6/13/2018	124.78	126.80	127.00	10/24/2018	26.4
10027	63365.05	18974.94	FLAT	6/20/2018	124.62	126.64	126.95	10/24/2018	27.7
10028	63365.04	19000.07	FLAT	6/20/2018	124.46	126.48	126.93	10/24/2018	29.5
10029	63365.02	19024.95	FLAT	6/20/2018	124.28	126.31	126.76	10/24/2018	29.4
10030	63364.95	19049.91	FLAT	6/20/2018	124.11	126.13	126.60	10/24/2018	29.6
10031	63365.11	19075.12	FLAT	6/20/2018	124.35	126.38	126.46	10/24/2018	24.9
10032	63364.98	19100.02	FLAT	6/20/2018	124.13	126.16	126.23	10/24/2018	24.9
10033	63365.01	19115.07	FLAT	6/20/2018	124.17	126.19	126.23	10/24/2018	24.5
10034	63354.01	18334.98	FLAT	6/7/2018	124.79	126.81	126.81	10/24/2018	24.0
10035	63359.23	18335.00	FLAT	6/7/2018	124.64	126.66	126.71	10/24/2018	24.6
10036	63359.23	18350.02	FLAT	6/7/2018	124.75	126.78	126.95	10/24/2018	26.0
10037	63359.22	18374.98	FLAT	6/7/2018	124.83	126.85	127.05	10/24/2018	26.4
10038	63359.20	18399.97	FLAT	6/7/2018	124.96	126.99	127.17	10/24/2018	26.2
10039	63359.19	18424.99	FLAT	6/7/2018	125.07	127.10	127.28	10/24/2018	26.2
10040	63359.26	18450.02	FLAT	6/7/2018	125.21	127.24	127.37	10/24/2018	25.6
10041	63359.21	18474.97	FLAT	6/7/2018	125.33	127.35	127.54	10/24/2018	26.3
10042	63359.28	18500.00	FLAT	6/7/2018	125.47	127.49	127.60	10/24/2018	25.2
10043	63359.33	18525.04	FLAT	6/7/2018	125.57	127.59	127.72	10/24/2018	25.5
10044	63359.29	18550.00	FLAT	6/7/2018	125.62	127.64	127.80	10/24/2018	25.9
10045	63359.24	18575.00	FLAT	6/7/2018	125.71	127.73	127.87	10/24/2018	25.6
10046	63359.25	18600.03	FLAT	6/7/2018	125.84	127.86	128.02	10/24/2018	25.9
10047	63359.23	18625.03	FLAT	6/7/2018	125.94	127.96	128.16	10/24/2018	26.4
10048	63359.27	18649.94	FLAT	6/13/2018	125.86	127.88	128.10	10/24/2018	26.6
10049	63359.13	18674.96	FLAT	6/13/2018	125.81	127.83	128.05	10/24/2018	26.6
10050	63359.25	18700.03	FLAT	6/13/2018	125.67	127.70	127.91	10/24/2018	26.6
10051	63359.23	18724.96	FLAT	6/13/2018	125.57	127.59	127.79	10/24/2018	26.4
10052	63359.30	18750.07	FLAT	6/13/2018	125.50	127.52	127.74	10/24/2018	26.5
10053	63359.17	18774.96	FLAT	6/13/2018	125.45	127.48	127.66	10/24/2018	26.2

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10054	63359.23	18800.06	FLAT	6/13/2018	125.29	127.31	127.64	10/24/2018	28.0
10055	63359.21	18824.97	FLAT	6/13/2018	125.18	127.20	127.42	10/24/2018	26.7
10056	63359.25	18850.04	FLAT	6/13/2018	125.09	127.11	127.33	10/24/2018	26.5
10057	63359.22	18874.98	FLAT	6/13/2018	124.98	127.00	127.22	10/24/2018	26.6
10058	63359.29	18900.03	FLAT	6/13/2018	124.87	126.90	127.24	10/24/2018	28.2
10059	63359.27	18925.00	FLAT	6/13/2018	124.80	126.82	127.14	10/24/2018	27.8
10060	63359.25	18950.03	FLAT	6/13/2018	124.69	126.71	126.93	10/24/2018	26.6
10061	63359.24	18974.97	FLAT	6/20/2018	124.58	126.60	126.82	10/24/2018	26.7
10062	63359.22	18999.96	FLAT	6/20/2018	124.36	126.38	126.83	10/24/2018	29.3
10063	63359.26	19024.98	FLAT	6/20/2018	124.31	126.33	126.53	10/24/2018	26.5
10064	63359.18	19050.02	FLAT	6/20/2018	124.14	126.16	126.50	10/24/2018	28.2
10065	63359.23	19075.01	FLAT	6/20/2018	124.08	126.10	126.28	10/24/2018	26.2
10066	63359.33	19099.99	FLAT	6/20/2018	124.01	126.03	126.14	10/24/2018	25.3
10067	63359.20	19114.99	FLAT	6/20/2018	123.91	125.94	126.09	10/24/2018	25.8
10068	63354.05	19115.02	FLAT	6/20/2018	123.88	125.90	125.96	10/24/2018	24.6
10069	63334.26	18334.95	FLAT	6/7/2018	124.21	126.24	126.42	10/24/2018	26.2
10070	63334.21	18350.02	3:1	6/7/2018	125.02	127.15	127.18	8/16/2018	24.3
10071	63334.25	18354.01	3:1	6/7/2018	126.15	128.28	128.30	8/14/2018	24.2
10072	63334.60	18374.98	3:1	6/7/2018	126.17	128.30	128.33	8/14/2018	24.3
10073	63334.97	18399.97	3:1	6/7/2018	126.27	128.40	128.41	8/14/2018	24.0
10074	63335.38	18424.95	3:1	6/7/2018	126.26	128.40	128.41	8/14/2018	24.1
10075	63335.69	18449.90	3:1	6/7/2018	126.34	128.47	128.49	8/14/2018	24.2
10076	63336.01	18475.01	3:1	6/7/2018	126.27	128.41	128.41	8/14/2018	24.1
10077	63334.18	18474.98	FLAT	6/7/2018	126.45	128.48	128.51	8/14/2018	24.4
10078	63336.39	18500.03	3:1	6/7/2018	126.36	128.49	128.50	8/14/2018	24.1
10079	63334.29	18500.04	FLAT	6/7/2018	126.44	128.46	128.50	8/14/2018	24.5
10080	63336.72	18525.03	3:1	6/7/2018	126.37	128.50	128.51	8/14/2018	24.1
10081	63334.30	18525.01	FLAT	6/7/2018	126.43	128.45	128.45	8/14/2018	24.0
10082	63337.02	18550.04	3:1	6/7/2018	126.28	128.41	128.41	8/14/2018	24.0
10083	63334.19	18550.00	FLAT	6/7/2018	126.41	128.43	128.44	8/14/2018	24.1
10084	63337.45	18575.03	3:1	6/7/2018	126.24	128.38	128.39	8/14/2018	24.2
10085	63334.24	18574.99	FLAT	6/7/2018	126.35	128.37	128.41	8/14/2018	24.5
10086	63337.70	18599.94	3:1	6/7/2018	126.35	128.49	128.50	8/14/2018	24.1
10087	63334.22	18599.99	FLAT	6/7/2018	126.32	128.35	128.40	8/14/2018	24.6
10088	63338.11	18625.06	3:1	6/7/2018	126.38	128.52	128.53	8/14/2018	24.1
10089	63334.24	18625.01	FLAT	6/7/2018	126.42	128.45	128.46	8/14/2018	24.2
10090	63338.05	18650.06	3:1	6/13/2018	126.36	128.49	128.49	8/14/2018	24.0
10091	63334.19	18649.96	FLAT	6/13/2018	126.51	128.54	128.61	8/14/2018	24.9
10092	63337.66	18674.96	3:1	6/13/2018	126.37	128.50	128.51	8/14/2018	24.1
10093	63334.19	18674.96	FLAT	6/13/2018	126.47	128.49	128.53	8/14/2018	24.5
10094	63337.25	18700.01	3:1	6/13/2018	126.19	128.32	128.40	8/14/2018	24.9
10095	63334.27	18700.00	FLAT	6/13/2018	126.38	128.41	128.48	8/14/2018	24.9
10096	63336.94	18724.95	3:1	6/13/2018	126.42	128.55	128.56	8/14/2018	24.1
10097	63334.23	18725.03	FLAT	6/13/2018	126.45	128.47	128.47	8/14/2018	24.0
10098	63336.56	18750.00	3:1	6/13/2018	126.37	128.50	128.51	8/14/2018	24.1
10099	63334.21	18749.98	FLAT	6/13/2018	126.42	128.44	128.46	8/14/2018	24.2
10100	63336.15	18775.01	3:1	6/13/2018	126.38	128.52	128.53	8/14/2018	24.2
10101	63334.24	18775.02	FLAT	6/13/2018	126.45	128.48	128.54	8/14/2018	24.7
10102	63335.86	18799.98	3:1	6/13/2018	126.32	128.45	128.47	8/14/2018	24.2
10103	63334.21	18799.99	FLAT	6/13/2018	126.40	128.42	128.45	8/14/2018	24.3
10104	63334.20	18824.97	FLAT	6/13/2018	126.47	128.50	128.53	8/14/2018	24.4
10105	63334.22	18849.99	FLAT	6/13/2018	126.43	128.45	128.45	8/14/2018	24.0
10106	63334.24	18875.01	FLAT	6/13/2018	126.44	128.46	128.47	8/14/2018	24.0

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10107	63334.25	18900.00	FLAT	6/13/2018	126.40	128.42	128.44	8/14/2018	24.3
10108	63334.21	18925.03	3:1	6/13/2018	126.42	128.56	128.58	8/14/2018	24.2
10109	63334.30	18949.96	3:1	6/13/2018	126.41	128.55	128.58	8/14/2018	24.4
10110	63334.22	18975.02	3:1	6/20/2018	126.42	128.55	128.55	8/14/2018	24.0
10111	63334.21	19000.03	3:1	6/20/2018	126.30	128.44	128.44	8/14/2018	24.1
10112	63334.28	19024.99	3:1	6/20/2018	126.16	128.29	128.30	8/14/2018	24.2
10113	63332.63	19025.02	3:1	6/20/2018	126.47	128.60	128.64	8/14/2018	24.6
10114	63334.23	19050.06	3:1	6/20/2018	126.03	128.16	128.21	8/14/2018	24.6
10115	63332.29	19050.02	3:1	6/20/2018	126.52	128.65	128.66	8/14/2018	24.0
10116	63334.22	19075.01	3:1	6/20/2018	125.99	128.12	128.19	8/14/2018	24.9
10117	63331.99	19074.94	3:1	6/20/2018	126.39	128.52	128.53	8/14/2018	24.2
10118	63331.64	19092.80	3:1	6/20/2018	126.35	128.48	128.49	8/14/2018	24.1
10119	63334.17	19099.98	3:1	6/20/2018	124.21	126.34	126.39	8/14/2018	24.6
10120	63334.21	19115.05	FLAT	6/20/2018	123.92	125.94	126.16	10/24/2018	26.6
10121	63309.23	18334.95	FLAT	6/7/2018	124.73	126.75	126.76	10/24/2018	24.2
10122	63309.23	18350.04	3:1	6/7/2018	125.09	127.23	127.32	8/16/2018	25.1
10123	63309.22	18354.09	3:1	6/7/2018	126.19	128.32	128.35	8/16/2018	24.3
10124	63309.20	18374.98	FLAT	6/7/2018	126.95	128.97	128.97	8/14/2018	24.0
10125	63309.23	18400.02	FLAT	6/7/2018	127.21	129.23	129.24	8/14/2018	24.1
10126	63309.20	18425.00	FLAT	6/7/2018	127.31	129.33	129.34	8/14/2018	24.1
10127	63309.28	18449.97	FLAT	6/7/2018	127.34	129.36	129.40	8/14/2018	24.4
10128	63309.21	18474.92	FLAT	6/7/2018	127.34	129.36	129.36	8/14/2018	24.0
10129	63309.25	18500.03	FLAT	6/7/2018	127.32	129.34	129.43	8/14/2018	25.1
10130	63309.19	18524.98	FLAT	6/7/2018	127.29	129.31	129.31	8/14/2018	24.0
10131	63309.21	18550.01	FLAT	6/7/2018	127.35	129.37	129.41	8/14/2018	24.5
10132	63309.26	18574.98	FLAT	6/7/2018	127.34	129.36	129.43	8/14/2018	24.8
10133	63309.28	18599.99	FLAT	6/7/2018	127.34	129.36	129.42	8/14/2018	24.7
10134	63309.28	18625.06	FLAT	6/7/2018	127.37	129.40	129.44	8/14/2018	24.5
10135	63309.22	18650.03	FLAT	6/7/2018	127.27	129.29	129.29	8/14/2018	24.1
10136	63309.21	18674.97	FLAT	6/13/2018	127.33	129.35	129.39	8/14/2018	24.5
10137	63309.19	18700.03	FLAT	6/13/2018	127.23	129.25	129.26	8/14/2018	24.0
10138	63309.21	18724.99	FLAT	6/13/2018	127.25	129.27	129.30	8/14/2018	24.4
10139	63309.22	18750.08	FLAT	6/13/2018	127.39	129.42	129.44	8/14/2018	24.3
10140	63309.18	18775.01	FLAT	6/13/2018	127.30	129.32	129.33	8/14/2018	24.1
10141	63309.24	18799.97	FLAT	6/13/2018	127.34	129.36	129.37	8/14/2018	24.0
10142	63309.27	18825.01	FLAT	6/13/2018	127.38	129.40	129.41	8/14/2018	24.1
10143	63309.26	18849.97	FLAT	6/13/2018	127.34	129.36	129.37	8/14/2018	24.1
10144	63309.25	18875.00	FLAT	6/13/2018	127.32	129.35	129.37	8/14/2018	24.3
10145	63309.27	18900.00	FLAT	6/13/2018	127.29	129.31	129.38	8/14/2018	24.8
10146	63309.26	18924.95	FLAT	6/13/2018	127.28	129.31	129.36	8/14/2018	24.7
10147	63309.24	18950.04	FLAT	6/13/2018	127.24	129.26	129.26	8/14/2018	24.0
10148	63309.26	18974.98	FLAT	6/20/2018	127.30	129.33	129.33	8/14/2018	24.1
10149	63309.29	19000.01	FLAT	6/20/2018	127.27	129.29	129.30	8/14/2018	24.1
10150	63309.22	19024.97	FLAT	6/20/2018	127.25	129.27	129.27	8/14/2018	24.0
10151	63309.20	19049.96	FLAT	6/20/2018	127.24	129.27	129.27	8/14/2018	24.1
10152	63309.20	19075.00	FLAT	6/20/2018	127.11	129.13	129.14	8/14/2018	24.1
10153	63309.22	19093.27	3:1	6/20/2018	126.44	128.57	128.57	8/14/2018	24.0
10154	63309.27	19115.04	FLAT	6/20/2018	124.10	126.12	126.29	10/24/2018	26.0
10155	63284.22	18334.99	FLAT	6/7/2018	124.78	126.80	126.94	10/24/2018	25.6
10156	63284.27	18349.99	3:1	6/7/2018	125.11	127.25	127.27	8/16/2018	24.3
10157	63284.25	18354.13	3:1	6/7/2018	126.15	128.28	128.29	8/16/2018	24.1
10158	63284.23	18375.02	FLAT	6/7/2018	126.97	128.99	128.99	8/14/2018	24.0
10159	63284.20	18399.99	FLAT	6/7/2018	127.87	129.90	129.92	8/14/2018	24.3

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10160	63284.18	18424.97	FLAT	5/11/2018	127.96	129.98	129.98	8/14/2018	24.0
10161	63284.24	18449.96	FLAT	6/7/2018	128.14	130.17	130.20	8/14/2018	24.4
10162	63284.24	18474.98	FLAT	6/7/2018	128.14	130.16	130.18	8/14/2018	24.2
10163	63284.21	18499.97	FLAT	6/7/2018	128.15	130.17	130.17	8/14/2018	24.1
10164	63284.22	18524.97	FLAT	6/7/2018	128.09	130.12	130.13	8/14/2018	24.2
10165	63284.23	18550.01	FLAT	6/7/2018	128.09	130.11	130.13	8/14/2018	24.1
10166	63284.22	18575.03	FLAT	6/13/2018	128.17	130.20	130.21	8/14/2018	24.1
10167	63284.19	18599.96	FLAT	6/13/2018	128.21	130.23	130.26	8/14/2018	24.4
10168	63284.22	18624.98	FLAT	6/7/2018	128.12	130.14	130.17	8/14/2018	24.4
10169	63284.17	18650.04	FLAT	6/7/2018	128.14	130.17	130.19	8/14/2018	24.2
10170	63284.20	18675.02	FLAT	6/13/2018	128.12	130.15	130.19	8/14/2018	24.5
10171	63284.21	18699.95	FLAT	6/13/2018	128.18	130.20	130.25	8/14/2018	24.6
10172	63284.20	18725.04	FLAT	6/13/2018	128.18	130.20	130.23	8/14/2018	24.3
10173	63284.29	18749.95	FLAT	6/13/2018	128.20	130.23	130.27	8/14/2018	24.5
10174	63284.22	18774.89	FLAT	6/13/2018	128.13	130.16	130.20	8/14/2018	24.5
10175	63284.21	18799.95	FLAT	6/13/2018	128.11	130.14	130.15	8/14/2018	24.2
10176	63284.25	18825.02	FLAT	6/13/2018	128.13	130.16	130.16	8/14/2018	24.0
10177	63284.25	18850.06	FLAT	6/13/2018	128.16	130.18	130.20	8/14/2018	24.2
10178	63284.19	18874.96	FLAT	6/13/2018	128.14	130.16	130.18	8/14/2018	24.2
10179	63284.23	18899.97	FLAT	6/13/2018	128.12	130.15	130.21	8/14/2018	24.7
10180	63284.21	18925.01	FLAT	6/13/2018	128.11	130.13	130.15	8/14/2018	24.2
10181	63284.21	18949.96	FLAT	6/13/2018	128.11	130.14	130.18	8/14/2018	24.5
10182	63284.20	18975.01	FLAT	6/20/2018	128.18	130.21	130.25	8/14/2018	24.5
10183	63284.19	18999.96	FLAT	6/20/2018	128.16	130.18	130.21	8/14/2018	24.4
10184	63284.19	19024.99	FLAT	6/20/2018	128.16	130.18	130.20	8/14/2018	24.3
10185	63284.28	19049.91	FLAT	6/20/2018	127.98	130.01	130.01	8/14/2018	24.1
10186	63284.29	19075.01	FLAT	6/20/2018	127.05	129.07	129.12	8/14/2018	24.6
10187	63284.19	19094.00	3:1	6/20/2018	126.42	128.55	128.56	8/14/2018	24.1
10188	63284.23	19114.98	FLAT	6/20/2018	124.32	126.35	126.50	10/24/2018	25.9
10189	63259.20	18335.00	FLAT	6/7/2018	125.00	127.03	127.10	10/24/2018	24.9
10190	63259.27	18350.03	3:1	6/7/2018	125.11	127.24	127.28	8/16/2018	24.5
10191	63259.29	18354.23	3:1	6/7/2018	126.07	128.20	128.22	8/16/2018	24.3
10192	63259.25	18375.01	FLAT	6/7/2018	126.92	128.94	128.97	8/16/2018	24.4
10193	63259.28	18399.99	FLAT	6/7/2018	127.79	129.82	129.85	8/14/2018	24.4
10194	63259.27	18424.97	FLAT	6/7/2018	128.76	130.78	130.79	8/14/2018	24.1
10195	63259.21	18428.82	FLAT	6/7/2018	128.93	130.95	130.97	8/14/2018	24.2
10196	63259.22	18450.05	FLAT	6/7/2018	128.96	130.99	131.01	8/14/2018	24.3
10197	63259.22	18475.02	FLAT	6/7/2018	129.06	131.08	131.10	8/14/2018	24.2
10198	63259.19	18500.02	FLAT	6/7/2018	128.99	131.01	131.03	8/14/2018	24.3
10199	63259.22	18525.01	FLAT	6/7/2018	129.02	131.04	131.06	8/14/2018	24.2
10200	63259.23	18550.00	FLAT	6/7/2018	129.00	131.02	131.03	8/14/2018	24.1
10201	63259.21	18575.05	FLAT	6/7/2018	129.02	131.04	131.07	8/14/2018	24.4
10202	63259.16	18599.99	FLAT	6/7/2018	129.04	131.06	131.08	8/14/2018	24.2
10203	63259.21	18625.01	FLAT	6/7/2018	129.00	131.03	131.08	8/14/2018	24.7
10204	63259.27	18649.98	FLAT	6/7/2018	128.99	131.01	131.04	8/14/2018	24.4
10205	63259.20	18674.99	FLAT	6/13/2018	129.06	131.09	131.11	8/14/2018	24.3
10206	63259.18	18699.99	FLAT	6/13/2018	129.00	131.02	131.04	8/14/2018	24.3
10207	63259.22	18725.04	FLAT	6/13/2018	129.00	131.02	131.05	8/14/2018	24.4
10208	63259.18	18750.05	FLAT	6/13/2018	128.96	130.98	131.00	8/14/2018	24.3
10209	63259.19	18775.07	FLAT	6/13/2018	129.04	131.06	131.08	8/14/2018	24.2
10210	63259.21	18800.06	FLAT	6/13/2018	129.06	131.08	131.13	8/14/2018	24.5
10211	63259.25	18824.96	FLAT	6/13/2018	129.03	131.05	131.11	8/15/2018	24.6
10212	63259.28	18850.04	FLAT	6/13/2018	129.07	131.09	131.11	8/14/2018	24.3

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10213	63259.23	18875.05	FLAT	6/13/2018	129.06	131.08	131.11	8/14/2018	24.3
10214	63259.24	18899.96	FLAT	6/13/2018	129.07	131.09	131.14	8/14/2018	24.6
10215	63259.21	18925.02	FLAT	6/13/2018	129.05	131.08	131.12	8/14/2018	24.6
10216	63259.28	18949.99	FLAT	6/13/2018	129.02	131.04	131.10	8/14/2018	24.7
10217	63259.19	18974.97	FLAT	6/20/2018	129.03	131.05	131.10	8/14/2018	24.6
10218	63259.23	19000.03	FLAT	6/20/2018	129.00	131.02	131.04	8/14/2018	24.3
10219	63259.22	19020.70	FLAT	6/20/2018	128.85	130.87	130.94	8/14/2018	24.8
10220	63259.24	19025.00	FLAT	6/20/2018	128.75	130.77	130.81	8/14/2018	24.5
10221	63259.30	19050.00	FLAT	6/20/2018	127.80	129.82	129.83	8/14/2018	24.0
10222	63259.30	19075.02	FLAT	6/20/2018	127.03	129.06	129.08	8/14/2018	24.2
10223	63259.27	19094.67	3:1	6/20/2018	126.25	128.38	128.39	8/14/2018	24.1
10224	63259.22	19114.99	FLAT	6/20/2018	124.48	126.50	126.74	10/24/2018	26.8
10225	63234.25	18335.03	FLAT	6/7/2018	125.10	127.12	127.13	10/24/2018	24.0
10226	63234.22	18349.99	3:1	6/7/2018	125.16	127.29	127.35	8/16/2018	24.7
10227	63234.29	18354.37	3:1	6/7/2018	126.19	128.32	128.35	8/16/2018	24.4
10228	63234.18	18374.99	FLAT	6/7/2018	126.98	129.00	129.03	8/16/2018	24.3
10229	63234.24	18400.00	FLAT	6/7/2018	127.92	129.94	130.00	8/14/2018	24.6
10230	63234.25	18425.02	FLAT	6/7/2018	128.86	130.88	130.93	8/14/2018	24.6
10231	63234.29	18449.99	FLAT	6/7/2018	129.71	131.73	131.74	8/14/2018	24.1
10232	63234.23	18474.99	FLAT	6/7/2018	129.91	131.93	131.94	8/14/2018	24.1
10233	63234.27	18499.93	FLAT	6/7/2018	129.91	131.93	131.95	8/14/2018	24.2
10234	63234.37	18525.09	FLAT	6/7/2018	129.91	131.93	131.99	8/15/2018	24.7
10235	63234.22	18549.99	FLAT	6/7/2018	129.89	131.91	131.95	8/14/2018	24.5
10236	63234.24	18575.03	FLAT	6/7/2018	129.89	131.92	131.92	8/14/2018	24.0
10237	63234.23	18599.99	FLAT	6/13/2018	129.93	131.96	131.96	8/14/2018	24.1
10238	63234.19	18624.99	FLAT	6/13/2018	129.91	131.93	131.95	8/14/2018	24.2
10239	63234.28	18650.02	FLAT	6/13/2018	129.86	131.88	131.91	8/14/2018	24.4
10240	63234.15	18675.03	FLAT	6/13/2018	129.85	131.88	131.89	8/14/2018	24.1
10241	63234.18	18700.03	FLAT	6/13/2018	129.81	131.84	131.86	8/14/2018	24.3
10242	63234.21	18724.97	FLAT	6/13/2018	129.81	131.83	131.87	8/14/2018	24.5
10243	63234.22	18750.03	FLAT	6/13/2018	129.82	131.84	131.86	8/14/2018	24.2
10244	63234.20	18775.08	FLAT	6/13/2018	129.86	131.89	131.93	8/14/2018	24.5
10245	63234.22	18800.02	FLAT	6/13/2018	129.82	131.85	131.86	8/14/2018	24.2
10246	63234.26	18825.03	FLAT	6/13/2018	129.85	131.87	131.89	8/14/2018	24.2
10247	63234.22	18850.01	FLAT	6/13/2018	129.86	131.89	131.93	8/14/2018	24.5
10248	63234.23	18874.97	FLAT	6/13/2018	129.79	131.81	131.82	8/14/2018	24.2
10249	63234.23	18900.00	FLAT	6/13/2018	129.85	131.87	131.91	8/14/2018	24.4
10250	63234.20	18924.98	FLAT	6/13/2018	129.86	131.89	131.95	8/14/2018	24.7
10251	63234.20	18950.01	FLAT	6/13/2018	129.84	131.86	131.88	8/14/2018	24.3
10252	63234.20	18975.06	FLAT	6/20/2018	129.82	131.84	131.85	8/14/2018	24.1
10253	63234.21	18999.96	FLAT	6/20/2018	129.64	131.66	131.67	8/14/2018	24.1
10254	63234.16	19024.92	FLAT	6/20/2018	128.70	130.73	130.74	8/14/2018	24.2
10255	63234.23	19050.01	FLAT	6/20/2018	127.80	129.83	129.87	8/14/2018	24.5
10256	63234.20	19075.02	FLAT	6/20/2018	127.02	129.04	129.08	8/14/2018	24.4
10257	63234.23	19095.32	3:1	6/20/2018	126.26	128.39	128.39	8/14/2018	24.0
10258	63234.27	19115.05	FLAT	6/20/2018	124.64	126.66	126.86	10/24/2018	26.4
10259	63209.28	18335.00	FLAT	6/7/2018	125.22	127.24	127.27	10/24/2018	24.3
10260	63209.25	18350.04	3:1	6/7/2018	125.14	127.27	127.53	8/16/2018	27.2
10261	63209.18	18354.09	3:1	6/7/2018	126.18	128.31	128.33	8/16/2018	24.2
10262	63209.25	18374.98	FLAT	6/7/2018	126.97	129.00	129.06	8/16/2018	24.8
10263	63209.23	18400.01	FLAT	6/7/2018	127.87	129.89	129.90	8/14/2018	24.1
10264	63209.25	18425.00	FLAT	6/7/2018	128.84	130.87	130.90	8/14/2018	24.4
10265	63209.27	18450.06	FLAT	6/7/2018	129.73	131.76	131.77	8/14/2018	24.1

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10266	63209.18	18474.97	FLAT	6/7/2018	130.57	132.60	132.61	8/14/2018	24.2
10267	63209.19	18499.99	FLAT	6/7/2018	130.78	132.81	132.85	8/14/2018	24.5
10268	63209.19	18525.01	FLAT	6/7/2018	130.82	132.84	132.88	8/14/2018	24.4
10269	63209.20	18549.99	FLAT	6/7/2018	130.92	132.95	132.98	8/14/2018	24.4
10270	63209.24	18574.95	FLAT	6/7/2018	130.89	132.91	132.96	8/14/2018	24.6
10271	63209.21	18600.10	FLAT	6/13/2018	130.84	132.86	132.86	8/14/2018	24.0
10272	63209.23	18625.02	FLAT	6/7/2018	130.86	132.88	132.90	8/14/2018	24.2
10273	63209.15	18649.98	FLAT	6/7/2018	130.86	132.88	132.90	8/14/2018	24.2
10274	63209.20	18675.03	FLAT	6/13/2018	130.75	132.77	132.80	8/14/2018	24.4
10275	63209.25	18699.97	FLAT	6/13/2018	130.77	132.80	132.85	8/14/2018	24.7
10276	63209.18	18725.01	FLAT	6/13/2018	130.74	132.77	132.83	8/14/2018	24.7
10277	63209.20	18749.96	FLAT	6/13/2018	130.76	132.78	132.79	8/14/2018	24.2
10278	63209.23	18774.96	FLAT	6/13/2018	130.74	132.76	132.76	8/14/2018	24.0
10279	63209.25	18800.03	FLAT	6/13/2018	130.77	132.79	132.79	8/14/2018	24.1
10280	63209.28	18825.05	FLAT	6/13/2018	130.75	132.78	132.79	8/14/2018	24.2
10281	63209.23	18850.04	FLAT	6/13/2018	130.68	132.70	132.76	8/14/2018	24.7
10282	63209.20	18874.95	FLAT	6/13/2018	130.73	132.76	132.77	8/14/2018	24.2
10283	63209.22	18900.02	FLAT	6/13/2018	130.63	132.65	132.69	8/14/2018	24.4
10284	63209.26	18925.01	FLAT	6/13/2018	130.63	132.65	132.66	8/14/2018	24.1
10285	63209.19	18949.99	FLAT	6/13/2018	130.68	132.70	132.73	8/14/2018	24.3
10286	63209.21	18975.01	FLAT	6/20/2018	130.53	132.55	132.58	8/14/2018	24.3
10287	63209.28	19000.00	FLAT	6/20/2018	129.60	131.62	131.69	8/14/2018	24.8
10288	63209.26	19025.04	FLAT	6/20/2018	128.72	130.74	130.82	8/14/2018	25.0
10289	63209.22	19050.00	FLAT	6/20/2018	127.78	129.81	129.81	8/14/2018	24.1
10290	63209.22	19074.96	FLAT	6/20/2018	127.10	129.12	129.22	8/14/2018	25.2
10291	63209.27	19095.94	3:1	6/20/2018	126.24	128.37	128.38	8/14/2018	24.1
10292	63209.17	19115.02	FLAT	6/20/2018	124.87	126.90	127.00	10/24/2018	25.3
10293	63184.20	18334.94	FLAT	6/7/2018	125.44	127.47	127.49	10/24/2018	24.3
10294	63184.22	18350.04	3:1	6/7/2018	125.49	127.62	127.74	8/16/2018	25.4
10295	63184.30	18353.46	3:1	6/7/2018	126.09	128.22	128.27	8/16/2018	24.6
10296	63184.28	18375.00	FLAT	6/7/2018	126.92	128.94	128.99	8/16/2018	24.5
10297	63184.22	18400.02	FLAT	6/7/2018	127.80	129.82	129.83	8/14/2018	24.0
10298	63184.20	18425.00	FLAT	6/7/2018	128.73	130.76	130.77	8/14/2018	24.2
10299	63184.26	18450.02	FLAT	6/7/2018	129.57	131.59	131.59	8/14/2018	24.1
10300	63184.23	18475.00	FLAT	6/7/2018	130.48	132.50	132.52	8/14/2018	24.3
10301	63184.23	18499.96	FLAT	6/7/2018	131.33	133.35	133.36	8/14/2018	24.2
10302	63184.18	18503.52	FLAT	6/7/2018	131.50	133.52	133.52	8/14/2018	24.1
10303	63184.23	18525.00	FLAT	6/7/2018	131.65	133.68	133.69	8/14/2018	24.2
10304	63184.17	18550.02	FLAT	6/7/2018	131.73	133.76	133.77	8/14/2018	24.2
10305	63184.19	18575.02	FLAT	6/7/2018	131.74	133.76	133.79	8/14/2018	24.4
10306	63184.20	18599.95	FLAT	6/7/2018	131.74	133.76	133.78	8/14/2018	24.3
10307	63184.16	18625.04	FLAT	6/7/2018	131.77	133.80	133.81	8/14/2018	24.1
10308	63184.22	18650.00	FLAT	6/7/2018	131.72	133.74	133.75	8/14/2018	24.1
10309	63184.24	18675.04	FLAT	6/13/2018	131.62	133.64	133.67	8/14/2018	24.3
10310	63184.25	18699.95	FLAT	6/13/2018	131.66	133.68	133.69	8/14/2018	24.1
10311	63184.24	18724.99	FLAT	6/13/2018	131.68	133.70	133.71	8/14/2018	24.0
10312	63184.21	18750.01	FLAT	6/13/2018	131.59	133.61	133.64	8/14/2018	24.4
10313	63184.23	18775.02	FLAT	6/13/2018	131.65	133.67	133.71	8/14/2018	24.5
10314	63184.17	18800.03	FLAT	6/13/2018	131.54	133.56	133.56	8/14/2018	24.0
10315	63184.25	18825.00	FLAT	6/13/2018	131.59	133.62	133.64	8/14/2018	24.3
10316	63184.21	18850.02	FLAT	6/13/2018	131.63	133.65	133.73	8/14/2018	24.9
10317	63184.22	18875.00	FLAT	6/13/2018	131.60	133.62	133.63	8/14/2018	24.1
10318	63184.23	18900.04	FLAT	6/13/2018	131.55	133.58	133.58	8/14/2018	24.0

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10319	63184.26	18925.03	FLAT	6/13/2018	131.59	133.61	133.61	8/14/2018	24.0
10320	63184.22	18946.10	FLAT	6/13/2018	131.51	133.53	133.53	8/14/2018	24.0
10321	63184.26	18950.01	FLAT	6/20/2018	131.37	133.39	133.43	8/14/2018	24.4
10322	63184.17	18974.96	FLAT	6/20/2018	130.49	132.52	132.54	8/14/2018	24.3
10323	63184.22	19000.00	FLAT	6/20/2018	129.63	131.65	131.66	8/14/2018	24.1
10324	63184.25	19025.01	FLAT	6/20/2018	128.70	130.72	130.72	8/14/2018	24.0
10325	63184.23	19049.98	FLAT	6/20/2018	127.79	129.81	129.82	8/14/2018	24.1
10326	63184.26	19074.98	FLAT	6/20/2018	127.04	129.06	129.11	8/14/2018	24.6
10327	63184.13	19096.68	3:1	6/20/2018	126.27	128.40	128.41	8/14/2018	24.1
10328	63184.24	19115.02	FLAT	6/20/2018	125.20	127.22	127.40	10/24/2018	26.2
10329	63159.18	18335.06	FLAT	6/7/2018	125.10	127.12	127.21	10/24/2018	25.1
10330	63159.18	18350.01	3:1	6/7/2018	125.74	127.88	128.00	8/16/2018	25.5
10331	63159.26	18352.82	3:1	6/7/2018	126.08	128.22	128.25	8/16/2018	24.4
10332	63159.25	18375.00	FLAT	6/7/2018	126.93	128.95	129.10	8/16/2018	25.8
10333	63159.25	18400.02	FLAT	6/7/2018	127.82	129.84	129.87	8/16/2018	24.3
10334	63159.25	18425.04	FLAT	6/7/2018	128.69	130.71	130.74	8/16/2018	24.3
10335	63159.19	18450.00	FLAT	6/7/2018	129.59	131.62	131.64	8/14/2018	24.3
10336	63159.21	18475.00	FLAT	6/7/2018	130.41	132.43	132.44	8/14/2018	24.1
10337	63159.26	18500.01	FLAT	6/7/2018	131.29	133.32	133.33	8/14/2018	24.1
10338	63159.27	18525.04	FLAT	6/7/2018	132.24	134.27	134.27	8/14/2018	24.1
10339	63159.28	18549.98	FLAT	6/7/2018	132.40	134.43	134.44	8/14/2018	24.2
10340	63159.23	18574.95	FLAT	6/7/2018	132.52	134.54	134.60	8/15/2018	24.7
10341	63159.13	18599.85	FLAT	6/7/2018	132.57	134.59	134.63	8/15/2018	24.5
10342	63159.20	18624.97	FLAT	6/7/2018	132.52	134.54	134.56	8/14/2018	24.2
10343	63159.22	18650.01	FLAT	6/7/2018	132.52	134.55	134.58	8/14/2018	24.4
10344	63159.22	18674.98	FLAT	6/13/2018	132.52	134.55	134.63	8/14/2018	25.0
10345	63159.24	18700.01	FLAT	6/13/2018	132.44	134.46	134.47	8/14/2018	24.1
10346	63159.25	18724.99	FLAT	6/13/2018	132.46	134.49	134.50	8/14/2018	24.2
10347	63159.24	18749.96	FLAT	6/13/2018	132.46	134.48	134.52	8/14/2018	24.5
10348	63159.18	18774.99	FLAT	6/13/2018	132.46	134.49	134.55	8/14/2018	24.8
10349	63159.24	18799.98	FLAT	6/13/2018	132.43	134.46	134.49	8/14/2018	24.4
10350	63159.28	18824.98	FLAT	6/13/2018	132.44	134.46	134.48	8/14/2018	24.2
10351	63159.27	18850.00	FLAT	6/13/2018	132.38	134.40	134.40	8/14/2018	24.0
10352	63159.25	18874.98	FLAT	6/13/2018	132.32	134.35	134.37	8/14/2018	24.3
10353	63159.27	18900.00	FLAT	6/13/2018	132.34	134.37	134.37	8/14/2018	24.1
10354	63159.28	18924.95	FLAT	6/20/2018	132.28	134.30	134.30	8/14/2018	24.0
10355	63159.25	18949.98	FLAT	6/20/2018	131.40	133.42	133.47	8/14/2018	24.6
10356	63159.22	18974.96	FLAT	6/20/2018	130.51	132.54	132.55	8/14/2018	24.1
10357	63159.21	19000.04	FLAT	6/20/2018	129.63	131.65	131.68	8/14/2018	24.3
10358	63159.22	19025.03	FLAT	6/20/2018	128.75	130.77	130.82	8/14/2018	24.6
10359	63159.24	19050.00	FLAT	6/20/2018	127.93	129.96	130.02	8/14/2018	24.7
10360	63159.27	19074.97	FLAT	6/20/2018	127.06	129.09	129.11	8/14/2018	24.3
10361	63159.16	19097.26	3:1	6/20/2018	126.25	128.39	128.39	8/14/2018	24.1
10362	63159.14	19115.02	FLAT	6/20/2018	125.48	127.50	127.60	10/24/2018	25.2
10363	63134.51	18335.02	FLAT	5/11/2018	125.56	127.59	127.59	10/24/2018	24.1
10364	63134.20	18350.00	3:1	5/11/2018	125.70	127.83	128.12	8/16/2018	27.5
10365	63134.21	18352.05	3:1	5/11/2018	126.12	128.25	128.29	8/16/2018	24.5
10366	63134.21	18374.99	FLAT	5/11/2018	126.97	128.99	129.05	8/16/2018	24.7
10367	63134.19	18400.11	FLAT	5/11/2018	127.84	129.87	129.89	8/14/2018	24.2
10368	63134.31	18424.91	FLAT	5/11/2018	128.64	130.66	130.68	8/14/2018	24.2
10369	63134.22	18449.96	FLAT	5/11/2018	129.57	131.59	131.65	8/14/2018	24.6
10370	63134.20	18475.02	FLAT	5/11/2018	130.36	132.38	132.39	8/14/2018	24.1
10371	63134.22	18500.02	FLAT	5/11/2018	131.36	133.38	133.42	8/14/2018	24.4

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10372	63134.21	18524.99	FLAT	5/11/2018	132.19	134.21	134.22	8/14/2018	24.0
10373	63134.27	18550.00	FLAT	5/11/2018	133.14	135.17	135.18	8/14/2018	24.2
10374	63134.26	18574.99	FLAT	6/7/2018	133.26	135.28	135.28	8/14/2018	24.0
10375	63134.23	18600.02	FLAT	6/7/2018	133.22	135.24	135.24	8/14/2018	24.0
10376	63134.21	18625.01	FLAT	6/7/2018	133.28	135.31	135.32	8/14/2018	24.2
10377	63134.23	18650.02	FLAT	6/7/2018	133.28	135.30	135.31	8/14/2018	24.1
10378	63134.20	18675.03	FLAT	6/13/2018	133.29	135.31	135.34	8/14/2018	24.3
10379	63134.23	18699.99	FLAT	6/13/2018	133.26	135.28	135.28	8/14/2018	24.0
10380	63134.28	18724.99	FLAT	6/13/2018	133.22	135.25	135.26	8/14/2018	24.2
10381	63134.21	18750.02	FLAT	6/13/2018	133.19	135.21	135.21	8/14/2018	24.0
10382	63134.22	18775.01	FLAT	6/13/2018	133.21	135.23	135.24	8/14/2018	24.1
10383	63134.23	18800.02	FLAT	6/13/2018	133.15	135.17	135.19	8/14/2018	24.2
10384	63134.21	18824.99	FLAT	6/13/2018	133.22	135.24	135.26	8/14/2018	24.2
10385	63134.27	18850.01	FLAT	6/13/2018	133.25	135.27	135.29	8/14/2018	24.3
10386	63134.19	18875.04	FLAT	6/13/2018	133.17	135.19	135.20	8/14/2018	24.1
10387	63134.19	18900.06	FLAT	6/20/2018	133.19	135.22	135.23	8/14/2018	24.1
10388	63134.21	18925.00	FLAT	6/20/2018	132.23	134.25	134.31	8/14/2018	24.7
10389	63134.23	18949.98	FLAT	6/20/2018	131.37	133.40	133.43	8/14/2018	24.4
10390	63134.20	18974.96	FLAT	6/20/2018	130.51	132.53	132.55	8/14/2018	24.2
10391	63134.21	19000.01	FLAT	6/20/2018	129.65	131.67	131.71	8/14/2018	24.5
10392	63134.25	19025.02	FLAT	6/20/2018	128.74	130.76	130.78	8/14/2018	24.3
10393	63134.17	19049.99	FLAT	6/20/2018	127.95	129.98	129.99	8/14/2018	24.2
10394	63134.20	19075.02	FLAT	6/20/2018	127.02	129.04	129.08	8/14/2018	24.4
10395	63134.20	19097.95	3:1	6/20/2018	126.17	128.30	128.30	8/14/2018	24.0
10396	63134.23	19099.96	3:1	6/20/2018	125.96	128.10	128.11	8/14/2018	24.1
10397	63134.24	19115.04	FLAT	6/20/2018	125.61	127.63	127.82	10/24/2018	26.3
10398	63109.22	18334.94	FLAT	5/11/2018	125.49	127.51	127.63	10/24/2018	25.4
10399	63109.24	18351.35	3:1	5/11/2018	126.08	128.21	128.34	8/16/2018	25.6
10400	63109.21	18374.96	FLAT	5/11/2018	126.97	129.00	129.05	8/16/2018	24.7
10401	63109.25	18400.04	FLAT	5/11/2018	127.79	129.81	129.86	8/16/2018	24.6
10402	63109.21	18424.98	FLAT	5/11/2018	128.65	130.68	130.74	8/16/2018	24.7
10403	63109.21	18449.98	FLAT	5/11/2018	129.54	131.56	131.63	8/16/2018	24.8
10404	63109.26	18475.05	FLAT	5/11/2018	130.41	132.43	132.46	8/16/2018	24.3
10405	63109.23	18500.03	FLAT	5/11/2018	131.28	133.31	133.37	8/16/2018	24.8
10406	63109.26	18524.99	FLAT	5/11/2018	132.19	134.21	134.24	8/16/2018	24.4
10407	63109.26	18550.01	FLAT	5/11/2018	133.13	135.15	135.19	8/16/2018	24.4
10408	63109.30	18575.01	FLAT	5/11/2018	133.99	136.01	136.04	8/16/2018	24.3
10409	63109.21	18578.19	FLAT	5/11/2018	134.19	136.21	136.22	8/16/2018	24.1
10410	63109.22	18600.06	FLAT	6/7/2018	134.17	136.19	136.19	8/14/2018	24.0
10411	63109.25	18624.96	FLAT	6/7/2018	134.10	136.12	136.15	8/14/2018	24.4
10412	63109.22	18650.02	FLAT	6/7/2018	134.12	136.15	136.16	8/14/2018	24.2
10413	63109.19	18674.95	FLAT	6/13/2018	134.08	136.11	136.12	8/14/2018	24.1
10414	63109.22	18699.97	FLAT	6/13/2018	134.12	136.15	136.19	8/14/2018	24.5
10415	63109.20	18725.02	FLAT	6/13/2018	134.10	136.13	136.13	8/14/2018	24.1
10416	63109.23	18749.95	FLAT	6/13/2018	134.16	136.18	136.21	8/14/2018	24.3
10417	63109.21	18775.03	FLAT	6/13/2018	134.09	136.11	136.12	8/14/2018	24.0
10418	63109.24	18799.96	FLAT	6/13/2018	134.11	136.13	136.13	8/14/2018	24.0
10419	63109.21	18825.00	FLAT	6/13/2018	134.07	136.10	136.11	8/14/2018	24.1
10420	63109.24	18849.99	FLAT	6/13/2018	134.09	136.11	136.15	8/14/2018	24.4
10421	63109.30	18871.49	FLAT	6/13/2018	134.05	136.07	136.08	8/14/2018	24.0
10422	63109.27	18874.96	FLAT	6/13/2018	133.95	135.97	135.99	8/14/2018	24.2
10423	63109.23	18900.04	FLAT	6/20/2018	133.09	135.12	135.17	8/14/2018	24.7
10424	63109.23	18925.00	FLAT	6/20/2018	132.20	134.22	134.26	8/14/2018	24.4

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10425	63109.23	18950.01	FLAT	6/20/2018	131.38	133.40	133.48	8/14/2018	24.9
10426	63109.25	18974.98	FLAT	6/20/2018	130.52	132.54	132.64	8/14/2018	25.2
10427	63109.22	18999.96	FLAT	6/20/2018	129.63	131.65	131.72	8/14/2018	24.8
10428	63109.18	19025.02	FLAT	6/20/2018	128.73	130.76	130.81	8/14/2018	24.7
10429	63109.24	19050.03	FLAT	6/20/2018	127.86	129.89	129.90	8/14/2018	24.2
10430	63109.24	19075.03	FLAT	6/20/2018	127.00	129.02	129.03	8/14/2018	24.1
10431	63109.23	19099.96	3:1	6/20/2018	126.05	128.18	128.19	8/14/2018	24.1
10432	63109.24	19115.00	FLAT	6/20/2018	125.54	127.56	127.75	10/24/2018	26.3
10433	63084.27	18335.02	FLAT	5/11/2018	125.49	127.52	127.67	10/24/2018	25.8
10434	63084.20	18350.86	3:1	5/11/2018	126.12	128.26	128.45	8/16/2018	26.4
10435	63084.21	18374.97	FLAT	5/11/2018	127.00	129.03	129.07	8/16/2018	24.5
10436	63084.25	18400.01	FLAT	5/11/2018	127.84	129.86	129.93	8/16/2018	24.8
10437	63084.26	18425.01	FLAT	5/11/2018	128.66	130.68	130.70	8/16/2018	24.2
10438	63084.22	18450.02	FLAT	5/11/2018	129.57	131.59	131.62	8/16/2018	24.4
10439	63084.27	18474.99	FLAT	5/11/2018	130.42	132.44	132.49	8/16/2018	24.6
10440	63084.24	18500.01	FLAT	5/11/2018	131.28	133.30	133.33	8/16/2018	24.3
10441	63084.23	18524.99	FLAT	5/11/2018	132.23	134.25	134.30	8/16/2018	24.6
10442	63084.19	18549.98	FLAT	5/11/2018	133.11	135.13	135.15	8/16/2018	24.2
10443	63084.18	18575.01	FLAT	5/11/2018	133.95	135.98	136.00	8/16/2018	24.3
10444	63084.21	18599.96	FLAT	5/11/2018	134.86	136.88	136.94	8/16/2018	24.7
10445	63084.21	18625.03	FLAT	6/7/2018	134.99	137.01	137.02	8/14/2018	24.1
10446	63084.25	18649.99	FLAT	6/7/2018	134.97	136.99	137.01	8/14/2018	24.2
10447	63084.23	18675.01	FLAT	6/13/2018	134.98	137.00	137.01	8/14/2018	24.1
10448	63084.23	18700.00	FLAT	6/13/2018	134.98	137.00	137.03	8/14/2018	24.3
10449	63084.23	18725.00	FLAT	6/13/2018	134.95	136.98	137.02	8/14/2018	24.5
10450	63084.27	18750.04	FLAT	6/13/2018	134.99	137.01	137.02	8/14/2018	24.1
10451	63084.27	18775.03	FLAT	6/13/2018	134.95	136.97	136.98	8/14/2018	24.1
10452	63084.21	18799.99	FLAT	6/13/2018	134.99	137.02	137.03	8/14/2018	24.2
10453	63084.20	18825.02	FLAT	6/13/2018	134.99	137.01	137.02	8/14/2018	24.1
10454	63084.21	18849.98	FLAT	6/13/2018	134.79	136.81	136.85	8/15/2018	24.5
10455	63084.20	18875.00	FLAT	6/15/2018	133.97	135.99	135.99	8/14/2018	24.1
10456	63084.23	18900.01	FLAT	6/15/2018	133.16	135.19	135.20	8/14/2018	24.2
10457	63084.24	18925.00	FLAT	6/15/2018	132.23	134.26	134.30	8/14/2018	24.5
10458	63084.22	18949.99	FLAT	6/15/2018	131.35	133.38	133.40	8/14/2018	24.3
10459	63084.20	18975.00	FLAT	6/15/2018	130.51	132.54	132.55	8/14/2018	24.2
10460	63084.20	18999.97	FLAT	6/15/2018	129.61	131.63	131.67	8/14/2018	24.4
10461	63084.27	19025.02	FLAT	6/15/2018	128.72	130.74	130.77	8/14/2018	24.4
10462	63084.22	19049.98	FLAT	6/15/2018	127.89	129.91	129.93	8/14/2018	24.2
10463	63084.25	19074.98	FLAT	6/15/2018	126.97	128.99	129.03	8/14/2018	24.4
10464	63084.30	19100.00	3:1	6/15/2018	126.09	128.23	128.24	8/14/2018	24.1
10465	63084.19	19115.03	FLAT	6/15/2018	125.84	127.86	128.01	10/24/2018	25.7
10466	63059.19	18335.00	FLAT	5/11/2018	125.37	127.39	127.58	10/24/2018	26.2
10467	63059.22	18349.94	3:1	5/11/2018	125.91	128.04	128.13	9/26/2018	25.0
10468	63059.28	18374.97	FLAT	5/11/2018	127.02	129.05	129.16	9/26/2018	25.4
10469	63059.23	18400.07	FLAT	5/11/2018	127.83	129.85	129.90	8/20/2018	24.6
10470	63059.20	18425.02	FLAT	5/11/2018	128.74	130.76	130.94	8/20/2018	26.1
10471	63059.26	18450.01	FLAT	5/11/2018	129.63	131.65	131.70	8/20/2018	24.5
10472	63059.28	18474.99	FLAT	5/11/2018	130.43	132.45	132.48	8/20/2018	24.4
10473	63059.25	18499.99	FLAT	5/11/2018	131.36	133.38	133.51	8/20/2018	25.5
10474	63059.25	18525.02	FLAT	5/11/2018	132.22	134.25	134.39	8/20/2018	25.7
10475	63059.24	18550.05	FLAT	5/11/2018	133.10	135.12	135.26	8/20/2018	25.7
10476	63059.24	18575.00	FLAT	5/11/2018	133.96	135.98	136.02	8/20/2018	24.4
10477	63059.23	18600.08	FLAT	5/11/2018	134.78	136.80	136.83	8/20/2018	24.3

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10478	63059.19	18625.01	FLAT	5/11/2018	135.72	137.75	137.79	8/20/2018	24.5
10479	63059.22	18650.08	FLAT	6/7/2018	135.83	137.86	137.88	8/20/2018	24.3
10480	63059.23	18675.02	FLAT	6/13/2018	135.87	137.89	138.09	8/20/2018	26.3
10481	63059.23	18699.99	FLAT	6/13/2018	135.88	137.90	138.05	8/20/2018	25.7
10482	63059.19	18725.09	FLAT	6/13/2018	135.88	137.90	137.93	8/20/2018	24.3
10483	63059.22	18750.00	FLAT	6/13/2018	135.96	137.99	138.05	8/20/2018	24.7
10484	63059.21	18775.01	FLAT	6/13/2018	135.77	137.79	137.87	8/20/2018	24.9
10485	63059.23	18800.03	FLAT	6/13/2018	135.87	137.90	138.01	8/20/2018	25.4
10486	63059.26	18824.95	FLAT	6/13/2018	135.65	137.67	137.79	8/20/2018	25.5
10487	63059.18	18850.05	FLAT	6/15/2018	134.90	136.92	136.97	8/20/2018	24.6
10488	63059.18	18875.01	FLAT	6/15/2018	134.03	136.05	136.09	8/20/2018	24.4
10489	63059.24	18900.00	FLAT	6/15/2018	133.04	135.07	135.11	8/20/2018	24.5
10490	63059.23	18924.96	FLAT	6/15/2018	132.23	134.25	134.30	8/20/2018	24.5
10491	63059.28	18950.00	FLAT	6/15/2018	131.41	133.43	133.52	8/20/2018	25.1
10492	63059.23	18974.99	FLAT	6/15/2018	130.54	132.56	132.68	8/20/2018	25.4
10493	63059.26	18999.95	FLAT	6/15/2018	129.66	131.68	131.85	8/20/2018	26.1
10494	63059.31	19024.99	FLAT	6/15/2018	128.79	130.81	130.96	8/20/2018	25.9
10495	63059.29	19050.03	FLAT	6/15/2018	127.85	129.87	130.03	8/20/2018	25.9
10496	63059.19	19075.00	FLAT	6/15/2018	127.11	129.13	129.20	8/20/2018	24.8
10497	63059.23	19100.00	3:1	6/15/2018	126.07	128.20	128.24	8/20/2018	24.5
10498	63059.23	19114.97	FLAT	6/15/2018	125.63	127.65	127.78	10/24/2018	25.5
10499	63034.23	18334.99	FLAT	5/11/2018	125.28	127.30	127.44	10/24/2018	25.7
10500	63034.25	18349.99	3:1	5/11/2018	125.76	127.89	128.01	9/26/2018	25.4
10501	63034.18	18352.24	3:1	5/11/2018	126.21	128.35	128.39	9/26/2018	24.6
10502	63034.30	18375.07	FLAT	5/11/2018	126.98	129.00	129.04	9/26/2018	24.5
10503	63034.21	18399.95	FLAT	5/11/2018	127.81	129.84	129.99	8/20/2018	25.8
10504	63034.21	18425.04	FLAT	5/11/2018	128.70	130.73	130.85	8/20/2018	25.5
10505	63034.26	18450.03	FLAT	5/11/2018	129.60	131.63	131.69	8/20/2018	24.8
10506	63034.24	18474.98	FLAT	5/11/2018	130.45	132.48	132.54	8/20/2018	24.8
10507	63034.24	18499.94	FLAT	5/11/2018	131.34	133.36	133.40	8/20/2018	24.4
10508	63034.19	18524.97	FLAT	5/11/2018	132.24	134.26	134.41	8/20/2018	25.7
10509	63034.19	18550.04	FLAT	5/11/2018	133.07	135.10	135.20	8/20/2018	25.2
10510	63034.16	18575.06	FLAT	5/11/2018	133.94	135.96	136.01	8/20/2018	24.6
10511	63034.21	18600.02	FLAT	5/11/2018	134.79	136.82	136.89	8/20/2018	24.9
10512	63034.21	18625.00	FLAT	5/11/2018	135.62	137.64	137.70	8/20/2018	24.8
10513	63034.27	18650.02	FLAT	5/11/2018	136.58	138.60	138.73	8/20/2018	25.5
10514	63034.23	18652.97	FLAT	5/11/2018	136.64	138.66	138.75	8/20/2018	25.1
10515	63034.19	18674.94	FLAT	5/11/2018	136.74	138.77	138.87	8/20/2018	25.3
10516	63034.23	18700.02	FLAT	6/13/2018	136.74	138.76	138.88	8/20/2018	25.5
10517	63034.25	18724.98	FLAT	6/13/2018	136.76	138.78	138.90	8/20/2018	25.4
10518	63034.24	18749.99	FLAT	6/13/2018	136.74	138.76	138.80	8/20/2018	24.5
10519	63034.23	18775.03	FLAT	6/13/2018	136.72	138.74	138.89	8/20/2018	25.8
10520	63034.26	18796.91	FLAT	6/13/2018	136.61	138.64	138.74	8/20/2018	25.3
10521	63034.23	18800.01	FLAT	6/13/2018	136.55	138.57	138.64	8/20/2018	24.8
10522	63034.20	18825.05	FLAT	6/15/2018	135.71	137.74	137.76	8/20/2018	24.2
10523	63034.26	18849.92	FLAT	6/15/2018	134.86	136.89	136.96	8/20/2018	24.9
10524	63034.22	18874.98	FLAT	6/15/2018	134.00	136.02	136.09	8/20/2018	24.8
10525	63034.21	18900.07	FLAT	6/15/2018	133.09	135.12	135.18	8/20/2018	24.8
10526	63034.22	18924.95	FLAT	6/15/2018	132.21	134.23	134.33	8/20/2018	25.2
10527	63034.27	18949.98	FLAT	6/15/2018	131.36	133.38	133.51	8/20/2018	25.5
10528	63034.22	18975.01	FLAT	6/15/2018	130.49	132.52	132.54	8/20/2018	24.3
10529	63034.22	18999.97	FLAT	6/15/2018	129.63	131.65	131.80	8/20/2018	25.8
10530	63034.17	19024.92	FLAT	6/15/2018	128.75	130.77	130.94	8/20/2018	26.0

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10531	63034.21	19049.97	FLAT	6/15/2018	127.82	129.84	130.03	8/20/2018	26.2
10532	63034.17	19075.00	FLAT	6/15/2018	127.10	129.12	129.18	8/20/2018	24.7
10533	63034.19	19097.68	3:1	6/15/2018	126.12	128.25	128.31	8/20/2018	24.7
10534	63034.19	19100.02	3:1	6/15/2018	125.79	127.93	128.01	8/20/2018	25.0
10535	63034.23	19115.08	FLAT	6/15/2018	125.34	127.37	127.59	10/24/2018	26.7
10536	63009.21	18334.97	FLAT	5/11/2018	125.05	127.07	127.26	10/24/2018	26.3
10537	63009.25	18350.02	3:1	5/11/2018	125.56	127.69	127.84	9/26/2018	25.8
10538	63009.27	18353.01	3:1	5/11/2018	126.24	128.37	128.42	9/26/2018	24.6
10539	63009.27	18375.04	FLAT	5/11/2018	127.05	129.07	129.14	9/26/2018	24.8
10540	63009.25	18400.03	FLAT	5/11/2018	127.82	129.85	129.94	8/20/2018	25.2
10541	63009.27	18425.07	FLAT	5/11/2018	128.71	130.73	130.83	8/20/2018	25.2
10542	63009.20	18450.02	FLAT	5/11/2018	129.63	131.65	131.71	8/20/2018	24.7
10543	63009.17	18475.02	FLAT	5/11/2018	130.45	132.47	132.65	8/20/2018	26.1
10544	63009.18	18500.01	FLAT	5/11/2018	131.36	133.38	133.49	8/20/2018	25.3
10545	63009.25	18525.06	FLAT	5/11/2018	132.25	134.27	134.40	8/20/2018	25.5
10546	63009.24	18550.01	FLAT	5/11/2018	133.15	135.17	135.27	8/20/2018	25.2
10547	63009.27	18575.01	FLAT	5/11/2018	134.02	136.04	136.07	8/20/2018	24.4
10548	63009.22	18600.02	FLAT	5/11/2018	134.84	136.86	137.05	8/20/2018	26.2
10549	63009.26	18624.93	FLAT	5/11/2018	135.68	137.70	137.80	8/20/2018	25.2
10550	63009.16	18649.93	FLAT	5/11/2018	136.52	138.55	138.64	8/20/2018	25.1
10551	63009.15	18674.97	FLAT	5/11/2018	137.40	139.43	139.62	8/20/2018	26.3
10552	63009.25	18700.00	FLAT	5/11/2018	137.61	139.63	139.76	8/20/2018	25.5
10553	63009.14	18725.14	FLAT	6/13/2018	137.63	139.65	139.80	8/20/2018	25.8
10554	63009.30	18750.06	FLAT	6/13/2018	137.57	139.59	139.66	8/20/2018	24.9
10555	63009.24	18775.02	FLAT	6/13/2018	137.45	139.47	139.53	8/20/2018	24.8
10556	63009.25	18800.07	FLAT	6/15/2018	136.61	138.64	138.78	8/20/2018	25.7
10557	63009.22	18825.00	FLAT	6/15/2018	135.78	137.80	137.84	8/20/2018	24.5
10558	63009.19	18850.05	FLAT	6/15/2018	134.89	136.91	136.95	8/20/2018	24.6
10559	63009.25	18874.98	FLAT	6/15/2018	134.08	136.10	136.14	8/20/2018	24.5
10560	63009.22	18900.06	FLAT	6/15/2018	133.16	135.19	135.32	8/20/2018	25.6
10561	63009.29	18925.01	FLAT	6/15/2018	132.31	134.33	134.42	8/20/2018	25.1
10562	63009.23	18949.97	FLAT	6/15/2018	131.44	133.46	133.53	8/20/2018	24.8
10563	63009.24	18975.05	FLAT	6/15/2018	130.57	132.60	132.70	8/20/2018	25.3
10564	63009.21	19000.03	FLAT	6/15/2018	129.67	131.70	131.86	8/20/2018	26.0
10565	63009.27	19024.98	FLAT	6/15/2018	128.75	130.77	130.94	8/20/2018	26.1
10566	63009.22	19050.00	FLAT	6/15/2018	127.81	129.84	129.86	8/20/2018	24.3
10567	63009.23	19074.96	FLAT	6/15/2018	127.14	129.16	129.21	8/20/2018	24.6
10568	63009.19	19097.12	3:1	6/15/2018	126.21	128.34	128.45	8/20/2018	25.3
10569	63009.26	19099.97	3:1	6/15/2018	125.55	127.68	127.82	8/20/2018	25.7
10570	63009.31	19115.02	FLAT	6/15/2018	125.26	127.28	127.49	10/24/2018	26.5
10571	62984.26	18334.96	FLAT	5/11/2018	125.05	127.07	127.20	10/24/2018	25.5
10572	62984.25	18349.96	3:1	5/11/2018	125.29	127.42	127.59	9/26/2018	25.9
10573	62984.30	18353.55	3:1	5/11/2018	126.26	128.39	128.44	9/26/2018	24.5
10574	62984.29	18374.97	FLAT	5/11/2018	126.99	129.02	129.17	9/26/2018	25.9
10575	62984.28	18399.93	FLAT	5/11/2018	127.67	129.69	129.74	8/20/2018	24.6
10576	62984.21	18425.04	FLAT	5/11/2018	128.71	130.74	130.78	8/20/2018	24.5
10577	62984.21	18449.97	FLAT	5/11/2018	129.62	131.64	131.77	8/20/2018	25.5
10578	62984.26	18475.00	FLAT	5/11/2018	130.48	132.50	132.55	8/20/2018	24.5
10579	62984.27	18499.99	FLAT	5/11/2018	131.38	133.40	133.53	8/20/2018	25.6
10580	62984.25	18525.04	FLAT	5/11/2018	132.22	134.24	134.29	8/20/2018	24.6
10581	62984.22	18549.94	FLAT	5/11/2018	133.10	135.12	135.27	8/20/2018	25.8
10582	62984.25	18575.05	FLAT	5/11/2018	133.95	135.98	136.14	8/20/2018	26.0
10583	62984.22	18599.94	FLAT	5/11/2018	134.75	136.77	136.93	8/20/2018	25.9

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10584	62984.21	18625.02	FLAT	5/11/2018	135.64	137.66	137.81	8/20/2018	25.8
10585	62984.20	18650.00	FLAT	5/11/2018	136.55	138.57	138.67	8/20/2018	25.2
10586	62984.26	18675.02	FLAT	5/11/2018	137.43	139.45	139.49	8/20/2018	24.5
10587	62984.20	18699.95	FLAT	5/11/2018	138.33	140.35	140.44	8/20/2018	25.0
10588	62984.25	18725.00	FLAT	5/11/2018	138.55	140.58	140.62	8/20/2018	24.6
10589	62984.25	18749.98	FLAT	6/13/2018	138.28	140.30	140.34	8/20/2018	24.5
10590	62984.24	18774.97	FLAT	6/15/2018	137.42	139.44	139.59	8/20/2018	25.8
10591	62984.19	18799.99	FLAT	6/15/2018	136.55	138.57	138.61	8/20/2018	24.5
10592	62984.23	18825.02	FLAT	6/15/2018	135.73	137.75	137.86	8/20/2018	25.3
10593	62984.17	18849.95	FLAT	6/15/2018	134.83	136.85	136.98	8/20/2018	25.6
10594	62984.25	18874.98	FLAT	6/15/2018	134.00	136.02	136.04	8/20/2018	24.2
10595	62984.21	18899.98	FLAT	6/15/2018	133.21	135.24	135.29	8/20/2018	24.7
10596	62984.19	18924.98	FLAT	6/15/2018	132.23	134.25	134.34	8/20/2018	25.0
10597	62984.21	18949.98	FLAT	6/15/2018	131.32	133.35	133.38	8/20/2018	24.4
10598	62984.25	18975.03	FLAT	6/15/2018	130.43	132.46	132.51	8/20/2018	24.7
10599	62984.13	18999.92	FLAT	6/15/2018	129.64	131.66	131.76	8/20/2018	25.2
10600	62984.27	19025.00	FLAT	6/15/2018	128.72	130.74	130.85	8/20/2018	25.3
10601	62984.16	19049.93	FLAT	6/15/2018	127.88	129.90	129.97	8/20/2018	24.8
10602	62984.19	19075.04	FLAT	6/15/2018	127.07	129.09	129.21	8/20/2018	25.5
10603	62984.17	19096.36	3:1	6/15/2018	126.25	128.38	128.55	8/20/2018	26.0
10604	62984.21	19100.02	3:1	6/15/2018	125.39	127.52	127.59	8/20/2018	24.8
10605	62984.29	19114.92	FLAT	6/15/2018	125.07	127.09	127.25	10/24/2018	26.0
10606	62959.21	18334.96	FLAT	5/7/2018	124.96	126.98	127.10	10/24/2018	25.4
10607	62959.21	18350.02	3:1	5/7/2018	125.07	127.20	127.37	9/26/2018	26.0
10608	62959.24	18354.31	3:1	5/7/2018	126.29	128.42	128.47	9/26/2018	24.6
10609	62959.24	18375.02	FLAT	5/7/2018	126.96	128.98	129.05	9/26/2018	24.8
10610	62959.27	18400.05	FLAT	5/7/2018	127.79	129.81	129.96	9/26/2018	25.8
10611	62959.22	18425.02	FLAT	5/7/2018	128.72	130.74	130.87	9/26/2018	25.6
10612	62959.29	18450.00	FLAT	5/7/2018	129.65	131.67	131.83	8/20/2018	25.9
10613	62959.21	18474.91	FLAT	5/7/2018	130.47	132.49	132.58	8/20/2018	25.1
10614	62959.30	18499.98	FLAT	5/7/2018	131.39	133.41	133.56	8/20/2018	25.8
10615	62959.23	18524.97	FLAT	5/7/2018	132.20	134.22	134.34	8/20/2018	25.4
10616	62959.26	18550.02	FLAT	5/7/2018	133.12	135.14	135.27	8/20/2018	25.5
10617	62959.20	18574.96	FLAT	5/7/2018	134.01	136.03	136.08	8/20/2018	24.5
10618	62959.23	18600.02	FLAT	5/7/2018	134.80	136.82	136.87	8/20/2018	24.5
10619	62959.20	18625.03	FLAT	5/7/2018	135.69	137.71	137.83	8/20/2018	25.5
10620	62959.20	18649.98	FLAT	5/7/2018	136.64	138.66	138.75	8/20/2018	25.0
10621	62959.25	18675.09	FLAT	5/7/2018	137.50	139.52	139.70	8/20/2018	26.1
10622	62959.21	18700.03	FLAT	5/7/2018	138.41	140.43	140.60	8/20/2018	26.0
10623	62961.93	18724.97	FLAT	5/7/2018	139.32	141.34	141.43	8/20/2018	25.1
10624	62959.25	18725.03	FLAT	5/7/2018	139.31	141.33	141.44	8/20/2018	25.3
10625	62959.21	18750.01	FLAT	5/7/2018	138.35	140.37	140.41	8/20/2018	24.4
10626	62959.27	18775.00	FLAT	5/7/2018	137.43	139.45	139.53	8/20/2018	25.0
10627	62959.25	18800.04	FLAT	5/7/2018	136.60	138.62	138.69	8/20/2018	24.8
10628	62959.21	18824.99	FLAT	5/7/2018	135.73	137.75	137.89	8/20/2018	25.6
10629	62959.22	18850.01	FLAT	5/7/2018	134.88	136.90	136.98	8/20/2018	24.9
10630	62959.24	18875.07	FLAT	6/15/2018	133.99	136.01	136.11	8/20/2018	25.2
10631	62959.23	18899.94	FLAT	6/15/2018	133.10	135.13	135.19	8/20/2018	24.8
10632	62959.29	18925.01	FLAT	6/15/2018	132.21	134.23	134.34	8/20/2018	25.3
10633	62959.17	18949.96	FLAT	6/15/2018	131.37	133.40	133.45	8/20/2018	24.7
10634	62959.30	18975.05	FLAT	6/15/2018	130.55	132.57	132.67	8/20/2018	25.1
10635	62959.28	19000.01	FLAT	6/15/2018	129.65	131.67	131.77	8/20/2018	25.2
10636	62959.23	19025.01	FLAT	6/15/2018	128.74	130.76	130.92	8/20/2018	25.9

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10637	62959.22	19049.94	FLAT	6/15/2018	127.85	129.87	129.98	8/20/2018	25.2
10638	62959.21	19074.96	FLAT	6/15/2018	126.87	128.90	129.03	8/20/2018	25.6
10639	62959.24	19095.70	3:1	6/15/2018	126.27	128.41	128.52	8/20/2018	25.4
10640	62959.32	19099.99	3:1	6/15/2018	125.31	127.45	127.52	8/20/2018	24.9
10641	62959.22	19115.01	FLAT	6/15/2018	124.92	126.95	127.12	10/24/2018	26.1
10642	62934.15	18334.99	FLAT	5/7/2018	124.76	126.78	126.94	10/24/2018	25.9
10643	62934.26	18350.02	3:1	5/7/2018	124.92	127.05	127.18	9/26/2018	25.5
10644	62934.28	18355.05	3:1	5/7/2018	126.39	128.52	128.62	9/26/2018	25.2
10645	62934.26	18374.92	FLAT	5/7/2018	127.03	129.05	129.21	9/26/2018	25.9
10646	62934.27	18399.99	FLAT	5/7/2018	127.83	129.85	130.03	9/26/2018	26.1
10647	62934.19	18425.02	FLAT	5/7/2018	128.76	130.78	130.92	9/26/2018	25.7
10648	62934.26	18450.08	FLAT	5/7/2018	129.65	131.67	131.78	9/26/2018	25.3
10649	62934.22	18474.96	FLAT	5/7/2018	130.55	132.57	132.72	9/26/2018	25.8
10650	62934.21	18500.02	FLAT	5/7/2018	131.42	133.44	133.51	9/26/2018	24.8
10651	62934.24	18525.00	FLAT	5/7/2018	132.28	134.30	134.39	9/26/2018	25.1
10652	62934.20	18550.03	FLAT	5/7/2018	133.16	135.18	135.31	9/26/2018	25.6
10653	62934.22	18575.01	FLAT	5/7/2018	134.05	136.07	136.22	8/20/2018	25.8
10654	62934.15	18600.03	FLAT	4/30/2018	134.79	136.81	136.93	8/20/2018	25.3
10655	62934.26	18625.01	FLAT	4/30/2018	135.72	137.74	137.89	8/20/2018	25.8
10656	62934.20	18650.04	FLAT	4/30/2018	136.62	138.64	138.76	8/20/2018	25.4
10657	62934.22	18675.07	FLAT	4/30/2018	137.54	139.56	139.61	8/20/2018	24.6
10658	62934.23	18700.00	FLAT	4/30/2018	138.40	140.43	140.52	8/20/2018	25.2
10659	62934.25	18725.00	FLAT	4/30/2018	139.20	141.23	141.31	8/20/2018	25.0
10660	62934.25	18750.01	FLAT	4/30/2018	138.33	140.35	140.41	8/20/2018	24.6
10661	62934.18	18775.02	FLAT	4/30/2018	137.44	139.47	139.51	8/20/2018	24.6
10662	62934.25	18800.01	FLAT	4/30/2018	136.57	138.59	138.70	9/26/2018	25.2
10663	62934.21	18824.88	FLAT	4/30/2018	135.71	137.73	137.84	9/26/2018	25.2
10664	62934.21	18849.98	FLAT	4/30/2018	134.86	136.89	136.95	9/26/2018	24.8
10665	62934.17	18874.99	FLAT	4/30/2018	133.96	135.99	136.05	8/20/2018	24.8
10666	62934.30	18899.97	FLAT	4/30/2018	133.04	135.07	135.12	8/20/2018	24.7
10667	62934.25	18925.05	FLAT	4/30/2018	132.25	134.27	134.30	8/20/2018	24.4
10668	62934.25	18949.98	FLAT	4/30/2018	131.36	133.39	133.48	8/20/2018	25.1
10669	62934.28	18974.95	FLAT	4/30/2018	130.55	132.58	132.70	8/20/2018	25.4
10670	62934.20	18999.97	FLAT	4/30/2018	129.70	131.72	131.88	8/20/2018	25.9
10671	62934.18	19024.96	FLAT	4/30/2018	128.78	130.80	130.95	8/20/2018	25.8
10672	62934.20	19049.98	FLAT	4/30/2018	127.85	129.87	130.00	8/20/2018	25.5
10673	62934.24	19074.99	FLAT	4/30/2018	127.03	129.05	129.10	8/20/2018	24.6
10674	62934.13	19094.99	3:1	4/30/2018	126.22	128.35	128.42	8/20/2018	24.8
10675	62934.26	19100.02	3:1	4/30/2018	125.06	127.20	127.33	8/20/2018	25.6
10676	62934.21	19115.03	FLAT	4/30/2018	124.47	126.49	126.69	10/24/2018	26.3
10677	62909.18	18334.98	FLAT	5/7/2018	124.53	126.55	126.68	10/24/2018	25.5
10678	62909.17	18350.01	3:1	5/7/2018	124.81	126.94	127.04	9/26/2018	25.1
10679	62909.24	18355.64	3:1	5/7/2018	126.40	128.53	128.61	9/26/2018	24.9
10680	62909.23	18374.96	FLAT	5/7/2018	127.09	129.11	129.25	9/26/2018	25.6
10681	62909.29	18399.98	FLAT	5/7/2018	127.92	129.94	130.07	9/26/2018	25.5
10682	62909.27	18424.99	FLAT	5/7/2018	128.78	130.80	130.91	9/26/2018	25.3
10683	62909.21	18450.09	FLAT	5/7/2018	129.63	131.65	131.79	9/26/2018	25.7
10684	62909.23	18475.02	FLAT	5/7/2018	130.54	132.56	132.72	9/26/2018	25.8
10685	62909.30	18500.00	FLAT	5/7/2018	131.40	133.42	133.47	9/26/2018	24.6
10686	62909.23	18525.04	FLAT	5/7/2018	132.24	134.26	134.37	9/26/2018	25.3
10687	62909.25	18550.05	FLAT	5/7/2018	133.14	135.16	135.26	9/26/2018	25.2
10688	62909.25	18574.95	FLAT	5/7/2018	134.00	136.02	136.15	9/26/2018	25.6
10689	62909.22	18600.04	FLAT	4/30/2018	134.80	136.82	136.94	9/26/2018	25.4

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10690	62909.27	18624.96	FLAT	4/30/2018	135.71	137.73	137.89	9/26/2018	25.9
10691	62909.21	18650.00	FLAT	4/30/2018	136.56	138.58	138.73	9/26/2018	25.8
10692	62909.31	18675.02	FLAT	4/30/2018	137.44	139.46	139.54	9/26/2018	24.9
10693	62909.21	18699.98	FLAT	4/30/2018	138.36	140.39	140.48	9/26/2018	25.1
10694	62909.22	18725.00	FLAT	4/30/2018	139.21	141.24	141.30	9/26/2018	24.8
10695	62909.30	18750.06	FLAT	4/30/2018	138.37	140.39	140.50	9/26/2018	25.3
10696	62909.20	18774.97	FLAT	4/30/2018	137.40	139.42	139.51	9/26/2018	25.0
10697	62909.20	18799.99	FLAT	4/30/2018	136.61	138.63	138.74	9/26/2018	25.3
10698	62909.23	18824.99	FLAT	4/30/2018	135.65	137.67	137.79	9/26/2018	25.5
10699	62909.14	18849.91	FLAT	4/30/2018	134.80	136.82	136.94	9/26/2018	25.4
10700	62909.19	18874.99	FLAT	4/30/2018	133.96	135.99	136.06	9/26/2018	24.9
10701	62909.19	18900.02	FLAT	4/30/2018	133.11	135.13	135.18	9/26/2018	24.5
10702	62909.27	18925.03	FLAT	4/30/2018	132.27	134.29	134.39	9/26/2018	25.1
10703	62909.25	18949.99	FLAT	4/30/2018	131.37	133.39	133.48	9/26/2018	25.1
10704	62909.22	18975.01	FLAT	4/30/2018	130.60	132.62	132.73	9/26/2018	25.3
10705	62909.27	18999.97	FLAT	4/30/2018	129.67	131.70	131.79	9/26/2018	25.1
10706	62909.20	19024.99	FLAT	4/30/2018	128.72	130.74	130.86	8/20/2018	25.4
10707	62909.26	19049.93	FLAT	4/30/2018	127.86	129.88	130.05	8/20/2018	25.9
10708	62909.29	19075.01	FLAT	4/30/2018	127.00	129.02	129.18	8/20/2018	26.0
10709	62909.19	19094.27	3:1	4/30/2018	126.26	128.40	128.43	8/20/2018	24.4
10710	62909.20	19100.00	3:1	4/30/2018	124.75	126.89	127.09	8/20/2018	26.5
10711	62909.20	19114.95	FLAT	4/30/2018	124.44	126.46	126.66	10/24/2018	26.4
10712	62884.20	18335.02	FLAT	5/7/2018	124.43	126.45	126.51	10/24/2018	24.7
10713	62884.25	18349.98	3:1	5/7/2018	124.61	126.74	126.80	9/26/2018	24.6
10714	62884.17	18356.30	3:1	5/7/2018	126.48	128.61	128.69	9/26/2018	25.0
10715	62884.17	18374.99	FLAT	5/7/2018	127.14	129.16	129.25	9/26/2018	25.0
10716	62884.23	18400.01	FLAT	5/7/2018	127.93	129.95	130.04	9/26/2018	25.1
10717	62884.22	18425.01	FLAT	5/7/2018	128.85	130.87	130.94	9/26/2018	24.8
10718	62884.24	18449.90	FLAT	5/7/2018	129.65	131.67	131.78	9/26/2018	25.2
10719	62884.22	18474.96	FLAT	5/7/2018	130.53	132.55	132.63	9/26/2018	24.9
10720	62884.25	18500.05	FLAT	5/7/2018	131.42	133.44	133.55	9/26/2018	25.2
10721	62884.25	18525.00	FLAT	5/7/2018	132.26	134.28	134.35	9/26/2018	24.9
10722	62884.30	18549.96	FLAT	5/7/2018	133.14	135.16	135.27	9/26/2018	25.3
10723	62884.19	18575.02	FLAT	5/7/2018	133.98	136.00	136.13	9/26/2018	25.5
10724	62884.21	18599.96	FLAT	4/30/2018	134.87	136.90	136.98	9/26/2018	25.0
10725	62884.21	18625.01	FLAT	4/30/2018	135.65	137.68	137.82	9/26/2018	25.6
10726	62884.27	18649.95	FLAT	4/30/2018	136.54	138.56	138.67	9/26/2018	25.3
10727	62884.20	18675.01	FLAT	4/30/2018	137.43	139.45	139.55	9/26/2018	25.2
10728	62884.19	18699.97	FLAT	4/30/2018	138.37	140.39	140.50	9/26/2018	25.3
10729	62884.16	18725.00	FLAT	4/30/2018	139.26	141.28	141.38	9/26/2018	25.2
10730	62884.15	18750.03	FLAT	4/30/2018	138.28	140.31	140.42	9/26/2018	25.4
10731	62884.26	18775.08	FLAT	4/30/2018	137.39	139.42	139.53	9/26/2018	25.4
10732	62884.26	18799.98	FLAT	4/30/2018	136.55	138.57	138.65	9/26/2018	24.9
10733	62884.21	18825.01	FLAT	4/30/2018	135.71	137.74	137.85	9/26/2018	25.3
10734	62884.19	18850.02	FLAT	4/30/2018	134.81	136.83	136.90	9/26/2018	24.8
10735	62884.26	18874.99	FLAT	4/30/2018	133.98	136.01	136.10	9/26/2018	25.1
10736	62884.26	18900.05	FLAT	4/30/2018	133.10	135.13	135.22	9/26/2018	25.1
10737	62884.20	18925.03	FLAT	4/30/2018	132.27	134.30	134.39	9/26/2018	25.1
10738	62884.22	18949.99	FLAT	4/30/2018	131.39	133.41	133.53	9/26/2018	25.5
10739	62884.21	18974.96	FLAT	4/30/2018	130.56	132.58	132.69	9/26/2018	25.2
10740	62884.24	19000.01	FLAT	4/30/2018	129.71	131.73	131.86	9/26/2018	25.5
10741	62884.25	19025.03	FLAT	4/30/2018	128.71	130.74	130.80	9/26/2018	24.7
10742	62884.25	19049.95	FLAT	4/30/2018	127.79	129.82	129.92	10/1/2018	25.3

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10743	62884.29	19075.05	FLAT	4/30/2018	126.99	129.02	129.06	10/1/2018	24.5
10744	62884.30	19093.58	3:1	4/30/2018	126.27	128.40	128.46	10/1/2018	24.7
10745	62884.17	19100.01	3:1	4/30/2018	124.71	126.84	126.89	10/1/2018	24.6
10746	62884.28	19115.07	FLAT	4/30/2018	124.21	126.23	126.43	10/24/2018	26.3
10747	62859.24	18334.95	FLAT	5/7/2018	124.10	126.12	126.26	10/24/2018	25.6
10748	62859.15	18349.99	3:1	5/7/2018	124.46	126.59	126.70	9/10/2018	25.3
10749	62859.28	18357.04	3:1	5/7/2018	126.45	128.58	128.63	9/10/2018	24.5
10750	62859.20	18374.96	FLAT	5/7/2018	127.10	129.12	129.22	9/10/2018	25.2
10751	62859.22	18400.07	FLAT	5/7/2018	127.90	129.92	130.01	8/20/2018	25.0
10752	62859.17	18424.99	FLAT	5/7/2018	128.74	130.76	130.89	8/20/2018	25.5
10753	62859.27	18449.97	FLAT	5/7/2018	129.65	131.67	131.84	8/20/2018	26.0
10754	62859.22	18475.04	FLAT	5/7/2018	130.55	132.57	132.71	8/20/2018	25.7
10755	62859.25	18499.99	FLAT	5/7/2018	131.42	133.44	133.50	9/10/2018	24.7
10756	62859.24	18524.97	FLAT	5/7/2018	132.33	134.35	134.48	9/10/2018	25.5
10757	62859.25	18550.03	FLAT	5/7/2018	133.16	135.18	135.30	9/10/2018	25.5
10758	62859.29	18575.03	FLAT	5/7/2018	134.04	136.06	136.13	9/10/2018	24.8
10759	62859.28	18599.99	FLAT	4/30/2018	134.81	136.83	136.95	9/10/2018	25.4
10760	62859.22	18624.97	FLAT	4/30/2018	135.74	137.76	137.88	9/10/2018	25.4
10761	62859.21	18650.04	FLAT	4/30/2018	136.56	138.58	138.72	9/10/2018	25.7
10762	62859.17	18675.03	FLAT	4/30/2018	137.45	139.47	139.52	9/10/2018	24.6
10763	62859.22	18700.07	FLAT	4/30/2018	138.41	140.43	140.54	9/26/2018	25.4
10764	62859.22	18724.98	FLAT	4/27/2018	139.27	141.29	141.40	9/26/2018	25.3
10765	62859.23	18749.93	FLAT	4/27/2018	138.31	140.34	140.45	9/26/2018	25.3
10766	62859.20	18774.99	FLAT	4/27/2018	137.40	139.43	139.54	9/26/2018	25.3
10767	62859.26	18800.03	FLAT	4/27/2018	136.54	138.56	138.63	9/26/2018	24.8
10768	62859.21	18825.02	FLAT	4/27/2018	135.71	137.74	137.88	9/26/2018	25.8
10769	62859.24	18850.06	FLAT	4/27/2018	134.84	136.86	136.95	9/26/2018	25.1
10770	62859.25	18875.03	FLAT	4/27/2018	133.98	136.01	136.10	9/26/2018	25.2
10771	62859.20	18899.95	FLAT	4/27/2018	133.13	135.15	135.20	9/26/2018	24.6
10772	62859.30	18925.03	FLAT	4/27/2018	132.30	134.33	134.42	9/26/2018	25.1
10773	62859.25	18949.99	FLAT	4/27/2018	131.41	133.43	133.53	9/26/2018	25.2
10774	62859.21	18975.01	FLAT	4/27/2018	130.60	132.63	132.73	9/26/2018	25.3
10775	62859.24	18999.97	FLAT	4/27/2018	129.75	131.77	131.86	9/26/2018	25.0
10776	62859.25	19025.00	FLAT	4/27/2018	128.75	130.77	130.90	9/26/2018	25.6
10777	62859.27	19049.97	FLAT	4/27/2018	127.82	129.84	129.95	10/1/2018	25.3
10778	62859.27	19075.02	FLAT	4/30/2018	126.97	128.99	129.09	10/1/2018	25.1
10779	62859.22	19092.92	3:1	4/30/2018	126.27	128.40	128.43	10/1/2018	24.4
10780	62859.24	19100.01	3:1	4/30/2018	124.43	126.56	126.61	10/1/2018	24.6
10781	62859.22	19115.05	FLAT	4/30/2018	124.04	126.07	126.28	10/24/2018	26.6
10782	62834.24	18335.05	FLAT	5/7/2018	124.05	126.07	126.14	10/24/2018	24.9
10783	62834.26	18350.02	3:1	5/7/2018	124.20	126.33	126.45	9/10/2018	25.4
10784	62834.19	18357.72	3:1	5/7/2018	126.61	128.74	128.77	9/10/2018	24.4
10785	62834.21	18375.05	FLAT	5/7/2018	127.19	129.21	129.33	9/10/2018	25.4
10786	62834.18	18399.98	FLAT	5/7/2018	127.99	130.01	130.11	8/20/2018	25.2
10787	62834.27	18425.02	FLAT	5/7/2018	128.78	130.80	130.90	8/20/2018	25.1
10788	62834.23	18450.07	FLAT	5/7/2018	129.71	131.73	131.86	8/20/2018	25.6
10789	62834.26	18475.00	FLAT	5/7/2018	130.52	132.54	132.66	8/20/2018	25.5
10790	62834.28	18500.03	FLAT	5/7/2018	131.42	133.44	133.47	8/20/2018	24.3
10791	62834.21	18525.01	FLAT	5/7/2018	132.27	134.29	134.37	8/20/2018	24.9
10792	62834.19	18549.98	FLAT	5/7/2018	133.16	135.18	135.24	8/20/2018	24.7
10793	62834.20	18574.90	FLAT	5/7/2018	133.98	136.00	136.12	8/20/2018	25.5
10794	62834.24	18600.01	FLAT	4/30/2018	134.80	136.83	136.89	8/20/2018	24.8
10795	62834.27	18625.02	FLAT	4/30/2018	135.68	137.70	137.84	8/20/2018	25.6

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10796	62834.18	18650.06	FLAT	4/30/2018	136.58	138.60	138.68	9/10/2018	24.9
10797	62834.27	18675.06	FLAT	4/30/2018	137.40	139.43	139.58	9/10/2018	25.9
10798	62834.21	18699.93	FLAT	4/30/2018	138.41	140.43	140.55	9/26/2018	25.4
10799	62834.25	18724.98	FLAT	4/27/2018	139.24	141.26	141.35	9/26/2018	25.0
10800	62834.24	18750.05	FLAT	4/27/2018	138.33	140.35	140.46	9/26/2018	25.3
10801	62834.23	18775.04	FLAT	4/27/2018	137.47	139.49	139.59	9/26/2018	25.2
10802	62834.24	18800.01	FLAT	4/27/2018	136.61	138.63	138.72	9/26/2018	25.0
10803	62834.26	18824.99	FLAT	4/27/2018	135.74	137.77	137.90	9/26/2018	25.6
10804	62834.27	18850.08	FLAT	4/27/2018	134.84	136.87	136.97	9/26/2018	25.2
10805	62834.29	18874.99	FLAT	4/27/2018	134.02	136.04	136.13	9/26/2018	25.0
10806	62834.24	18899.98	FLAT	4/27/2018	133.15	135.17	135.24	9/26/2018	24.8
10807	62834.25	18925.01	FLAT	4/27/2018	132.28	134.30	134.36	9/26/2018	24.7
10808	62834.24	18949.96	FLAT	4/27/2018	131.43	133.46	133.53	9/26/2018	24.9
10809	62834.26	18974.95	FLAT	4/27/2018	130.58	132.60	132.65	9/26/2018	24.6
10810	62834.28	18999.99	FLAT	4/27/2018	129.67	131.69	131.78	9/26/2018	25.1
10811	62834.20	19025.05	FLAT	4/27/2018	128.78	130.80	130.85	9/26/2018	24.5
10812	62834.26	19050.05	FLAT	4/27/2018	127.90	129.92	130.01	10/1/2018	25.1
10813	62834.29	19074.95	FLAT	4/28/2018	127.11	129.13	129.29	10/1/2018	25.9
10814	62834.23	19092.30	3:1	4/30/2018	126.28	128.41	128.45	10/1/2018	24.5
10815	62834.22	19100.02	3:1	4/30/2018	124.22	126.35	126.44	10/1/2018	25.1
10816	62834.28	19115.04	FLAT	4/30/2018	123.92	125.94	126.13	10/24/2018	26.3
10817	62809.27	18334.94	FLAT	5/7/2018	123.89	125.91	125.97	10/24/2018	24.6
10818	62809.20	18349.97	3:1	5/7/2018	124.30	126.43	126.58	9/10/2018	25.8
10819	62809.18	18357.66	3:1	5/7/2018	126.51	128.64	128.69	9/10/2018	24.6
10820	62809.25	18374.98	FLAT	5/7/2018	127.19	129.21	129.37	9/10/2018	25.9
10821	62809.20	18400.03	FLAT	5/7/2018	127.94	129.96	130.07	8/20/2018	25.3
10822	62809.24	18425.04	FLAT	5/7/2018	128.83	130.85	131.00	8/20/2018	25.8
10823	62809.17	18450.02	FLAT	5/7/2018	129.72	131.74	131.80	8/20/2018	24.7
10824	62809.25	18475.04	FLAT	5/7/2018	130.57	132.59	132.73	8/20/2018	25.6
10825	62809.23	18500.01	FLAT	5/7/2018	131.41	133.43	133.54	8/20/2018	25.3
10826	62809.21	18525.04	FLAT	5/7/2018	132.31	134.33	134.39	8/20/2018	24.7
10827	62809.16	18550.04	FLAT	5/7/2018	133.12	135.14	135.27	8/20/2018	25.6
10828	62809.19	18574.97	FLAT	5/7/2018	134.02	136.04	136.20	8/20/2018	25.9
10829	62809.20	18600.07	FLAT	4/30/2018	134.87	136.89	136.94	8/20/2018	24.6
10830	62809.22	18624.95	FLAT	4/30/2018	135.71	137.74	137.77	8/20/2018	24.3
10831	62809.25	18649.98	FLAT	4/30/2018	136.58	138.60	138.65	8/20/2018	24.5
10832	62809.23	18674.93	FLAT	4/30/2018	137.46	139.48	139.64	8/20/2018	25.9
10833	62809.17	18699.97	FLAT	4/30/2018	138.40	140.42	140.52	8/20/2018	25.2
10834	62809.25	18725.03	FLAT	4/27/2018	139.23	141.25	141.34	8/20/2018	25.0
10835	62809.17	18750.05	FLAT	4/27/2018	138.35	140.38	140.45	9/26/2018	24.9
10836	62809.20	18775.00	FLAT	4/27/2018	137.43	139.46	139.54	9/26/2018	25.1
10837	62809.17	18800.01	FLAT	4/27/2018	136.60	138.62	138.73	9/26/2018	25.3
10838	62809.22	18824.99	FLAT	4/27/2018	135.78	137.80	137.89	9/26/2018	25.0
10839	62809.20	18850.07	FLAT	4/27/2018	134.87	136.90	136.96	9/26/2018	24.8
10840	62809.26	18874.96	FLAT	4/27/2018	133.97	135.99	136.09	9/26/2018	25.2
10841	62809.26	18900.02	FLAT	4/27/2018	133.10	135.13	135.23	9/26/2018	25.2
10842	62809.22	18924.98	FLAT	4/27/2018	132.24	134.26	134.36	9/26/2018	25.1
10843	62809.29	18949.97	FLAT	4/27/2018	131.41	133.43	133.54	9/26/2018	25.3
10844	62809.23	18975.01	FLAT	4/27/2018	130.66	132.68	132.75	9/26/2018	24.8
10845	62809.18	18999.92	FLAT	4/27/2018	129.67	131.69	131.81	9/26/2018	25.4
10846	62809.20	19025.02	FLAT	4/27/2018	128.77	130.79	130.93	9/26/2018	25.7
10847	62809.17	19050.01	FLAT	4/27/2018	127.92	129.94	130.04	10/1/2018	25.2
10848	62809.16	19075.06	FLAT	4/28/2018	127.10	129.12	129.23	10/1/2018	25.3

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10849	62809.21	19092.25	3:1	4/30/2018	126.41	128.55	128.62	10/1/2018	24.9
10850	62809.25	19099.96	3:1	4/30/2018	124.26	126.39	126.49	10/1/2018	25.2
10851	62809.11	19115.01	FLAT	4/30/2018	123.76	125.78	126.00	10/24/2018	26.6
10852	62784.16	18334.98	FLAT	5/7/2018	124.29	126.31	126.37	10/24/2018	24.6
10853	62784.20	18350.00	3:1	5/7/2018	124.38	126.51	126.66	9/10/2018	25.7
10854	62784.22	18357.00	3:1	5/7/2018	126.45	128.58	128.61	9/10/2018	24.3
10855	62784.19	18374.98	FLAT	5/7/2018	127.19	129.21	129.36	9/10/2018	25.7
10856	62784.19	18400.02	FLAT	5/7/2018	127.91	129.93	130.03	8/20/2018	25.1
10857	62784.26	18425.03	FLAT	5/7/2018	128.69	130.71	130.76	8/20/2018	24.6
10858	62784.30	18450.06	FLAT	5/7/2018	129.58	131.60	131.68	8/20/2018	24.9
10859	62784.22	18475.02	FLAT	5/7/2018	130.49	132.51	132.63	8/20/2018	25.4
10860	62784.22	18500.03	FLAT	5/7/2018	131.33	133.35	133.49	8/20/2018	25.6
10861	62784.24	18524.97	FLAT	5/7/2018	132.26	134.28	134.37	8/20/2018	25.0
10862	62784.25	18549.98	FLAT	5/7/2018	133.13	135.15	135.22	8/20/2018	24.8
10863	62784.17	18574.98	FLAT	5/7/2018	134.00	136.02	136.13	8/20/2018	25.2
10864	62784.21	18600.03	FLAT	4/30/2018	134.82	136.84	136.93	8/20/2018	25.1
10865	62784.25	18624.97	FLAT	4/30/2018	135.70	137.72	137.87	8/20/2018	25.8
10866	62784.21	18650.00	FLAT	4/30/2018	136.58	138.60	138.74	8/20/2018	25.7
10867	62784.24	18674.99	FLAT	4/30/2018	137.46	139.48	139.55	8/20/2018	24.8
10868	62784.26	18699.99	FLAT	4/30/2018	138.37	140.39	140.47	8/20/2018	24.9
10869	62784.23	18725.03	FLAT	4/27/2018	139.24	141.26	141.37	8/20/2018	25.3
10870	62784.23	18749.96	FLAT	4/27/2018	138.30	140.32	140.46	8/20/2018	25.7
10871	62784.14	18774.98	FLAT	4/27/2018	137.45	139.48	139.53	8/20/2018	24.6
10872	62784.22	18800.02	FLAT	4/27/2018	136.57	138.59	138.72	8/20/2018	25.5
10873	62784.25	18825.01	FLAT	4/27/2018	135.77	137.79	137.83	8/20/2018	24.5
10874	62784.22	18850.03	FLAT	4/27/2018	134.84	136.87	137.02	8/20/2018	25.9
10875	62784.16	18874.97	FLAT	4/27/2018	134.02	136.04	136.06	8/20/2018	24.3
10876	62784.26	18899.99	FLAT	4/27/2018	133.18	135.20	135.30	9/26/2018	25.1
10877	62784.21	18924.95	FLAT	4/27/2018	132.28	134.31	134.37	9/26/2018	24.7
10878	62784.28	18949.98	FLAT	4/27/2018	131.40	133.43	133.57	9/26/2018	25.7
10879	62784.21	18974.97	FLAT	4/27/2018	130.56	132.58	132.65	9/26/2018	24.8
10880	62784.22	18999.97	FLAT	4/27/2018	129.66	131.68	131.78	9/26/2018	25.2
10881	62784.34	19025.02	FLAT	4/27/2018	128.79	130.81	130.89	9/26/2018	24.9
10882	62784.25	19049.97	FLAT	4/27/2018	127.92	129.94	130.03	10/1/2018	25.1
10883	62784.24	19074.94	FLAT	4/28/2018	126.94	128.96	129.08	10/1/2018	25.4
10884	62784.22	19092.96	3:1	4/28/2018	126.35	128.48	128.54	10/1/2018	24.7
10885	62784.22	19100.08	3:1	4/28/2018	124.47	126.60	126.70	10/1/2018	25.2
10886	62784.25	19115.06	FLAT	4/28/2018	124.29	126.31	126.41	10/24/2018	25.2
10887	62759.28	18334.97	FLAT	5/7/2018	124.23	126.25	126.40	10/24/2018	25.7
10888	62759.25	18350.00	3:1	5/7/2018	124.71	126.84	126.92	9/10/2018	24.9
10889	62759.24	18356.35	3:1	5/7/2018	126.41	128.54	128.64	9/10/2018	25.1
10890	62759.28	18374.98	FLAT	5/7/2018	127.18	129.20	129.29	9/10/2018	25.0
10891	62759.24	18400.01	FLAT	5/7/2018	127.94	129.96	130.02	8/20/2018	24.7
10892	62759.16	18425.02	FLAT	5/7/2018	128.81	130.83	130.92	8/20/2018	25.1
10893	62759.19	18449.93	FLAT	5/7/2018	129.71	131.73	131.81	8/20/2018	24.9
10894	62759.25	18474.98	FLAT	5/7/2018	130.55	132.57	132.61	8/20/2018	24.5
10895	62759.24	18500.01	FLAT	5/7/2018	131.44	133.46	133.58	8/20/2018	25.4
10896	62759.18	18524.93	FLAT	5/7/2018	132.29	134.31	134.38	8/20/2018	24.8
10897	62759.25	18549.94	FLAT	5/7/2018	133.09	135.11	135.17	8/20/2018	24.7
10898	62759.16	18575.00	FLAT	5/7/2018	134.04	136.06	136.11	8/20/2018	24.6
10899	62759.22	18600.00	FLAT	4/30/2018	134.82	136.84	136.92	8/20/2018	24.9
10900	62759.25	18625.06	FLAT	4/30/2018	135.65	137.67	137.76	8/20/2018	25.0
10901	62759.22	18650.02	FLAT	4/30/2018	136.51	138.53	138.69	8/20/2018	25.9

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10902	62759.24	18674.97	FLAT	4/30/2018	137.50	139.52	139.56	8/20/2018	24.5
10903	62759.19	18699.93	FLAT	4/30/2018	138.42	140.44	140.48	8/20/2018	24.5
10904	62759.21	18724.99	FLAT	4/27/2018	139.17	141.20	141.28	8/20/2018	25.0
10905	62759.18	18749.98	FLAT	4/27/2018	138.30	140.32	140.41	8/20/2018	25.0
10906	62759.27	18775.04	FLAT	4/27/2018	137.43	139.46	139.50	8/20/2018	24.5
10907	62759.28	18799.98	FLAT	4/27/2018	136.57	138.59	138.68	8/20/2018	25.1
10908	62759.14	18824.99	FLAT	4/27/2018	135.70	137.72	137.86	8/20/2018	25.6
10909	62759.24	18850.01	FLAT	4/27/2018	134.82	136.85	136.95	8/20/2018	25.2
10910	62759.24	18874.92	FLAT	4/27/2018	134.02	136.04	136.11	8/20/2018	24.8
10911	62759.19	18900.04	FLAT	4/27/2018	133.09	135.11	135.20	8/20/2018	25.1
10912	62759.22	18924.98	FLAT	4/27/2018	132.26	134.28	134.35	8/20/2018	24.9
10913	62759.20	18950.04	FLAT	4/27/2018	131.40	133.42	133.54	8/20/2018	25.4
10914	62759.20	18975.01	FLAT	4/27/2018	130.59	132.61	132.65	8/20/2018	24.5
10915	62759.19	18999.98	FLAT	4/27/2018	129.63	131.65	131.76	8/20/2018	25.2
10916	62759.21	19025.04	FLAT	4/27/2018	128.70	130.72	130.80	9/26/2018	24.9
10917	62759.22	19050.05	FLAT	4/27/2018	127.90	129.92	129.96	10/1/2018	24.4
10918	62759.21	19074.92	FLAT	4/28/2018	126.98	129.00	129.08	10/1/2018	25.0
10919	62759.19	19093.67	3:1	4/28/2018	126.27	128.40	128.44	10/1/2018	24.5
10920	62759.22	19100.02	3:1	4/28/2018	124.70	126.83	126.92	10/1/2018	25.1
10921	62759.31	19115.07	FLAT	4/28/2018	124.31	126.33	126.46	10/24/2018	25.5
10922	62734.27	18334.99	FLAT	5/7/2018	124.51	126.53	126.67	10/24/2018	25.6
10923	62734.20	18349.98	3:1	5/7/2018	124.82	126.95	127.06	9/10/2018	25.2
10924	62734.22	18355.64	3:1	5/7/2018	126.36	128.49	128.54	9/10/2018	24.6
10925	62734.25	18374.96	FLAT	5/7/2018	127.19	129.21	129.34	9/10/2018	25.5
10926	62734.18	18399.97	FLAT	5/7/2018	127.98	130.00	130.04	8/20/2018	24.4
10927	62734.24	18424.98	FLAT	5/7/2018	128.86	130.88	130.90	8/20/2018	24.2
10928	62734.21	18449.94	FLAT	5/7/2018	129.70	131.72	131.83	8/20/2018	25.3
10929	62734.23	18475.04	FLAT	5/7/2018	130.55	132.57	132.63	8/20/2018	24.7
10930	62734.23	18499.96	FLAT	5/7/2018	131.37	133.39	133.46	8/20/2018	24.8
10931	62734.30	18525.01	FLAT	5/7/2018	132.26	134.28	134.35	8/20/2018	24.8
10932	62734.26	18549.95	FLAT	5/7/2018	133.14	135.16	135.25	8/20/2018	25.0
10933	62734.23	18574.96	FLAT	5/7/2018	134.02	136.04	136.14	8/20/2018	25.1
10934	62734.20	18599.94	FLAT	4/30/2018	134.81	136.83	136.98	8/20/2018	25.7
10935	62734.21	18625.02	FLAT	4/30/2018	135.67	137.69	137.80	8/20/2018	25.3
10936	62734.28	18649.99	FLAT	4/30/2018	136.60	138.62	138.71	8/20/2018	25.1
10937	62734.30	18674.91	FLAT	4/30/2018	137.44	139.46	139.49	8/20/2018	24.3
10938	62734.21	18700.01	FLAT	4/30/2018	138.37	140.40	140.48	8/20/2018	25.0
10939	62734.26	18725.01	FLAT	4/27/2018	139.27	141.30	141.40	8/20/2018	25.2
10940	62734.25	18749.99	FLAT	4/27/2018	138.32	140.34	140.44	8/20/2018	25.2
10941	62734.21	18775.01	FLAT	4/27/2018	137.47	139.50	139.55	8/20/2018	24.7
10942	62734.24	18799.96	FLAT	4/27/2018	136.61	138.63	138.66	8/20/2018	24.4
10943	62734.30	18825.04	FLAT	4/27/2018	135.75	137.77	137.84	8/20/2018	24.8
10944	62734.24	18850.01	FLAT	4/27/2018	134.84	136.86	136.99	8/20/2018	25.6
10945	62734.23	18874.98	FLAT	4/27/2018	133.99	136.01	136.12	8/20/2018	25.3
10946	62734.24	18899.95	FLAT	4/27/2018	133.15	135.17	135.25	8/20/2018	25.0
10947	62734.21	18924.91	FLAT	4/27/2018	132.28	134.30	134.38	8/20/2018	25.0
10948	62734.19	18950.04	FLAT	4/27/2018	131.52	133.55	133.69	8/20/2018	25.7
10949	62734.19	18975.00	FLAT	4/27/2018	130.64	132.66	132.73	8/20/2018	24.8
10950	62734.24	18999.96	FLAT	4/27/2018	129.68	131.70	131.71	8/20/2018	24.1
10951	62734.29	19024.93	FLAT	4/27/2018	128.72	130.75	130.80	8/20/2018	24.7
10952	62734.27	19050.01	FLAT	4/27/2018	127.91	129.93	130.01	8/20/2018	25.0
10953	62734.25	19074.95	FLAT	4/28/2018	127.00	129.02	129.15	8/20/2018	25.5
10954	62734.20	19094.33	3:1	4/28/2018	126.34	128.47	128.55	10/1/2018	24.9

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
10955	62734.17	19099.97	3:1	4/28/2018	124.88	127.01	127.13	10/1/2018	25.4
10956	62734.31	19115.00	FLAT	4/28/2018	124.48	126.50	126.70	10/24/2018	26.4
10957	62709.21	18335.01	FLAT	5/7/2018	124.83	126.85	126.91	10/24/2018	24.7
10958	62709.20	18350.01	3:1	5/7/2018	124.99	127.12	127.21	9/10/2018	25.0
10959	62709.20	18354.92	3:1	5/7/2018	126.35	128.48	128.54	9/10/2018	24.7
10960	62709.23	18374.98	FLAT	5/7/2018	127.18	129.20	129.29	8/8/2018	25.0
10961	62709.31	18400.04	FLAT	5/7/2018	128.03	130.05	130.07	8/8/2018	24.3
10962	62709.25	18425.01	FLAT	5/7/2018	128.75	130.77	130.86	8/8/2018	25.0
10963	62709.29	18449.93	FLAT	5/7/2018	129.63	131.65	131.68	8/8/2018	24.3
10964	62709.29	18475.02	FLAT	5/7/2018	130.57	132.59	132.62	8/8/2018	24.4
10965	62709.24	18500.03	FLAT	5/7/2018	131.40	133.42	133.44	8/8/2018	24.2
10966	62709.17	18524.98	FLAT	5/7/2018	132.24	134.26	134.29	8/8/2018	24.4
10967	62709.16	18549.99	FLAT	5/7/2018	133.12	135.14	135.20	8/8/2018	24.7
10968	62709.26	18574.98	FLAT	4/30/2018	134.03	136.05	136.08	8/8/2018	24.3
10969	62709.24	18600.02	FLAT	4/30/2018	134.86	136.89	136.97	8/8/2018	25.0
10970	62709.23	18625.05	FLAT	4/30/2018	135.68	137.71	137.73	8/8/2018	24.3
10971	62709.24	18650.03	FLAT	4/30/2018	136.67	138.69	138.71	8/8/2018	24.3
10972	62709.19	18675.03	FLAT	4/30/2018	137.55	139.57	139.60	8/8/2018	24.3
10973	62709.23	18699.94	FLAT	4/30/2018	138.38	140.41	140.49	8/20/2018	25.1
10974	62709.22	18725.02	FLAT	4/27/2018	139.26	141.28	141.41	8/20/2018	25.6
10975	62709.20	18750.02	FLAT	4/27/2018	138.39	140.41	140.55	8/20/2018	25.6
10976	62709.24	18775.01	FLAT	4/27/2018	137.46	139.49	139.58	8/20/2018	25.1
10977	62709.19	18799.99	FLAT	4/27/2018	136.61	138.63	138.74	8/20/2018	25.4
10978	62709.23	18824.99	FLAT	4/27/2018	135.75	137.77	137.80	8/20/2018	24.4
10979	62709.23	18850.01	FLAT	4/27/2018	134.85	136.88	137.01	8/20/2018	25.6
10980	62709.18	18874.99	FLAT	4/27/2018	134.03	136.05	136.17	8/20/2018	25.4
10981	62709.17	18900.01	FLAT	4/27/2018	133.15	135.17	135.31	8/20/2018	25.7
10982	62709.23	18924.97	FLAT	4/27/2018	132.23	134.25	134.40	8/20/2018	25.8
10983	62709.26	18950.09	FLAT	4/27/2018	131.46	133.49	133.57	8/20/2018	25.0
10984	62709.23	18974.94	FLAT	4/27/2018	130.58	132.60	132.63	8/20/2018	24.3
10985	62709.19	18999.97	FLAT	4/27/2018	129.67	131.69	131.74	8/20/2018	24.6
10986	62709.23	19025.08	FLAT	4/27/2018	128.70	130.72	130.84	8/20/2018	25.4
10987	62709.24	19049.97	FLAT	4/27/2018	127.81	129.83	129.87	8/20/2018	24.5
10988	62709.31	19075.02	FLAT	4/28/2018	126.92	128.94	128.98	8/20/2018	24.4
10989	62709.19	19095.09	3:1	4/28/2018	126.17	128.30	128.39	9/26/2018	25.0
10990	62709.25	19100.02	3:1	4/28/2018	125.10	127.23	127.29	9/26/2018	24.7
10991	62709.32	19115.05	FLAT	4/28/2018	124.80	126.82	126.92	10/24/2018	25.2
10992	62684.29	18335.00	FLAT	5/7/2018	124.94	126.96	126.98	10/24/2018	24.2
10993	62684.12	18349.97	3:1	5/7/2018	125.19	127.32	127.45	9/10/2018	25.6
10994	62684.19	18354.29	3:1	5/7/2018	126.31	128.44	128.56	9/10/2018	25.4
10995	62684.19	18375.03	FLAT	5/7/2018	127.09	129.11	129.14	8/8/2018	24.3
10996	62684.26	18400.03	FLAT	5/7/2018	128.06	130.08	130.10	8/8/2018	24.2
10997	62684.28	18425.00	FLAT	5/7/2018	128.84	130.86	130.91	8/8/2018	24.5
10998	62684.28	18449.98	FLAT	5/7/2018	129.68	131.70	131.77	8/8/2018	24.8
10999	62684.17	18475.03	FLAT	5/7/2018	130.58	132.60	132.67	8/8/2018	24.9
11000	62684.26	18499.94	FLAT	5/7/2018	131.44	133.46	133.51	8/8/2018	24.6
11001	62684.24	18525.09	FLAT	5/7/2018	132.26	134.28	134.31	8/8/2018	24.3
11002	62684.21	18550.02	FLAT	5/7/2018	133.16	135.18	135.22	8/8/2018	24.4
11003	62684.32	18575.05	FLAT	4/30/2018	134.01	136.03	136.05	8/8/2018	24.2
11004	62684.25	18599.94	FLAT	4/30/2018	134.88	136.90	136.94	8/8/2018	24.4
11005	62684.29	18625.06	FLAT	4/30/2018	135.67	137.69	137.76	8/8/2018	24.8
11006	62684.21	18649.99	FLAT	4/30/2018	136.59	138.62	138.65	8/8/2018	24.4
11007	62684.16	18675.06	FLAT	4/30/2018	137.47	139.49	139.50	8/8/2018	24.1

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11008	62684.21	18700.04	FLAT	4/30/2018	138.37	140.40	140.48	8/20/2018	25.0
11009	62684.21	18725.07	FLAT	4/27/2018	139.25	141.27	141.41	8/20/2018	25.7
11010	62681.65	18725.03	FLAT	4/27/2018	139.24	141.26	141.28	8/20/2018	24.2
11011	62684.26	18750.02	FLAT	4/27/2018	138.35	140.37	140.47	8/20/2018	25.3
11012	62684.23	18774.99	FLAT	4/27/2018	137.47	139.49	139.61	8/20/2018	25.5
11013	62684.22	18800.02	FLAT	4/27/2018	136.56	138.58	138.72	8/20/2018	25.6
11014	62684.25	18824.96	FLAT	4/27/2018	135.74	137.77	137.88	8/20/2018	25.4
11015	62684.26	18850.03	FLAT	4/27/2018	134.86	136.88	136.99	8/20/2018	25.3
11016	62684.25	18874.95	FLAT	4/27/2018	134.04	136.07	136.18	8/20/2018	25.3
11017	62684.17	18899.94	FLAT	4/27/2018	133.16	135.18	135.32	8/20/2018	25.7
11018	62684.22	18925.02	FLAT	4/27/2018	132.31	134.33	134.46	8/20/2018	25.5
11019	62684.19	18950.04	FLAT	4/27/2018	131.44	133.46	133.60	8/20/2018	25.7
11020	62684.22	18975.03	FLAT	4/27/2018	130.54	132.56	132.66	8/20/2018	25.2
11021	62684.26	18999.99	FLAT	4/27/2018	129.62	131.64	131.68	8/20/2018	24.5
11022	62684.28	19024.99	FLAT	4/27/2018	128.72	130.74	130.85	8/20/2018	25.2
11023	62684.25	19050.03	FLAT	4/27/2018	127.84	129.86	130.00	8/20/2018	25.6
11024	62684.28	19074.98	FLAT	4/28/2018	126.90	128.92	128.94	8/20/2018	24.2
11025	62684.23	19095.75	3:1	4/28/2018	126.21	128.34	128.38	9/26/2018	24.4
11026	62684.23	19099.95	3:1	4/28/2018	125.28	127.41	127.50	9/26/2018	25.1
11027	62684.32	19114.95	FLAT	4/28/2018	125.07	127.09	127.21	10/24/2018	25.4
11028	62659.27	18335.02	FLAT	5/3/2018	125.09	127.11	127.18	10/24/2018	24.8
11029	62659.23	18350.06	3:1	5/3/2018	125.39	127.52	127.61	9/10/2018	25.1
11030	62659.23	18353.61	3:1	5/3/2018	126.29	128.42	128.48	9/10/2018	24.8
11031	62659.21	18375.03	FLAT	5/3/2018	127.09	129.11	129.23	8/8/2018	25.4
11032	62659.31	18399.99	FLAT	5/3/2018	128.04	130.06	130.13	8/8/2018	24.9
11033	62659.19	18425.05	FLAT	5/2/2018	128.72	130.74	130.80	8/8/2018	24.7
11034	62659.30	18449.98	FLAT	5/2/2018	129.76	131.78	131.86	8/8/2018	24.9
11035	62659.21	18474.95	FLAT	5/2/2018	130.46	132.48	132.52	8/8/2018	24.5
11036	62659.17	18500.03	FLAT	5/2/2018	131.41	133.43	133.47	8/8/2018	24.4
11037	62659.21	18524.96	FLAT	5/2/2018	132.34	134.36	134.42	8/8/2018	24.8
11038	62659.28	18550.00	FLAT	4/30/2018	133.02	135.05	135.07	8/8/2018	24.3
11039	62659.32	18575.00	FLAT	4/30/2018	133.92	135.94	135.95	8/8/2018	24.1
11040	62659.22	18600.00	FLAT	4/30/2018	134.86	136.89	136.94	8/8/2018	24.6
11041	62659.21	18625.01	FLAT	4/30/2018	135.71	137.73	137.76	8/8/2018	24.4
11042	62659.20	18650.00	FLAT	4/30/2018	136.60	138.62	138.70	8/8/2018	25.0
11043	62659.27	18674.91	FLAT	4/30/2018	137.53	139.56	139.59	8/8/2018	24.4
11044	62659.22	18700.07	FLAT	3/29/2018	138.33	140.35	140.40	8/8/2018	24.5
11045	62659.19	18725.06	FLAT	3/29/2018	138.46	140.48	140.56	8/8/2018	25.0
11046	62659.21	18750.03	FLAT	4/27/2018	138.27	140.30	140.39	8/20/2018	25.2
11047	62659.20	18774.98	FLAT	4/27/2018	137.51	139.53	139.64	8/20/2018	25.4
11048	62659.26	18800.05	FLAT	4/27/2018	136.58	138.60	138.70	8/20/2018	25.2
11049	62659.17	18825.02	FLAT	4/27/2018	135.75	137.77	137.88	8/20/2018	25.3
11050	62659.23	18849.98	FLAT	4/27/2018	134.84	136.86	136.92	8/20/2018	24.6
11051	62659.20	18875.03	FLAT	4/27/2018	133.97	135.99	136.06	8/20/2018	24.9
11052	62659.19	18899.96	FLAT	4/27/2018	133.01	135.03	135.12	8/20/2018	25.0
11053	62659.23	18924.94	FLAT	4/27/2018	132.17	134.19	134.29	8/20/2018	25.2
11054	62659.29	18949.98	FLAT	4/27/2018	131.35	133.38	133.48	8/20/2018	25.2
11055	62659.23	18975.01	FLAT	4/27/2018	130.57	132.59	132.71	8/20/2018	25.4
11056	62659.23	18999.97	FLAT	4/27/2018	129.58	131.60	131.72	8/20/2018	25.4
11057	62659.21	19024.97	FLAT	4/27/2018	128.71	130.73	130.88	8/20/2018	25.8
11058	62659.25	19049.97	FLAT	4/27/2018	127.74	129.76	129.87	8/20/2018	25.2
11059	62659.21	19074.99	FLAT	4/28/2018	126.93	128.95	129.03	8/20/2018	24.9
11060	62659.24	19096.34	3:1	4/28/2018	126.23	128.36	128.46	9/26/2018	25.1

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11061	62659.20	19100.04	3:1	4/28/2018	125.29	127.42	127.51	9/26/2018	25.1
11062	62659.21	19115.05	FLAT	4/28/2018	125.15	127.17	127.26	10/24/2018	25.0
11063	62634.18	18334.97	FLAT	5/3/2018	125.38	127.40	127.40	10/24/2018	24.0
11064	62634.22	18350.07	3:1	5/3/2018	125.62	127.75	127.83	9/10/2018	25.0
11065	62634.23	18352.92	3:1	5/3/2018	126.23	128.37	128.40	9/10/2018	24.4
11066	62634.21	18374.97	FLAT	5/3/2018	126.94	128.96	129.00	8/8/2018	24.4
11067	62634.27	18399.94	FLAT	5/3/2018	127.93	129.95	130.00	8/8/2018	24.7
11068	62634.22	18425.08	FLAT	5/2/2018	128.71	130.73	130.77	8/8/2018	24.5
11069	62634.22	18449.93	FLAT	5/2/2018	129.58	131.61	131.63	8/8/2018	24.3
11070	62634.16	18474.99	FLAT	5/2/2018	130.51	132.53	132.56	8/8/2018	24.3
11071	62634.24	18499.95	FLAT	5/2/2018	131.41	133.44	133.47	8/8/2018	24.4
11072	62634.26	18524.98	FLAT	5/2/2018	132.21	134.23	134.26	8/8/2018	24.3
11073	62634.27	18550.02	FLAT	4/30/2018	132.99	135.01	135.07	8/8/2018	24.6
11074	62634.18	18574.96	FLAT	4/30/2018	133.99	136.02	136.09	8/8/2018	24.9
11075	62634.26	18599.94	FLAT	4/30/2018	134.91	136.93	136.95	8/8/2018	24.3
11076	62634.26	18624.98	FLAT	4/30/2018	135.72	137.74	137.76	8/8/2018	24.3
11077	62634.20	18649.99	FLAT	4/30/2018	136.62	138.64	138.66	8/8/2018	24.2
11078	62634.29	18674.99	FLAT	3/29/2018	137.43	139.45	139.47	8/8/2018	24.3
11079	62634.22	18699.95	FLAT	3/29/2018	137.58	139.60	139.64	8/8/2018	24.4
11080	62634.28	18724.98	FLAT	3/29/2018	137.52	139.54	139.59	8/8/2018	24.6
11081	62634.25	18750.01	FLAT	3/29/2018	137.55	139.57	139.63	8/8/2018	24.7
11082	62634.27	18774.97	FLAT	3/29/2018	137.42	139.44	139.47	8/8/2018	24.3
11083	62634.28	18799.97	FLAT	3/29/2018	136.61	138.63	138.66	8/8/2018	24.3
11084	62634.20	18824.98	FLAT	4/27/2018	135.70	137.72	137.77	8/8/2018	24.6
11085	62634.27	18850.03	FLAT	4/27/2018	134.79	136.81	136.94	8/8/2018	25.6
11086	62634.25	18874.96	FLAT	4/27/2018	133.94	135.96	136.01	8/8/2018	24.6
11087	62634.23	18900.02	FLAT	4/27/2018	133.08	135.10	135.12	8/8/2018	24.3
11088	62634.18	18924.98	FLAT	4/27/2018	132.20	134.22	134.26	8/8/2018	24.5
11089	62634.26	18950.03	FLAT	4/27/2018	131.37	133.39	133.47	8/20/2018	24.9
11090	62634.23	18975.03	FLAT	4/27/2018	130.53	132.55	132.59	8/20/2018	24.4
11091	62634.23	18999.98	FLAT	4/27/2018	129.62	131.65	131.69	8/20/2018	24.6
11092	62634.28	19024.99	FLAT	4/27/2018	128.71	130.73	130.80	8/20/2018	24.8
11093	62634.24	19050.01	FLAT	4/27/2018	127.79	129.81	129.84	8/20/2018	24.3
11094	62634.25	19075.00	FLAT	4/28/2018	126.91	128.93	128.98	8/20/2018	24.5
11095	62634.19	19097.14	3:1	4/28/2018	126.18	128.31	128.38	9/26/2018	24.8
11096	62634.23	19099.96	3:1	4/28/2018	125.88	128.01	128.05	9/26/2018	24.4
11097	62634.28	19114.95	FLAT	4/28/2018	125.30	127.32	127.46	10/24/2018	25.6
11098	62609.26	18334.93	FLAT	5/3/2018	125.38	127.40	127.50	10/24/2018	25.1
11099	62609.19	18350.00	3:1	5/3/2018	125.73	127.87	127.93	9/10/2018	24.8
11100	62609.19	18352.28	3:1	5/3/2018	126.14	128.27	128.32	9/10/2018	24.6
11101	62609.26	18375.01	FLAT	5/3/2018	126.93	128.96	129.00	8/8/2018	24.5
11102	62609.29	18400.05	FLAT	5/3/2018	127.88	129.90	129.99	8/8/2018	25.1
11103	62609.22	18425.02	FLAT	5/2/2018	128.71	130.73	130.75	8/8/2018	24.2
11104	62609.22	18449.94	FLAT	5/2/2018	129.55	131.57	131.63	8/8/2018	24.7
11105	62609.18	18475.00	FLAT	5/2/2018	130.47	132.50	132.55	8/8/2018	24.6
11106	62609.22	18500.03	FLAT	5/2/2018	131.33	133.35	133.42	8/8/2018	24.8
11107	62609.16	18524.98	FLAT	5/2/2018	132.21	134.23	134.27	8/8/2018	24.4
11108	62609.19	18549.95	FLAT	4/30/2018	133.04	135.07	135.11	8/8/2018	24.6
11109	62609.24	18574.97	FLAT	4/30/2018	133.98	136.01	136.08	8/8/2018	24.9
11110	62609.28	18599.99	FLAT	4/30/2018	134.88	136.90	136.92	8/8/2018	24.3
11111	62609.27	18625.04	FLAT	4/30/2018	135.77	137.79	137.82	8/8/2018	24.4
11112	62609.18	18650.06	FLAT	4/30/2018	136.56	138.58	138.67	8/8/2018	25.1
11113	62609.24	18652.82	FLAT	3/29/2018	136.64	138.66	138.68	8/8/2018	24.2

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11114	62609.16	18675.03	FLAT	3/29/2018	136.77	138.79	138.83	8/8/2018	24.5
11115	62609.25	18700.04	FLAT	3/29/2018	136.76	138.78	138.87	8/8/2018	25.1
11116	62609.21	18725.02	FLAT	3/29/2018	136.73	138.75	138.77	8/8/2018	24.3
11117	62609.25	18750.07	FLAT	3/29/2018	136.66	138.69	138.72	8/8/2018	24.4
11118	62609.23	18775.00	FLAT	3/29/2018	136.61	138.63	138.70	8/8/2018	24.8
11119	62609.29	18796.32	FLAT	3/29/2018	136.53	138.56	138.62	8/8/2018	24.8
11120	62609.20	18799.98	FLAT	3/29/2018	136.60	138.62	138.75	8/8/2018	25.5
11121	62609.15	18824.93	FLAT	3/29/2018	135.77	137.79	137.85	8/8/2018	24.7
11122	62609.18	18849.98	FLAT	4/27/2018	134.86	136.88	136.99	8/7/2018	25.3
11123	62609.19	18874.97	FLAT	4/27/2018	133.87	135.90	136.05	8/7/2018	25.8
11124	62609.20	18900.02	FLAT	4/27/2018	133.13	135.16	135.19	8/7/2018	24.4
11125	62609.23	18925.07	FLAT	4/27/2018	132.26	134.28	134.37	8/7/2018	25.1
11126	62609.17	18950.02	FLAT	4/27/2018	131.36	133.38	133.43	8/7/2018	24.6
11127	62609.28	18974.98	FLAT	4/27/2018	130.54	132.56	132.64	8/7/2018	24.9
11128	62609.24	19000.06	FLAT	4/27/2018	129.58	131.60	131.70	8/7/2018	25.2
11129	62609.26	19024.98	FLAT	4/27/2018	128.69	130.71	130.85	8/7/2018	25.6
11130	62609.27	19049.96	FLAT	4/27/2018	127.79	129.81	129.88	8/7/2018	24.8
11131	62609.23	19075.04	FLAT	4/28/2018	126.87	128.89	128.99	8/7/2018	25.2
11132	62609.30	19097.69	3:1	4/28/2018	126.09	128.22	128.31	9/26/2018	25.1
11133	62609.27	19100.02	3:1	4/28/2018	125.90	128.03	128.11	9/26/2018	24.9
11134	62609.25	19115.04	FLAT	4/28/2018	125.49	127.51	127.64	10/24/2018	25.5
11135	62584.21	18334.95	FLAT	5/3/2018	125.65	127.68	127.81	10/24/2018	25.6
11136	62584.21	18349.95	3:1	5/3/2018	125.92	128.05	128.12	9/10/2018	24.8
11137	62584.23	18374.98	FLAT	5/3/2018	126.93	128.95	129.07	8/8/2018	25.4
11138	62584.19	18400.03	FLAT	5/3/2018	127.84	129.86	129.91	8/8/2018	24.5
11139	62584.26	18425.03	FLAT	5/2/2018	128.73	130.75	130.82	8/8/2018	24.8
11140	62584.27	18450.01	FLAT	5/2/2018	129.60	131.62	131.68	8/8/2018	24.6
11141	62584.21	18474.99	FLAT	5/2/2018	130.56	132.59	132.66	8/8/2018	24.8
11142	62584.19	18499.95	FLAT	5/2/2018	131.38	133.40	133.43	8/8/2018	24.3
11143	62584.19	18524.96	FLAT	5/2/2018	132.25	134.27	134.31	8/8/2018	24.5
11144	62584.24	18550.03	FLAT	4/30/2018	133.07	135.09	135.13	8/8/2018	24.4
11145	62584.23	18574.93	FLAT	4/30/2018	133.95	135.97	136.05	8/8/2018	24.9
11146	62584.23	18599.98	FLAT	4/30/2018	134.82	136.84	136.89	8/8/2018	24.5
11147	62584.23	18625.05	FLAT	3/29/2018	135.71	137.73	137.80	8/7/2018	24.9
11148	62584.19	18649.93	FLAT	3/29/2018	135.74	137.76	137.81	8/7/2018	24.6
11149	62584.19	18674.96	FLAT	3/29/2018	135.79	137.82	137.89	8/7/2018	24.9
11150	62584.22	18699.96	FLAT	3/29/2018	135.76	137.79	137.84	8/7/2018	24.7
11151	62584.26	18724.93	FLAT	3/29/2018	135.76	137.78	137.85	8/7/2018	24.8
11152	62584.23	18749.99	FLAT	3/29/2018	135.76	137.79	137.83	8/7/2018	24.5
11153	62584.17	18775.01	FLAT	3/29/2018	135.84	137.86	137.92	8/7/2018	24.7
11154	62584.21	18799.99	FLAT	3/29/2018	135.82	137.84	137.90	8/7/2018	24.8
11155	62584.19	18825.05	FLAT	4/27/2018	135.72	137.74	137.78	8/7/2018	24.4
11156	62584.23	18850.01	FLAT	4/27/2018	134.83	136.85	136.88	8/7/2018	24.4
11157	62584.24	18875.03	FLAT	4/27/2018	133.93	135.95	136.00	8/7/2018	24.6
11158	62584.19	18899.98	FLAT	4/27/2018	133.09	135.11	135.18	8/7/2018	24.8
11159	62584.25	18925.01	FLAT	4/27/2018	132.20	134.23	134.28	8/7/2018	24.6
11160	62584.25	18949.95	FLAT	4/27/2018	131.31	133.33	133.40	8/7/2018	24.8
11161	62584.19	18975.04	FLAT	4/27/2018	130.48	132.50	132.57	8/7/2018	24.8
11162	62584.20	19000.03	FLAT	4/27/2018	129.56	131.58	131.59	8/7/2018	24.2
11163	62584.30	19024.93	FLAT	4/27/2018	128.65	130.67	130.71	8/7/2018	24.4
11164	62584.18	19049.95	FLAT	4/27/2018	127.80	129.83	129.87	8/7/2018	24.5
11165	62584.25	19075.06	FLAT	4/28/2018	126.88	128.90	128.94	8/7/2018	24.5
11166	62584.30	19100.01	3:1	4/28/2018	126.01	128.14	128.19	9/26/2018	24.6

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11167	62584.26	19115.03	FLAT	4/28/2018	125.67	127.69	127.88	10/24/2018	26.2
11168	62559.31	18334.99	FLAT	5/3/2018	125.86	127.88	128.02	10/24/2018	25.6
11169	62559.24	18350.02	3:1	5/3/2018	126.02	128.16	128.30	9/10/2018	25.7
11170	62559.24	18374.97	FLAT	5/3/2018	127.00	129.02	129.07	8/8/2018	24.6
11171	62559.18	18399.97	FLAT	5/3/2018	127.83	129.85	129.91	8/8/2018	24.7
11172	62559.21	18425.00	FLAT	5/2/2018	128.69	130.71	130.73	8/8/2018	24.1
11173	62559.33	18450.02	FLAT	5/2/2018	129.54	131.56	131.58	8/8/2018	24.2
11174	62559.18	18474.96	FLAT	5/2/2018	130.45	132.48	132.52	8/8/2018	24.6
11175	62559.22	18499.98	FLAT	5/2/2018	131.28	133.30	133.38	8/8/2018	24.9
11176	62559.19	18525.01	FLAT	5/2/2018	132.12	134.15	134.21	8/8/2018	24.8
11177	62559.30	18550.00	FLAT	5/2/2018	132.99	135.01	135.06	8/8/2018	24.6
11178	62559.23	18574.96	FLAT	5/2/2018	133.91	135.93	135.97	8/8/2018	24.5
11179	62559.19	18599.98	FLAT	3/29/2018	134.77	136.79	136.82	8/8/2018	24.4
11180	62559.22	18625.00	FLAT	3/29/2018	134.88	136.91	136.95	8/8/2018	24.5
11181	62559.24	18649.97	FLAT	3/29/2018	134.99	137.01	137.03	8/8/2018	24.3
11182	62559.26	18675.00	FLAT	3/29/2018	134.92	136.94	136.97	8/7/2018	24.3
11183	62559.27	18700.00	FLAT	3/29/2018	134.94	136.97	137.04	8/7/2018	24.9
11184	62559.27	18725.04	FLAT	3/29/2018	134.99	137.02	137.16	8/7/2018	25.8
11185	62559.23	18749.98	FLAT	3/29/2018	134.98	137.01	137.07	8/7/2018	24.7
11186	62559.24	18774.97	FLAT	3/29/2018	134.98	137.01	137.07	8/7/2018	24.8
11187	62559.23	18799.94	FLAT	3/29/2018	135.00	137.03	137.11	8/7/2018	25.0
11188	62559.31	18824.99	FLAT	3/29/2018	134.93	136.95	137.01	8/7/2018	24.7
11189	62559.18	18850.00	FLAT	3/29/2018	134.89	136.91	137.05	8/7/2018	25.6
11190	62559.20	18875.07	FLAT	3/29/2018	133.91	135.93	135.95	8/7/2018	24.3
11191	62559.18	18900.01	FLAT	3/29/2018	133.05	135.08	135.14	8/7/2018	24.8
11192	62559.25	18924.95	FLAT	3/29/2018	132.19	134.22	134.32	8/7/2018	25.3
11193	62559.23	18949.99	FLAT	3/29/2018	131.28	133.30	133.33	8/7/2018	24.4
11194	62559.28	18974.96	FLAT	3/29/2018	130.46	132.48	132.54	8/7/2018	24.7
11195	62559.22	18999.97	FLAT	3/29/2018	129.48	131.50	131.54	8/7/2018	24.5
11196	62559.25	19025.01	FLAT	3/29/2018	128.60	130.63	130.69	8/7/2018	24.8
11197	62559.18	19050.09	FLAT	3/29/2018	127.77	129.80	129.85	8/7/2018	24.6
11198	62559.26	19075.03	FLAT	4/11/2018	126.96	128.98	129.06	8/7/2018	24.9
11199	62559.21	19100.00	3:1	4/11/2018	126.00	128.13	128.24	9/5/2018	25.3
11200	62559.28	19114.95	FLAT	4/11/2018	125.88	127.90	127.98	10/24/2018	25.0
11201	62534.17	18334.94	FLAT	5/3/2018	125.74	127.76	127.93	10/24/2018	26.1
11202	62534.22	18350.01	3:1	5/3/2018	125.93	128.06	128.22	9/10/2018	26.0
11203	62534.22	18375.03	FLAT	5/3/2018	126.96	128.99	129.02	8/8/2018	24.3
11204	62534.26	18400.01	FLAT	5/3/2018	127.84	129.87	129.93	8/8/2018	24.7
11205	62534.24	18424.98	FLAT	5/2/2018	128.73	130.76	130.78	8/8/2018	24.3
11206	62534.18	18450.01	FLAT	5/2/2018	129.59	131.61	131.66	8/8/2018	24.6
11207	62534.31	18475.00	FLAT	5/2/2018	130.51	132.54	132.56	8/8/2018	24.3
11208	62534.18	18499.98	FLAT	5/2/2018	131.30	133.33	133.36	8/8/2018	24.3
11209	62534.27	18524.99	FLAT	5/2/2018	132.19	134.21	134.24	8/8/2018	24.4
11210	62534.23	18549.99	FLAT	5/2/2018	132.93	134.95	134.97	8/8/2018	24.2
11211	62534.24	18574.97	FLAT	5/2/2018	133.89	135.91	135.98	8/8/2018	24.8
11212	62534.25	18578.05	FLAT	5/2/2018	133.95	135.97	136.03	8/8/2018	24.7
11213	62534.23	18600.02	FLAT	3/29/2018	134.04	136.06	136.11	8/8/2018	24.6
11214	62534.26	18625.02	FLAT	3/29/2018	134.08	136.10	136.14	8/8/2018	24.5
11215	62534.27	18650.03	FLAT	3/29/2018	134.13	136.15	136.17	8/8/2018	24.2
11216	62534.17	18675.03	FLAT	3/29/2018	134.05	136.08	136.13	8/7/2018	24.6
11217	62534.21	18699.98	FLAT	3/29/2018	134.10	136.12	136.15	8/7/2018	24.4
11218	62534.25	18724.97	FLAT	3/29/2018	134.10	136.12	136.22	8/7/2018	25.2
11219	62534.15	18750.02	FLAT	3/29/2018	134.11	136.13	136.21	8/7/2018	25.0

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11220	62534.24	18775.03	FLAT	3/29/2018	134.13	136.15	136.18	8/7/2018	24.3
11221	62534.22	18800.07	FLAT	3/29/2018	134.09	136.11	136.22	8/7/2018	25.3
11222	62534.21	18824.98	FLAT	3/29/2018	134.04	136.07	136.11	8/7/2018	24.5
11223	62534.19	18850.02	FLAT	3/29/2018	134.09	136.11	136.15	8/7/2018	24.4
11224	62534.19	18870.11	FLAT	3/29/2018	134.01	136.04	136.08	8/7/2018	24.5
11225	62534.22	18875.02	FLAT	3/29/2018	133.93	135.95	136.02	8/7/2018	24.8
11226	62534.22	18900.03	FLAT	3/29/2018	133.08	135.11	135.26	8/7/2018	25.9
11227	62534.23	18925.00	FLAT	3/29/2018	132.20	134.23	134.37	8/7/2018	25.7
11228	62534.19	18949.98	FLAT	3/29/2018	131.36	133.38	133.48	8/7/2018	25.1
11229	62534.26	18975.02	FLAT	3/29/2018	130.32	132.35	132.43	8/7/2018	25.0
11230	62534.21	18999.96	FLAT	3/29/2018	129.53	131.56	131.65	8/7/2018	25.2
11231	62534.22	19025.01	FLAT	4/3/2018	128.65	130.67	130.76	8/7/2018	25.0
11232	62534.22	19049.99	FLAT	4/3/2018	127.75	129.77	129.80	8/7/2018	24.3
11233	62534.27	19075.05	FLAT	4/11/2018	126.97	128.99	129.07	8/7/2018	25.0
11234	62534.19	19100.02	3:1	4/11/2018	125.97	128.10	128.15	9/5/2018	24.6
11235	62534.23	19115.06	FLAT	4/11/2018	125.72	127.74	127.80	10/24/2018	24.7
11236	62509.28	18334.98	FLAT	5/3/2018	125.74	127.77	127.81	10/24/2018	24.6
11237	62509.25	18349.99	3:1	5/3/2018	125.95	128.08	128.13	9/10/2018	24.5
11238	62509.17	18352.13	3:1	5/3/2018	126.21	128.34	128.44	9/10/2018	25.2
11239	62509.27	18375.03	FLAT	5/3/2018	126.96	128.98	129.04	8/8/2018	24.7
11240	62509.22	18399.98	FLAT	5/3/2018	127.89	129.91	129.94	8/8/2018	24.4
11241	62509.19	18424.97	FLAT	5/2/2018	128.72	130.75	130.79	8/8/2018	24.5
11242	62509.25	18449.99	FLAT	5/2/2018	129.60	131.62	131.65	8/8/2018	24.3
11243	62509.20	18475.01	FLAT	5/2/2018	130.50	132.52	132.56	8/8/2018	24.4
11244	62509.22	18499.95	FLAT	5/2/2018	131.35	133.38	133.41	8/8/2018	24.4
11245	62509.23	18524.95	FLAT	5/2/2018	132.17	134.19	134.24	8/6/2018	24.6
11246	62509.24	18549.98	FLAT	5/2/2018	132.96	134.99	135.01	8/6/2018	24.3
11247	62509.28	18574.93	FLAT	5/2/2018	133.15	135.17	135.18	8/6/2018	24.1
11248	62509.23	18600.00	FLAT	4/3/2018	133.13	135.16	135.17	8/6/2018	24.2
11249	62509.23	18624.95	FLAT	4/3/2018	133.16	135.19	135.20	8/6/2018	24.2
11250	62509.24	18649.99	FLAT	4/3/2018	133.18	135.20	135.24	8/6/2018	24.4
11251	62509.22	18675.04	FLAT	4/3/2018	133.18	135.20	135.23	8/6/2018	24.3
11252	62509.19	18700.02	FLAT	4/3/2018	133.14	135.16	135.19	8/6/2018	24.3
11253	62509.24	18725.05	FLAT	4/3/2018	133.20	135.22	135.28	8/6/2018	24.7
11254	62509.17	18750.05	FLAT	4/3/2018	133.16	135.18	135.21	8/6/2018	24.4
11255	62509.19	18775.00	FLAT	4/3/2018	133.14	135.16	135.20	8/6/2018	24.5
11256	62509.25	18799.98	FLAT	4/3/2018	133.15	135.18	135.27	8/6/2018	25.1
11257	62509.19	18825.00	FLAT	4/3/2018	133.20	135.22	135.22	8/6/2018	24.0
11258	62509.16	18850.03	FLAT	4/3/2018	133.16	135.18	135.22	8/7/2018	24.5
11259	62509.16	18875.05	FLAT	4/3/2018	133.18	135.20	135.27	8/7/2018	24.8
11260	62509.24	18899.95	FLAT	4/3/2018	133.09	135.11	135.15	8/7/2018	24.5
11261	62509.26	18925.03	FLAT	4/3/2018	132.15	134.17	134.27	8/7/2018	25.2
11262	62509.25	18950.05	FLAT	4/3/2018	131.34	133.37	133.42	8/7/2018	24.6
11263	62509.24	18974.99	FLAT	4/3/2018	130.45	132.48	132.53	8/7/2018	24.7
11264	62509.25	18999.98	FLAT	4/3/2018	129.51	131.53	131.63	8/7/2018	25.3
11265	62509.22	19025.02	FLAT	4/3/2018	128.61	130.63	130.72	8/7/2018	25.0
11266	62509.20	19049.99	FLAT	4/3/2018	127.87	129.89	129.99	8/7/2018	25.3
11267	62509.19	19075.03	FLAT	4/11/2018	126.90	128.92	129.05	8/7/2018	25.5
11268	62509.26	19098.10	3:1	4/11/2018	126.10	128.23	128.36	9/5/2018	25.5
11269	62509.16	19100.08	3:1	4/11/2018	125.87	128.00	128.07	9/5/2018	24.8
11270	62509.22	19114.96	FLAT	4/11/2018	125.38	127.40	127.52	10/24/2018	25.5
11271	62484.16	18334.98	FLAT	5/3/2018	125.55	127.57	127.63	10/24/2018	24.7
11272	62484.23	18350.01	3:1	5/3/2018	125.72	127.85	127.95	9/10/2018	25.2

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11273	62484.20	18352.70	3:1	5/3/2018	126.18	128.31	128.38	9/10/2018	24.8
11274	62484.22	18375.00	FLAT	5/3/2018	126.95	128.97	129.10	8/8/2018	25.5
11275	62484.25	18399.93	FLAT	5/3/2018	127.86	129.88	129.90	8/8/2018	24.2
11276	62484.17	18424.97	FLAT	5/2/2018	128.70	130.73	130.78	8/8/2018	24.6
11277	62484.25	18449.95	FLAT	5/2/2018	129.59	131.61	131.67	8/8/2018	24.7
11278	62484.20	18474.98	FLAT	5/2/2018	130.46	132.48	132.53	8/8/2018	24.6
11279	62484.23	18499.99	FLAT	5/2/2018	131.33	133.35	133.40	8/8/2018	24.6
11280	62484.24	18524.98	FLAT	5/2/2018	132.18	134.20	134.22	8/6/2018	24.2
11281	62484.22	18550.00	FLAT	5/2/2018	132.24	134.26	134.29	8/6/2018	24.3
11282	62484.23	18574.98	FLAT	5/2/2018	132.28	134.30	134.31	8/6/2018	24.1
11283	62484.23	18599.98	FLAT	4/3/2018	132.32	134.34	134.37	8/6/2018	24.3
11284	62484.22	18624.98	FLAT	4/3/2018	132.29	134.32	134.33	8/6/2018	24.2
11285	62484.28	18650.03	FLAT	4/3/2018	132.33	134.35	134.41	8/6/2018	24.7
11286	62484.17	18675.04	FLAT	4/3/2018	132.28	134.30	134.32	8/6/2018	24.2
11287	62484.23	18700.03	FLAT	4/3/2018	132.29	134.31	134.44	8/6/2018	25.5
11288	62484.26	18725.01	FLAT	4/3/2018	132.25	134.27	134.36	8/6/2018	25.1
11289	62484.19	18749.99	FLAT	4/3/2018	132.29	134.32	134.41	8/6/2018	25.1
11290	62484.27	18774.94	FLAT	4/3/2018	132.30	134.33	134.36	8/6/2018	24.4
11291	62484.23	18800.02	FLAT	4/3/2018	132.34	134.36	134.39	8/6/2018	24.3
11292	62484.30	18825.06	FLAT	4/3/2018	132.35	134.37	134.41	8/6/2018	24.5
11293	62484.26	18849.95	FLAT	4/3/2018	132.38	134.41	134.48	8/6/2018	24.9
11294	62484.25	18875.02	FLAT	4/3/2018	132.31	134.33	134.33	8/6/2018	24.0
11295	62484.25	18900.04	FLAT	3/29/2018	132.31	134.34	134.41	8/6/2018	24.9
11296	62484.19	18924.94	FLAT	3/29/2018	132.16	134.19	134.26	8/6/2018	24.9
11297	62484.19	18950.02	FLAT	3/29/2018	131.23	133.25	133.30	8/6/2018	24.6
11298	62484.30	18974.90	FLAT	3/29/2018	130.37	132.39	132.47	8/6/2018	25.0
11299	62484.20	19000.03	FLAT	3/29/2018	129.53	131.55	131.62	8/6/2018	24.9
11300	62484.27	19025.01	FLAT	3/29/2018	128.63	130.66	130.72	8/6/2018	24.7
11301	62484.21	19049.99	FLAT	3/29/2018	127.83	129.85	129.94	8/6/2018	25.1
11302	62484.27	19075.01	FLAT	4/11/2018	126.97	128.99	129.10	8/7/2018	25.3
11303	62484.24	19097.58	3:1	4/11/2018	126.03	128.16	128.22	9/5/2018	24.7
11304	62484.19	19099.99	3:1	4/11/2018	125.66	127.79	127.90	9/5/2018	25.3
11305	62484.19	19115.02	FLAT	4/11/2018	125.31	127.33	127.47	10/24/2018	25.6
11306	62459.30	18335.02	FLAT	5/3/2018	125.45	127.47	127.52	10/24/2018	24.6
11307	62459.24	18349.94	3:1	5/3/2018	125.50	127.63	127.70	9/10/2018	24.8
11308	62459.27	18353.48	3:1	5/3/2018	126.24	128.37	128.44	9/10/2018	24.8
11309	62459.21	18375.03	FLAT	5/3/2018	126.99	129.01	129.06	8/8/2018	24.6
11310	62459.23	18399.95	FLAT	5/3/2018	127.86	129.88	129.91	8/8/2018	24.4
11311	62459.22	18424.96	FLAT	5/2/2018	128.73	130.75	130.79	8/8/2018	24.4
11312	62459.24	18449.98	FLAT	5/2/2018	129.53	131.55	131.61	8/8/2018	24.8
11313	62459.15	18474.95	FLAT	5/2/2018	130.47	132.49	132.54	8/8/2018	24.6
11314	62459.21	18499.98	FLAT	5/2/2018	131.29	133.32	133.36	8/8/2018	24.5
11315	62459.25	18503.20	FLAT	5/2/2018	131.31	133.33	133.40	8/7/2018	24.7
11316	62459.21	18525.01	FLAT	5/2/2018	131.34	133.36	133.38	8/6/2018	24.2
11317	62459.19	18549.98	FLAT	5/2/2018	131.34	133.36	133.40	8/6/2018	24.4
11318	62459.20	18575.00	FLAT	5/2/2018	131.33	133.35	133.37	8/6/2018	24.2
11319	62459.25	18599.93	FLAT	3/29/2018	131.44	133.46	133.49	8/6/2018	24.3
11320	62459.23	18625.01	FLAT	3/29/2018	131.41	133.43	133.49	8/6/2018	24.7
11321	62459.22	18649.97	FLAT	3/29/2018	131.42	133.44	133.50	8/6/2018	24.6
11322	62459.26	18675.00	FLAT	3/29/2018	131.44	133.47	133.52	8/6/2018	24.7
11323	62459.20	18700.04	FLAT	3/29/2018	131.43	133.46	133.51	8/6/2018	24.6
11324	62459.20	18724.99	FLAT	3/29/2018	131.45	133.48	133.53	8/6/2018	24.7
11325	62459.26	18750.05	FLAT	3/29/2018	131.45	133.48	133.52	8/6/2018	24.6

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11326	62459.24	18774.98	FLAT	3/29/2018	131.44	133.46	133.53	8/6/2018	24.9
11327	62459.21	18800.03	FLAT	3/29/2018	131.47	133.50	133.53	8/6/2018	24.4
11328	62459.26	18825.01	FLAT	3/29/2018	131.45	133.47	133.48	8/6/2018	24.1
11329	62459.26	18849.96	FLAT	3/29/2018	131.46	133.49	133.57	8/6/2018	25.0
11330	62459.20	18874.97	FLAT	3/29/2018	131.49	133.51	133.54	8/6/2018	24.4
11331	62459.19	18899.97	FLAT	3/29/2018	131.48	133.50	133.54	8/6/2018	24.5
11332	62459.18	18925.01	FLAT	3/29/2018	131.48	133.50	133.61	8/6/2018	25.3
11333	62459.26	18943.88	FLAT	3/29/2018	131.45	133.47	133.49	8/6/2018	24.2
11334	62459.23	18949.97	FLAT	3/29/2018	131.33	133.36	133.38	8/6/2018	24.3
11335	62459.24	18975.03	FLAT	3/29/2018	130.44	132.46	132.48	8/6/2018	24.2
11336	62459.23	19000.04	FLAT	3/29/2018	129.58	131.60	131.65	8/6/2018	24.5
11337	62459.24	19024.97	FLAT	3/29/2018	128.68	130.70	130.73	8/6/2018	24.4
11338	62459.25	19050.01	FLAT	3/29/2018	127.83	129.85	129.88	8/6/2018	24.4
11339	62459.23	19074.93	FLAT	4/11/2018	126.92	128.94	129.07	8/7/2018	25.5
11340	62459.30	19096.83	3:1	4/11/2018	126.05	128.18	128.22	9/5/2018	24.5
11341	62459.20	19099.93	3:1	4/11/2018	125.66	127.79	127.85	9/5/2018	24.7
11342	62459.21	19114.97	FLAT	4/11/2018	125.05	127.07	127.25	10/24/2018	26.1
11343	62434.23	18334.98	FLAT	5/3/2018	125.43	127.46	127.52	10/24/2018	24.8
11344	62434.23	18349.98	3:1	5/3/2018	125.35	127.48	127.53	9/10/2018	24.6
11345	62434.20	18354.12	3:1	5/3/2018	126.24	128.37	128.41	9/10/2018	24.4
11346	62434.18	18375.01	FLAT	5/3/2018	126.93	128.96	129.02	8/8/2018	24.7
11347	62434.19	18400.00	FLAT	5/3/2018	127.82	129.84	129.85	8/8/2018	24.2
11348	62434.21	18424.97	FLAT	5/2/2018	128.64	130.66	130.72	8/8/2018	24.7
11349	62434.25	18449.98	FLAT	5/2/2018	129.56	131.58	131.59	8/8/2018	24.1
11350	62434.16	18475.06	FLAT	5/2/2018	130.40	132.42	132.47	8/7/2018	24.6
11351	62434.27	18499.99	FLAT	5/2/2018	130.56	132.59	132.63	8/7/2018	24.5
11352	62434.16	18524.97	FLAT	5/2/2018	130.49	132.51	132.60	8/6/2018	25.0
11353	62434.23	18550.01	FLAT	5/2/2018	130.45	132.47	132.48	8/6/2018	24.1
11354	62434.23	18574.98	FLAT	5/2/2018	130.47	132.49	132.55	8/6/2018	24.7
11355	62434.25	18599.97	FLAT	3/29/2018	130.53	132.55	132.59	8/6/2018	24.4
11356	62434.26	18624.98	FLAT	3/29/2018	130.54	132.57	132.62	8/6/2018	24.6
11357	62434.26	18650.03	FLAT	3/29/2018	130.60	132.62	132.72	8/6/2018	25.2
11358	62434.27	18675.00	FLAT	3/29/2018	130.56	132.58	132.71	8/6/2018	25.6
11359	62434.27	18699.99	FLAT	3/29/2018	130.47	132.49	132.53	8/6/2018	24.4
11360	62434.23	18725.06	FLAT	3/29/2018	130.53	132.56	132.59	8/6/2018	24.4
11361	62434.17	18749.98	FLAT	3/29/2018	130.55	132.57	132.61	8/6/2018	24.5
11362	62434.24	18774.97	FLAT	3/29/2018	130.57	132.59	132.62	8/6/2018	24.4
11363	62434.26	18799.96	FLAT	3/29/2018	130.53	132.56	132.59	8/6/2018	24.5
11364	62434.21	18824.95	FLAT	3/29/2018	130.55	132.57	132.64	8/6/2018	24.8
11365	62434.20	18849.98	FLAT	3/29/2018	130.63	132.65	132.68	8/6/2018	24.4
11366	62434.27	18874.99	FLAT	3/29/2018	130.63	132.65	132.70	8/6/2018	24.5
11367	62434.22	18899.95	FLAT	3/29/2018	130.74	132.77	132.87	8/6/2018	25.3
11368	62434.23	18925.06	FLAT	3/29/2018	130.71	132.74	132.81	8/6/2018	24.9
11369	62434.24	18950.00	FLAT	3/29/2018	130.69	132.71	132.79	8/6/2018	25.0
11370	62434.26	18974.99	FLAT	3/29/2018	130.50	132.53	132.60	8/6/2018	24.9
11371	62434.31	18999.97	FLAT	3/29/2018	129.58	131.60	131.63	8/6/2018	24.3
11372	62434.22	19024.96	FLAT	3/29/2018	128.64	130.66	130.69	8/6/2018	24.4
11373	62434.16	19050.02	FLAT	3/29/2018	127.81	129.84	129.92	8/6/2018	25.0
11374	62434.23	19074.97	FLAT	4/11/2018	126.93	128.95	129.00	8/7/2018	24.5
11375	62434.29	19096.34	3:1	4/11/2018	126.06	128.19	128.22	9/5/2018	24.4
11376	62434.27	19099.95	3:1	4/11/2018	125.33	127.46	127.50	9/5/2018	24.4
11377	62434.22	19115.01	FLAT	4/11/2018	124.93	126.95	127.03	10/24/2018	24.9
11378	62409.27	18334.96	FLAT	5/3/2018	125.25	127.27	127.33	10/24/2018	24.8

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11379	62409.27	18349.98	3:1	5/3/2018	125.33	127.46	127.49	9/10/2018	24.4
11380	62409.28	18354.23	3:1	5/3/2018	126.33	128.47	128.50	9/10/2018	24.3
11381	62409.28	18374.98	FLAT	5/3/2018	126.96	128.98	129.03	8/8/2018	24.6
11382	62409.29	18400.02	FLAT	5/3/2018	127.85	129.88	129.95	8/8/2018	24.9
11383	62409.29	18425.03	FLAT	5/2/2018	128.59	130.61	130.66	8/8/2018	24.7
11384	62409.18	18450.03	FLAT	5/2/2018	129.44	131.46	131.57	8/7/2018	25.2
11385	62409.24	18474.99	FLAT	5/2/2018	129.74	131.76	131.80	8/7/2018	24.4
11386	62409.27	18499.97	FLAT	5/2/2018	129.62	131.65	131.67	8/7/2018	24.3
11387	62409.25	18525.04	FLAT	5/2/2018	129.60	131.63	131.66	8/6/2018	24.3
11388	62409.26	18550.01	FLAT	5/2/2018	129.57	131.59	131.59	8/6/2018	24.0
11389	62409.23	18574.97	FLAT	5/2/2018	129.61	131.64	131.70	8/6/2018	24.8
11390	62409.23	18600.00	FLAT	3/29/2018	129.69	131.71	131.74	8/6/2018	24.4
11391	62409.24	18625.02	FLAT	3/29/2018	129.69	131.72	131.75	8/6/2018	24.4
11392	62409.21	18649.95	FLAT	3/29/2018	129.63	131.66	131.71	8/6/2018	24.7
11393	62409.26	18675.01	FLAT	3/29/2018	129.70	131.72	131.79	8/6/2018	24.8
11394	62409.25	18700.02	FLAT	3/29/2018	129.71	131.73	131.79	8/6/2018	24.8
11395	62409.28	18725.05	FLAT	3/29/2018	129.69	131.72	131.74	8/6/2018	24.3
11396	62409.24	18749.97	FLAT	3/29/2018	129.72	131.75	131.78	8/6/2018	24.4
11397	62409.25	18775.01	FLAT	3/29/2018	129.70	131.73	131.72	8/6/2018	24.0
11398	62409.32	18799.94	FLAT	3/29/2018	129.70	131.72	131.76	8/6/2018	24.5
11399	62409.26	18825.03	FLAT	3/29/2018	129.77	131.80	131.81	8/6/2018	24.2
11400	62409.18	18850.02	FLAT	3/29/2018	129.72	131.75	131.82	8/6/2018	24.9
11401	62409.20	18874.97	FLAT	3/29/2018	129.79	131.81	131.83	8/6/2018	24.2
11402	62409.22	18899.97	FLAT	3/29/2018	129.77	131.80	131.88	8/6/2018	25.0
11403	62409.21	18924.94	FLAT	3/29/2018	129.78	131.81	131.88	8/6/2018	24.9
11404	62409.21	18950.00	FLAT	3/29/2018	129.80	131.82	131.90	8/6/2018	25.0
11405	62409.21	18974.94	FLAT	3/29/2018	129.79	131.81	131.89	8/6/2018	25.0
11406	62409.25	18999.96	FLAT	3/29/2018	129.65	131.67	131.71	8/6/2018	24.5
11407	62409.25	19024.97	FLAT	3/29/2018	128.67	130.69	130.73	8/6/2018	24.5
11408	62409.21	19049.95	FLAT	3/29/2018	127.89	129.91	129.92	8/6/2018	24.1
11409	62409.19	19074.96	FLAT	4/11/2018	126.89	128.91	129.07	8/7/2018	25.9
11410	62409.24	19095.75	3:1	4/11/2018	126.11	128.24	128.33	9/5/2018	25.0
11411	62409.33	19099.98	3:1	4/11/2018	125.07	127.20	127.32	9/5/2018	25.4
11412	62409.24	19114.97	FLAT	4/11/2018	124.72	126.74	126.85	10/24/2018	25.3
11413	62384.23	18334.96	FLAT	5/3/2018	125.12	127.14	127.23	10/24/2018	25.0
11414	62384.27	18349.91	3:1	5/3/2018	125.22	127.35	127.45	9/10/2018	25.2
11415	62384.17	18354.20	3:1	5/3/2018	126.27	128.40	128.48	9/10/2018	25.0
11416	62384.26	18375.02	FLAT	5/3/2018	127.02	129.04	129.06	8/8/2018	24.3
11417	62384.23	18400.04	FLAT	5/3/2018	127.87	129.89	129.93	8/6/2018	24.4
11418	62384.23	18425.07	FLAT	5/2/2018	128.60	130.62	130.64	8/6/2018	24.2
11419	62384.28	18428.53	FLAT	5/2/2018	128.66	130.68	130.74	8/6/2018	24.7
11420	62384.25	18450.02	FLAT	5/2/2018	128.71	130.73	130.74	8/6/2018	24.1
11421	62384.23	18475.07	FLAT	5/2/2018	128.81	130.83	130.87	8/6/2018	24.4
11422	62384.24	18500.03	FLAT	5/2/2018	128.78	130.80	130.83	8/6/2018	24.3
11423	62384.16	18524.92	FLAT	5/2/2018	128.70	130.72	130.73	8/6/2018	24.1
11424	62384.23	18550.03	FLAT	5/2/2018	128.73	130.75	130.78	8/6/2018	24.4
11425	62384.34	18575.04	FLAT	5/2/2018	128.76	130.78	130.82	8/6/2018	24.4
11426	62384.18	18600.05	FLAT	3/29/2018	128.82	130.84	130.86	8/6/2018	24.2
11427	62384.17	18624.99	FLAT	3/29/2018	128.79	130.81	130.82	8/6/2018	24.1
11428	62384.22	18649.95	FLAT	3/29/2018	128.82	130.84	130.84	8/6/2018	24.0
11429	62384.21	18674.94	FLAT	3/29/2018	128.78	130.80	130.82	8/6/2018	24.3
11430	62384.23	18700.04	FLAT	3/29/2018	128.79	130.81	130.83	8/6/2018	24.3
11431	62384.29	18725.01	FLAT	3/29/2018	128.86	130.88	130.94	8/6/2018	24.7

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11432	62384.26	18749.99	FLAT	3/29/2018	128.81	130.83	130.84	8/6/2018	24.1
11433	62384.28	18775.01	FLAT	3/29/2018	128.81	130.84	130.87	8/6/2018	24.4
11434	62384.21	18799.98	FLAT	3/29/2018	128.80	130.83	130.90	8/6/2018	24.9
11435	62384.24	18824.98	FLAT	3/29/2018	128.84	130.87	130.94	8/6/2018	24.9
11436	62384.28	18850.08	FLAT	3/29/2018	128.86	130.88	130.92	8/6/2018	24.5
11437	62384.25	18875.00	FLAT	3/29/2018	128.88	130.90	130.93	8/6/2018	24.3
11438	62384.26	18899.97	FLAT	3/29/2018	128.87	130.89	130.91	8/6/2018	24.3
11439	62384.29	18924.95	FLAT	3/29/2018	128.91	130.94	130.99	8/6/2018	24.7
11440	62384.18	18950.02	FLAT	3/29/2018	128.92	130.95	131.03	8/6/2018	25.0
11441	62384.25	18975.01	FLAT	3/29/2018	128.90	130.92	131.00	8/6/2018	25.0
11442	62384.19	19000.01	FLAT	3/29/2018	128.90	130.92	130.94	8/6/2018	24.2
11443	62384.26	19017.75	FLAT	3/29/2018	128.94	130.97	131.04	8/6/2018	24.9
11444	62384.23	19024.98	FLAT	3/29/2018	128.72	130.74	130.83	8/6/2018	25.0
11445	62384.24	19049.98	FLAT	3/29/2018	127.73	129.75	129.99	8/6/2018	26.8
11446	62384.20	19074.95	FLAT	4/11/2018	126.85	128.87	129.01	8/7/2018	25.7
11447	62384.31	19095.11	3:1	4/11/2018	126.08	128.22	128.37	9/5/2018	25.9
11448	62384.23	19099.98	3:1	4/11/2018	124.81	126.94	127.11	9/5/2018	26.0
11449	62384.21	19115.02	FLAT	4/11/2018	124.62	126.65	126.73	10/24/2018	25.0
11450	62359.20	18335.04	FLAT	5/3/2018	124.95	126.97	126.97	10/24/2018	24.0
11451	62359.32	18350.03	3:1	5/3/2018	125.16	127.29	127.42	9/10/2018	25.6
11452	62359.22	18354.23	3:1	5/3/2018	126.18	128.31	128.35	9/10/2018	24.5
11453	62359.25	18375.01	FLAT	5/3/2018	126.95	128.97	129.00	8/8/2018	24.4
11454	62359.21	18399.95	FLAT	5/3/2018	127.84	129.86	129.88	8/6/2018	24.3
11455	62359.27	18424.99	FLAT	5/2/2018	127.85	129.87	129.88	8/6/2018	24.1
11456	62359.26	18449.96	FLAT	5/2/2018	127.82	129.84	129.89	8/6/2018	24.5
11457	62359.27	18475.06	FLAT	5/2/2018	127.91	129.94	129.96	8/6/2018	24.3
11458	62359.25	18500.00	FLAT	5/2/2018	127.94	129.97	129.99	8/6/2018	24.3
11459	62359.24	18525.01	FLAT	5/2/2018	127.87	129.89	129.96	8/6/2018	24.8
11460	62359.23	18549.97	FLAT	5/2/2018	127.87	129.90	129.93	8/6/2018	24.4
11461	62359.18	18575.03	FLAT	5/2/2018	127.90	129.92	129.97	8/6/2018	24.6
11462	62359.25	18599.95	FLAT	3/29/2018	127.90	129.92	129.99	8/6/2018	24.8
11463	62359.22	18624.99	FLAT	3/29/2018	127.92	129.94	129.98	8/6/2018	24.4
11464	62359.20	18650.00	FLAT	3/29/2018	127.92	129.95	130.02	8/6/2018	24.9
11465	62359.17	18674.98	FLAT	3/29/2018	127.93	129.95	129.96	8/6/2018	24.1
11466	62359.25	18700.04	FLAT	3/29/2018	127.92	129.94	130.01	8/6/2018	24.8
11467	62359.23	18724.96	FLAT	3/29/2018	127.95	129.97	130.02	8/6/2018	24.6
11468	62359.18	18749.96	FLAT	3/29/2018	127.96	129.99	130.07	8/6/2018	25.1
11469	62359.25	18775.01	FLAT	3/29/2018	127.97	129.99	130.07	8/6/2018	24.9
11470	62359.28	18799.99	FLAT	3/29/2018	128.01	130.03	130.03	8/6/2018	24.0
11471	62359.27	18824.99	FLAT	3/29/2018	128.03	130.05	130.17	8/6/2018	25.4
11472	62359.19	18850.02	FLAT	3/29/2018	128.05	130.08	130.11	8/6/2018	24.4
11473	62359.29	18875.01	FLAT	3/29/2018	128.05	130.07	130.10	8/6/2018	24.4
11474	62359.24	18899.99	FLAT	3/29/2018	128.01	130.03	130.06	8/6/2018	24.3
11475	62359.22	18925.02	FLAT	3/29/2018	128.06	130.09	130.11	8/6/2018	24.3
11476	62359.25	18950.00	FLAT	3/29/2018	128.09	130.11	130.15	8/6/2018	24.4
11477	62359.16	18974.92	FLAT	3/29/2018	128.07	130.09	130.14	8/6/2018	24.5
11478	62359.27	18999.99	FLAT	3/29/2018	128.05	130.07	130.11	8/6/2018	24.5
11479	62359.25	19025.01	FLAT	3/29/2018	128.08	130.10	130.11	8/6/2018	24.1
11480	62359.26	19049.96	FLAT	3/29/2018	127.50	129.52	129.58	8/6/2018	24.6
11481	62359.25	19074.96	FLAT	4/11/2018	126.84	128.86	128.90	8/7/2018	24.4
11482	62359.31	19094.53	3:1	4/11/2018	126.16	128.29	128.36	9/5/2018	24.8
11483	62359.26	19099.98	3:1	4/11/2018	124.70	126.83	126.94	9/5/2018	25.3
11484	62359.22	19114.99	FLAT	4/11/2018	124.26	126.28	126.50	10/24/2018	26.6

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11485	62334.16	18334.90	FLAT	5/3/2018	124.81	126.83	126.88	10/24/2018	24.6
11486	62334.23	18350.04	3:1	5/3/2018	124.99	127.12	127.21	9/10/2018	25.0
11487	62334.19	18354.21	3:1	5/3/2018	126.16	128.29	128.40	9/10/2018	25.3
11488	62334.19	18375.00	FLAT	5/3/2018	126.86	128.88	129.01	9/10/2018	25.6
11489	62334.28	18399.99	FLAT	5/3/2018	126.90	128.93	128.98	8/7/2018	24.6
11490	62334.32	18425.04	FLAT	5/2/2018	126.93	128.95	129.00	8/7/2018	24.6
11491	62334.21	18449.98	FLAT	5/2/2018	126.94	128.96	129.01	8/7/2018	24.5
11492	62334.25	18474.99	FLAT	5/2/2018	126.97	128.99	129.00	8/7/2018	24.1
11493	62334.20	18499.93	FLAT	5/2/2018	126.98	129.01	129.05	8/7/2018	24.5
11494	62334.17	18525.02	FLAT	5/2/2018	127.00	129.03	129.05	8/6/2018	24.3
11495	62334.23	18550.04	FLAT	5/2/2018	126.99	129.02	129.04	8/6/2018	24.3
11496	62334.22	18574.94	FLAT	5/2/2018	127.00	129.03	129.05	8/6/2018	24.3
11497	62334.19	18600.03	FLAT	3/29/2018	127.09	129.11	129.16	8/6/2018	24.6
11498	62334.24	18625.05	FLAT	3/29/2018	127.09	129.11	129.16	8/6/2018	24.7
11499	62334.16	18649.96	FLAT	3/29/2018	127.07	129.09	129.13	8/6/2018	24.5
11500	62334.22	18675.04	FLAT	3/29/2018	127.10	129.13	129.16	8/6/2018	24.4
11501	62334.24	18700.04	FLAT	3/29/2018	127.08	129.11	129.12	8/6/2018	24.2
11502	62334.21	18724.98	FLAT	3/29/2018	127.10	129.12	129.13	8/6/2018	24.2
11503	62334.26	18750.00	FLAT	3/29/2018	127.06	129.08	129.09	8/6/2018	24.1
11504	62334.28	18775.02	FLAT	4/3/2018	127.15	129.17	129.29	8/6/2018	25.4
11505	62334.30	18799.99	FLAT	4/3/2018	127.17	129.19	129.21	8/6/2018	24.2
11506	62334.28	18825.00	FLAT	4/3/2018	127.10	129.13	129.21	8/6/2018	25.0
11507	62334.28	18850.02	FLAT	4/3/2018	127.04	129.07	129.17	8/6/2018	25.2
11508	62334.25	18874.99	FLAT	4/3/2018	127.13	129.15	129.20	8/6/2018	24.5
11509	62334.23	18899.98	FLAT	4/3/2018	127.12	129.15	129.17	8/7/2018	24.3
11510	62334.25	18925.01	FLAT	4/3/2018	126.99	129.01	129.13	8/7/2018	25.5
11511	62334.29	18950.00	FLAT	4/3/2018	127.09	129.12	129.24	8/7/2018	25.5
11512	62334.24	18975.01	FLAT	3/29/2018	126.76	128.79	128.84	8/7/2018	24.7
11513	62334.29	18999.97	FLAT	3/29/2018	126.74	128.77	128.81	8/7/2018	24.5
11514	62334.26	19024.93	FLAT	3/29/2018	126.88	128.90	129.03	8/7/2018	25.6
11515	62334.24	19050.05	FLAT	3/29/2018	126.85	128.87	128.91	8/7/2018	24.5
11516	62334.17	19075.00	FLAT	4/11/2018	126.80	128.83	128.98	8/7/2018	25.9
11517	62334.22	19093.85	3:1	4/11/2018	126.21	128.35	128.41	9/5/2018	24.8
11518	62334.25	19100.02	3:1	4/11/2018	124.49	126.62	126.77	9/5/2018	25.7
11519	62334.20	19114.98	FLAT	4/11/2018	123.92	125.94	126.17	10/24/2018	26.7
11520	62309.19	18334.90	FLAT	5/3/2018	124.85	126.87	126.89	10/24/2018	24.3
11521	62309.31	18349.99	3:1	5/3/2018	124.91	127.05	127.16	9/10/2018	25.4
11522	62309.32	18353.66	3:1	5/3/2018	126.12	128.25	128.38	9/10/2018	25.5
11523	62309.30	18375.02	3:1	5/3/2018	125.96	128.09	128.21	9/10/2018	25.4
11524	62309.27	18399.98	FLAT	5/3/2018	126.01	128.03	128.10	9/5/2018	24.8
11525	62308.67	18425.00	FLAT	5/2/2018	126.13	128.15	128.33	9/5/2018	26.2
11526	62309.23	18450.00	FLAT	5/2/2018	125.99	128.01	128.16	9/5/2018	25.7
11527	62309.18	18474.98	FLAT	5/2/2018	126.01	128.04	128.15	9/5/2018	25.4
11528	62309.30	18500.03	FLAT	5/2/2018	126.05	128.08	128.13	9/5/2018	24.7
11529	62309.24	18525.02	FLAT	5/2/2018	125.99	128.01	128.09	9/5/2018	24.9
11530	62309.29	18550.04	FLAT	5/2/2018	126.04	128.06	128.24	9/5/2018	26.1
11531	62306.93	18550.02	3:1	5/2/2018	125.92	128.05	128.23	9/5/2018	26.1
11532	62309.21	18574.97	FLAT	5/2/2018	125.95	127.97	128.07	9/5/2018	25.2
11533	62306.65	18574.91	3:1	5/2/2018	126.02	128.16	128.21	9/5/2018	24.6
11534	62309.25	18600.01	FLAT	4/3/2018	126.10	128.12	128.26	9/5/2018	25.7
11535	62306.26	18599.90	3:1	4/3/2018	126.02	128.16	128.22	9/5/2018	24.8
11536	62309.22	18625.01	FLAT	4/3/2018	126.07	128.09	128.23	9/5/2018	25.7
11537	62305.95	18624.91	3:1	4/3/2018	126.10	128.24	128.26	9/5/2018	24.2

488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11538	62309.27	18649.96	FLAT	4/3/2018	126.12	128.14	128.29	9/5/2018	25.9
11539	62306.06	18650.02	3:1	4/3/2018	125.88	128.01	128.05	9/5/2018	24.5
11540	62309.24	18675.02	FLAT	4/3/2018	126.07	128.09	128.15	9/5/2018	24.7
11541	62306.39	18674.96	3:1	4/3/2018	126.06	128.19	128.21	9/5/2018	24.2
11542	62309.22	18699.99	FLAT	4/3/2018	126.23	128.25	128.39	9/5/2018	25.7
11543	62306.71	18700.07	3:1	4/3/2018	126.21	128.35	128.42	9/5/2018	24.8
11544	62309.20	18725.01	FLAT	4/3/2018	126.10	128.12	128.22	9/5/2018	25.3
11545	62307.08	18725.09	3:1	4/3/2018	126.07	128.20	128.28	9/5/2018	24.9
11546	62309.21	18749.97	FLAT	4/3/2018	126.17	128.20	128.36	9/5/2018	26.0
11547	62309.25	18775.05	FLAT	4/3/2018	126.18	128.20	128.26	9/5/2018	24.8
11548	62309.23	18800.00	FLAT	4/3/2018	126.11	128.14	128.30	9/5/2018	25.9
11549	62309.28	18825.05	FLAT	4/3/2018	126.10	128.13	128.25	9/5/2018	25.4
11550	62309.22	18849.92	FLAT	4/3/2018	126.14	128.16	128.27	9/5/2018	25.3
11551	62309.21	18874.98	3:1	4/3/2018	126.11	128.24	128.31	9/5/2018	24.9
11552	62309.22	18899.97	3:1	4/3/2018	126.18	128.31	128.33	9/5/2018	24.3
11553	62309.28	18925.00	3:1	4/3/2018	126.20	128.33	128.39	9/5/2018	24.6
11554	62309.27	18950.00	3:1	4/11/2018	126.00	128.13	128.19	9/5/2018	24.7
11555	62309.24	18975.07	3:1	4/11/2018	126.11	128.24	128.33	9/5/2018	25.0
11556	62309.25	19000.06	3:1	4/11/2018	125.98	128.11	128.17	9/5/2018	24.7
11557	62309.27	19024.96	3:1	4/11/2018	125.83	127.96	128.03	9/5/2018	24.9
11558	62309.16	19049.97	3:1	4/11/2018	125.83	127.96	128.08	9/5/2018	25.4
11559	62309.29	19074.98	3:1	4/11/2018	125.81	127.94	128.01	9/5/2018	24.8
11560	62312.37	19093.44	3:1	4/11/2018	126.14	128.27	128.41	9/5/2018	25.6
11561	62309.29	19099.98	3:1	4/11/2018	124.30	126.43	126.55	9/5/2018	25.4
11562	62309.20	19115.02	FLAT	4/11/2018	124.10	126.12	126.24	10/24/2018	25.4
11563	62290.03	18335.02	FLAT	5/3/2018	124.44	126.46	126.60	10/24/2018	25.7
11564	62284.98	18334.98	FLAT	5/3/2018	124.65	126.68	126.85	10/24/2018	26.1
11565	62285.00	18349.97	FLAT	5/3/2018	124.83	126.85	126.95	10/24/2018	25.2
11566	62284.97	18374.93	FLAT	5/3/2018	124.87	126.90	127.00	10/24/2018	25.3
11567	62285.03	18399.96	FLAT	5/3/2018	124.93	126.96	127.02	10/24/2018	24.8
11568	62284.98	18424.95	FLAT	5/2/2018	125.08	127.10	127.19	10/24/2018	25.0
11569	62284.99	18450.00	FLAT	5/2/2018	125.08	127.10	127.19	10/24/2018	25.0
11570	62285.01	18475.00	FLAT	5/2/2018	125.25	127.27	127.44	10/24/2018	25.9
11571	62285.00	18500.08	FLAT	5/2/2018	125.31	127.33	127.51	10/24/2018	26.2
11572	62285.02	18524.95	FLAT	5/2/2018	125.49	127.51	127.66	10/24/2018	25.8
11573	62284.98	18550.08	FLAT	5/2/2018	125.65	127.68	127.82	10/24/2018	25.7
11574	62285.02	18575.04	FLAT	5/2/2018	125.61	127.63	127.81	10/24/2018	26.2
11575	62285.10	18599.98	FLAT	4/3/2018	125.77	127.79	127.98	10/24/2018	26.3
11576	62284.98	18624.99	FLAT	4/3/2018	125.69	127.71	127.93	10/24/2018	26.6
11577	62285.10	18649.98	FLAT	4/3/2018	125.57	127.59	128.03	10/24/2018	29.3
11578	62284.94	18675.01	FLAT	4/3/2018	125.54	127.56	127.86	10/24/2018	27.5
11579	62284.98	18700.01	FLAT	4/3/2018	125.39	127.41	127.81	10/24/2018	28.8
11580	62284.98	18725.01	FLAT	4/3/2018	125.45	127.47	127.80	10/24/2018	28.0
11581	62285.01	18749.98	FLAT	4/3/2018	125.44	127.46	127.66	10/24/2018	26.3
11582	62284.96	18775.09	FLAT	4/3/2018	125.35	127.37	127.54	10/24/2018	26.0
11583	62284.93	18800.06	FLAT	4/3/2018	125.36	127.39	127.57	10/24/2018	26.3
11584	62285.00	18825.04	FLAT	4/3/2018	125.19	127.21	127.43	10/24/2018	26.6
11585	62285.06	18849.99	FLAT	4/3/2018	124.99	127.01	127.28	10/24/2018	27.2
11586	62285.04	18874.99	FLAT	4/3/2018	124.94	126.96	127.17	10/24/2018	26.6
11587	62285.00	18900.06	FLAT	4/3/2018	124.77	126.80	127.01	10/24/2018	26.6
11588	62285.04	18924.97	FLAT	4/3/2018	124.79	126.82	127.02	10/24/2018	26.5
11589	62285.06	18949.99	FLAT	4/11/2018	124.62	126.65	126.85	10/24/2018	26.4
11590	62284.99	18975.00	FLAT	4/11/2018	124.38	126.40	126.80	10/24/2018	28.7

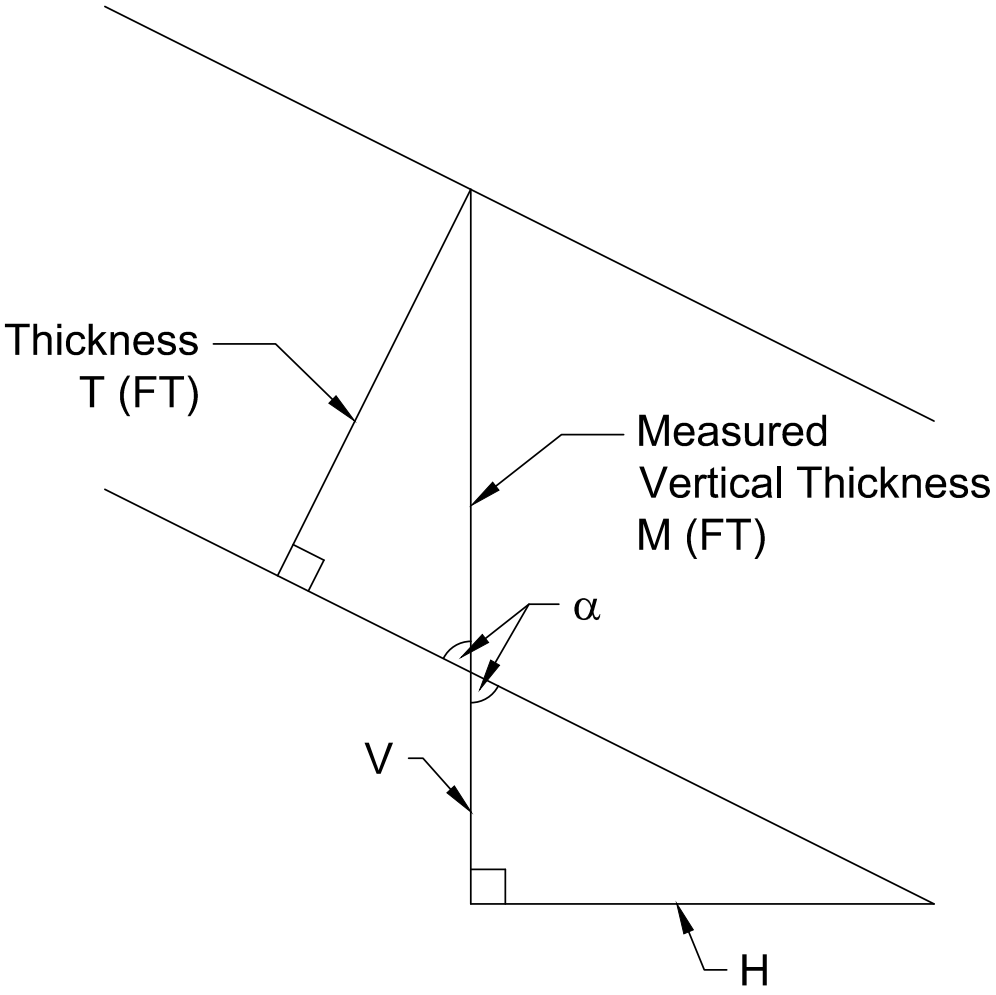
488-1D 489-D CPRB Coal Ash Basin Closure

Landfill Cover Thickness Verification Data

Envirocon

DSN Point No.	Northing	Easting	Slope Zone	Date of Subgrade Survey	Subgrade Surface AB Elevation	DSN FG Elevation	FG AB Elevation	Date of Topsoil Survey	Verify Cover Thickness (IN)
11591	62285.01	19000.07	FLAT	4/11/2018	124.37	126.39	126.70	10/24/2018	27.7
11592	62284.97	19024.89	FLAT	4/11/2018	124.29	126.31	126.75	10/24/2018	29.2
11593	62284.92	19049.84	FLAT	4/11/2018	124.10	126.12	126.51	10/24/2018	28.7
11594	62285.01	19074.99	FLAT	4/11/2018	124.11	126.13	126.34	10/24/2018	26.4
11595	62284.98	19099.99	FLAT	4/11/2018	123.97	126.00	126.20	10/24/2018	26.5
11596	62290.02	19115.03	FLAT	4/11/2018	123.92	125.94	126.14	10/24/2018	26.3
11597	62284.98	19114.99	FLAT	4/11/2018	124.00	126.02	126.23	10/24/2018	26.5

Corrections for Slope Surface Thickness Vs. As-Built Survey Data



$$\text{Tan}(\alpha) = (H/V)$$
$$\alpha = \text{ArcTan}(H/V)$$
$$\text{Sin}(\alpha) = (T/M)$$
$$M = T/(\text{Sin}(\alpha))$$
$$M = T/\{\text{Sin}[\text{ArcTan}(H/V)]\}$$

NOTES:

1) □ and V are t□e supplied □ori□ontal : Vertical values for t□e slope (e.g. a 2:1 □as a □ value of 2 and V value of 1).

Prepared By

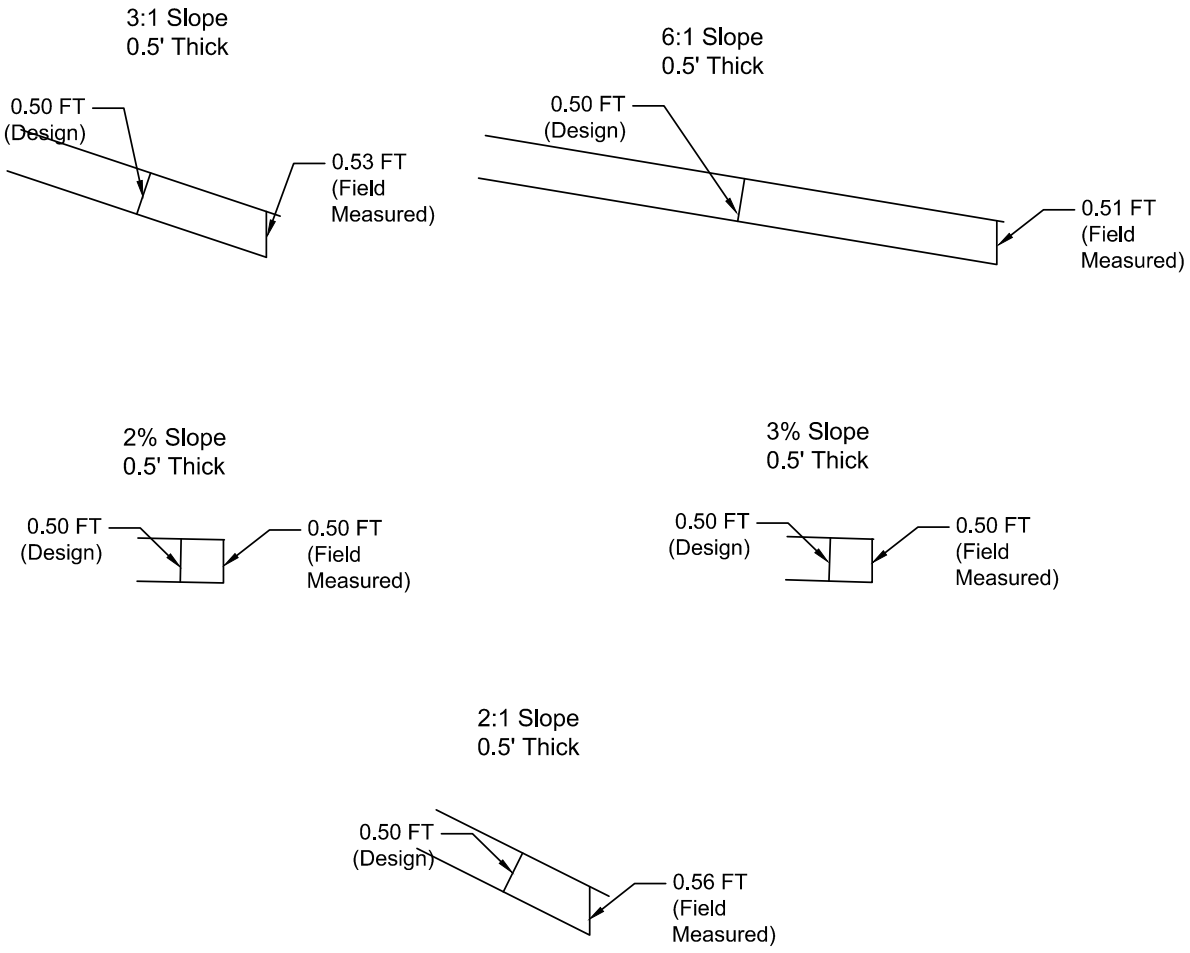
Envirocon

7878 Wadsworth Blvd.
Suite 340
Arvada, CO 80003

Solution to Vertical T□ic□ness Given Perpendicular T□ic□ness □ Slope

03-29-2016

Corrections for Slope Surface Thickness Vs. As-Built Survey Data



0 2□

SC□L□ I□ F□□T

NOTES:

1) T□e steeper t□e slope□t□e larger t□e discrepanc□between t□e t□ic□ness as measured verticall□ and perpendicularl□. For flat slopes t□e amount is negligible.

Prepared By

Envirocon

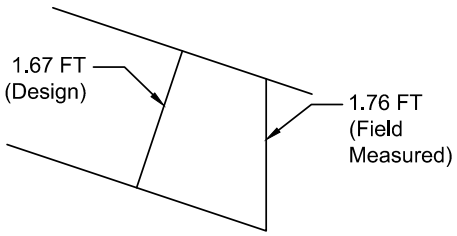
7878 Wadsworth Blvd.
Suite 340
Arvada, CO 80003

Vertical vs Perpendicular T□ic□ness Measurements 6l□ T□ic□La□er

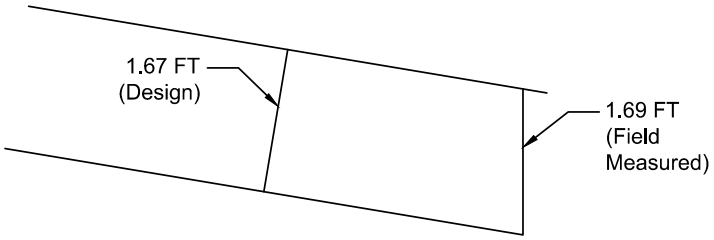
03-1□-2016

Corrections for Slope Surface Thickness Vs. As-Built Survey Data

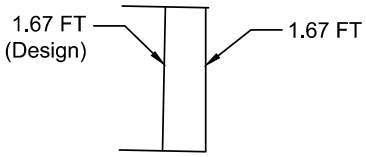
3:1 Slope
20" Thick



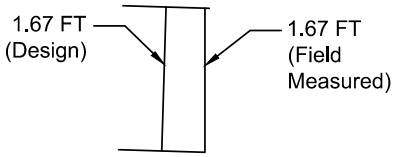
6:1 Slope
20" Thick



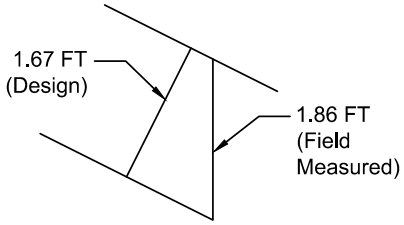
2% Slope
20" Thick



3% Slope
20" Thick



2:1 Slope
20" Thick



0 2□

SC□L□ I□ F□□T

NOTES:

1) T□e steeper t□e slope□t□e larger t□e discrepanc□between t□e t□ic□ness as measured verticall□ and perpendicularl□. For flat slopes t□e amount is negligible.

Prepared By

Envirocon

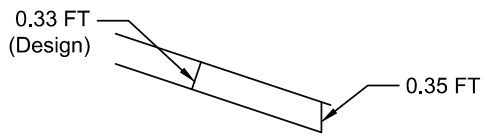
7878 Wadsworth Blvd.
Suite 340
Arvada, CO 80003

Vertical vs Perpendicular T□ic□ness Measurements 20I□ T□ic□La□er

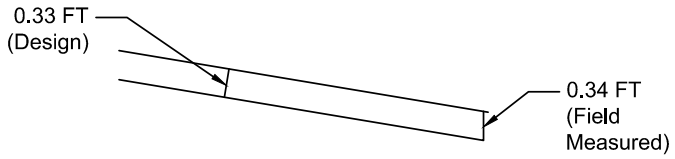
03-1□-2016

Corrections for Slope Surface Thickness Vs. As-Built Survey Data

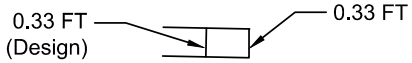
3:1 Slope
4" Thick



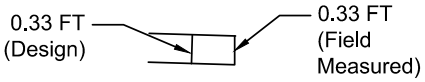
6:1 Slope
4" Thick



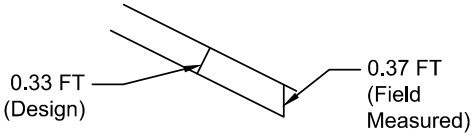
2% Slope
4" Thick



3% Slope
4" Thick



2:1 Slope
4" Thick



0 2□

SC□L□ I□ F□□T

NOTES:

1) T□e steeper t□e slope□t□e larger t□e discrepanc□between t□e t□ic□ness as measured verticall□ and perpendicularl□. For flat slopes t□e amount is negligible.

Prepared By

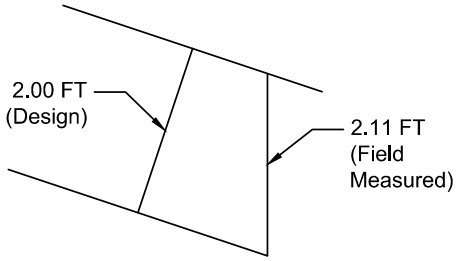
Envirocon
7878 Wadsworth Blvd.
Suite 340
Arvada, CO 80003

Vertical vs Perpendicular T□ic□ness Measurements 4l□ T□ic□La□er

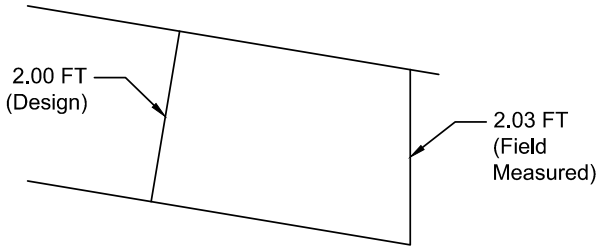
03-1□-2016

Corrections for Slope Surface Thickness Vs. As-Built Survey Data

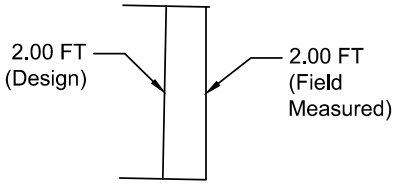
3:1 Slope
2' Thick



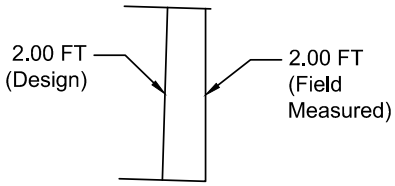
6:1 Slope
2' Thick



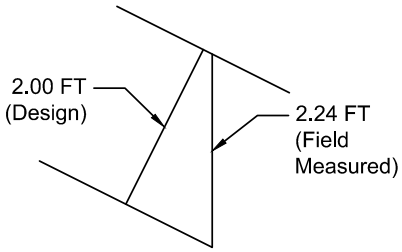
2% Slope
2' Thick



3% Slope
2' Thick



2:1 Slope
2' Thick



0 2□

SC□L□ I□ F□□T

NOTES:

1) T□e steeper t□e slope□t□e larger t□e discrepanc□between t□e t□ic□ness as measured verticall□ and perpendicularl□. For flat slopes t□e amount is negligible.

Prepared By

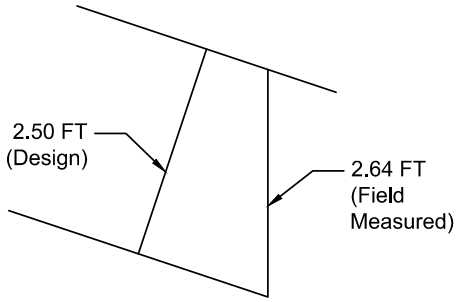
Envirocon
7878 Wadsworth Blvd.
Suite 340
Arvada, CO 80003

Vertical vs Perpendicular T□ic□ness Measurements 24l□ T□ic□La□er

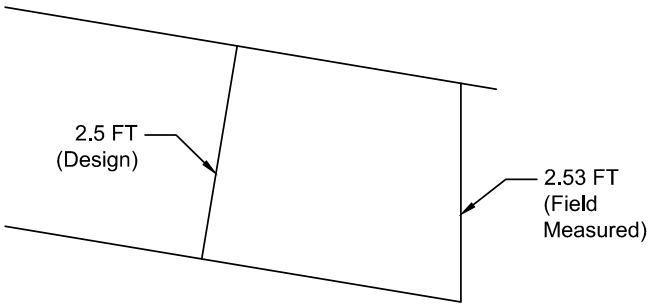
03-1□-2016

Corrections for Slope Surface Thickness Vs. As-Built Survey Data

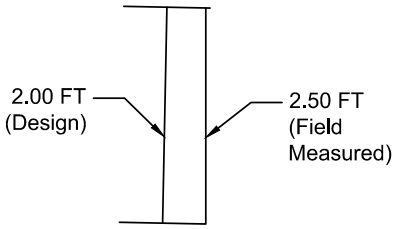
3:1 Slope
2.5' Thick



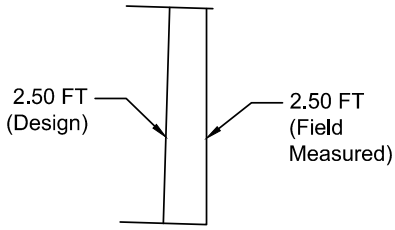
6:1 Slope
2.5' Thick



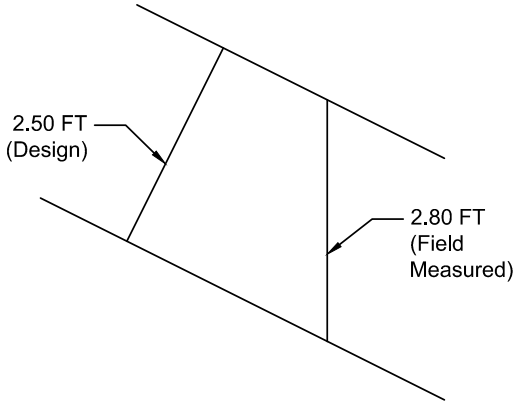
2% Slope
2.5' Thick



3% Slope
2.5' Thick



2:1 Slope
2.5' Thick



0 2□

SC□L□ I□ F□□T

NOTES:

1) T□e steeper t□e slope□t□e larger t□e discrepanc□between t□e t□ic□ness as measured verticall□ and perpendicularl□. For flat slopes t□e amount is negligible.

Prepared By

Envirocon

7878 Wadsworth Blvd.
Suite 340
Arvada, CO 80003

Vertical vs Perpendicular T□ic□ness Measurements 24I□ T□ic□La□er

03-1□-2016

This page was intentionally left blank.

APPENDIX R

CLEAN FILL EVALUATION OF BERM SOILS FROM THE 488-1D ASH BASIN AND INLET BASINS

This page was intentionally left blank.

Clean Fill Evaluation of Berm Soil from the 488-1D Ash Basin and Inlet Basins

History — Phase 1 Project Scope

The results of soil samples that were collected from two source areas (Common Fill [and topsoil] Borrow Site located near D Area at the Savannah River Site [SRS], and the Jackson Topsoil Stockpile located outside the SRS boundary in Jackson, South Carolina) were previously presented and evaluated in the *Removal Action Report for the 488-2D Ash Basin and 488-4D Ash Landfill* (SRNS 2017). The evaluation concluded that the soil from both source areas met the requirements for use as fill material/top soil at the D-Area Operable Unit (DAOU) under an unrestricted (residential) land use scenario. The soil was used as fill material and/or top soil for the Phase 1 project scope which included the 488-2D Ash Basin and the 488-4D Ash Landfill.

Clean Fill Evaluation — Phase 2 Project Scope

The soil described in the previous paragraph was also used as fill material and/or top soil for the Phase 2 project scope which includes the 489-D Coal Pile Runoff Basin, 488-1D Ash Basin and Inlet Basins, and the area outside the east end of the 488-4D Ash Landfill as appropriate.

This evaluation focusses on additional samples collected from berm soil at the 488-1D Ash Basin and Inlet Basins. The samples were evaluated per the requirements of the *SRS Fill and Soil Cover Material Verification Protocol* (WSRC 2003). This evaluation concludes that the soil meets the requirements for use as fill material in the 488-1D Ash Basin and Inlet Basins under an unrestricted (residential) land use scenario.

Sample Collection and Analysis

Samples were collected and analyzed in accordance with the testing requirements for common fill and top soil that are outlined in the *Removal Action Design Plan (RADP) for the 488-1D Ash Basin and the 489-D Coal Pile Runoff Basin (U)* (SRNS 2016). Soil used as fill material was sampled at an initial rate of one composite sample every 765 cubic meters (m^3) (1,000 cubic yards [yd^3]) for the first 11,468 m^3 (15,000 yd^3); once this material was demonstrated to be acceptable, both by concentration and spatial distribution, representative samples were collected at a rate of one

composite sample every 11,468 m^3 (15,000 yd^3), thereafter. Figure R-1 provides the berm sampling details and sample locations. A total of eight sampling stations are identified as follows:

488-1D Ash Basin Berms: 488-1D BRMFLL-01 through 488-1D BRMFLL-04, composite samples collected from five intervals: 1 to 3 feet (ft), 3 to 6 ft, 6 to 9 ft, 9 to 12-ft, and 12 to 16 ft: 20 samples total.

Inlet Basin Berms: 488-1D BRMFLL-05 through 488-1D BRMFLL-08, composite samples collected from four intervals: 1 to 3 ft, 3 to 5 ft, 6 to 8 ft, and 8 to 10 ft. Sixteen (16) samples total were planned but only 15 were collected because ash was visually apparent at the 1- to 3-ft interval at Station 488-1D BRMFLL-07. This station was not sampled, and the ash was removed and placed in the eastern portion of the 488-1D Ash Basin under the (future) geosynthetic cover system.

The 35 berm samples from the 488-1D Ash Basin and Inlet Basins were analyzed for target analyte list, target compound list, gross alpha and non-volatile beta. Samples exceeding the 20 pCi/g gross alpha and/or 50 pCi/g non-volatile beta screening limits triggered additional isotopic analysis.

Data Evaluation Method

The maximum detected concentration of each constituent was compared to the default residential soil values from the *USEPA Regional Screening Levels (RSLs)* website, dated November 2017, for nonradiological constituents (USEPA 2017), and site-specific residential values obtained from the *USEPA Preliminary Remedial Goals (PRGs) for Radionuclides* website, dated January 2018, for radiological constituents (USEPA 2018). Constituents with maximum detected concentrations that exceeded these risk-based thresholds were then compared to the SRS background soil 95th percentile concentration identified in the *Background Soils Statistical Summary Report for the Savannah River Site,* Appendix B-2 (all depths) (WSRC 2006). Constituents that did not exceed the preliminary screening criteria met the acceptance criteria and no further evaluation was needed. Constituents that exceeded the preliminary screening criteria were further evaluated in an uncertainty discussion.

Data Evaluation Results

All detected results, sorted by ANALYTE from high concentration to low concentration, are provided in Attachment R-1. All analytical results, including nondetects, sorted by STATION ID, are provided in Attachment R-2.

The preliminary data evaluation is shown in Table R-1. The maximum detected concentration of six constituents (i.e., arsenic, chromium, cesium-137, potassium-40, thorium-232 and uranium-238) exceeded the residential RSL/PRG threshold. The concentration of these constituents was then compared to the SRS background soil 95th percentile concentration (WSRC 2006). Four of these constituents (i.e., arsenic, chromium, cesium-137 and potassium-40) had concentrations that were less than SRS background 95th percentile concentration and were dropped from further evaluation. However, the thorium-232 and uranium-238 maximum detected concentrations are slightly greater than the SRS 95th percentile concentration and were evaluated further as provided below.

Eleven of the 35 berm samples exceeded the 20 pCi/g gross alpha screening limit and additional isotopic analysis was conducted, including thorium-232 and uranium-238 (and their daughter products).

Thorium-232

Thorium-232 was detected in 11 of 11 samples, with one sample being J-qualified (an estimated value). Sample concentrations ranged from 0.89 pCi/g to 2.58 pCi/g. The data screening was conservatively conducted using the highest detected concentration in the entire decay series, which was radium-228 with a maximum detected concentration of 2.69 pCi/g. The thorium-232 secular equilibrium PRG considers all the daughter products in the decay series.

The maximum detected concentration of thorium-232 in SRS background soils is 2.79 pCi/g; the maximum detected concentration of radium-228 (a daughter product) in SRS background soils is 6.75 pCi/g. Concentrations of thorium-232 in the berm samples are within the range of what can be found naturally in SRS background soils.

Thorium-232 is common in SRS soils because it is a naturally-occurring constituent of primordial origin with a half-life of 14 billion years. Primordial nuclides are those that are long-lived and have existed in the earth's crust throughout history. The main contributors to external exposure from primordial nuclides are potassium-40, uranium-238 and thorium-232 (and their daughter products).

Thorium had a very limited role in SRS reactor processes, but there is no history of disposal of reactor waste in D Area.

Uranium-238

Uranium-238 was detected in 11 of 11 samples with a range of 0.66 pCi/g to 1.81 pCi/g. The data screening was conservatively conducted using the highest detected concentration in the entire decay series, (which in this case was uranium-238). The uranium-238 secular equilibrium PRG considers all the daughter products in the decay series.

The maximum detected concentration of uranium-238 in SRS background soils is 1.90 pCi/g; the maximum detected concentration of thorium-230 in SRS background soils (a daughter product), is 2.78 pCi/g. Concentrations of uranium-238 in the berm samples are within the range of what can be found naturally in SRS background soils.

Uranium-238 is a naturally-occurring constituent of primordial origin with a half-life of 4.5 billion years. Primordial nuclides are those that are long-lived and have existed in the earth's crust throughout history. The main contributors to external exposure from primordial nuclides are potassium-40, uranium-238 and thorium-232 (and their daughter products).

The uranium isotopes (e.g., uranium-238, uranium-235, and uranium-233/234) were used in SRS reactor operations, but also occur naturally and are widespread in Coastal Plain soils and sediments. Isotopic concentration ratios (e.g., uranium-238 to uranium-233/234) are very close to unity, which is expected for natural uranium and is not consistent with reactor uranium. Isotopic considerations demonstrate that the berm soil samples are natural uranium. There is no history of disposal of reactor waste in D Area.

Conclusion

This evaluation concludes that the berm soil from the 488-1D Ash Basin and Inlet Basins meets the requirements for use as fill material in the 488-1D Ash Basin and Inlet Basins under an unrestricted (residential) land use scenario.

References

SRNS, 2016. *Removal Action Design Plan (RADP) for the 488-1D Ash Landfill and 489-D Coal Pile Runoff Basin (U),* Revision 1, SRNS-RP-2015-00196, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2017. *Removal Action Report for the 488-2D Ash Basin and 488-4D Ash Landfill (U),* Revision 1, SRNS-RP-2017-00057, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

USEPA, 2017. *USEPA Regional Screening Levels* website, United States Environmental Protection Agency, http://epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

USEPA, 2018. *USEPA Preliminary Remediation Goals for Radionuclides* website, United States Environmental Protection Agency, http://epa-prg-ornl.gov/radionuclides/

WSRC, 2003. *SRS Fill and Soil Cover Material Verification Protocol (U),* Technical Memorandum ERTEC-2003-00012, Westinghouse Savannah River Company, Savannah River Site, Aiken SC

WSRC, 2006. *Background Soils Statistical Summary Report for Savannah River Site (U),* Revision 1, ERD-EN-2005-0223, Washington Savannah River Company, Savannah River Site, Aiken, SC

This page was intentionally left blank.

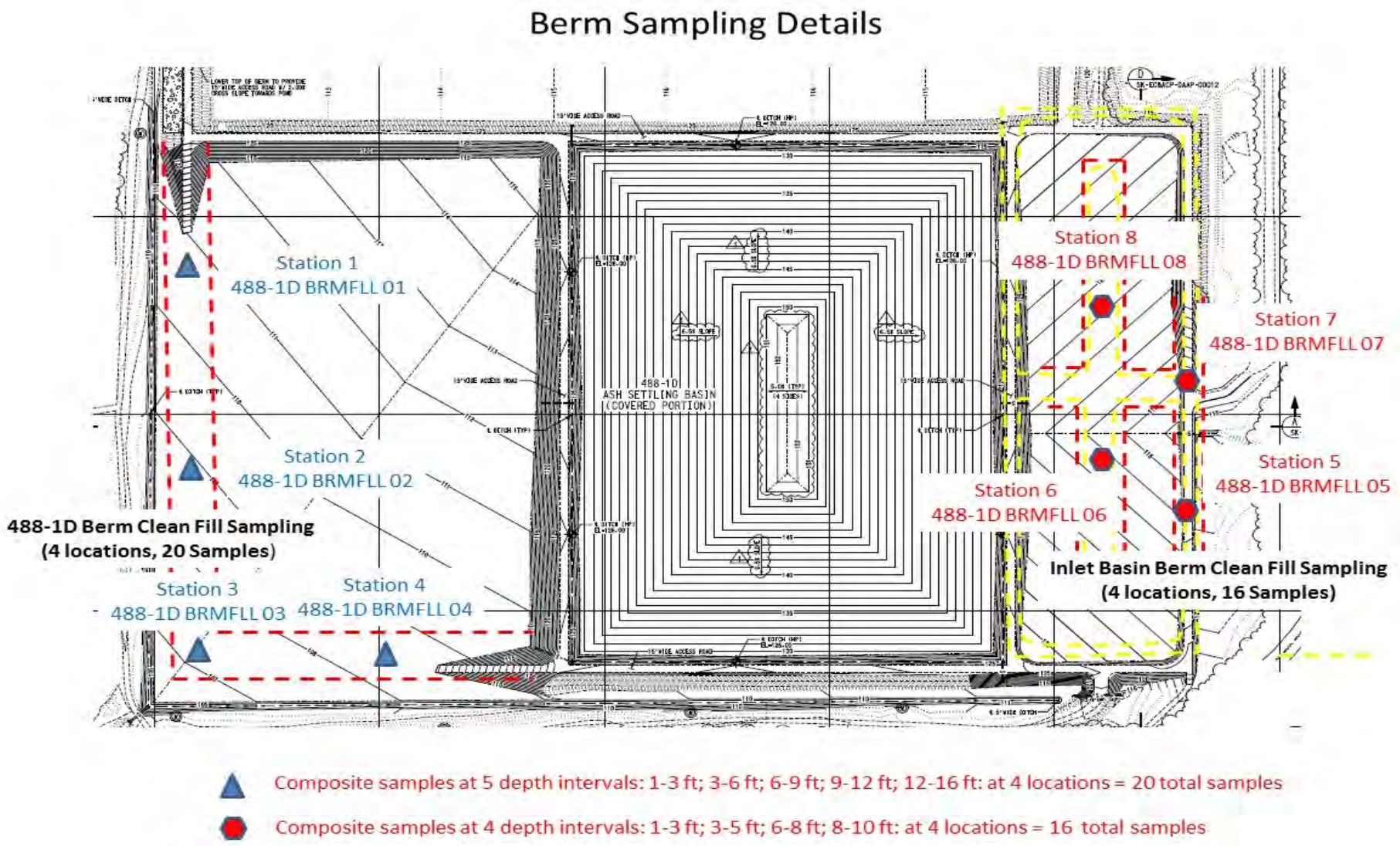


Figure R-1. Berm Soil Sampling Locations at the 488-1D Ash Basin and Inlet Basins

Table R-1. Clean Fill Evaluation of Berm Soils from the 488-1D Ash Basin and Inlet Basins

Station Name	Analyte[1]	Maximum Result[2]	Units	Lab Qual.	Residential RSL/PRG[3]	Max Result > RSL/PRG?	SRS 95th%Tile[4]	Max Result > SRS 95th%Tile?	Meets Clean Fill Criteria?[5]
Inorganics									
488-1D-BRMFLL-01	Aluminum	8550	mg/kg		7.7E+04	no			YES
488-1D-BRMFLL-06	Antimony	1.08	mg/kg	J	3.1E+01	no			YES
488-1D-BRMFLL-01	Arsenic	3.93	mg/kg		6.8E-01	YES	8.20	no	YES
488-1D-BRMFLL-02	Barium	67.8	mg/kg		1.5E+04	no			YES
488-1D-BRMFLL-02	Beryllium	0.408	mg/kg	J	1.6E+02	no			YES
488-1D-BRMFLL-08	Calcium	617	mg/kg		EN[6]	no			YES
488-1D-BRMFLL-08	Chromium	17.2	mg/kg		3.0E-01	YES	29.92	no	YES
488-1D-BRMFLL-05	Cobalt	1.26	mg/kg		2.3E+01	no			YES
488-1D-BRMFLL-08	Copper	4.25	mg/kg		3.1E+03	no			YES
488-1D-BRMFLL-01	Iron	19900	mg/kg		5.5E+04	no			YES
488-1D-BRMFLL-02	Lead	8.99	mg/kg		4.0E+02	no			YES
488-1D-BRMFLL-01	Magnesium	257	mg/kg		EN[6]	no			YES
488-1D-BRMFLL-04	Manganese	134	mg/kg		1.8E+03	no			YES
488-1D-BRMFLL-04	Mercury	0.0441	mg/kg		1.1E+01	no			YES
488-1D-BRMFLL-04	Nickel	2.55	mg/kg		1.5E+03	no			YES
488-1D-BRMFLL-01	Potassium	210	mg/kg		EN[6]	no			YES
488-1D-BRMFLL-01	Selenium	1.33	mg/kg	J	3.9E+02	no			YES
488-1D-BRMFLL-01	Silver	0.728	mg/kg		3.9E+02	no			YES
488-1D-BRMFLL-04	Sodium	58	mg/kg	J	EN[6]	no			YES
488-1D-BRMFLL-01	Vanadium	32.3	mg/kg		3.9E+02	no			YES
488-1D-BRMFLL-05	Zinc	10	mg/kg		2.3E+04	no			YES
Pesticides									
488-1D-BRMFLL-05	DDD	0.00421	mg/kg		1.9E+00	no			YES
488-1D-BRMFLL-05	DDE	0.00802	mg/kg		2.0E+00	no			YES
488-1D-BRMFLL-05	DDT	0.001	mg/kg	J	1.9E+00	no			YES
Organics									
488-1D-BRMFLL-08	Acetone	0.0256	mg/kg		6.1E+04	no			YES
488-1D-BRMFLL-08	Methyl Ethyl Ketone	0.0039	mg/kg	J	2.7E+04	no			YES
488-1D-BRMFLL-08	Toluene	0.000415	mg/kg	J	4.9E+03	no			YES
488-1D-BRMFLL-07	Phenanthrene	0.017	mg/kg	J	none[7]	no			YES

Table R-1. Clean Fill Evaluation of Berm Soils from the 488-1D Ash Basin and Inlet Basins

Station Name	Analyte[1]	Maximum Result[2]	Units	Lab Qual.	Residential RSL/PRG[3]	Max Result > RSL/PRG?	SRS 95th%Tile[4]	Max Result > SRS 95th%Tile?	Meets Clean Fill Criteria?[5]
Radionuclides									
488-1D-BRMFLL-02	Cesium-137	0.0875	pCi/g	J	4.55E-02	YES	0.16	no	YES
488-1D-BRMFLL-02	Potassium-40	3.21	pCi/g		1.44E-01	YES	3.30	no	YES
488-1D-BRMFLL-03	Thorium-232	2.69	pCi/g		9.85E-03	YES	1.94	YES	no
488-1D-BRMFLL-01	Radium-228	2.69	pCi/g		NA[8]				
488-1D-BRMFLL-02	Actinium-228	1.46	pCi/g		NA[8]				
488-1D-BRMFLL-03	Thorium-228	2.67	pCi/g		NA[8]				
488-1D-BRMFLL-02	Lead-212	1.48	pCi/g		NA[8]				
488-1D-BRMFLL-02	Thallium-208	0.418	pCi/g		NA[8]				
488-1D-BRMFLL-03	Uranium-238	1.81	pCi/g		1.24E-02	YES	1.22	YES	no
488-1D-BRMFLL-03	Uranium-233/234	1.8	pCi/g		NA[9]				
488-1D-BRMFLL-03	Thorium-230	1.24	pCi/g		NA[9]				
488-1D-BRMFLL-01	Radium-226	1.43	pCi/g		NA[9]				
488-1D-BRMFLL-02	Lead-214	1.19	pCi/g		NA[9]				
488-1D-BRMFLL-02	Bismuth-214	0.956	pCi/g		NA[9]				

1. Analytes detected from sample stations 488-1D-BRMFLL-01 through 488-1D-BRMFLL-08 (35 total samples).
2. Maximum detected concentration from all samples (35 total).
3. Residential RSLs from *USEPA Regional Screening Levels* Table, dated November 2017. Residential PRGs are site-specific values derived using the *USEPA Radionuclide Preliminary Remediation Goals for Superfund* Website Calculator (dated January 2018) and eliminating the fruit and vegetable consumption pathways. All other inputs are default parameters (secular equilibrium PRG).
4. SRS 95th percentile concentration obtained from the *Background Soils Statistical Summary Report for Savannah River Site*, ERD-EN-2005-0223, Rev. 1, Appendix B-2.
5. Clean fill criteria described in Technical Memorandum, *SRS Fill and Cover Material Verification Protocol (U)*, ERTEC-2003-00012, December 18, 2003.
6. EN = Essential Nutrient; RSL is not available for this constituent
7. None = A RSL is not available for this constituent.
8. NA = Not Applicable. Ra-228, Ac-228, Th-228, Pb-212 and Tl-208 are daughter products of Th-232 and can be used to estimate its activity since the constituents are in secular equilibrium. The highest activity (most conservative) was used in this assessment. The daughter products are not screened separately since they are considered in the Th-232 secular equilibrium PRG.
9. NA = Not Applicable; U-234, Th-230, Ra-226, Pb-214 and Bi-214 are daughter products of U-238 and can be used to estimate its activity since the constituents are in secular equilibrium. The highest activity (most conservative) was used in this assessment. The daughter products are not screened separately since they are considered in the U-238 secular equilibrium PRG.

This page was intentionally left blank.

ATTACHMENTS

Attachment -R-1 – **Detected Results from Samples 488-1D-BRMFLL-01 through 488-1D-BRMFLL-08**

Attachment -R-2 – **All Data from Samples 488-1D-BRMFLL-01 through 488-1D-BRMFLL-08**

This page was intentionally left blank.

APPENDIX R
Attachment R1

Detected Results from Samples
488-1D-BRMFLL-01 through 488-1D-BRMFLL-08

This page was intentionally left blank.

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Aluminum	8,020	23,600		8,550,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	Aluminum	7,550	22,200		8,220,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Aluminum	6,850	20,100		5,670,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Aluminum	7,620	22,400		5,490,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Aluminum	7,390	21,700		5,330,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Aluminum	7,460	21,900		5,290,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Aluminum	7,370	21,700		5,270,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Aluminum	7,610	22,400		5,170,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-07	Aluminum	6,810	20,000		5,080,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Aluminum	7,750	22,800		5,030,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Aluminum	7,270	21,400		4,950,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Aluminum	6,840	20,100		4,850,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Aluminum	6,520	19,200		4,620,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Aluminum	7,440	21,900		4,590,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	Aluminum	7,040	20,700		4,510,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Aluminum	7,120	21,000		4,490,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Aluminum	6,770	19,900		4,480,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Aluminum	7,060	20,800		4,430,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Aluminum	7,220	21,200		4,370,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Aluminum	7,340	21,600		4,350,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Aluminum	6,830	20,100		4,270,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Aluminum	7,160	21,100		4,230,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Aluminum	6,630	19,500		4,220,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Aluminum	6,550	19,300		4,210,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Aluminum	7,340	21,600		4,180,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-07	Aluminum	7,150	21,000		4,140,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Aluminum	7,250	21,300		3,890,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Aluminum	7,030	20,700		3,860,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Aluminum	6,820	20,000		3,820,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Aluminum	6,700	19,700		3,710,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Aluminum	6,890	20,300		3,340,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Aluminum	7,510	22,100		3,140,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Aluminum	6,940	20,400		3,030,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Aluminum	6,580	19,400		2,730,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Aluminum	6,690	19,700		2,620,000	µg/kg	REG	9	12	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	Antimony	361	1,090	J	1,080	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Antimony	356	1,080	J	562	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Antimony	352	1,070	J	376	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Antimony	334	1,010	J	343	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Arsenic	539	3,240		3,930	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Arsenic	590	3,540		3,720	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Arsenic	487	2,920		3,640	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Arsenic	548	3,290		3,370	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Arsenic	533	3,200	J	3,160	µg/kg	REG	3	6	ft
488-1D-BRMFLL-07	Arsenic	524	3,140		3,150	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Arsenic	559	3,360	J	3,110	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Arsenic	519	3,120	J	3,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	Arsenic	501	3,000	J	2,570	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Arsenic	504	3,020	J	2,450	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Arsenic	543	3,260	J	2,210	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Arsenic	503	3,020	J	2,190	µg/kg	REG	3	6	ft
488-1D-BRMFLL-07	Arsenic	526	3,150	J	2,130	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Arsenic	531	3,180	J	2,080	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	Arsenic	480	2,880	J	2,070	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Arsenic	493	2,960	J	2,060	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Arsenic	502	3,010	J	2,030	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Arsenic	517	3,100	J	2,030	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Arsenic	517	3,100	J	2,030	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Arsenic	547	3,280	J	1,950	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Arsenic	539	3,240	J	1,860	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Arsenic	534	3,210	J	1,860	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Arsenic	506	3,040	J	1,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Arsenic	555	3,330	J	1,770	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Arsenic	570	3,420	J	1,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	Arsenic	501	3,010	J	1,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Arsenic	481	2,890	J	1,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Arsenic	542	3,250	J	1,450	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Arsenic	526	3,160	J	1,410	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Arsenic	510	3,060	J	1,370	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Arsenic	560	3,360	J	1,270	µg/kg	REG	1	3	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	Arsenic	552	3,310	J	1,050	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Arsenic	498	2,990	J	1,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Arsenic	492	2,950	J	913	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Arsenic	484	2,900	J	907	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Barium	112	560		67,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Barium	109	543		65,500	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Barium	108	542		52,500	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Barium	95.9	480		42,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Barium	109	547		39,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Barium	105	526		39,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Barium	105	524		38,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Barium	105	526		37,900	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Barium	108	539		34,100	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Barium	107	533		33,800	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Barium	101	506		30,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Barium	110	548		30,600	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Barium	99.6	498		29,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Barium	107	534		28,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Barium	110	552		27,500	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Barium	111	555		26,600	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Barium	98.5	493		26,400	µg/kg	REG	6	9	ft
488-1D-BRMFLL-08	Barium	97.5	487		25,500	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	Barium	102	510		24,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Barium	104	519		23,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Barium	98.4	492		23,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Barium	100	501		22,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Barium	103	517		22,300	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Barium	108	539		21,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Barium	103	517		21,400	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Barium	96.8	484		19,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Barium	100	501		19,400	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Barium	106	531		19,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Barium	100	502		18,200	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Barium	118	590		18,100	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Barium	112	559		17,600	µg/kg	REG	3	6	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	Barium	101	503		16,800	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Barium	96.3	481		16,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Barium	114	570		14,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Barium	101	504		11,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Beryllium	112	560	J	408	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Beryllium	108	542	J	401	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Beryllium	95.9	480	J	343	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Beryllium	105	526	J	250	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Beryllium	97.5	487	J	238	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	Beryllium	105	526	J	237	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Beryllium	99.6	498	J	217	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Beryllium	103	517	J	167	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Beryllium	100	501	J	165	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Beryllium	96.8	484	J	164	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Beryllium	104	519	J	163	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Beryllium	96.3	481	J	154	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Beryllium	100	501	J	129	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Beryllium	106	531	J	128	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Beryllium	105	524	J	127	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Calcium	7,800	24,400		617,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Calcium	7,670	24,000		587,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	Calcium	8,550	26,700		455,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Calcium	8,040	25,100		354,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	Calcium	8,970	28,000		313,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Calcium	8,950	28,000		311,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Calcium	7,700	24,100		268,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Calcium	8,280	25,900		256,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Calcium	8,030	25,100		251,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	Calcium	8,770	27,400		242,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Calcium	7,970	24,900		211,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Calcium	8,880	27,700		185,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-07	Calcium	8,380	26,200		172,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Calcium	8,630	27,000		168,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Calcium	7,880	24,600		167,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Calcium	9,440	29,500		165,000	µg/kg	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Calcium	8,530	26,700		164,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Calcium	8,830	27,600		163,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Calcium	8,270	25,800		160,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Calcium	8,690	27,200		154,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Calcium	8,160	25,500		149,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Calcium	8,410	26,300		149,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Calcium	8,100	25,300		142,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Calcium	8,490	26,500		131,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Calcium	8,420	26,300		130,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Calcium	8,670	27,100		129,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-01	Calcium	8,630	27,000	J	125,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Calcium	8,020	25,100		121,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Calcium	8,750	27,400	J	108,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Calcium	7,740	24,200		101,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Calcium	7,880	24,600	J	93,200	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Calcium	8,310	26,000		89,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Calcium	8,060	25,200	J	87,900	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Calcium	9,110	28,500	J	74,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-07	Calcium	8,010	25,000		70,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Chromium	146	487		17,200	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Chromium	165	548		17,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Chromium	177	590		16,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Chromium	155	517		14,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Chromium	145	484		13,600	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Chromium	162	539		13,200	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Chromium	162	539		10,900	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Chromium	150	501		10,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Chromium	160	533		10,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Chromium	168	559		10,400	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Chromium	163	543		10,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Chromium	156	519		9,770	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Chromium	168	560		9,720	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Chromium	152	506		9,410	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Chromium	160	534		9,180	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Chromium	151	503		9,140	µg/kg	REG	3	6	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	Chromium	163	542		8,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Chromium	144	480		8,730	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Chromium	158	526		8,310	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Chromium	150	501		8,260	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	Chromium	157	524		8,210	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Chromium	159	531		8,070	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Chromium	171	570		8,060	µg/kg	REG	12	16	ft
488-1D-BRMFLL-07	Chromium	158	526		8,060	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Chromium	166	555		7,860	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Chromium	164	547		7,760	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	Chromium	155	517		7,480	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Chromium	151	504		7,360	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Chromium	149	498		6,940	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Chromium	148	493		6,820	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Chromium	151	502		6,190	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Chromium	166	552		6,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-06	Chromium	144	481		4,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Chromium	153	510		4,630	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Chromium	148	492		4,520	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Cobalt	153	510		1,260	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	Cobalt	164	547		1,150	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Cobalt	165	548		1,100	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Cobalt	155	517		1,050	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Cobalt	148	493		975	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Cobalt	151	502		961	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	Cobalt	160	534		835	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Cobalt	163	543		822	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Cobalt	152	506		795	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Cobalt	148	492		789	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Cobalt	166	552		743	µg/kg	REG	6	9	ft
488-1D-BRMFLL-08	Cobalt	146	487		720	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Cobalt	155	517		685	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Cobalt	162	539		614	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Cobalt	166	555		595	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Cobalt	162	539		582	µg/kg	REG	6	9	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	Cobalt	158	526		559	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Cobalt	177	590	J	547	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Cobalt	160	533		534	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Cobalt	144	481		499	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Cobalt	151	503	J	494	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Cobalt	159	531	J	479	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Cobalt	168	559	J	445	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Cobalt	171	570	J	408	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	Cobalt	150	501	J	405	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Cobalt	151	504	J	388	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	Cobalt	158	526	J	380	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Cobalt	144	480	J	316	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Cobalt	149	498	J	292	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Cobalt	145	484	J	258	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Cobalt	168	560	J	198	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Copper	292	975		4,250	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Copper	329	1,100		3,590	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Copper	354	1,180		3,440	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	Copper	333	1,110		3,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Copper	310	1,030		2,580	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Copper	302	1,010		2,580	µg/kg	REG	8	10	ft
488-1D-BRMFLL-01	Copper	324	1,080		2,540	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Copper	336	1,120		2,500	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	Copper	321	1,070		2,470	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Copper	320	1,070		2,430	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Copper	290	968		2,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Copper	314	1,050		2,270	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Copper	324	1,080		2,110	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Copper	328	1,090		2,090	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Copper	302	1,010		2,080	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Copper	326	1,090		2,040	µg/kg	REG	9	12	ft
488-1D-BRMFLL-07	Copper	315	1,050		2,020	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Copper	304	1,010		2,010	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Copper	301	1,000		1,970	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	Copper	296	985		1,950	µg/kg	REG	6	9	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	Copper	331	1,100		1,850	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Copper	306	1,020		1,710	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Copper	342	1,140		1,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Copper	295	984		1,660	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Copper	289	963		1,450	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Copper	288	959		1,400	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	Copper	310	1,030		1,370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Copper	318	1,060		1,330	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Copper	299	996		1,290	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Copper	316	1,050		1,230	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Copper	300	1,000		1,080	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Copper	336	1,120	J	995	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Copper	312	1,040	J	923	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Copper	325	1,080	J	838	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Copper	301	1,000	J	710	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Iron	9,440	29,500		19,900,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Iron	8,770	27,400		13,300,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Iron	8,630	27,000		10,200,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-07	Iron	8,380	26,200		10,200,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Iron	8,970	28,000		9,900,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Iron	8,950	28,000		9,840,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-07	Iron	8,010	25,000		9,000,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Iron	8,060	25,200		8,290,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Iron	8,280	25,900		8,260,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Iron	8,530	26,700		8,190,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Iron	8,670	27,100		8,180,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Iron	7,800	24,400		8,030,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Iron	8,020	25,100		8,020,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Iron	8,690	27,200		7,840,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Iron	8,040	25,100		7,650,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Iron	8,310	26,000		7,430,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Iron	8,030	25,100		7,340,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Iron	8,490	26,500		7,160,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Iron	8,420	26,300		7,160,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Iron	8,550	26,700		7,060,000	µg/kg	REG	6	8	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	Iron	8,410	26,300		7,030,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Iron	7,670	24,000		6,960,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Iron	8,880	27,700		6,860,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Iron	7,970	24,900		6,460,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Iron	8,270	25,800		6,110,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-06	Iron	7,700	24,100		6,110,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Iron	8,630	27,000		6,030,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Iron	8,750	27,400		5,790,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Iron	9,110	28,500		5,630,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Iron	7,880	24,600		5,510,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Iron	7,740	24,200		5,480,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Iron	8,100	25,300		5,390,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Iron	8,160	25,500		4,510,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Iron	8,830	27,600		3,980,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Iron	7,880	24,600		3,310,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Lead	370	1,120		8,990	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Lead	358	1,090		8,090	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	Lead	369	1,120		7,620	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Lead	366	1,110		7,510	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Lead	389	1,180		7,370	µg/kg	REG	12	16	ft
488-1D-BRMFLL-07	Lead	346	1,050		7,160	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Lead	356	1,080		7,140	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Lead	329	996		7,080	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Lead	358	1,080		7,030	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	Lead	330	1,000		6,920	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Lead	362	1,100		6,830	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Lead	343	1,040		6,630	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Lead	341	1,030		6,620	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Lead	347	1,050		6,570	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Lead	347	1,050		6,190	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	Lead	353	1,070		6,180	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	Lead	332	1,010		6,160	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Lead	317	959		6,080	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Lead	356	1,080		6,060	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Lead	352	1,070		5,950	µg/kg	REG	3	6	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	Lead	361	1,090		5,920	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Lead	341	1,030		5,910	µg/kg	REG	6	9	ft
488-1D-BRMFLL-08	Lead	350	1,060		5,910	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Lead	331	1,000		5,900	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Lead	332	1,010		5,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Lead	334	1,010		5,560	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Lead	318	963		5,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Lead	331	1,000		5,370	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Lead	376	1,140		5,220	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Lead	322	975		4,780	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Lead	325	985		4,620	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Lead	337	1,020		4,560	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Lead	319	968		4,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Lead	364	1,100		4,150	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Lead	325	984		3,730	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Magnesium	8,610	30,400		257,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Magnesium	9,080	32,100		249,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Magnesium	9,530	33,600		202,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Magnesium	9,170	32,400		202,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Magnesium	9,430	33,300		183,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Magnesium	8,790	31,000		182,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Magnesium	9,230	32,600		178,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Magnesium	9,320	32,900		174,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Magnesium	8,180	28,900		173,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Magnesium	9,210	32,500		169,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Magnesium	8,150	28,800		155,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Magnesium	8,460	29,900		151,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Magnesium	8,290	29,200		150,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Magnesium	10,000	35,400		143,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-07	Magnesium	8,940	31,500		142,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	Magnesium	8,910	31,400		134,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Magnesium	8,540	30,200		133,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Magnesium	8,950	31,600		133,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Magnesium	8,830	31,200		126,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Magnesium	9,510	33,600		119,000	µg/kg	REG	3	6	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Magnesium	9,060	32,000		116,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Magnesium	9,300	32,800		116,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Magnesium	9,170	32,400		110,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Magnesium	8,670	30,600		110,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Magnesium	9,380	33,100		108,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Magnesium	8,780	31,000		103,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-08	Magnesium	9,020	31,800		101,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	Magnesium	8,560	30,200		99,200	µg/kg	REG	8	10	ft
488-1D-BRMFLL-01	Magnesium	8,230	29,000		95,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Magnesium	8,510	30,000		91,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Magnesium	8,540	30,100		88,300	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Magnesium	8,520	30,100		87,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Magnesium	9,680	34,200		87,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Magnesium	8,380	29,600		82,900	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Magnesium	8,370	29,500		77,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Manganese	200	1,000		134,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Manganese	219	1,100		127,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Manganese	204	1,020		121,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	Manganese	207	1,030		120,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Manganese	211	1,050		82,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Manganese	210	1,050		76,300	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Manganese	224	1,120		74,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Manganese	195	975		71,300	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Manganese	197	985		64,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Manganese	201	1,000		63,100	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Manganese	199	996		62,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Manganese	197	984		57,900	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Manganese	214	1,070		55,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Manganese	194	968		53,300	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Manganese	193	963		51,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Manganese	221	1,100		42,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Manganese	207	1,030		42,300	µg/kg	REG	6	9	ft
488-1D-BRMFLL-07	Manganese	210	1,050		42,300	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Manganese	216	1,080		41,400	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Manganese	217	1,090		39,300	µg/kg	REG	9	12	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	Manganese	216	1,080		36,300	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Manganese	212	1,060		36,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Manganese	203	1,010		35,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Manganese	213	1,070		35,100	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Manganese	201	1,010		34,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Manganese	224	1,120		30,700	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Manganese	192	959		29,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Manganese	236	1,180		22,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	Manganese	222	1,110		18,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Manganese	219	1,090		17,900	µg/kg	REG	3	5	ft
488-1D-BRMFLL-03	Manganese	228	1,140		14,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Manganese	201	1,010		13,600	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Manganese	217	1,080		13,200	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Manganese	208	1,040		11,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	Manganese	200	1,000		10,700	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Nickel	166	555		2,550	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Nickel	165	548		2,380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Nickel	152	506		2,300	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Nickel	146	487		2,200	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Nickel	145	484		2,090	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Nickel	160	533		1,730	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	Nickel	160	534		1,670	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Nickel	177	590		1,650	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Nickel	155	517		1,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Nickel	162	539		1,290	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Nickel	166	552		1,260	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Nickel	148	492		1,240	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Nickel	151	502		1,220	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	Nickel	148	493		1,220	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Nickel	163	543		1,180	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Nickel	153	510		1,180	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Nickel	157	524		1,030	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	Nickel	164	547		1,010	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Nickel	158	526		958	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Nickel	162	539		947	µg/kg	REG	6	9	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	Nickel	151	504		944	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Nickel	151	503		895	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Nickel	171	570		891	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Nickel	168	559		835	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Nickel	144	481		774	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Nickel	155	517		720	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Nickel	149	498		692	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Nickel	158	526		529	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Nickel	150	501	J	487	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Nickel	144	480	J	441	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Nickel	159	531	J	430	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	Nickel	163	542	J	375	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Nickel	168	560	J	359	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Nickel	150	501	J	248	µg/kg	REG	8	10	ft
488-1D-BRMFLL-01	Potassium	6,480	25,300		210,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	Potassium	6,950	27,200		181,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Potassium	6,840	26,700		177,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Potassium	6,240	24,400		154,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Potassium	6,940	27,100		137,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Potassium	6,140	24,000		136,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Potassium	7,100	27,700		134,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Potassium	6,160	24,100		133,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Potassium	7,170	28,000		132,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Potassium	6,730	26,300		132,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Potassium	6,430	25,100		123,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	Potassium	6,620	25,900		121,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Potassium	6,820	26,700		119,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Potassium	7,160	28,000		117,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Potassium	6,370	24,900		116,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Potassium	6,740	26,300		116,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Potassium	6,610	25,800		112,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-06	Potassium	7,000	27,400		112,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Potassium	7,020	27,400		111,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Potassium	6,430	25,100		105,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Potassium	6,900	27,000		104,000	µg/kg	REG	9	12	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	Potassium	6,650	26,000		102,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Potassium	7,060	27,600		101,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Potassium	7,550	29,500		99,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Potassium	6,900	27,000		99,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-08	Potassium	6,790	26,500		96,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	Potassium	6,530	25,500		90,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Potassium	6,710	26,200		89,600	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Potassium	6,410	25,000		81,300	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Potassium	6,310	24,600		80,900	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Potassium	6,200	24,200		75,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Potassium	7,290	28,500		72,600	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Potassium	6,450	25,200		71,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Potassium	6,420	25,100		66,300	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Potassium	6,300	24,600		65,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Selenium	590	3,540	J	1,330	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Selenium	504	3,020	J	820	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Selenium	555	3,330	J	809	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Selenium	510	3,060	J	780	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Selenium	539	3,240	J	771	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Selenium	534	3,210	J	742	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Selenium	506	3,040	J	657	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Selenium	487	2,920	J	634	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	Selenium	547	3,280	J	592	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Selenium	502	3,010	J	571	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Selenium	517	3,100	J	570	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Selenium	503	3,020	J	531	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Silver	118	590		728	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Silver	110	548	J	452	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Silver	108	539	J	415	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Silver	112	559	J	385	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Silver	101	503	J	296	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	Silver	101	504	J	265	µg/kg	REG	8	10	ft
488-1D-BRMFLL-01	Silver	107	533	J	262	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	Silver	107	534	J	260	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Silver	111	555	J	255	µg/kg	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	Silver	103	517	J	236	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Silver	114	570	J	216	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Silver	100	502	J	211	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Silver	109	543	J	208	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Silver	109	547	J	188	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Silver	108	539	J	183	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Silver	101	506	J	170	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Silver	98.5	493	J	162	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Silver	110	552	J	131	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Silver	98.4	492	J	120	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Silver	102	510	J	106	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Sodium	7,770	27,700	J	58,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Sodium	8,260	29,500	J	48,900	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Sodium	7,830	28,000	J	42,500	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Sodium	7,600	27,200	J	41,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Sodium	7,550	27,000	J	36,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Sodium	7,040	25,100	J	36,300	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Sodium	7,730	27,600	J	35,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Sodium	7,980	28,500	J	33,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Sodium	7,460	26,700	J	33,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Sodium	7,550	27,000	J	32,600	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	Sodium	7,230	25,800	J	32,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Sodium	7,850	28,000	J	31,700	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Sodium	6,900	24,600	J	31,700	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Sodium	7,090	25,300	J	31,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Sodium	7,030	25,100	J	30,300	µg/kg	REG	3	6	ft
488-1D-BRMFLL-08	Sodium	6,820	24,400	J	30,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Sodium	7,680	27,400	J	29,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Sodium	6,740	24,100	J	28,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Sodium	7,330	26,200	J	27,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	Sodium	7,240	25,900	J	26,900	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	Sodium	7,370	26,300	J	25,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Sodium	6,970	24,900	J	25,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Vanadium	118	590		32,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Vanadium	112	559		28,600	µg/kg	REG	3	6	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Vanadium	108	539		26,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Vanadium	112	560		22,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Vanadium	100	501		22,200	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Vanadium	101	504		21,900	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Vanadium	101	503		21,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	Vanadium	110	548		21,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Vanadium	108	542		20,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Vanadium	104	519		20,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	Vanadium	103	517		19,700	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Vanadium	109	543		19,100	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Vanadium	95.9	480		19,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Vanadium	114	570		18,500	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Vanadium	106	531		17,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Vanadium	105	526		17,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Vanadium	107	534		17,400	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Vanadium	100	501		16,600	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Vanadium	100	502		16,500	µg/kg	REG	3	6	ft
488-1D-BRMFLL-06	Vanadium	109	547		16,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Vanadium	97.5	487		16,400	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	Vanadium	105	526		16,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-03	Vanadium	99.6	498		15,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Vanadium	103	517		15,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Vanadium	107	533		15,700	µg/kg	REG	3	6	ft
488-1D-BRMFLL-07	Vanadium	105	524		15,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	Vanadium	96.3	481		15,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	Vanadium	108	539		15,100	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Vanadium	111	555		14,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Vanadium	101	506		12,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Vanadium	98.5	493		12,200	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Vanadium	110	552		10,300	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Vanadium	102	510		10,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Vanadium	96.8	484		9,870	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Vanadium	98.4	492		6,180	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Zinc	411	1030		10,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Zinc	423	1060		7,960	µg/kg	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Zinc	400	1000		6,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Zinc	398	995		5,140	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Zinc	434	1,090		4,570	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Zinc	410	1,030		4,540	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Zinc	425	1,060		4,340	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Zinc	448	1,120		4,160	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Zinc	462	1,160		3,910	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Zinc	399	997		3,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Zinc	404	1,010		3,740	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Zinc	416	1,040		3,280	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	Zinc	428	1,070		3,160	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Zinc	448	1,120		3,120	µg/kg	REG	9	12	ft
488-1D-BRMFLL-05	Zinc	403	1,010		3,030	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Zinc	435	1,090		2,860	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Zinc	436	1,090		2,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	Zinc	409	1,020		2,790	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Zinc	442	1,110		2,730	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	Zinc	432	1,080		2,660	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Zinc	402	1,010		2,190	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Zinc	420	1,050		2,120	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Zinc	428	1,070		1,930	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	Zinc	423	1,060		1,840	µg/kg	REG	12	16	ft
488-1D-BRMFLL-06	Zinc	430	1,080		1,710	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Zinc	408	1,020		1,690	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	Zinc	409	1,020		1,510	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Zinc	407	1,020		1,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Zinc	403	1,010		1,340	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Zinc	440	1,100	J	849	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Zinc	412	1,030	J	830	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Zinc	442	1,110	J	773	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	Zinc	424	1,060	J	721	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Mercury	4.31	12.9		44.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Mercury	4.16	12.4		43	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Mercury	4.26	12.7		40.9	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	Mercury	4.24	12.6		39.6	µg/kg	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	Mercury	3.94	11.8		39.4	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Mercury	4.4	13.1		39.3	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	Mercury	3.98	11.9		38.3	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	Mercury	4.4	13.1		37.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Mercury	3.89	11.6		37.3	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Mercury	4.14	12.4		34.4	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	Mercury	4.39	13.1		34.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Mercury	4.35	13		33.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Mercury	4.2	12.5		33.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	Mercury	4.15	12.4		32.7	µg/kg	REG	9	12	ft
488-1D-BRMFLL-07	Mercury	4.33	12.9		31.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-03	Mercury	4.39	13.1		29.9	µg/kg	REG	6	9	ft
488-1D-BRMFLL-07	Mercury	4.07	12.1		29.1	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	Mercury	4.36	13		28.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-04	Mercury	3.72	11.1		28	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Mercury	3.79	11.3		25.7	µg/kg	REG	3	5	ft
488-1D-BRMFLL-04	Mercury	4	12		25.5	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Mercury	4.43	13.2		25	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Mercury	4.24	12.7		24.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	Mercury	4.02	12		24.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	Mercury	4.25	12.7		24.3	µg/kg	REG	8	10	ft
488-1D-BRMFLL-01	Mercury	4.47	13.3		24.2	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Mercury	4.21	12.6		23.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-08	Mercury	4.46	13.3		22.6	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	Mercury	4.01	12		22	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	Mercury	4.42	13.2		21	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	Mercury	4.34	13		19.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	Mercury	3.98	11.9		19.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	Mercury	3.96	11.8		17.7	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	Mercury	4.48	13.4	J	12.9	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	Mercury	4.02	12		12.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	DDD	0.354	1.41		4.21	µg/kg	REG	3	5	ft
488-1D-BRMFLL-02	DDD	0.362	1.45		2.41	µg/kg	REG	9	12	ft
488-1D-BRMFLL-07	DDD	0.364	1.46	J	0.652	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	DDE	0.354	1.41		8.02	µg/kg	REG	3	5	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	DDE	0.362	1.45		2.54	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	DDE	0.376	1.5	J	1.23	µg/kg	REG	3	6	ft
488-1D-BRMFLL-05	DDE	0.366	1.46	J	0.908	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	DDE	0.373	1.49	J	0.663	µg/kg	REG	1	3	ft
488-1D-BRMFLL-07	DDE	0.364	1.46	J	0.444	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	DDT	0.354	1.41	J	1	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	Acetone	1.96	5.87		25.6	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	Acetone	1.73	5.19		24.6	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Acetone	1.8	5.39		18.5	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Acetone	1.92	5.76		15.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	Acetone	1.77	5.3		12.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-05	Acetone	1.77	5.32		12.1	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Acetone	1.72	5.16		12	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	Acetone	1.84	5.51		11.6	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	Acetone	1.83	5.48		9.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-06	Acetone	1.76	5.29		8.13	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	Acetone	1.74	5.22		7.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-02	Acetone	1.84	5.53	J	5.45	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	Acetone	1.82	5.45	J	4.57	µg/kg	REG	12	16	ft
488-1D-BRMFLL-05	Acetone	1.84	5.52	J	4.32	µg/kg	REG	8	10	ft
488-1D-BRMFLL-04	Acetone	1.77	5.31	J	2.83	µg/kg	REG	9	12	ft
488-1D-BRMFLL-07	Acetone	1.6	4.8	J	2.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-01	Acetone	1.75	5.26	J	1.97	µg/kg	REG	9	12	ft
488-1D-BRMFLL-08	Methyl Ethyl Ketone	1.73	5.19	J	3.9	µg/kg	REG	6	8	ft
488-1D-BRMFLL-02	Methyl Ethyl Ketone	1.8	5.39	J	3.27	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	Methyl Ethyl Ketone	1.84	5.51	J	2.46	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	Methyl Ethyl Ketone	1.72	5.16	J	2.34	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	Methyl Ethyl Ketone	1.77	5.3	J	2.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	Methyl Ethyl Ketone	1.92	5.76	J	1.96	µg/kg	REG	12	16	ft
488-1D-BRMFLL-08	Toluene	0.345	1.04	J	0.415	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	Phenanthrene	10.9	36.2	J	17	µg/kg	REG	3	5	ft
488-1D-BRMFLL-01	Gross Alpha	1.76	7.14		36.1	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	Gross Alpha	2.68	8.52		32.3	pCi/g	REG	9	12	ft
488-1D-BRMFLL-04	Gross Alpha	2.46	7.84		31.9	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	Gross Alpha	2.94	11.8		29.7	pCi/g	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	Gross Alpha	2.45	11.6		27.4	pCi/g	REG	8	10	ft
488-1D-BRMFLL-01	Gross Alpha	2.25	7.23		26	pCi/g	REG	3	6	ft
488-1D-BRMFLL-05	Gross Alpha	2.96	10.3		24.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	Gross Alpha	2.94	11.2		24.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Gross Alpha	2.2	10.8		22.3	pCi/g	REG	6	8	ft
488-1D-BRMFLL-01	Gross Alpha	2.96	9.56		21	pCi/g	LD	9	12	ft
488-1D-BRMFLL-02	Gross Alpha	2.96	9.38		20.9	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	Gross Alpha	2.62	9.86		20.2	pCi/g	REG	1	3	ft
488-1D-BRMFLL-06	Gross Alpha	2.84	10.8		19.9	pCi/g	REG	8	10	ft
488-1D-BRMFLL-03	Gross Alpha	2.96	9.62		19.5	pCi/g	REG	3	6	ft
488-1D-BRMFLL-03	Gross Alpha	2.91	10.9		18	pCi/g	LD	1	3	ft
488-1D-BRMFLL-07	Gross Alpha	2.97	11.4		17.5	pCi/g	REG	3	5	ft
488-1D-BRMFLL-03	Gross Alpha	2.97	8.57		16.7	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	Gross Alpha	2.96	8.64		15.1	pCi/g	REG	9	12	ft
488-1D-BRMFLL-01	Gross Alpha	2.97	9.49		14.7	pCi/g	REG	12	16	ft
488-1D-BRMFLL-08	Gross Alpha	2.45	10.1		14.7	pCi/g	REG	1	3	ft
488-1D-BRMFLL-04	Gross Alpha	2.96	8.92		13.8	pCi/g	REG	12	16	ft
488-1D-BRMFLL-04	Gross Alpha	3.05	11.1		13	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Gross Alpha	2.98	8.86		12.8	pCi/g	REG	12	16	ft
488-1D-BRMFLL-05	Gross Alpha	2.93	8.21		12.6	pCi/g	REG	1	3	ft
488-1D-BRMFLL-03	Gross Alpha	2.97	9.11		12.4	pCi/g	REG	1	3	ft
488-1D-BRMFLL-05	Gross Alpha	2.99	8.03		11.4	pCi/g	REG	6	8	ft
488-1D-BRMFLL-06	Gross Alpha	2.98	7.98		10.8	pCi/g	REG	3	5	ft
488-1D-BRMFLL-06	Gross Alpha	2.22	6.7		10	pCi/g	REG	1	3	ft
488-1D-BRMFLL-08	Gross Alpha	2.15	6.23		9.44	pCi/g	REG	6	8	ft
488-1D-BRMFLL-08	Gross Alpha	2.96	8.04		8.79	pCi/g	REG	3	5	ft
488-1D-BRMFLL-04	Gross Alpha	3	7.66		8.55	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Gross Alpha	2.77	7.75		8.32	pCi/g	REG	1	3	ft
488-1D-BRMFLL-04	Gross Alpha	2.97	7.65		8.03	pCi/g	REG	9	12	ft
488-1D-BRMFLL-06	Gross Alpha	2.48	7.84	J	7.82	pCi/g	REG	6	8	ft
488-1D-BRMFLL-02	Gross Alpha	3	7.54		7.65	pCi/g	REG	9	12	ft
488-1D-BRMFLL-05	Gross Alpha	2.96	7.56	J	7.44	pCi/g	REG	3	5	ft
488-1D-BRMFLL-02	Gross Alpha	2.98	7.74	J	6.67	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	Nonvolatile Beta	2.01	5.49		22.8	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	Nonvolatile Beta	1.34	4.24		21.3	pCi/g	REG	6	9	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Nonvolatile Beta	2.06	5.5		18.7	pCi/g	REG	3	6	ft
488-1D-BRMFLL-07	Nonvolatile Beta	3.2	8.86		17.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-03	Nonvolatile Beta	1.93	6.33		17.3	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	Nonvolatile Beta	1.63	4.49		16.7	pCi/g	REG	9	12	ft
488-1D-BRMFLL-07	Nonvolatile Beta	2.93	8.35		16.3	pCi/g	REG	6	8	ft
488-1D-BRMFLL-04	Nonvolatile Beta	3.09	7.95		15.6	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	Nonvolatile Beta	3.02	8.32		14.9	pCi/g	LD	1	3	ft
488-1D-BRMFLL-06	Nonvolatile Beta	1.73	5.09		13.8	pCi/g	REG	3	5	ft
488-1D-BRMFLL-07	Nonvolatile Beta	3.17	8.45		13.6	pCi/g	REG	3	5	ft
488-1D-BRMFLL-08	Nonvolatile Beta	2.67	7.21		13.3	pCi/g	REG	8	10	ft
488-1D-BRMFLL-06	Nonvolatile Beta	3.35	8.71		12.5	pCi/g	REG	6	8	ft
488-1D-BRMFLL-02	Nonvolatile Beta	2.97	7.57		11.6	pCi/g	REG	1	3	ft
488-1D-BRMFLL-08	Nonvolatile Beta	3.14	8.34		11.6	pCi/g	REG	1	3	ft
488-1D-BRMFLL-04	Nonvolatile Beta	3.84	9.9		11.3	pCi/g	REG	1	3	ft
488-1D-BRMFLL-03	Nonvolatile Beta	2.68	6.62		11	pCi/g	REG	6	9	ft
488-1D-BRMFLL-05	Nonvolatile Beta	2.16	5.58		11	pCi/g	REG	6	8	ft
488-1D-BRMFLL-05	Nonvolatile Beta	1.72	5.04		10.8	pCi/g	REG	8	10	ft
488-1D-BRMFLL-01	Nonvolatile Beta	2.68	6.66		10.6	pCi/g	LD	9	12	ft
488-1D-BRMFLL-08	Nonvolatile Beta	2.28	5.88		10.6	pCi/g	REG	6	8	ft
488-1D-BRMFLL-04	Nonvolatile Beta	2.62	6.5		10.4	pCi/g	REG	9	12	ft
488-1D-BRMFLL-02	Nonvolatile Beta	2.43	6.15		10.1	pCi/g	REG	3	6	ft
488-1D-BRMFLL-05	Nonvolatile Beta	2.29	5.79		9.85	pCi/g	REG	1	3	ft
488-1D-BRMFLL-03	Nonvolatile Beta	1.49	4.59		9.47	pCi/g	REG	3	6	ft
488-1D-BRMFLL-08	Nonvolatile Beta	2.32	5.82		9.19	pCi/g	REG	3	5	ft
488-1D-BRMFLL-01	Nonvolatile Beta	1.86	4.9		9	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	Nonvolatile Beta	2.96	7.26		8.95	pCi/g	REG	1	3	ft
488-1D-BRMFLL-06	Nonvolatile Beta	2.14	5.42		8.53	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Nonvolatile Beta	2.63	6.23		7.46	pCi/g	REG	9	12	ft
488-1D-BRMFLL-01	Nonvolatile Beta	1.9	5.16		7.37	pCi/g	REG	12	16	ft
488-1D-BRMFLL-04	Nonvolatile Beta	2.35	5.65		7.07	pCi/g	REG	3	6	ft
488-1D-BRMFLL-06	Nonvolatile Beta	1.98	5.42		6.85	pCi/g	REG	8	10	ft
488-1D-BRMFLL-02	Nonvolatile Beta	2.82	6.68	J	6.46	pCi/g	REG	6	9	ft
488-1D-BRMFLL-05	Nonvolatile Beta	1.54	4.1		5.68	pCi/g	REG	3	5	ft
488-1D-BRMFLL-01	Nonvolatile Beta	3.1	7.24	J	5.67	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Nonvolatile Beta	2.02	5.1		5.66	pCi/g	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	Uranium-233/234	0.0804	0.558		1.8	pCi/g	REG	12	16	ft
488-1D-BRMFLL-02	Uranium-233/234	0.0795	0.476		1.16	pCi/g	REG	3	6	ft
488-1D-BRMFLL-05	Uranium-233/234	0.0449	0.399		1.05	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Uranium-233/234	0.0524	0.398		1.02	pCi/g	REG	6	8	ft
488-1D-BRMFLL-08	Uranium-233/234	0.0687	0.413		1.02	pCi/g	REG	8	10	ft
488-1D-BRMFLL-01	Uranium-233/234	0.0716	0.428		0.966	pCi/g	REG	6	9	ft
488-1D-BRMFLL-07	Uranium-233/234	0.0705	0.385		0.915	pCi/g	REG	8	10	ft
488-1D-BRMFLL-01	Uranium-233/234	0.123	0.485		0.847	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Uranium-233/234	0.0456	0.36		0.811	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Uranium-233/234	0.0456	0.36		0.811	pCi/g	LD	3	6	ft
488-1D-BRMFLL-04	Uranium-233/234	0.0543	0.366		0.8	pCi/g	REG	6	9	ft
488-1D-BRMFLL-02	Uranium-233/234	0.0822	0.386	J	0.689	pCi/g	REG	1	3	ft
488-1D-BRMFLL-03	Uranium-233/234	0.0917	0.414	J	0.686	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	Uranium-238	0.0639	0.54		1.81	pCi/g	REG	12	16	ft
488-1D-BRMFLL-02	Uranium-238	0.0596	0.442		1.1	pCi/g	REG	3	6	ft
488-1D-BRMFLL-05	Uranium-238	0.054	0.416		1.09	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Uranium-238	0.0592	0.405		1.02	pCi/g	REG	6	8	ft
488-1D-BRMFLL-08	Uranium-238	0.0847	0.419		0.938	pCi/g	REG	8	10	ft
488-1D-BRMFLL-01	Uranium-238	0.0246	0.367		0.917	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	Uranium-238	0.0548	0.371		0.815	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Uranium-238	0.0548	0.371		0.815	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Uranium-238	0.0711	0.405		0.781	pCi/g	REG	3	6	ft
488-1D-BRMFLL-07	Uranium-238	0.0531	0.339		0.776	pCi/g	REG	8	10	ft
488-1D-BRMFLL-04	Uranium-238	0.0672	0.363		0.708	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	Uranium-238	0.0537	0.364		0.663	pCi/g	REG	9	12	ft
488-1D-BRMFLL-02	Uranium-238	0.0481	0.34		0.66	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Actinium-228	0.206	0.768		1.46	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Actinium-228	0.142	0.578		1.12	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Bismuth-214	0.0661	0.314		1.07	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Bismuth-214	0.0945	0.483		0.956	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Cesium-137	0.0511	0.135	J	0.0875	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Cesium-137	0.0338	0.08	J	0.0476	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Lead-212	0.0716	0.332		1.48	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Lead-212	0.054	0.239		1.45	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Lead-214	0.309	0.687		1.19	pCi/g	REG	1	3	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	Lead-214	0.206	0.486		1.09	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Potassium-40	0.397	1.84		3.21	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Potassium-40	0.273	1.27		2.63	pCi/g	LD	1	3	ft
488-1D-BRMFLL-01	Radium-226	0.162	0.72		1.43	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	Radium-226	0.146	0.578		1.33	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Radium-226	0.157	0.585		1.09	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Radium-226	0.157	0.585		1.09	pCi/g	LD	3	6	ft
488-1D-BRMFLL-03	Radium-226	0.13	0.506		1.09	pCi/g	REG	9	12	ft
488-1D-BRMFLL-07	Radium-226	0.143	0.553		1.09	pCi/g	REG	6	8	ft
488-1D-BRMFLL-02	Radium-226	0.121	0.477		1.07	pCi/g	REG	3	6	ft
488-1D-BRMFLL-07	Radium-226	0.116	0.456		1.05	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	Radium-226	0.116	0.46		0.906	pCi/g	REG	8	10	ft
488-1D-BRMFLL-04	Radium-226	0.144	0.508		0.895	pCi/g	REG	6	9	ft
488-1D-BRMFLL-02	Radium-226	0.1	0.374		0.893	pCi/g	REG	1	3	ft
488-1D-BRMFLL-05	Radium-226	0.146	0.536		0.843	pCi/g	REG	8	10	ft
488-1D-BRMFLL-03	Radium-226	0.131	0.541		0.809	pCi/g	REG	12	16	ft
488-1D-BRMFLL-01	Radium-228	0.284	1.26		2.69	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	Radium-228	0.254	1.05		2.14	pCi/g	REG	3	6	ft
488-1D-BRMFLL-03	Radium-228	0.244	1.05		2.1	pCi/g	REG	9	12	ft
488-1D-BRMFLL-02	Radium-228	0.21	0.884		1.97	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Radium-228	0.317	1.12		1.95	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Radium-228	0.317	1.12		1.95	pCi/g	LD	3	6	ft
488-1D-BRMFLL-07	Radium-228	0.183	0.983		1.84	pCi/g	REG	8	10	ft
488-1D-BRMFLL-04	Radium-228	0.191	0.835		1.8	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	Radium-228	0.229	0.913		1.74	pCi/g	REG	12	16	ft
488-1D-BRMFLL-08	Radium-228	0.213	0.873		1.73	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Radium-228	0.306	1.25		1.69	pCi/g	REG	6	8	ft
488-1D-BRMFLL-02	Radium-228	0.11	0.624		1.65	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Radium-228	0.206	0.768		1.46	pCi/g	REG	1	3	ft
488-1D-BRMFLL-05	Radium-228	0.228	0.93		1.46	pCi/g	REG	8	10	ft
488-1D-BRMFLL-02	Radium-228	0.142	0.578		1.12	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Thallium-208	0.058	0.249		0.418	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Thallium-208	0.0359	0.139		0.385	pCi/g	LD	1	3	ft
488-1D-BRMFLL-03	Thorium-228	0.0894	0.673		2.67	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	Thorium-228	0.176	0.876		2.44	pCi/g	REG	12	16	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	Thorium-228	0.114	0.678		2.32	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Thorium-228	0.0829	0.511		1.7	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Thorium-228	0.0943	0.608		1.69	pCi/g	REG	6	9	ft
488-1D-BRMFLL-08	Thorium-228	0.111	0.567		1.65	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	Thorium-228	0.0676	0.442		1.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Thorium-228	0.0555	0.474		1.54	pCi/g	REG	6	8	ft
488-1D-BRMFLL-01	Thorium-228	0.0914	0.495		1.36	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Thorium-228	0.0914	0.495		1.36	pCi/g	LD	3	6	ft
488-1D-BRMFLL-02	Thorium-228	0.148	0.868		1.22	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	Thorium-228	0.247	1.06		1.19	pCi/g	REG	1	3	ft
488-1D-BRMFLL-07	Thorium-228	0.108	0.468		1.14	pCi/g	REG	8	10	ft
488-1D-BRMFLL-04	Thorium-228	0.0732	0.345		0.818	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	Thorium-230	0.0925	0.487		1.24	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	Thorium-230	0.154	0.638		1.17	pCi/g	REG	12	16	ft
488-1D-BRMFLL-02	Thorium-230	0.106	0.478		1.01	pCi/g	REG	3	6	ft
488-1D-BRMFLL-08	Thorium-230	0.112	0.45		0.903	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	Thorium-230	0.0758	0.346		0.837	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Thorium-230	0.0879	0.388		0.837	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Thorium-230	0.123	0.447		0.836	pCi/g	REG	6	8	ft
488-1D-BRMFLL-01	Thorium-230	0.118	0.482		0.827	pCi/g	REG	6	9	ft
488-1D-BRMFLL-02	Thorium-230	0.233	0.881	J	0.799	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	Thorium-230	0.386	1.02	J	0.763	pCi/g	REG	1	3	ft
488-1D-BRMFLL-04	Thorium-230	0.0752	0.323		0.701	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	Thorium-230	0.102	0.384		0.63	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Thorium-230	0.102	0.384		0.63	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Thorium-230	0.0941	0.342		0.529	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	Thorium-230	0.18	0.65	J	0.519	pCi/g	LD	1	3	ft
488-1D-BRMFLL-03	Thorium-232	0.0345	0.589		2.58	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	Thorium-232	0.156	0.806		2.23	pCi/g	REG	12	16	ft
488-1D-BRMFLL-02	Thorium-232	0.0791	0.611		2.21	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	Thorium-232	0.0407	0.561		1.87	pCi/g	REG	6	9	ft
488-1D-BRMFLL-08	Thorium-232	0.0713	0.503		1.62	pCi/g	REG	8	10	ft
488-1D-BRMFLL-02	Thorium-232	0.151	1.03		1.61	pCi/g	REG	1	3	ft
488-1D-BRMFLL-01	Thorium-232	0.0508	0.443		1.53	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	Thorium-232	0.121	0.879		1.5	pCi/g	LD	1	3	ft

Detected Results from Sample 488-1D BRMFLL-01 through 488-1D BRMFLL-08

Station Name	Analyte	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	Thorium-232	0.0558	0.46		1.48	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	Thorium-232	0.0558	0.46		1.48	pCi/g	LD	3	6	ft
488-1D-BRMFLL-07	Thorium-232	0.0622	0.448		1.48	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	Thorium-232	0.0546	0.449		1.44	pCi/g	REG	6	8	ft
488-1D-BRMFLL-05	Thorium-232	0.0651	0.403		1.37	pCi/g	REG	8	10	ft
488-1D-BRMFLL-04	Thorium-232	0.025	0.293	J	0.89	pCi/g	REG	6	9	ft

This page was intentionally left blank.

APPENDIX R
Attachment R2

All Data from Samples
488-1D-BRMFLL-01 through 488-1D-BRMFLL-08

This page was intentionally left blank.

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488−1D-BRMFLL-01	9/13/2016	Aluminum	EPA6010C	6,580	19,400		2,730,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aluminum	EPA6010C	7,250	21,300		3,890,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aluminum	EPA6010C	7,340	21,600		4,350,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aluminum	EPA6010C	6,890	20,300		3,340,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aluminum	EPA6010C	8,020	23,600		8,550,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Antimony	EPA6010C	319	968	U	968	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Antimony	EPA6010C	352	1,070	J	376	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Antimony	EPA6010C	356	1,080	U	1,080	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Antimony	EPA6010C	334	1,010	J	343	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Antimony	EPA6010C	389	1,180	U	1,180	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Arsenic	EPA6010C	484	2,900	J	907	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Arsenic	EPA6010C	533	3,200	J	3,160	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Arsenic	EPA6010C	539	3,240		3,930	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Arsenic	EPA6010C	506	3,040	J	1,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Arsenic	EPA6010C	590	3,540		3,720	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Barium	EPA6010C	96.8	484		19,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Barium	EPA6010C	107	533		33,800	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Barium	EPA6010C	108	539		21,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Barium	EPA6010C	101	506		30,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Barium	EPA6010C	118	590		18,100	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Beryllium	EPA6010C	96.8	484	J	164	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Beryllium	EPA6010C	1,070	5,330	U	5,330	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Beryllium	EPA6010C	1,080	5,390	U	5,390	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Beryllium	EPA6010C	1,010	5,060	U	5,060	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Beryllium	EPA6010C	1,180	5,900	U	5,900	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Cadmium	EPA6010C	96.8	484	U	484	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cadmium	EPA6010C	107	533	U	533	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cadmium	EPA6010C	108	539	U	539	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cadmium	EPA6010C	101	506	U	506	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cadmium	EPA6010C	118	590	U	590	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Calcium	EPA6010C	7,740	24,200		101,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Calcium	EPA6010C	8,530	26,700		164,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Calcium	EPA6010C	8,630	27,000	J	125,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Calcium	EPA6010C	8,100	25,300		142,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Calcium	EPA6010C	9,440	29,500		165,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chromium	EPA6010C	145	484		13,600	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Chromium	EPA6010C	160	533		10,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chromium	EPA6010C	162	539		13,200	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chromium	EPA6010C	152	506		9,410	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Chromium	EPA6010C	177	590		16,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt	EPA6010C	145	484	J	258	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt	EPA6010C	160	533		534	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt	EPA6010C	162	539		582	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt	EPA6010C	152	506		795	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt	EPA6010C	177	590	J	547	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Copper	EPA6010C	290	968		2,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Copper	EPA6010C	320	1,070		2,430	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Copper	EPA6010C	324	1,080		2,540	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Copper	EPA6010C	304	1,010		2,010	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Copper	EPA6010C	354	1,180		3,440	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Iron	EPA6010C	7,740	24,200		5,480,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Iron	EPA6010C	8,530	26,700		8,190,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Iron	EPA6010C	8,630	27,000		10,200,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Iron	EPA6010C	8,100	25,300		5,390,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Iron	EPA6010C	9,440	29,500		19,900,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Lead	EPA6010C	319	968		4,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Lead	EPA6010C	352	1,070		5,950	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Lead	EPA6010C	356	1,080		7,140	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Lead	EPA6010C	334	1,010		5,560	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Lead	EPA6010C	389	1,180		7,370	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Magnesium	EPA6010C	8,230	29,000		95,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Magnesium	EPA6010C	9,060	32,000		116,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Magnesium	EPA6010C	9,170	32,400		110,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Magnesium	EPA6010C	8,610	30,400		257,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Magnesium	EPA6010C	10,000	35,400		143,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Manganese	EPA6010C	194	968		53,300	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Manganese	EPA6010C	213	1,070		35,100	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Manganese	EPA6010C	216	1,080		41,400	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Manganese	EPA6010C	203	1,010		35,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Manganese	EPA6010C	236	1,180		22,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Nickel	EPA6010C	145	484		2,090	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Nickel	EPA6010C	160	533		1,730	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Nickel	EPA6010C	162	539		947	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Nickel	EPA6010C	152	506		2,300	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Nickel	EPA6010C	177	590		1,650	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Potassium	EPA6010C	6,200	24,200		75,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Potassium	EPA6010C	6,820	26,700		119,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Potassium	EPA6010C	6,900	27,000		99,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Potassium	EPA6010C	6,480	25,300		210,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Potassium	EPA6010C	7,550	29,500		99,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Selenium	EPA6010C	484	2,900	U	2,900	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Selenium	EPA6010C	533	3,200	U	3,200	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Selenium	EPA6010C	539	3,240	J	771	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Selenium	EPA6010C	506	3,040	J	657	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Selenium	EPA6010C	590	3,540	J	1,330	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Silver	EPA6010C	96.8	484	U	484	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Silver	EPA6010C	107	533	J	262	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Silver	EPA6010C	108	539	J	415	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Silver	EPA6010C	101	506	J	170	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Silver	EPA6010C	118	590		728	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Sodium	EPA6010C	6,780	24,200	U	22,600	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Sodium	EPA6010C	7,460	26,700	J	33,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Sodium	EPA6010C	7,550	27,000	J	36,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Sodium	EPA6010C	7,090	25,300	J	31,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Sodium	EPA6010C	8,260	29,500	J	48,900	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Thallium	EPA6010C	484	1,940	U	1,940	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Thallium	EPA6010C	533	2,130	U	2,130	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thallium	EPA6010C	539	2,160	U	2,160	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Thallium	EPA6010C	506	2,030	U	2,030	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Thallium	EPA6010C	590	2,360	U	2,360	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Vanadium	EPA6010C	96.8	484		9,870	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Vanadium	EPA6010C	107	533		15,700	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Vanadium	EPA6010C	108	539		26,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Vanadium	EPA6010C	101	506		12,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Vanadium	EPA6010C	118	590		32,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Zinc	EPA6010C	400	1,000		6,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Zinc	EPA6010C	435	1,090		2,860	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Zinc	EPA6010C	425	1,060		4,340	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Zinc	EPA6010C	448	1,120		3,120	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Zinc	EPA6010C	462	1,160		3,910	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Mercury	EPA7471B	3.98	11.9		19.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Mercury	EPA7471B	4.35	13		33.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Mercury	EPA7471B	4.2	12.5		33.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Mercury	EPA7471B	4.47	13.3		24.2	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Mercury	EPA7471B	4.24	12.6		39.6	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aldrin	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aldrin	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aldrin	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aldrin	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aldrin	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Benzene Hexachloride	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Benzene Hexachloride	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Benzene Hexachloride	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Benzene Hexachloride	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Benzene Hexachloride	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Chlordane	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Chlordane	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Chlordane	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Chlordane	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Alpha-Chlordane	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Beta-Benzene Hexachloride	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Beta-Benzene Hexachloride	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Beta-Benzene Hexachloride	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Beta-Benzene Hexachloride	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Beta-Benzene Hexachloride	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	DDD	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	DDD	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	DDD	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	DDD	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	DDD	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	DDE	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	DDE	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	DDE	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	DDE	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	DDE	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	DDT	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	DDT	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	DDT	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	DDT	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	DDT	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Delta-Benzene Hexachloride	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Delta-Benzene Hexachloride	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Delta-Benzene Hexachloride	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Delta-Benzene Hexachloride	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Delta-Benzene Hexachloride	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dieldrin	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dieldrin	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dieldrin	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dieldrin	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dieldrin	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan I	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan I	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan I	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan I	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan I	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan II	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan II	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan II	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan II	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan II	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan Sulfate	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan Sulfate	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan Sulfate	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan Sulfate	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Endosulfan Sulfate	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Endrin	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Endrin	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Endrin	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Endrin	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Endrin	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Aldehyde	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Aldehyde	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Aldehyde	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Aldehyde	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Endrin Aldehyde	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Ketone	EPA8081B	0.356	1.42	U	1.42	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Ketone	EPA8081B	0.378	1.51	U	1.51	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Ketone	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Ketone	EPA8081B	0.377	1.51	U	1.51	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Endrin Ketone	EPA8081B	0.411	1.65	U	1.65	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Gamma-Chlordane	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Gamma-Chlordane	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Gamma-Chlordane	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Gamma-Chlordane	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Gamma-Chlordane	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor Epoxide	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor Epoxide	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor Epoxide	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor Epoxide	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Heptachlor Epoxide	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Lindane	EPA8081B	0.178	0.712	U	0.712	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Lindane	EPA8081B	0.189	0.756	U	0.756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Lindane	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Lindane	EPA8081B	0.189	0.754	U	0.754	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Lindane	EPA8081B	0.206	0.823	U	0.823	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Methoxychlor	EPA8081B	1.78	7.12	U	7.12	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Methoxychlor	EPA8081B	1.89	7.56	U	7.56	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Methoxychlor	EPA8081B	1.87	7.46	U	7.46	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Methoxychlor	EPA8081B	1.89	7.54	U	7.54	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Methoxychlor	EPA8081B	2.06	8.23	U	8.23	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Toxaphene	EPA8081B	5.93	17.8	U	17.8	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Toxaphene	EPA8081B	6.3	18.9	U	18.9	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Toxaphene	EPA8081B	6.21	18.7	U	18.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Toxaphene	EPA8081B	6.28	18.9	U	18.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Toxaphene	EPA8081B	6.85	20.6	U	20.6	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1016	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Aroclor 1016	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1016	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1016	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1016	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1221	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1221	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1221	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1221	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1221	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1232	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1232	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1232	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1232	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1232	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1242	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1242	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1242	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1242	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1242	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1248	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1248	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1248	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1248	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1248	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1254	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1254	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1254	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1254	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1254	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1260	EPA8082A	1.18	3.54	U	3.54	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1260	EPA8082A	1.25	3.77	U	3.77	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1260	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1260	EPA8082A	1.26	3.78	U	3.78	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Aroclor 1260	EPA8082A	1.37	4.1	U	4.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1,1-Trichloroethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1,1-Trichloroethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,1,1-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	1,1,1-Trichloroethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1,1-Trichloroethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.92	5.76	U	5.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloroethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloroethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloroethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1,2-Trichloroethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethylene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethylene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethylene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1-Dichloroethylene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2,3-Trichlorobenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2,3-Trichlorobenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2,3-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2,3-Trichlorobenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2,3-Trichlorobenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4-Trichlorobenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4-Trichlorobenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4-Trichlorobenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4-Trichlorobenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.488	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.537	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.53	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.526	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.576	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromoethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromoethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromoethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromoethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dibromoethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichlorobenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichlorobenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichlorobenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichlorobenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloropropane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloropropane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloropropane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloropropane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2-Dichloropropane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,3-Dichlorobenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,3-Dichlorobenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,3-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,3-Dichlorobenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,3-Dichlorobenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dichlorobenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dichlorobenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dichlorobenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dichlorobenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dioxane	EPA8260B	16.3	48.8	U	48.8	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dioxane	EPA8260B	17.9	53.7	U	53.7	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	1,4-Dioxane	EPA8260B	17.7	53	U	53	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dioxane	EPA8260B	17.5	52.6	U	52.6	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,4-Dioxane	EPA8260B	19.2	57.6	U	57.6	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2-Hexanone	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2-Hexanone	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2-Hexanone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2-Hexanone	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2-Hexanone	EPA8260B	1.92	5.76	U	5.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Acetone	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Acetone	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Acetone	EPA8260B	1.77	5.3		12.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Acetone	EPA8260B	1.75	5.26	J	1.97	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Acetone	EPA8260B	1.92	5.76		15.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Benzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bromochloromethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bromochloromethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bromochloromethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bromochloromethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bromodichloromethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bromodichloromethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bromodichloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bromodichloromethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bromodichloromethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bromoform (Tribromomethane)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bromoform (Tribromomethane)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bromoform (Tribromomethane)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bromoform (Tribromomethane)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bromoform (Tribromomethane)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Disulfide	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Disulfide	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Disulfide	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Disulfide	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Disulfide	EPA8260B	1.92	5.76	U	5.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Tetrachloride	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Tetrachloride	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Tetrachloride	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Tetrachloride	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Carbon Tetrachloride	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chlorobenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Chlorobenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chlorobenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Chlorobenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Hloroethane (Ethyl Chloride)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chloroform	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Chloroform	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chloroform	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chloroform	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Chloroform	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,3-Dichloropropene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,3-Dichloropropene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,3-Dichloropropene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cis-1,3-Dichloropropene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Cumene (Isopropylbenzene)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cumene (Isopropylbenzene)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cumene (Isopropylbenzene)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cumene (Isopropylbenzene)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cumene (Isopropylbenzene)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Cyclohexane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cyclohexane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cyclohexane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cyclohexane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dibromochloromethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dibromochloromethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dibromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dibromochloromethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dibromochloromethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dichlorodifluoromethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dichlorodifluoromethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dichlorodifluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dichlorodifluoromethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dichlorodifluoromethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.92	5.76	U	5.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Ethylbenzene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Ethylbenzene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Ethylbenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Ethylbenzene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Ethylbenzene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	M,P-Xylene	EPA8260B	0.652	1.95	U	1.95	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	M,P-Xylene	EPA8260B	0.716	2.15	U	2.15	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	M,P-Xylene	EPA8260B	0.707	2.12	U	2.12	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	M,P-Xylene	EPA8260B	0.702	2.1	U	2.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	M,P-Xylene	EPA8260B	0.768	2.3	U	2.3	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Acetate	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Acetate	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Acetate	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Acetate	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Acetate	EPA8260B	1.92	5.76	U	5.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Ethyl Ketone	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Ethyl Ketone	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Ethyl Ketone	EPA8260B	1.77	5.3	J	2.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Ethyl Ketone	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Ethyl Ketone	EPA8260B	1.92	5.76	J	1.96	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Isobutyl Ketone	EPA8260B	1.63	4.88	U	4.88	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Isobutyl Ketone	EPA8260B	1.79	5.37	U	5.37	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Isobutyl Ketone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Isobutyl Ketone	EPA8260B	1.75	5.26	U	5.26	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Isobutyl Ketone	EPA8260B	1.92	5.76	U	5.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Methylcyclohexane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Methylcyclohexane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Methylcyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Methylcyclohexane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Methylcyclohexane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	O-Xylene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	O-Xylene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	O-Xylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	O-Xylene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	O-Xylene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Styrene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Styrene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Styrene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Styrene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Styrene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Tetrachloroethylene (PCE)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Tetrachloroethylene (PCE)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Tetrachloroethylene (PCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Tetrachloroethylene (PCE)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Tetrachloroethylene (PCE)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Toluene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Toluene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Toluene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Toluene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Toluene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,3-Dichloropropene	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,3-Dichloropropene	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,3-Dichloropropene	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Trans-1,3-Dichloropropene	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Trichloroethylene (TCE)	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Trichloroethylene (TCE)	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Trichloroethylene (TCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Trichloroethylene (TCE)	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Trichloroethylene (TCE)	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Trichlorofluoromethane	EPA8260B	0.325	0.977	U	0.977	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Trichlorofluoromethane	EPA8260B	0.358	1.07	U	1.07	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Trichlorofluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Trichlorofluoromethane	EPA8260B	0.35	1.05	U	1.05	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Trichlorofluoromethane	EPA8260B	0.383	1.15	U	1.15	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,1'-Biphenyl	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,1'-Biphenyl	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	1,1'-Biphenyl	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,1'-Biphenyl	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,1'-Biphenyl	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,4,5-Trichlorophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,4,5-Trichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,4,5-Trichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,4,5-Trichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,4,5-Trichlorophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,4,6-Trichlorophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,4,6-Trichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,4,6-Trichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,4,6-Trichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,4,6-Trichlorophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dichlorophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dichlorophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dimethylphenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dimethylphenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dimethylphenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dimethylphenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dimethylphenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrophenol	EPA8270D	107	713	U	713	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrophenol	EPA8270D	113	756	U	756	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrophenol	EPA8270D	111	741	U	741	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrophenol	EPA8270D	113	756	U	756	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrophenol	EPA8270D	122	814	U	814	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrotoluene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrotoluene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrotoluene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrotoluene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,4-Dinitrotoluene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2,6-Dinitrotoluene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2,6-Dinitrotoluene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2,6-Dinitrotoluene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2,6-Dinitrotoluene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2,6-Dinitrotoluene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2-Chloronaphthalene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2-Chloronaphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2-Chloronaphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2-Chloronaphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2-Chloronaphthalene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2-Chlorophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2-Chlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2-Chlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2-Chlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2-Chlorophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2-Methylnaphthalene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2-Methylnaphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2-Methylnaphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2-Methylnaphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2-Methylnaphthalene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitroaniline	EPA8270D	118	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitroaniline	EPA8270D	125	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitroaniline	EPA8270D	122	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitroaniline	EPA8270D	125	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitroaniline	EPA8270D	134	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitrophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitrophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitrophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitrophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	2-Nitrophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	3,3-Dichlorobenzidine	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	3,3-Dichlorobenzidine	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	3,3-Dichlorobenzidine	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	3,3-Dichlorobenzidine	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	3,3-Dichlorobenzidine	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	4-Bromophenyl Phenyl Ether	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	4-Bromophenyl Phenyl Ether	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	4-Bromophenyl Phenyl Ether	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	4-Bromophenyl Phenyl Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	4-Bromophenyl Phenyl Ether	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	4-Chloroaniline	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	4-Chloroaniline	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	4-Chloroaniline	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	4-Chloroaniline	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	4-Chloroaniline	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	4-Nitrophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	4-Nitrophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	4-Nitrophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	4-Nitrophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	4-Nitrophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthylene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthylene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthylene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthylene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Acenaphthylene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Acetophenone	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Acetophenone	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Acetophenone	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Acetophenone	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Acetophenone	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Anthracene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Anthracene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Atrazine	EPA8270D	143	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Atrazine	EPA8270D	151	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Atrazine	EPA8270D	148	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Atrazine	EPA8270D	151	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Atrazine	EPA8270D	163	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Benzaldehyde	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzaldehyde	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzaldehyde	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzaldehyde	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzaldehyde	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Benzo(g,h,i)Perylene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzo(g,h,i)Perylene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzo(g,h,i)Perylene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzo(g,h,i)Perylene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzo(g,h,i)Perylene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Anthracene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Anthracene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Pyrene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[A]Pyrene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[B]Fluoranthene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[B]Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[B]Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[B]Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[B]Fluoranthene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Benzo[K]Fluoranthene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[K]Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[K]Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[K]Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Benzo[K]Fluoranthene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethyl)Ether	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethyl)Ether	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethyl)Ether	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethyl)Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Chloroethyl)Ether	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Butyl Benzyl Phthalate	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Butyl Benzyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Butyl Benzyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Butyl Benzyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Butyl Benzyl Phthalate	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Caprolactam	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Caprolactam	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Caprolactam	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Caprolactam	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Caprolactam	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Carbazole	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Carbazole	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Carbazole	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Carbazole	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Carbazole	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Chrysene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Chrysene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Chrysene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Chrysene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Chrysene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dibenz[Ah]Anthracene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dibenz[Ah]Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dibenz[Ah]Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dibenz[Ah]Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dibenz[Ah]Anthracene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dibenzofuran	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dibenzofuran	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dibenzofuran	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dibenzofuran	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dibenzofuran	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Diethyl Phthalate	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Diethyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Diethyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Diethyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Diethyl Phthalate	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dimethyl Phthalate	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dimethyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dimethyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dimethyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Dimethyl Phthalate	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Di-N-Butyl Phthalate	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Di-N-Butyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Di-N-Butyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Di-N-Butyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Di-N-Butyl Phthalate	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Dinitro-O-Cresol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Dinitro-O-Cresol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Dinitro-O-Cresol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Dinitro-O-Cresol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Dinitro-O-Cresol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Fluoranthene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Fluoranthene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Fluorene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Fluorene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Fluorene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Fluorene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Fluorene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobenzene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobenzene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobenzene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobenzene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobenzene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobutadiene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobutadiene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobutadiene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobutadiene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorobutadiene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorocyclopentadiene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorocyclopentadiene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorocyclopentadiene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorocyclopentadiene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Hexachlorocyclopentadiene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Hexachloroethane	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Hexachloroethane	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Hexachloroethane	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Hexachloroethane	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Hexachloroethane	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Isophorone	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Isophorone	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Isophorone	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Isophorone	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Isophorone	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	M/P-Cresol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	M/P-Cresol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	M/P-Cresol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	M/P-Cresol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	M/P-Cresol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	M-Nitroaniline	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	M-Nitroaniline	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	M-Nitroaniline	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	M-Nitroaniline	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	M-Nitroaniline	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Naphthalene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Naphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Naphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Naphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Naphthalene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	N-Dioctyl Phthalate	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	N-Dioctyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	N-Dioctyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	N-Dioctyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	N-Dioctyl Phthalate	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Nitrobenzene	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Nitrobenzene	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Nitrobenzene	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Nitrobenzene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Nitrobenzene	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodipropylamine	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodipropylamine	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodipropylamine	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodipropylamine	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	N-Nitrosodipropylamine	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	O-Cresol (2-Methylphenol)	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	O-Cresol (2-Methylphenol)	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	O-Cresol (2-Methylphenol)	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	O-Cresol (2-Methylphenol)	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	O-Cresol (2-Methylphenol)	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	P-Chloro-M-Cresol	EPA8270D	143	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	P-Chloro-M-Cresol	EPA8270D	151	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	P-Chloro-M-Cresol	EPA8270D	148	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	P-Chloro-M-Cresol	EPA8270D	151	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	P-Chloro-M-Cresol	EPA8270D	163	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Pentachlorophenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Pentachlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Pentachlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Pentachlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Pentachlorophenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Phenanthrene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Phenanthrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Phenanthrene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Phenanthrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Phenanthrene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Phenol	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Phenol	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Phenol	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Phenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Phenol	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	P-Nitroaniline	EPA8270D	107	356	U	356	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	P-Nitroaniline	EPA8270D	113	378	U	378	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	P-Nitroaniline	EPA8270D	111	370	U	370	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	P-Nitroaniline	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	P-Nitroaniline	EPA8270D	122	407	U	407	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Pyrene	EPA8270D	10.7	35.6	U	35.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Pyrene	EPA8270D	12.2	40.7	U	40.7	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	78.7	236	U	236	µg/kg	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	54.7	164	U	164	µg/kg	LD	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	89.7	269	U	269	µg/kg	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	74.3	222	U	222	µg/kg	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	76.9	230	U	230	µg/kg	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	64.3	192	U	192	µg/kg	LD	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	93	278	U	278	µg/kg	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Cyanide	EPA9012B	85.1	255	U	255	µg/kg	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Gross Alpha	RADA-001	2.77	7.75		8.32	pCi/g	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Gross Alpha	RADA-001	2.25	7.23		26	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Gross Alpha	RADA-001	1.76	7.14		36.1	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Gross Alpha	RADA-001	2.96	8.64		15.1	pCi/g	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Gross Alpha	RADA-001	2.96	9.56		21	pCi/g	LD	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Gross Alpha	RADA-001	2.97	9.49		14.7	pCi/g	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Nonvolatile Beta	RADA-001	3.1	7.24	J	5.67	pCi/g	REG	1	3	ft
488-1D-BRMFLL-01	9/13/2016	Nonvolatile Beta	RADA-001	2.06	5.5		18.7	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Nonvolatile Beta	RADA-001	2.01	5.49		22.8	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Nonvolatile Beta	RADA-001	1.86	4.9		9	pCi/g	REG	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Nonvolatile Beta	RADA-001	2.68	6.66		10.6	pCi/g	LD	9	12	ft
488-1D-BRMFLL-01	9/13/2016	Nonvolatile Beta	RADA-001	1.9	5.16		7.37	pCi/g	REG	12	16	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-233/234	RADA-011	0.123	0.485		0.847	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-233/234	RADA-011	0.0456	0.36		0.811	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-233/234	RADA-011	0.0456	0.36		0.811	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-233/234	RADA-011	0.0716	0.428		0.966	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-235	RADA-011	0.0964	0.26	U	0.11	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-235	RADA-011	0.0765	0.227	U	0.12	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-235	RADA-011	0.0765	0.227	U	0.12	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-235	RADA-011	0.0594	0.2	U	0.106	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-238	RADA-011	0.0711	0.405		0.781	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-238	RADA-011	0.0548	0.371		0.815	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-238	RADA-011	0.0548	0.371		0.815	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Uranium-238	RADA-011	0.0246	0.367		0.917	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Cesium-137	RADA-013	0.0817	0.173	U	- 0.0336	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cesium-137	RADA-013	0.0817	0.173	U	- 0.0336	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt-60	RADA-013	0.0787	0.16	U	- 0.00758	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Cobalt-60	RADA-013	0.0787	0.16	U	- 0.00758	pCi/g	LD	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-01	9/13/2016	Radium-226	RADA-013	0.146	0.578		1.33	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Radium-226	RADA-013	0.157	0.585		1.09	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Radium-226	RADA-013	0.157	0.585		1.09	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Radium-226	RADA-013	0.162	0.72		1.43	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Radium-228	RADA-013	0.254	1.05		2.14	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Radium-228	RADA-013	0.317	1.12		1.95	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Radium-228	RADA-013	0.317	1.12		1.95	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Radium-228	RADA-013	0.284	1.26		2.69	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-228	RADA-038	0.0829	0.511		1.7	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-228	RADA-038	0.0914	0.495		1.36	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-228	RADA-038	0.0914	0.495		1.36	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-228	RADA-038	0.0943	0.608		1.69	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-230	RADA-038	0.0941	0.342		0.529	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-230	RADA-038	0.102	0.384		0.63	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-230	RADA-038	0.102	0.384		0.63	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-230	RADA-038	0.118	0.482		0.827	pCi/g	REG	6	9	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-232	RADA-038	0.0508	0.443		1.53	pCi/g	REG	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-232	RADA-038	0.0558	0.46		1.48	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-232	RADA-038	0.0558	0.46		1.48	pCi/g	LD	3	6	ft
488-1D-BRMFLL-01	9/13/2016	Thorium-232	RADA-038	0.0407	0.561		1.87	pCi/g	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aluminum	EPA6010C	7,620	22400		5,490,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aluminum	EPA6010C	6,830	20100		4,270,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aluminum	EPA6010C	6,700	19700		3,710,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aluminum	EPA6010C	6,690	19700		2,620,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aluminum	EPA6010C	7,460	21900		5,290,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Antimony	EPA6010C	370	1120	U	1,120	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Antimony	EPA6010C	331	1000	U	1,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Antimony	EPA6010C	325	985	U	985	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Antimony	EPA6010C	325	984	U	984	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Antimony	EPA6010C	362	1100	U	1,100	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Arsenic	EPA6010C	560	3360	J	1,270	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Arsenic	EPA6010C	502	3010	J	2,030	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Arsenic	EPA6010C	493	2960	J	2,060	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Arsenic	EPA6010C	492	2950	J	913	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Arsenic	EPA6010C	548	3290		3,370	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Barium	EPA6010C	112	560		67,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Barium	EPA6010C	100	502		18,200	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Barium	EPA6010C	98.5	493		26,400	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Barium	EPA6010C	98.4	492		23,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Barium	EPA6010C	110	548		30,600	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Beryllium	EPA6010C	112	560	J	408	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Beryllium	EPA6010C	1,000	5020	U	5,020	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Beryllium	EPA6010C	985	4930	U	4,930	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Beryllium	EPA6010C	984	4920	U	4,920	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Beryllium	EPA6010C	1,100	5480	U	5,480	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cadmium	EPA6010C	112	560	U	560	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cadmium	EPA6010C	100	502	U	502	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cadmium	EPA6010C	98.5	493	U	493	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cadmium	EPA6010C	98.4	492	U	492	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Cadmium	EPA6010C	110	548	U	548	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Calcium	EPA6010C	8,970	28,000		313,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Calcium	EPA6010C	8,030	25,100		251,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Calcium	EPA6010C	7,880	24,600		167,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Calcium	EPA6010C	7,880	24,600	J	93,200	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Calcium	EPA6010C	8,770	27,400		242,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chromium	EPA6010C	168	560		9,720	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chromium	EPA6010C	151	502		6,190	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Chromium	EPA6010C	148	493		6,820	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chromium	EPA6010C	148	492		4,520	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chromium	EPA6010C	165	548		17,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt	EPA6010C	168	560	J	198	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt	EPA6010C	151	502		961	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt	EPA6010C	148	493		975	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt	EPA6010C	148	492		789	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt	EPA6010C	165	548		1,100	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Copper	EPA6010C	336	1,120	J	995	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Copper	EPA6010C	301	1,000		1,970	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Copper	EPA6010C	296	985		1,950	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Copper	EPA6010C	295	984		1,660	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Copper	EPA6010C	329	1,100		3,590	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Iron	EPA6010C	8,970	28,000		9,900,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Iron	EPA6010C	8,030	25,100		7,340,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Iron	EPA6010C	7,880	24,600		5,510,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Iron	EPA6010C	7,880	24,600		3,310,000	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Iron	EPA6010C	8,770	27,400		13,300,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Lead	EPA6010C	370	1,120		8,990	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Lead	EPA6010C	331	1,000		5,370	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Lead	EPA6010C	325	985		4,620	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Lead	EPA6010C	325	984		3,730	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Lead	EPA6010C	362	1,100		6,830	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Magnesium	EPA6010C	9,530	33,600		202,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Magnesium	EPA6010C	8,540	30,100		88,300	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Magnesium	EPA6010C	8,380	29,600		82,900	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Magnesium	EPA6010C	8,370	29,500		77,800	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Magnesium	EPA6010C	9,320	32,900		174,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Manganese	EPA6010C	224	1,120		74,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Manganese	EPA6010C	201	1,000		63,100	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Manganese	EPA6010C	197	985		64,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Manganese	EPA6010C	197	984		57,900	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Manganese	EPA6010C	219	1,100		127,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Nickel	EPA6010C	168	560	J	359	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Nickel	EPA6010C	151	502		1,220	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Nickel	EPA6010C	148	493		1,220	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Nickel	EPA6010C	148	492		1,240	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Nickel	EPA6010C	165	548		2,380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Potassium	EPA6010C	7,170	28,000		132,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Potassium	EPA6010C	6,430	25,100		105,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Potassium	EPA6010C	6,310	24,600		80,900	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Potassium	EPA6010C	6,300	24,600		65,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Potassium	EPA6010C	7,020	27,400		111,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Selenium	EPA6010C	560	3,360	U	3,360	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Selenium	EPA6010C	502	3,010	J	571	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Selenium	EPA6010C	493	2,960	U	2,960	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Selenium	EPA6010C	492	2,950	U	2,950	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Selenium	EPA6010C	548	3,290	U	3,290	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Silver	EPA6010C	112	560	U	560	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Silver	EPA6010C	100	502	J	211	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Silver	EPA6010C	98.5	493	J	162	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Silver	EPA6010C	98.4	492	J	120	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Silver	EPA6010C	110	548	J	452	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Sodium	EPA6010C	7,850	28,000	J	31,700	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Sodium	EPA6010C	7,030	25,100	J	30,300	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Sodium	EPA6010C	6,900	24,600	J	31,700	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Sodium	EPA6010C	6,890	24,600	U	21,200	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Sodium	EPA6010C	7,680	27,400	J	29,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Thallium	EPA6010C	560	2,240	U	2,240	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thallium	EPA6010C	502	2,010	U	2,010	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Thallium	EPA6010C	493	1,970	U	1,970	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Thallium	EPA6010C	492	1,970	U	1,970	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Thallium	EPA6010C	548	2,190	U	2,190	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Vanadium	EPA6010C	112	560		22,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Vanadium	EPA6010C	100	502		16,500	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Vanadium	EPA6010C	98.5	493		12,200	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Vanadium	EPA6010C	98.4	492		6,180	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Vanadium	EPA6010C	110	548		21,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Zinc	EPA6010C	440	1,100	J	849	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Zinc	EPA6010C	409	1,020		2,790	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Zinc	EPA6010C	432	1,080		2,660	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Zinc	EPA6010C	428	1,070		3,160	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Zinc	EPA6010C	423	1,060		7,960	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Mercury	EPA7471B	4.4	13.1		37.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Mercury	EPA7471B	4.14	12.4		34.4	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Mercury	EPA7471B	4.42	13.2		21	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Mercury	EPA7471B	4.24	12.7		24.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Mercury	EPA7471B	3.94	11.8		39.4	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aldrin	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aldrin	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aldrin	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aldrin	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aldrin	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Chlordane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Chlordane	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Alpha-Chlordane	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Alpha-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	DDD	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	DDD	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	DDD	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	DDD	EPA8081B	0.362	1.45		2.41	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	DDD	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	DDE	EPA8081B	0.373	1.49	J	0.663	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	DDE	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	DDE	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	DDE	EPA8081B	0.362	1.45		2.54	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	DDE	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	DDT	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	DDT	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	DDT	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	DDT	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	DDT	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dieldrin	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dieldrin	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dieldrin	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dieldrin	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dieldrin	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan I	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan I	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan I	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan I	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan I	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Endosulfan II	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan II	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan II	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan II	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan II	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan Sulfate	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan Sulfate	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan Sulfate	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan Sulfate	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Endosulfan Sulfate	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Endrin	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Endrin	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Endrin	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Endrin	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Endrin	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Aldehyde	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Aldehyde	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Aldehyde	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Aldehyde	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Aldehyde	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Ketone	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Ketone	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Ketone	EPA8081B	0.364	1.45	U	1.45	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Ketone	EPA8081B	0.362	1.45	U	1.45	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Endrin Ketone	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Gamma-Chlordane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Gamma-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Gamma-Chlordane	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Gamma-Chlordane	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Gamma-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor Epoxide	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor Epoxide	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Heptachlor Epoxide	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor Epoxide	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Heptachlor Epoxide	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Lindane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Lindane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Lindane	EPA8081B	0.182	0.727	U	0.727	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Lindane	EPA8081B	0.181	0.724	U	0.724	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Lindane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Methoxychlor	EPA8081B	1.86	7.45	U	7.45	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Methoxychlor	EPA8081B	1.84	7.35	U	7.35	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Methoxychlor	EPA8081B	1.82	7.27	U	7.27	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Methoxychlor	EPA8081B	1.81	7.24	U	7.24	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Methoxychlor	EPA8081B	1.84	7.35	U	7.35	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Toxaphene	EPA8081B	6.21	18.6	U	18.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Toxaphene	EPA8081B	6.12	18.4	U	18.4	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Toxaphene	EPA8081B	6.05	18.2	U	18.2	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Toxaphene	EPA8081B	6.03	18.1	U	18.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Toxaphene	EPA8081B	6.12	18.4	U	18.4	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1016	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1016	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1016	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1016	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1016	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1221	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1221	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1221	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1221	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1221	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1232	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1232	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1232	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1232	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1232	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1242	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1242	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1242	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1242	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Aroclor 1242	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1248	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1248	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1248	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1248	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1248	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1254	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1254	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1254	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1254	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1254	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1260	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1260	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1260	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1260	EPA8082A	1.21	3.65	U	3.65	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Aroclor 1260	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.72	5.16	U	5.16	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.553	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.539	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.511	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.516	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.539	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromoethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromoethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromoethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromoethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dibromoethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloropropane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloropropane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloropropane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloropropane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2-Dichloropropane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dioxane	EPA8260B	18.4	55.3	U	55.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dioxane	EPA8260B	18	53.9	U	53.9	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dioxane	EPA8260B	17	51.1	U	51.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dioxane	EPA8260B	17.2	51.6	U	51.6	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,4-Dioxane	EPA8260B	18	53.9	U	53.9	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2-Hexanone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2-Hexanone	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2-Hexanone	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2-Hexanone	EPA8260B	1.72	5.16	U	5.16	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2-Hexanone	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Acetone	EPA8260B	1.84	5.53	J	5.45	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Acetone	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Acetone	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Acetone	EPA8260B	1.72	5.16		12	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Acetone	EPA8260B	1.8	5.39		18.5	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Benzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Bromochloromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bromochloromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bromochloromethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bromochloromethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bromochloromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bromodichloromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bromodichloromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bromodichloromethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bromodichloromethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bromodichloromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Disulfide	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Disulfide	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Disulfide	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Disulfide	EPA8260B	1.72	5.16	U	5.16	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Disulfide	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Tetrachloride	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Tetrachloride	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Tetrachloride	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Tetrachloride	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Carbon Tetrachloride	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Chlorobenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chlorobenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chlorobenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chloroform	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chloroform	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Chloroform	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chloroform	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chloroform	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cyclohexane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cyclohexane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cyclohexane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cyclohexane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Cyclohexane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dibromochloromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dibromochloromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dibromochloromethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dibromochloromethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dibromochloromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.72	5.16	U	5.16	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Ethylbenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Ethylbenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Ethylbenzene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Ethylbenzene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Ethylbenzene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	M,P-Xylene	EPA8260B	0.737	2.21	U	2.21	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	M,P-Xylene	EPA8260B	0.719	2.16	U	2.16	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	M,P-Xylene	EPA8260B	0.682	2.04	U	2.04	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	M,P-Xylene	EPA8260B	0.689	2.07	U	2.07	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	M,P-Xylene	EPA8260B	0.719	2.16	U	2.16	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Acetate	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Acetate	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Acetate	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Acetate	EPA8260B	1.72	5.16	U	5.16	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Acetate	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.72	5.16	J	2.34	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.8	5.39	J	3.27	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.7	5.11	U	5.11	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.72	5.16	U	5.16	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.8	5.39	U	5.39	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Methylcyclohexane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Methylcyclohexane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Methylcyclohexane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Methylcyclohexane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Methylcyclohexane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	O-Xylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	O-Xylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	O-Xylene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	O-Xylene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	O-Xylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Styrene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Styrene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Styrene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Styrene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Styrene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Toluene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Toluene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Toluene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Toluene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Toluene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Trichlorofluoromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Trichlorofluoromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Trichlorofluoromethane	EPA8260B	0.34	1.02	U	1.02	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Trichlorofluoromethane	EPA8260B	0.344	1.03	U	1.03	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Trichlorofluoromethane	EPA8260B	0.359	1.08	U	1.08	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,1’-Biphenyl	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,1’-Biphenyl	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,1’-Biphenyl	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,1’-Biphenyl	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,1’-Biphenyl	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dichlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dichlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dichlorophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dichlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dimethylphenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dimethylphenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dimethylphenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dimethylphenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dimethylphenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrophenol	EPA8270D	111	739	U	739	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrophenol	EPA8270D	111	742	U	742	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrophenol	EPA8270D	110	735	U	735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrophenol	EPA8270D	108	718	U	718	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrophenol	EPA8270D	112	744	U	744	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrotoluene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrotoluene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrotoluene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrotoluene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,4-Dinitrotoluene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2,6-Dinitrotoluene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2,6-Dinitrotoluene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2,6-Dinitrotoluene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2,6-Dinitrotoluene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2,6-Dinitrotoluene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2-Chloronaphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2-Chloronaphthalene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2-Chloronaphthalene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2-Chloronaphthalene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2-Chloronaphthalene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2-Chlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2-Chlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	2-Chlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2-Chlorophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2-Chlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2-Methylnaphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2-Methylnaphthalene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2-Methylnaphthalene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2-Methylnaphthalene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2-Methylnaphthalene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitroaniline	EPA8270D	122	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitroaniline	EPA8270D	122	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitroaniline	EPA8270D	121	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitroaniline	EPA8270D	118	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitroaniline	EPA8270D	123	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitrophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitrophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitrophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitrophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	2-Nitrophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	4-Chloroaniline	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	4-Chloroaniline	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	4-Chloroaniline	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	4-Chloroaniline	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	4-Chloroaniline	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	4-Nitrophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	4-Nitrophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	4-Nitrophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	4-Nitrophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	4-Nitrophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthylene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthylene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthylene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthylene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Acenaphthylene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Acetophenone	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Acetophenone	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Acetophenone	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Acetophenone	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Acetophenone	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Anthracene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Anthracene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Anthracene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Anthracene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Atrazine	EPA8270D	148	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Atrazine	EPA8270D	148	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Atrazine	EPA8270D	147	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Atrazine	EPA8270D	144	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Atrazine	EPA8270D	149	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzaldehyde	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Benzaldehyde	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzaldehyde	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzaldehyde	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzaldehyde	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Anthracene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Anthracene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Pyrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Pyrene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Caprolactam	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Caprolactam	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Caprolactam	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Caprolactam	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Caprolactam	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Carbazole	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Carbazole	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Carbazole	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Carbazole	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Carbazole	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Chrysene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Chrysene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Chrysene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Chrysene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Chrysene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dibenzofuran	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dibenzofuran	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dibenzofuran	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dibenzofuran	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dibenzofuran	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Diethyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Diethyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Diethyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Diethyl Phthalate	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Diethyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dimethyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dimethyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dimethyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dimethyl Phthalate	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dimethyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Dinitro-O-Cresol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Dinitro-O-Cresol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Dinitro-O-Cresol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Dinitro-O-Cresol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Dinitro-O-Cresol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Fluoranthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Fluoranthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Fluoranthene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Fluoranthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Fluorene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Fluorene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Fluorene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Fluorene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Fluorene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobenzene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobenzene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobenzene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobenzene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobenzene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobutadiene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobutadiene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Hexachlorobutadiene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobutadiene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorobutadiene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Hexachloroethane	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Hexachloroethane	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Hexachloroethane	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Hexachloroethane	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Hexachloroethane	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Indeno[1,2,3-cd]Pyrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Isophorone	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Isophorone	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Isophorone	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Isophorone	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Isophorone	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	M/P-Cresol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	M/P-Cresol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	M/P-Cresol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	M/P-Cresol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	M/P-Cresol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	M-Nitroaniline	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	M-Nitroaniline	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	M-Nitroaniline	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	M-Nitroaniline	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	M-Nitroaniline	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Naphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Naphthalene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Naphthalene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Naphthalene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Naphthalene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	N-Dioctyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	N-Dioctyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	N-Dioctyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	N-Dioctyl Phthalate	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	N-Dioctyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Nitrobenzene	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Nitrobenzene	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Nitrobenzene	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Nitrobenzene	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Nitrobenzene	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodipropylamine	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodipropylamine	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodipropylamine	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodipropylamine	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	N-Nitrosodipropylamine	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	P-Chloro-M-Cresol	EPA8270D	148	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	P-Chloro-M-Cresol	EPA8270D	148	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	P-Chloro-M-Cresol	EPA8270D	147	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	P-Chloro-M-Cresol	EPA8270D	144	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	P-Chloro-M-Cresol	EPA8270D	149	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Pentachlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Pentachlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Pentachlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Pentachlorophenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Pentachlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Phenanthrene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Phenanthrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Phenanthrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Phenanthrene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Phenanthrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Phenol	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Phenol	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Phenol	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Phenol	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Phenol	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	P-Nitroaniline	EPA8270D	111	370	U	370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	P-Nitroaniline	EPA8270D	111	371	U	371	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	P-Nitroaniline	EPA8270D	110	368	U	368	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	P-Nitroaniline	EPA8270D	108	359	U	359	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	P-Nitroaniline	EPA8270D	112	372	U	372	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Pyrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Pyrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Pyrene	EPA8270D	10.8	35.9	U	35.9	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Pyrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Cyanide	EPA9012B	77.2	231	U	231	µg/kg	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cyanide	EPA9012B	53.2	159	U	159	µg/kg	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Cyanide	EPA9012B	90.3	270	U	270	µg/kg	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Cyanide	EPA9012B	69.2	207	U	207	µg/kg	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Cyanide	EPA9012B	80.7	242	U	242	µg/kg	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Gross Alpha	RADA-001	2.62	9.86		20.2	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Gross Alpha	RADA-001	2.96	9.38		20.9	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Gross Alpha	RADA-001	2.98	7.74	J	6.67	pCi/g	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Gross Alpha	RADA-001	3	7.54		7.65	pCi/g	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Gross Alpha	RADA-001	2.98	8.86		12.8	pCi/g	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Nonvolatile Beta	RADA-001	2.97	7.57		11.6	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Nonvolatile Beta	RADA-001	2.43	6.15		10.1	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Nonvolatile Beta	RADA-001	2.82	6.68	J	6.46	pCi/g	REG	6	9	ft
488-1D-BRMFLL-02	9/14/2016	Nonvolatile Beta	RADA-001	2.63	6.23		7.46	pCi/g	REG	9	12	ft
488-1D-BRMFLL-02	9/14/2016	Nonvolatile Beta	RADA-001	2.02	5.1		5.66	pCi/g	REG	12	16	ft
488-1D-BRMFLL-02	9/14/2016	Uranium-233/234	RADA-011	0.0822	0.386	J	0.689	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Uranium-233/234	RADA-011	0.0795	0.476		1.16	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Uranium-235	RADA-011	0.0304	0.158	U	0.0912	pCi/g	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-02	9/14/2016	Uranium-235	RADA-011	0.0832	0.199	U	0.0468	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Uranium-238	RADA-011	0.0481	0.34		0.66	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Uranium-238	RADA-011	0.0596	0.442		1.1	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Actinium-228	RADA-013	0.206	0.768		1.46	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Actinium-228	RADA-013	0.142	0.578		1.12	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bismuth-214	RADA-013	0.0945	0.483		0.956	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Bismuth-214	RADA-013	0.0661	0.314		1.07	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cesium-137	RADA-013	0.0511	0.135	J	0.0875	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cesium-137	RADA-013	0.0338	0.08	J	0.0476	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt-60	RADA-013	0.0476	0.088	U	0.00954	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Cobalt-60	RADA-013	0.0381	0.074	U	0.0114	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Lead-212	RADA-013	0.0716	0.332		1.48	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Lead-212	RADA-013	0.054	0.239		1.45	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Lead-214	RADA-013	0.309	0.687		1.19	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Lead-214	RADA-013	0.206	0.486		1.09	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Potassium-40	RADA-013	0.397	1.84		3.21	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Potassium-40	RADA-013	0.273	1.27		2.63	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Radium-226	RADA-013	0.1	0.374		0.893	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Radium-226	RADA-013	0.121	0.477		1.07	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Radium-228	RADA-013	0.11	0.624		1.65	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Radium-228	RADA-013	0.206	0.768		1.46	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Radium-228	RADA-013	0.142	0.578		1.12	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Radium-228	RADA-013	0.21	0.884		1.97	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Thallium-208	RADA-013	0.058	0.249		0.418	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thallium-208	RADA-013	0.0359	0.139		0.385	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-228	RADA-038	0.247	1.06		1.19	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-228	RADA-038	0.148	0.868		1.22	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-228	RADA-038	0.114	0.678		2.32	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-230	RADA-038	0.386	1.02	J	0.763	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-230	RADA-038	0.233	0.881	J	0.799	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-230	RADA-038	0.18	0.65	J	0.519	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-230	RADA-038	0.106	0.478		1.01	pCi/g	REG	3	6	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-232	RADA-038	0.151	1.03		1.61	pCi/g	REG	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-232	RADA-038	0.121	0.879		1.5	pCi/g	LD	1	3	ft
488-1D-BRMFLL-02	9/14/2016	Thorium-232	RADA-038	0.0791	0.611		2.21	pCi/g	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aluminum	EPA6010C	6,770	19,900		4,480,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aluminum	EPA6010C	7,610	22,400		5,170,000	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Aluminum	EPA6010C	7,030	20,700		3,860,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aluminum	EPA6010C	7,390	21,700		5,330,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aluminum	EPA6010C	7,750	22,800		5,030,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Antimony	EPA6010C	329	996	U	996	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Antimony	EPA6010C	369	1,120	U	1,120	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Antimony	EPA6010C	341	1,030	U	1,030	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Antimony	EPA6010C	358	1,090	U	1,090	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Antimony	EPA6010C	376	1,140	U	1,140	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Arsenic	EPA6010C	498	2,990	J	1,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Arsenic	EPA6010C	559	3,360	J	3,110	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Arsenic	EPA6010C	517	3,100	J	2,030	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Arsenic	EPA6010C	543	3,260	J	2,210	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Arsenic	EPA6010C	570	3,420	J	1,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Barium	EPA6010C	99.6	498		29,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Barium	EPA6010C	112	559		17,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Barium	EPA6010C	103	517		21,400	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Barium	EPA6010C	109	543		65,500	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Barium	EPA6010C	114	570		14,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Beryllium	EPA6010C	99.6	498	J	217	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Beryllium	EPA6010C	1,120	5,590	U	5,590	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Beryllium	EPA6010C	1,030	5,170	U	5,170	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Beryllium	EPA6010C	1,090	5,430	U	5,430	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Beryllium	EPA6010C	114	570	U	570	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cadmium	EPA6010C	99.6	498	U	498	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cadmium	EPA6010C	112	559	U	559	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cadmium	EPA6010C	103	517	U	517	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Cadmium	EPA6010C	109	543	U	543	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Cadmium	EPA6010C	114	570	U	570	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Calcium	EPA6010C	7,970	24,900		211,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Calcium	EPA6010C	8,950	28,000		311,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Calcium	EPA6010C	8,270	25,800		160,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Calcium	EPA6010C	8,690	27,200		154,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Calcium	EPA6010C	9,110	28,500	J	74,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Chromium	EPA6010C	149	498		6,940	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chromium	EPA6010C	168	559		10,400	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chromium	EPA6010C	155	517		14,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chromium	EPA6010C	163	543		10,400	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Chromium	EPA6010C	171	570		8,060	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cobalt	EPA6010C	149	498	J	292	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cobalt	EPA6010C	168	559	J	445	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cobalt	EPA6010C	155	517		685	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Cobalt	EPA6010C	163	543		822	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Cobalt	EPA6010C	171	570	J	408	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Copper	EPA6010C	299	996		1,290	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Copper	EPA6010C	336	1,120		2,500	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Copper	EPA6010C	310	1,030		2,580	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Copper	EPA6010C	326	1,090		2,040	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Copper	EPA6010C	342	1,140		1,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Iron	EPA6010C	7,970	24,900		6,460,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Iron	EPA6010C	8,950	28,000		9,840,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Iron	EPA6010C	8,270	25,800		6,110,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Iron	EPA6010C	8,690	27,200		7,840,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Iron	EPA6010C	9,110	28,500		5,630,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Lead	EPA6010C	329	996		7,080	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Lead	EPA6010C	369	1,120		7,620	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Lead	EPA6010C	341	1,030		5,910	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Lead	EPA6010C	358	1,090		8,090	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Lead	EPA6010C	376	1,140		5,220	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Magnesium	EPA6010C	8,460	29,900		151,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Magnesium	EPA6010C	9,510	33,600		119,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Magnesium	EPA6010C	8,780	31,000		103,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Magnesium	EPA6010C	9,230	32,600		178,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Magnesium	EPA6010C	9,680	34,200		87,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Manganese	EPA6010C	199	996		62,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Manganese	EPA6010C	224	1,120		30,700	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Manganese	EPA6010C	207	1,030		42,300	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Manganese	EPA6010C	217	1,090		39,300	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Manganese	EPA6010C	228	1,140		14,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Nickel	EPA6010C	149	498		692	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Nickel	EPA6010C	168	559		835	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Nickel	EPA6010C	155	517		1,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Nickel	EPA6010C	163	543		1,180	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Nickel	EPA6010C	171	570		891	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Potassium	EPA6010C	6,370	24,900		116,000	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Potassium	EPA6010C	7,160	28,000		117,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Potassium	EPA6010C	6,610	25,800		112,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Potassium	EPA6010C	6,950	27,200		181,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Potassium	EPA6010C	7,290	28,500		72,600	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Selenium	EPA6010C	498	2,990	U	2,990	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Selenium	EPA6010C	559	3,360	U	3,360	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Selenium	EPA6010C	517	3,100	J	570	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Selenium	EPA6010C	543	3,260	U	3,260	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Selenium	EPA6010C	570	3,420	U	3,420	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Silver	EPA6010C	99.6	498	U	498	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Silver	EPA6010C	112	559	J	385	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Silver	EPA6010C	103	517	J	236	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Silver	EPA6010C	109	543	J	208	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Silver	EPA6010C	114	570	J	216	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Sodium	EPA6010C	6,970	24,900	J	25,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Sodium	EPA6010C	7,830	28,000	J	42,500	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Sodium	EPA6010C	7,230	25,800	J	32,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Sodium	EPA6010C	7,600	27,200	J	41,400	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Sodium	EPA6010C	7,980	28,500	J	33,700	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Thallium	EPA6010C	498	1,990	U	1,990	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Thallium	EPA6010C	559	2,240	U	2,240	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Thallium	EPA6010C	517	2,070	U	2,070	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Thallium	EPA6010C	543	2,170	U	2,170	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Thallium	EPA6010C	570	2,280	U	2,280	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Vanadium	EPA6010C	99.6	498		15,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Vanadium	EPA6010C	112	559		28,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Vanadium	EPA6010C	103	517		15,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Vanadium	EPA6010C	109	543		19,100	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Vanadium	EPA6010C	114	570		18,500	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Zinc	EPA6010C	403	1,010		1,340	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Zinc	EPA6010C	442	1,110		2,730	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Zinc	EPA6010C	402	1,010		2,190	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Zinc	EPA6010C	434	1,090		4,570	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Zinc	EPA6010C	448	1,120		4,160	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Mercury	EPA7471B	4.02	12		24.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Mercury	EPA7471B	4.34	13		19.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Mercury	EPA7471B	4.39	13.1		29.9	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Mercury	EPA7471B	4.39	13.1		34.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Mercury	EPA7471B	4.16	12.4		43	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aldrin	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aldrin	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aldrin	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aldrin	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aldrin	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Chlordane	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Chlordane	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Chlordane	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Alpha-Chlordane	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	DDD	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	DDD	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	DDD	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	DDD	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	DDD	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	DDE	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	DDE	EPA8081B	0.376	1.5	J	1.23	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	DDE	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	DDE	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	DDE	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	DDT	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	DDT	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	DDT	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	DDT	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	DDT	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dieldrin	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dieldrin	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dieldrin	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dieldrin	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dieldrin	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan I	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan I	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan I	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan I	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan I	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan II	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan II	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan II	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan II	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan II	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan Sulfate	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan Sulfate	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan Sulfate	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan Sulfate	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Endosulfan Sulfate	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Endrin	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Endrin	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Endrin	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Endrin	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Endrin	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Aldehyde	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Aldehyde	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Aldehyde	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Aldehyde	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Aldehyde	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Ketone	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Ketone	EPA8081B	0.376	1.5	U	1.5	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Endrin Ketone	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Ketone	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Endrin Ketone	EPA8081B	0.388	1.55	U	1.55	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Gamma-Chlordane	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Gamma-Chlordane	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Gamma-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Gamma-Chlordane	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Gamma-Chlordane	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor Epoxide	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor Epoxide	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor Epoxide	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor Epoxide	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Heptachlor Epoxide	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Lindane	EPA8081B	0.183	0.731	U	0.731	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Lindane	EPA8081B	0.188	0.752	U	0.752	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Lindane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Lindane	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Lindane	EPA8081B	0.194	0.776	U	0.776	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Methoxychlor	EPA8081B	1.83	7.31	U	7.31	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Methoxychlor	EPA8081B	1.88	7.52	U	7.52	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Methoxychlor	EPA8081B	1.84	7.35	U	7.35	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Methoxychlor	EPA8081B	1.87	7.5	U	7.5	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Methoxychlor	EPA8081B	1.94	7.76	U	7.76	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Toxaphene	EPA8081B	6.09	18.3	U	18.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Toxaphene	EPA8081B	6.26	18.8	U	18.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Toxaphene	EPA8081B	6.12	18.4	U	18.4	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Toxaphene	EPA8081B	6.24	18.7	U	18.7	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Toxaphene	EPA8081B	6.46	19.4	U	19.4	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1016	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1016	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1016	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1016	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Aroclor 1016	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1221	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1221	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1221	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1221	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1221	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1232	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1232	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1232	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1232	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1232	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1242	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1242	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1242	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1242	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1242	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1248	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1248	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1248	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1248	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1248	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1254	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1254	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1254	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1254	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1254	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1260	EPA8082A	1.21	3.62	U	3.62	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1260	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1260	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1260	EPA8082A	1.27	3.8	U	3.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Aroclor 1260	EPA8082A	1.3	3.91	U	3.91	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.53	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.521	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.524	1.05	U	1.05	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.548	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.545	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromoethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromoethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromoethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromoethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dibromoethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloropropane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloropropane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloropropane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloropropane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2-Dichloropropane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dioxane	EPA8260B	17.7	53	U	53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dioxane	EPA8260B	17.4	52.1	U	52.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dioxane	EPA8260B	17.5	52.4	U	52.4	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dioxane	EPA8260B	18.3	54.8	U	54.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,4-Dioxane	EPA8260B	18.2	54.5	U	54.5	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	2-Hexanone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2-Hexanone	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2-Hexanone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2-Hexanone	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2-Hexanone	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Acetone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Acetone	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Acetone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Acetone	EPA8260B	1.83	5.48		9.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Acetone	EPA8260B	1.82	5.45	J	4.57	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Benzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bromochloromethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bromochloromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bromochloromethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bromochloromethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bromodichloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bromodichloromethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bromodichloromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bromodichloromethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bromodichloromethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Disulfide	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Disulfide	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Carbon Disulfide	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Disulfide	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Disulfide	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Tetrachloride	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Tetrachloride	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Tetrachloride	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Tetrachloride	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Carbon Tetrachloride	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Chlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chlorobenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chlorobenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Chlorobenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Chloroform	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chloroform	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chloroform	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chloroform	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Chloroform	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cyclohexane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cyclohexane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Cyclohexane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Cyclohexane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dibromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dibromochloromethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dibromochloromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dibromochloromethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dibromochloromethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Ethylbenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Ethylbenzene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Ethylbenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Ethylbenzene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Ethylbenzene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	M,P-Xylene	EPA8260B	0.708	2.12	U	2.12	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	M,P-Xylene	EPA8260B	0.694	2.08	U	2.08	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	M,P-Xylene	EPA8260B	0.7	2.1	U	2.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	M,P-Xylene	EPA8260B	0.731	2.19	U	2.19	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	M,P-Xylene	EPA8260B	0.728	2.18	U	2.18	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Acetate	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Acetate	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Acetate	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Acetate	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Acetate	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.74	5.21	U	5.21	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.83	5.48	U	5.48	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.82	5.45	U	5.45	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Methylcyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Methylcyclohexane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Methylcyclohexane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Methylcyclohexane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Methylcyclohexane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	O-Xylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	O-Xylene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	O-Xylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	O-Xylene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	O-Xylene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Styrene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Styrene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Styrene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Styrene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Styrene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Toluene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Toluene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Toluene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Toluene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Toluene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Trichlorofluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Trichlorofluoromethane	EPA8260B	0.347	1.04	U	1.04	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Trichlorofluoromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Trichlorofluoromethane	EPA8260B	0.365	1.1	U	1.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Trichlorofluoromethane	EPA8260B	0.363	1.09	U	1.09	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	1,1'-Biphenyl	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,1'-Biphenyl	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,1'-Biphenyl	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,1'-Biphenyl	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,1'-Biphenyl	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dichlorophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dichlorophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dichlorophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dichlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dichlorophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dimethylphenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dimethylphenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dimethylphenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dimethylphenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dimethylphenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrophenol	EPA8270D	109	730	UJ	730	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrophenol	EPA8270D	114	762	U	762	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrophenol	EPA8270D	110	732	U	732	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrophenol	EPA8270D	113	756	U	756	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrophenol	EPA8270D	118	784	U	784	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrotoluene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrotoluene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrotoluene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrotoluene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,4-Dinitrotoluene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2,6-Dinitrotoluene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2,6-Dinitrotoluene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2,6-Dinitrotoluene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2,6-Dinitrotoluene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2,6-Dinitrotoluene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2-Chloronaphthalene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2-Chloronaphthalene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2-Chloronaphthalene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2-Chloronaphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2-Chloronaphthalene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2-Chlorophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2-Chlorophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2-Chlorophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2-Chlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2-Chlorophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2-Methylnaphthalene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2-Methylnaphthalene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2-Methylnaphthalene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2-Methylnaphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2-Methylnaphthalene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitroaniline	EPA8270D	120	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitroaniline	EPA8270D	126	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitroaniline	EPA8270D	121	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitroaniline	EPA8270D	125	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitroaniline	EPA8270D	129	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitrophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitrophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitrophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitrophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	2-Nitrophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	4-Chloroaniline	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	4-Chloroaniline	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	4-Chloroaniline	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	4-Chloroaniline	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	4-Chloroaniline	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	4-Nitrophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	4-Nitrophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	4-Nitrophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	4-Nitrophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	4-Nitrophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthylene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthylene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthylene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthylene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Acenaphthylene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Acetophenone	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Acetophenone	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Acetophenone	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Acetophenone	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Acetophenone	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Anthracene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Anthracene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Anthracene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Anthracene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Atrazine	EPA8270D	146	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Atrazine	EPA8270D	152	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Atrazine	EPA8270D	146	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Atrazine	EPA8270D	151	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Atrazine	EPA8270D	157	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzaldehyde	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzaldehyde	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzaldehyde	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Benzaldehyde	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzaldehyde	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Anthracene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Anthracene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Pyrene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Pyrene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Caprolactam	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Caprolactam	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Caprolactam	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Caprolactam	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Caprolactam	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Carbazole	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Carbazole	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Carbazole	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Carbazole	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Carbazole	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Chrysene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Chrysene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Chrysene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Chrysene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Chrysene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dibenzofuran	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dibenzofuran	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dibenzofuran	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dibenzofuran	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dibenzofuran	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Diethyl Phthalate	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Diethyl Phthalate	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Diethyl Phthalate	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Diethyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Diethyl Phthalate	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dimethyl Phthalate	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dimethyl Phthalate	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dimethyl Phthalate	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dimethyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dimethyl Phthalate	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Dinitro-O-Cresol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Dinitro-O-Cresol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Dinitro-O-Cresol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Dinitro-O-Cresol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Dinitro-O-Cresol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Fluoranthene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Fluoranthene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Fluoranthene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Fluoranthene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Fluoranthene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Fluorene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Fluorene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Fluorene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Fluorene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Fluorene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobenzene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobenzene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobenzene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobenzene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobenzene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobutadiene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobutadiene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobutadiene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobutadiene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorobutadiene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Hexachloroethane	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Hexachloroethane	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Hexachloroethane	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Hexachloroethane	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Hexachloroethane	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Isophorone	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Isophorone	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Isophorone	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Isophorone	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Isophorone	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	M/P-Cresol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	M/P-Cresol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	M/P-Cresol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	M/P-Cresol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	M/P-Cresol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	M-Nitroaniline	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	M-Nitroaniline	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	M-Nitroaniline	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	M-Nitroaniline	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	M-Nitroaniline	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Naphthalene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Naphthalene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Naphthalene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Naphthalene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Naphthalene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	N-Dioctyl Phthalate	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	N-Dioctyl Phthalate	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	N-Dioctyl Phthalate	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	N-Dioctyl Phthalate	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	N-Dioctyl Phthalate	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Nitrobenzene	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Nitrobenzene	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Nitrobenzene	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Nitrobenzene	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Nitrobenzene	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodipropylamine	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodipropylamine	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodipropylamine	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodipropylamine	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	N-Nitrosodipropylamine	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	P-Chloro-M-Cresol	EPA8270D	146	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	P-Chloro-M-Cresol	EPA8270D	152	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	P-Chloro-M-Cresol	EPA8270D	146	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	P-Chloro-M-Cresol	EPA8270D	151	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	P-Chloro-M-Cresol	EPA8270D	157	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Pentachlorophenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Pentachlorophenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Pentachlorophenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Pentachlorophenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Pentachlorophenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Phenanthrene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Phenanthrene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Phenanthrene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Phenanthrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Phenanthrene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Phenol	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Phenol	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Phenol	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Phenol	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Phenol	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	P-Nitroaniline	EPA8270D	109	365	UJ	365	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	P-Nitroaniline	EPA8270D	114	381	U	381	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	P-Nitroaniline	EPA8270D	110	366	U	366	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	P-Nitroaniline	EPA8270D	113	378	U	378	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	P-Nitroaniline	EPA8270D	118	392	U	392	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Pyrene	EPA8270D	10.9	36.5	UJ	36.5	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Pyrene	EPA8270D	11.4	38.1	U	38.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Pyrene	EPA8270D	11	36.6	U	36.6	µg/kg	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Pyrene	EPA8270D	11.3	37.8	U	37.8	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Pyrene	EPA8270D	11.8	39.2	U	39.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Cyanide	EPA9012B	65.8	197	U	197	µg/kg	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Cyanide	EPA9012B	93.8	281	U	281	µg/kg	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Cyanide	EPA9012B	80	240	U	240	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-03	9/14/2016	Cyanide	EPA9012B	89.8	269	U	269	µg/kg	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Cyanide	EPA9012B	92.8	278	U	278	µg/kg	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Gross Alpha	RADA-001	2.97	9.11		12.4	pCi/g	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Gross Alpha	RADA-001	2.91	10.9		18	pCi/g	LD	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Gross Alpha	RADA-001	2.96	9.62		19.5	pCi/g	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Gross Alpha	RADA-001	2.97	8.57		16.7	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Gross Alpha	RADA-001	2.68	8.52		32.3	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Gross Alpha	RADA-001	2.94	11.8		29.7	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Nonvolatile Beta	RADA-001	2.96	7.26		8.95	pCi/g	REG	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Nonvolatile Beta	RADA-001	3.02	8.32		14.9	pCi/g	LD	1	3	ft
488-1D-BRMFLL-03	9/14/2016	Nonvolatile Beta	RADA-001	1.49	4.59		9.47	pCi/g	REG	3	6	ft
488-1D-BRMFLL-03	9/14/2016	Nonvolatile Beta	RADA-001	2.68	6.62		11	pCi/g	REG	6	9	ft
488-1D-BRMFLL-03	9/14/2016	Nonvolatile Beta	RADA-001	1.63	4.49		16.7	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Nonvolatile Beta	RADA-001	1.93	6.33		17.3	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Uranium-233/234	RADA-011	0.0917	0.414	J	0.686	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Uranium-233/234	RADA-011	0.0804	0.558		1.8	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Uranium-235	RADA-011	0.0664	0.21	U	0.0961	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Uranium-235	RADA-011	0.0297	0.127	U	0.0495	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Uranium-238	RADA-011	0.0537	0.364		0.663	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Uranium-238	RADA-011	0.0639	0.54		1.81	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Radium-226	RADA-013	0.13	0.506		1.09	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Radium-226	RADA-013	0.131	0.541		0.809	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Radium-228	RADA-013	0.244	1.05		2.1	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Radium-228	RADA-013	0.229	0.913		1.74	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Thorium-228	RADA-038	0.0894	0.673		2.67	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Thorium-228	RADA-038	0.176	0.876		2.44	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Thorium-230	RADA-038	0.0925	0.487		1.24	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Thorium-230	RADA-038	0.154	0.638		1.17	pCi/g	REG	12	16	ft
488-1D-BRMFLL-03	9/14/2016	Thorium-232	RADA-038	0.0345	0.589		2.58	pCi/g	REG	9	12	ft
488-1D-BRMFLL-03	9/14/2016	Thorium-232	RADA-038	0.156	0.806		2.23	pCi/g	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aluminum	EPA6010C	6,820	20,000		3,820,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aluminum	EPA6010C	6,840	20,100		4,850,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aluminum	EPA6010C	7,510	22,100		3,140,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aluminum	EPA6010C	7,340	21,600		4,180,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aluminum	EPA6010C	7,550	22,200		8,220,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Antimony	EPA6010C	331	1,000	U	1,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Antimony	EPA6010C	332	1,010	U	1,010	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Antimony	EPA6010C	364	1,100	U	1,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Antimony	EPA6010C	356	1,080	J	562	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Antimony	EPA6010C	366	1,110	U	1,110	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Arsenic	EPA6010C	501	3,010	J	1,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Arsenic	EPA6010C	503	3,020	J	2,190	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Arsenic	EPA6010C	552	3,310	J	1,050	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Arsenic	EPA6010C	539	3,240	J	1,860	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Arsenic	EPA6010C	555	3,330	J	1,770	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Barium	EPA6010C	100	501		22,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Barium	EPA6010C	101	503		16,800	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Barium	EPA6010C	110	552		27,500	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Barium	EPA6010C	108	539		34,100	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Barium	EPA6010C	111	555		26,600	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Beryllium	EPA6010C	100	501	J	165	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Beryllium	EPA6010C	1,010	5,030	U	5,030	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Beryllium	EPA6010C	1,100	5,520	U	5,520	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Beryllium	EPA6010C	1,080	5,390	U	5,390	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Beryllium	EPA6010C	1,110	5,550	U	5,550	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cadmium	EPA6010C	100	501	U	501	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cadmium	EPA6010C	101	503	U	503	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cadmium	EPA6010C	110	552	U	552	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cadmium	EPA6010C	108	539	U	539	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Cadmium	EPA6010C	111	555	U	555	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Calcium	EPA6010C	8,020	25,100		121,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Calcium	EPA6010C	8,040	25,100		354,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Calcium	EPA6010C	8,830	27,600		163,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Calcium	EPA6010C	8,630	27,000		168,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Calcium	EPA6010C	8,880	27,700		185,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chromium	EPA6010C	150	501		10,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chromium	EPA6010C	151	503		9,140	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chromium	EPA6010C	166	552		6,100	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chromium	EPA6010C	162	539		10,900	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chromium	EPA6010C	166	555		7,860	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cobalt	EPA6010C	150	501	J	405	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cobalt	EPA6010C	151	503	J	494	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cobalt	EPA6010C	166	552		743	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cobalt	EPA6010C	162	539		614	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Cobalt	EPA6010C	166	555		595	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Copper	EPA6010C	301	1,000	J	710	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Copper	EPA6010C	302	1,010		2,080	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Copper	EPA6010C	331	1,100		1,850	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Copper	EPA6010C	324	1,080		2,110	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Copper	EPA6010C	333	1,110		3,300	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Iron	EPA6010C	8,020	25,100		8,020,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Iron	EPA6010C	8,040	25,100		7,650,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Iron	EPA6010C	8,830	27,600		3,980,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Iron	EPA6010C	8,630	27,000		6,030,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Iron	EPA6010C	8,880	27,700		6,860,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Lead	EPA6010C	331	1,000		5,900	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Lead	EPA6010C	332	1,010		5,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Lead	EPA6010C	364	1,100		4,150	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Lead	EPA6010C	356	1,080		6,060	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Lead	EPA6010C	366	1,110		7,510	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Magnesium	EPA6010C	8,520	30,100		87,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Magnesium	EPA6010C	8,540	30,200		133,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Magnesium	EPA6010C	9,380	33,100		108,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Magnesium	EPA6010C	9,170	32,400		202,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Magnesium	EPA6010C	9,430	33,300		183,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Manganese	EPA6010C	200	1,000		134,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Manganese	EPA6010C	201	1,010		34,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Manganese	EPA6010C	221	1,100		42,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Manganese	EPA6010C	216	1,080		36,300	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Manganese	EPA6010C	222	1,110		18,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Nickel	EPA6010C	150	501	J	487	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Nickel	EPA6010C	151	503		,895	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Nickel	EPA6010C	166	552		1,260	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Nickel	EPA6010C	162	539		1,290	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Nickel	EPA6010C	166	555		2,550	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Potassium	EPA6010C	6,420	25,100		66,300	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Potassium	EPA6010C	6,430	25,100		123,000	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Potassium	EPA6010C	7,060	27,600		101,000	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Potassium	EPA6010C	6,900	27,000		104,000	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Potassium	EPA6010C	7,100	27,700		134,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Selenium	EPA6010C	501	3,010	U	3,010	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Selenium	EPA6010C	503	3,020	J	531	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Selenium	EPA6010C	552	3,310	U	3,310	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Selenium	EPA6010C	539	3,240	U	3,240	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Selenium	EPA6010C	555	3,330	J	809	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Silver	EPA6010C	100	501	U	501	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Silver	EPA6010C	101	503	J	296	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Silver	EPA6010C	110	552	J	131	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Silver	EPA6010C	108	539	J	183	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Silver	EPA6010C	111	555	J	255	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Sodium	EPA6010C	7,020	25,100	U	18,700	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Sodium	EPA6010C	7,040	25,100	J	36,300	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Sodium	EPA6010C	7,730	27,600	J	35,600	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Sodium	EPA6010C	7,550	27,000	J	32,600	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Sodium	EPA6010C	7,770	27,700	J	58,000	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Thallium	EPA6010C	501	2,000	U	2,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Thallium	EPA6010C	503	2,010	U	2,010	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Thallium	EPA6010C	552	2,210	U	2,210	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Thallium	EPA6010C	539	2,160	U	2,160	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Thallium	EPA6010C	555	2,220	U	2,220	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Vanadium	EPA6010C	100	501		16,600	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Vanadium	EPA6010C	101	503		21,600	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Vanadium	EPA6010C	110	552		10,300	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Vanadium	EPA6010C	108	539		15,100	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Vanadium	EPA6010C	111	555		14,200	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Zinc	EPA6010C	408	1,020		1,690	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Zinc	EPA6010C	428	1,070		1,930	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Zinc	EPA6010C	436	1,090		2,800	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Zinc	EPA6010C	416	1,040		3,280	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Zinc	EPA6010C	423	1,060		1,840	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Mercury	EPA7471B	3.72	11.1		28	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Mercury	EPA7471B	4.31	12.9		44.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Mercury	EPA7471B	4.21	12.6		23.7	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Mercury	EPA7471B	4.15	12.4		32.7	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Mercury	EPA7471B	4	12		25.5	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aldrin	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aldrin	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aldrin	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Aldrin	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aldrin	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Benzene Hexachloride	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Chlordane	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Chlordane	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Chlordane	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Chlordane	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Alpha-Chlordane	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Beta-Benzene Hexachloride	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	DDD	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	DDD	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	DDD	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	DDD	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	DDD	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	DDE	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	DDE	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	DDE	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	DDE	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	DDE	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	DDT	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	DDT	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	DDT	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	DDT	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	DDT	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Delta-Benzene Hexachloride	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Dieldrin	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dieldrin	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dieldrin	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dieldrin	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dieldrin	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan I	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan I	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan I	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan I	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan I	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan II	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan II	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan II	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan II	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan II	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan Sulfate	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan Sulfate	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan Sulfate	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan Sulfate	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Endosulfan Sulfate	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Endrin	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Endrin	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Endrin	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Endrin	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Endrin	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Aldehyde	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Aldehyde	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Aldehyde	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Aldehyde	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Aldehyde	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Ketone	EPA8081B	0.359	1.44	U	1.44	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Ketone	EPA8081B	0.375	1.5	U	1.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Ketone	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Ketone	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Endrin Ketone	EPA8081B	0.382	1.53	U	1.53	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Gamma-Chlordane	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Gamma-Chlordane	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Gamma-Chlordane	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Gamma-Chlordane	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Gamma-Chlordane	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor Epoxide	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor Epoxide	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor Epoxide	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor Epoxide	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Heptachlor Epoxide	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Lindane	EPA8081B	0.179	0.718	U	0.718	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Lindane	EPA8081B	0.187	0.75	U	0.75	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Lindane	EPA8081B	0.185	0.739	U	0.739	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Lindane	EPA8081B	0.186	0.744	U	0.744	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Lindane	EPA8081B	0.191	0.763	U	0.763	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Methoxychlor	EPA8081B	1.79	7.18	U	7.18	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Methoxychlor	EPA8081B	1.87	7.5	U	7.5	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Methoxychlor	EPA8081B	1.85	7.39	U	7.39	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Methoxychlor	EPA8081B	1.86	7.44	U	7.44	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Methoxychlor	EPA8081B	1.91	7.63	U	7.63	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Toxaphene	EPA8081B	5.97	17.9	U	17.9	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Toxaphene	EPA8081B	6.24	18.7	U	18.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Toxaphene	EPA8081B	6.15	18.5	U	18.5	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Toxaphene	EPA8081B	6.19	18.6	U	18.6	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Toxaphene	EPA8081B	6.35	19.1	U	19.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1016	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1016	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1016	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1016	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1016	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1221	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1221	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1221	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1221	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Aroclor 1221	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1232	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1232	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1232	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1232	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1232	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1242	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1242	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1242	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1242	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1242	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1248	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1248	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1248	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1248	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1248	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1254	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1254	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1254	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1254	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1254	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1260	EPA8082A	1.18	3.56	U	3.56	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1260	EPA8082A	1.25	3.76	U	3.76	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1260	EPA8082A	1.24	3.72	U	3.72	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1260	EPA8082A	1.23	3.69	U	3.69	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Aroclor 1260	EPA8082A	1.27	3.81	U	3.81	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1,1-Trichloroethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.84	5.51	U	5.51	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1,2-Trichloroethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1-Dichloroethylene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2,3-Trichlorobenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4-Trichlorobenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.52	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.524	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.529	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.531	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.551	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromoethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromoethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromoethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromoethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dibromoethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichlorobenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloropropane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloropropane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloropropane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloropropane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2-Dichloropropane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,3-Dichlorobenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dichlorobenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dioxane	EPA8260B	17.3	52	U	52	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dioxane	EPA8260B	17.5	52.4	U	52.4	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dioxane	EPA8260B	17.6	52.9	U	52.9	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dioxane	EPA8260B	17.7	53.1	U	53.1	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,4-Dioxane	EPA8260B	18.4	55.1	U	55.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2-Hexanone	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2-Hexanone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2-Hexanone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2-Hexanone	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2-Hexanone	EPA8260B	1.84	5.51	U	5.51	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Acetone	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Acetone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Acetone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Acetone	EPA8260B	1.77	5.31	J	2.83	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Acetone	EPA8260B	1.84	5.51		11.6	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bromochloromethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bromochloromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bromochloromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bromochloromethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bromochloromethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bromodichloromethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bromodichloromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bromodichloromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bromodichloromethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bromodichloromethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bromoform (Tribromomethane)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Disulfide	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Disulfide	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Disulfide	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Disulfide	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Disulfide	EPA8260B	1.84	5.51	U	5.51	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Tetrachloride	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Tetrachloride	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Carbon Tetrachloride	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Tetrachloride	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Carbon Tetrachloride	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chlorobenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chlorobenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chlorobenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chlorobenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chloroform	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chloroform	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chloroform	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chloroform	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chloroform	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Cis-1,3-Dichloropropene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Cumene (Isopropylbenzene)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cyclohexane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cyclohexane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cyclohexane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cyclohexane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Cyclohexane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Dibromochloromethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dibromochloromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dibromochloromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dibromochloromethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dibromochloromethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dichlorodifluoromethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.84	5.51	U	5.51	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Ethylbenzene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Ethylbenzene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Ethylbenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Ethylbenzene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Ethylbenzene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	M,P-Xylene	EPA8260B	0.693	2.08	U	2.08	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	M,P-Xylene	EPA8260B	0.699	2.1	U	2.1	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	M,P-Xylene	EPA8260B	0.706	2.12	U	2.12	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	M,P-Xylene	EPA8260B	0.709	2.13	U	2.13	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	M,P-Xylene	EPA8260B	0.735	2.2	U	2.2	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Acetate	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Methyl Acetate	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Acetate	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Acetate	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Acetate	EPA8260B	1.84	5.51	U	5.51	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Ethyl Ketone	EPA8260B	1.84	5.51	J	2.46	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.73	5.2	U	5.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.75	5.24	U	5.24	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.77	5.31	U	5.31	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Isobutyl Ketone	EPA8260B	1.84	5.51	U	5.51	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Methylcyclohexane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Methylcyclohexane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Methylcyclohexane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Methylcyclohexane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Methylcyclohexane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	O-Xylene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	O-Xylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	O-Xylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	O-Xylene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	O-Xylene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Styrene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Styrene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Styrene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Styrene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Styrene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Tetrachloroethylene (PCE)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Toluene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Toluene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Toluene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Toluene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Toluene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Trans-1,3-Dichloropropene	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Trichloroethylene (TCE)	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Trichlorofluoromethane	EPA8260B	0.346	1.04	U	1.04	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Trichlorofluoromethane	EPA8260B	0.349	1.05	U	1.05	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Trichlorofluoromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Trichlorofluoromethane	EPA8260B	0.354	1.06	U	1.06	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Trichlorofluoromethane	EPA8260B	0.367	1.1	U	1.1	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,1'-Biphenyl	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,1'-Biphenyl	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,1'-Biphenyl	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,1'-Biphenyl	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,1'-Biphenyl	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,4,5-Trichlorophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,4,6-Trichlorophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dichlorophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dichlorophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dichlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dichlorophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dichlorophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dimethylphenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dimethylphenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dimethylphenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dimethylphenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dimethylphenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrophenol	EPA8270D	107	715	U	715	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrophenol	EPA8270D	113	754	U	754	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrophenol	EPA8270D	111	742	U	742	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrophenol	EPA8270D	112	746	U	746	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrophenol	EPA8270D	114	761	U	761	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrotoluene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrotoluene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrotoluene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrotoluene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,4-Dinitrotoluene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2,6-Dinitrotoluene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2,6-Dinitrotoluene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	2,6-Dinitrotoluene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2,6-Dinitrotoluene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2,6-Dinitrotoluene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2-Chloronaphthalene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2-Chloronaphthalene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2-Chloronaphthalene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2-Chloronaphthalene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2-Chloronaphthalene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2-Chlorophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2-Chlorophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2-Chlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2-Chlorophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2-Chlorophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2-Methylnaphthalene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2-Methylnaphthalene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2-Methylnaphthalene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2-Methylnaphthalene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2-Methylnaphthalene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitroaniline	EPA8270D	118	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitroaniline	EPA8270D	124	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitroaniline	EPA8270D	122	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitroaniline	EPA8270D	123	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitroaniline	EPA8270D	126	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitrophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitrophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitrophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitrophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	2-Nitrophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	3,3-Dichlorobenzidine	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	4-Bromophenyl Phenyl Ether	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	4-Chloroaniline	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	4-Chloroaniline	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	4-Chloroaniline	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	4-Chloroaniline	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	4-Chloroaniline	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	4-Nitrophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	4-Nitrophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	4-Nitrophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	4-Nitrophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	4-Nitrophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthylene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthylene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthylene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthylene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Acenaphthylene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Acetophenone	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Acetophenone	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Acetophenone	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Acetophenone	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Acetophenone	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Anthracene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Anthracene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Anthracene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Anthracene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Anthracene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Atrazine	EPA8270D	143	357	U	357	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Atrazine	EPA8270D	151	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Atrazine	EPA8270D	148	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Atrazine	EPA8270D	149	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Atrazine	EPA8270D	152	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzaldehyde	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzaldehyde	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzaldehyde	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzaldehyde	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzaldehyde	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzo(g,h,i)Perylene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Anthracene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Anthracene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Pyrene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[A]Pyrene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[B]Fluoranthene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Benzo[K]Fluoranthene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Chloroethyl)Ether	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Butyl Benzyl Phthalate	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Caprolactam	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Caprolactam	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Caprolactam	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Caprolactam	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Caprolactam	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Carbazole	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Carbazole	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Carbazole	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Carbazole	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Carbazole	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Chrysene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Chrysene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Chrysene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Chrysene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Chrysene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dibenz[Ah]Anthracene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Dibenzofuran	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dibenzofuran	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dibenzofuran	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dibenzofuran	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dibenzofuran	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Diethyl Phthalate	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Diethyl Phthalate	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Diethyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Diethyl Phthalate	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Diethyl Phthalate	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Dimethyl Phthalate	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dimethyl Phthalate	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dimethyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dimethyl Phthalate	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dimethyl Phthalate	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Di-N-Butyl Phthalate	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Dinitro-O-Cresol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Dinitro-O-Cresol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Dinitro-O-Cresol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Dinitro-O-Cresol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Dinitro-O-Cresol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Fluoranthene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Fluoranthene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Fluoranthene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Fluoranthene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Fluoranthene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Fluorene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Fluorene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Fluorene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Fluorene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Fluorene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobenzene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobenzene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobenzene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobenzene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobenzene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobutadiene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobutadiene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobutadiene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobutadiene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorobutadiene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Hexachlorocyclopentadiene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Hexachloroethane	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Hexachloroethane	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Hexachloroethane	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Hexachloroethane	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Hexachloroethane	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Isophorone	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Isophorone	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Isophorone	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Isophorone	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Isophorone	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	M/P-Cresol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	M/P-Cresol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	M/P-Cresol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	M/P-Cresol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	M/P-Cresol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	M-Nitroaniline	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	M-Nitroaniline	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	M-Nitroaniline	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	M-Nitroaniline	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	M-Nitroaniline	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Naphthalene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Naphthalene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Naphthalene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Naphthalene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Naphthalene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	N-Dioctyl Phthalate	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	N-Dioctyl Phthalate	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	N-Dioctyl Phthalate	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	N-Dioctyl Phthalate	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	N-Dioctyl Phthalate	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Nitrobenzene	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Nitrobenzene	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Nitrobenzene	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Nitrobenzene	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Nitrobenzene	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodipropylamine	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodipropylamine	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodipropylamine	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodipropylamine	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	N-Nitrosodipropylamine	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	O-Cresol (2-Methylphenol)	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	P-Chloro-M-Cresol	EPA8270D	143	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	P-Chloro-M-Cresol	EPA8270D	151	377	U	377	µg/kg	REG	3	6	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	P-Chloro-M-Cresol	EPA8270D	148	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	P-Chloro-M-Cresol	EPA8270D	149	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	P-Chloro-M-Cresol	EPA8270D	152	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Pentachlorophenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Pentachlorophenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Pentachlorophenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Pentachlorophenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Pentachlorophenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Phenanthrene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Phenanthrene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Phenanthrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Phenanthrene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Phenanthrene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Phenol	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Phenol	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Phenol	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Phenol	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Phenol	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	P-Nitroaniline	EPA8270D	107	357	U	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	P-Nitroaniline	EPA8270D	113	377	U	377	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	P-Nitroaniline	EPA8270D	111	371	U	371	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	P-Nitroaniline	EPA8270D	112	373	U	373	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	P-Nitroaniline	EPA8270D	114	380	U	380	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Pyrene	EPA8270D	10.7	35.7	U	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Pyrene	EPA8270D	11.3	37.7	U	37.7	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Pyrene	EPA8270D	11.1	37.1	U	37.1	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Pyrene	EPA8270D	11.2	37.3	U	37.3	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Pyrene	EPA8270D	11.4	38	U	38	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Cyanide	EPA9012B	86.8	260	U	260	µg/kg	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Cyanide	EPA9012B	78.8	236	U	236	µg/kg	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Cyanide	EPA9012B	67.9	203	U	203	µg/kg	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Cyanide	EPA9012B	85.5	256	U	256	µg/kg	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Cyanide	EPA9012B	78.4	235	U	235	µg/kg	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Gross Alpha	RADA-001	3.05	11.1		13	pCi/g	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Gross Alpha	RADA-001	3	7.66		8.55	pCi/g	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Gross Alpha	RADA-001	2.46	7.84		31.9	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Gross Alpha	RADA-001	2.97	7.65		8.03	pCi/g	REG	9	12	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-04	9/14/2016	Gross Alpha	RADA-001	2.96	8.92		13.8	pCi/g	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Nonvolatile Beta	RADA-001	3.84	9.9		11.3	pCi/g	REG	1	3	ft
488-1D-BRMFLL-04	9/14/2016	Nonvolatile Beta	RADA-001	2.35	5.65		7.07	pCi/g	REG	3	6	ft
488-1D-BRMFLL-04	9/14/2016	Nonvolatile Beta	RADA-001	1.34	4.24		21.3	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Nonvolatile Beta	RADA-001	2.62	6.5		10.4	pCi/g	REG	9	12	ft
488-1D-BRMFLL-04	9/14/2016	Nonvolatile Beta	RADA-001	3.09	7.95		15.6	pCi/g	REG	12	16	ft
488-1D-BRMFLL-04	9/14/2016	Uranium-233/234	RADA-011	0.0543	0.366		0.8	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Uranium-235	RADA-011	0.0558	0.198	U	0.119	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Uranium-238	RADA-011	0.0672	0.363		0.708	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Radium-226	RADA-013	0.144	0.508		0.895	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Radium-228	RADA-013	0.191	0.835		1.8	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Thorium-228	RADA-038	0.0732	0.345		0.818	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Thorium-230	RADA-038	0.0752	0.323		0.701	pCi/g	REG	6	9	ft
488-1D-BRMFLL-04	9/14/2016	Thorium-232	RADA-038	0.025	0.293	J	0.89	pCi/g	REG	6	9	ft
488-1D-BRMFLL-05	9/15/2016	Aluminum	EPA6010C	7,040	20,700		4,510,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aluminum	EPA6010C	6,940	20,400		3,030,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aluminum	EPA6010C	7,270	21,400		4,950,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aluminum	EPA6010C	6,850	20,100		5,670,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Antimony	EPA6010C	341	1,030	U	1,030	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Antimony	EPA6010C	337	1,020	U	1,020	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Antimony	EPA6010C	353	1,070	U	1,070	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Antimony	EPA6010C	332	1,010	U	1,010	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Arsenic	EPA6010C	517	3,100	J	2,030	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Arsenic	EPA6010C	510	3,060	J	1,370	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Arsenic	EPA6010C	534	3,210	J	1,860	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Arsenic	EPA6010C	504	3,020	J	2,450	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Barium	EPA6010C	103	517		22,300	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Barium	EPA6010C	102	510		24,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Barium	EPA6010C	107	534		28,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Barium	EPA6010C	101	504		11,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Beryllium	EPA6010C	103	517	J	167	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Beryllium	EPA6010C	1,020	5,100	U	5,100	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Beryllium	EPA6010C	1,070	5,340	U	5,340	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Beryllium	EPA6010C	101	504	U	504	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cadmium	EPA6010C	103	517	U	517	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cadmium	EPA6010C	102	510	U	510	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cadmium	EPA6010C	107	534	U	534	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Cadmium	EPA6010C	101	504	U	504	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Calcium	EPA6010C	8,280	25,900		256,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Calcium	EPA6010C	8,160	25,500		149,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Calcium	EPA6010C	8,550	26,700		455,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Calcium	EPA6010C	8,060	25,200	J	87,900	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chromium	EPA6010C	155	517		7,480	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chromium	EPA6010C	153	510		4,630	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chromium	EPA6010C	160	534		9,180	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Chromium	EPA6010C	151	504		7,360	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cobalt	EPA6010C	155	517		1,050	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cobalt	EPA6010C	153	510		1,260	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cobalt	EPA6010C	160	534		835	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Cobalt	EPA6010C	151	504	J	388	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Copper	EPA6010C	310	1,030		1,370	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Copper	EPA6010C	306	1,020		1,710	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Copper	EPA6010C	321	1,070		2,470	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Copper	EPA6010C	302	1,010		2,580	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Iron	EPA6010C	8,280	25,900		8,260,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Iron	EPA6010C	8,160	25,500		4,510,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Iron	EPA6010C	8,550	26,700		7,060,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Iron	EPA6010C	8,060	25,200		8,290,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Lead	EPA6010C	341	1,030		6,620	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Lead	EPA6010C	337	1,020		4,560	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Lead	EPA6010C	353	1,070		6,180	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Lead	EPA6010C	332	1,010		6,160	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Magnesium	EPA6010C	8,790	31,000		182,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Magnesium	EPA6010C	8,670	30,600		110,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Magnesium	EPA6010C	9,080	32,100		249,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Magnesium	EPA6010C	8,560	30,200		99,200	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Manganese	EPA6010C	207	1,030		120,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Manganese	EPA6010C	204	1,020		121,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Manganese	EPA6010C	214	1,070		55,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Manganese	EPA6010C	201	1,010		13,600	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Nickel	EPA6010C	155	517		720	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Nickel	EPA6010C	153	510		1,180	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Nickel	EPA6010C	160	534		1,670	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Nickel	EPA6010C	151	504		944	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Potassium	EPA6010C	6,620	25,900		121,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Potassium	EPA6010C	6,530	25,500		90,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Potassium	EPA6010C	6,840	26,700		177,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Potassium	EPA6010C	6,450	25,200		71,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Selenium	EPA6010C	517	3,100	U	3,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Selenium	EPA6010C	510	3,060	J	780	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Selenium	EPA6010C	534	3,210	J	742	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Selenium	EPA6010C	504	3,020	J	820	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Silver	EPA6010C	103	517	U	517	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Silver	EPA6010C	102	510	J	106	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Silver	EPA6010C	107	534	J	260	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Silver	EPA6010C	101	504	J	265	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Sodium	EPA6010C	7,240	25,900	J	26,900	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Sodium	EPA6010C	7,140	25,500	U	21,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Sodium	EPA6010C	7,480	26,700	U	24,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Sodium	EPA6010C	7,050	25,200	U	19,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Thallium	EPA6010C	517	2,070	U	2,070	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Thallium	EPA6010C	510	2,040	U	2,040	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Thallium	EPA6010C	534	2,140	U	2,140	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Thallium	EPA6010C	504	2,010	U	2,010	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Vanadium	EPA6010C	103	517		19,700	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Vanadium	EPA6010C	102	510		10,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Vanadium	EPA6010C	107	534		17,400	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Vanadium	EPA6010C	101	504		21,900	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Zinc	EPA6010C	403	1,010		3,030	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Zinc	EPA6010C	399	997		3,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Zinc	EPA6010C	411	1,030		10,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Zinc	EPA6010C	420	1,050		2,120	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Mercury	EPA7471B	4.26	12.7		40.9	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Mercury	EPA7471B	3.79	11.3		25.7	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Mercury	EPA7471B	4.36	13		28.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Mercury	EPA7471B	4.25	12.7		24.3	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aldrin	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aldrin	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aldrin	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aldrin	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Chlordane	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Chlordane	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Chlordane	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Alpha-Chlordane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	DDD	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	DDD	EPA8081B	0.354	1.41		4.21	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	DDD	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	DDD	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	DDE	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	DDE	EPA8081B	0.354	1.41		8.02	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	DDE	EPA8081B	0.366	1.46	J	0.908	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	DDE	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	DDT	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	DDT	EPA8081B	0.354	1.41	J	1	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	DDT	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	DDT	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dieldrin	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dieldrin	EPA8081B	0.354	1.41	U	1.41	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dieldrin	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dieldrin	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan I	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan I	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan I	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan I	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan II	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan II	EPA8081B	0.354	1.41	U	1.41	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Endosulfan II	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan II	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan Sulfate	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan Sulfate	EPA8081B	0.354	1.41	U	1.41	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan Sulfate	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Endosulfan Sulfate	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Endrin	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Endrin	EPA8081B	0.354	1.41	U	1.41	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Endrin	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Endrin	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Aldehyde	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Aldehyde	EPA8081B	0.354	1.41	U	1.41	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Aldehyde	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Aldehyde	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Ketone	EPA8081B	0.358	1.43	U	1.43	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Ketone	EPA8081B	0.354	1.41	U	1.41	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Ketone	EPA8081B	0.366	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Endrin Ketone	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Gamma-Chlordane	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Gamma-Chlordane	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Gamma-Chlordane	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Gamma-Chlordane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor Epoxide	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor Epoxide	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor Epoxide	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Heptachlor Epoxide	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Lindane	EPA8081B	0.179	0.716	U	0.716	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Lindane	EPA8081B	0.177	0.707	U	0.707	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Lindane	EPA8081B	0.183	0.732	U	0.732	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Lindane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Methoxychlor	EPA8081B	1.79	7.16	U	7.16	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Methoxychlor	EPA8081B	1.77	7.07	U	7.07	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Methoxychlor	EPA8081B	1.83	7.32	U	7.32	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Methoxychlor	EPA8081B	1.86	7.45	U	7.45	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Toxaphene	EPA8081B	5.96	17.9	U	17.9	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Toxaphene	EPA8081B	5.89	17.7	U	17.7	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Toxaphene	EPA8081B	6.1	18.3	U	18.3	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Toxaphene	EPA8081B	6.2	18.6	U	18.6	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1016	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1016	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1016	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1016	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1221	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1221	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1221	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1221	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1232	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1232	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1232	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1232	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1242	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1242	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1242	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1242	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1248	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1248	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1248	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1248	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1254	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1254	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1254	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1254	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1260	EPA8082A	1.19	3.58	U	3.58	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1260	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1260	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Aroclor 1260	EPA8082A	1.25	3.74	U	3.74	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.514	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.478	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.532	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.552	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromoethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromoethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromoethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dibromoethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloropropane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloropropane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloropropane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2-Dichloropropane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dioxane	EPA8260B	17.1	51.4	U	51.4	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dioxane	EPA8260B	15.9	47.8	U	47.8	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dioxane	EPA8260B	17.7	53.2	U	53.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,4-Dioxane	EPA8260B	18.4	55.2	U	55.2	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2-Hexanone	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2-Hexanone	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2-Hexanone	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2-Hexanone	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Acetone	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Acetone	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Acetone	EPA8260B	1.77	5.32		12.1	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Acetone	EPA8260B	1.84	5.52	J	4.32	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bromochloromethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bromochloromethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Bromochloromethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bromochloromethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bromodichloromethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bromodichloromethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bromodichloromethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bromodichloromethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Disulfide	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Disulfide	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Disulfide	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Disulfide	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Tetrachloride	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Tetrachloride	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Tetrachloride	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Carbon Tetrachloride	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chlorobenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chlorobenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chlorobenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Chlorobenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chloroform	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chloroform	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chloroform	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Chloroform	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cyclohexane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cyclohexane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cyclohexane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Cyclohexane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dibromochloromethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dibromochloromethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dibromochloromethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dibromochloromethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Ethylbenzene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Ethylbenzene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Ethylbenzene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Ethylbenzene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	M,P-Xylene	EPA8260B	0.686	2.06	U	2.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	M,P-Xylene	EPA8260B	0.638	1.91	U	1.91	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	M,P-Xylene	EPA8260B	0.71	2.13	U	2.13	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	M,P-Xylene	EPA8260B	0.736	2.21	U	2.21	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Acetate	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Acetate	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Acetate	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Acetate	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.71	5.14	U	5.14	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.59	4.78	U	4.78	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.77	5.32	U	5.32	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.84	5.52	U	5.52	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Methylcyclohexane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Methylcyclohexane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Methylcyclohexane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Methylcyclohexane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	O-Xylene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	O-Xylene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	O-Xylene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	O-Xylene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Styrene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Styrene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Styrene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Styrene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Toluene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Toluene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Toluene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Toluene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Trichlorofluoromethane	EPA8260B	0.343	1.03	U	1.03	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Trichlorofluoromethane	EPA8260B	0.318	0.956	U	0.956	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Trichlorofluoromethane	EPA8260B	0.355	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Trichlorofluoromethane	EPA8260B	0.368	1.1	U	1.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,1'-Biphenyl	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,1'-Biphenyl	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,1'-Biphenyl	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,1'-Biphenyl	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dichlorophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dichlorophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dichlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dichlorophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dimethylphenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dimethylphenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dimethylphenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dimethylphenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrophenol	EPA8270D	108	722	U	722	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrophenol	EPA8270D	106	709	U	709	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrophenol	EPA8270D	110	736	U	736	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrophenol	EPA8270D	110	735	U	735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrotoluene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrotoluene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrotoluene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,4-Dinitrotoluene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2,6-Dinitrotoluene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2,6-Dinitrotoluene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2,6-Dinitrotoluene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2,6-Dinitrotoluene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2-Chloronaphthalene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2-Chloronaphthalene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2-Chloronaphthalene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2-Chloronaphthalene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2-Chlorophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2-Chlorophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2-Chlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2-Chlorophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2-Methylnaphthalene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2-Methylnaphthalene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2-Methylnaphthalene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2-Methylnaphthalene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitroaniline	EPA8270D	119	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitroaniline	EPA8270D	117	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitroaniline	EPA8270D	121	368	U	368	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	2-Nitroaniline	EPA8270D	121	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitrophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitrophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitrophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	2-Nitrophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	4-Chloroaniline	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	4-Chloroaniline	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	4-Chloroaniline	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	4-Chloroaniline	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	4-Nitrophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	4-Nitrophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	4-Nitrophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	4-Nitrophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthylene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthylene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthylene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Acenaphthylene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Acetophenone	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Acetophenone	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Acetophenone	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Acetophenone	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Anthracene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Anthracene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Anthracene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Anthracene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Atrazine	EPA8270D	144	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Atrazine	EPA8270D	142	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Atrazine	EPA8270D	147	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Atrazine	EPA8270D	147	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzaldehyde	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzaldehyde	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzaldehyde	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzaldehyde	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Anthracene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Anthracene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Anthracene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Anthracene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Pyrene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Pyrene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Pyrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[A]Pyrene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Caprolactam	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Caprolactam	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Caprolactam	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Caprolactam	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Carbazole	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Carbazole	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Carbazole	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Carbazole	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Chrysene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Chrysene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Chrysene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Chrysene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dibenzofuran	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dibenzofuran	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dibenzofuran	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dibenzofuran	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Diethyl Phthalate	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Diethyl Phthalate	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Diethyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Diethyl Phthalate	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dimethyl Phthalate	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dimethyl Phthalate	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dimethyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dimethyl Phthalate	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Dinitro-O-Cresol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Dinitro-O-Cresol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Dinitro-O-Cresol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Dinitro-O-Cresol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Fluoranthene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Fluoranthene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Fluoranthene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Fluoranthene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Fluorene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Fluorene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Fluorene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Fluorene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobenzene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobenzene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobenzene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobenzene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobutadiene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobutadiene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobutadiene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorobutadiene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Hexachloroethane	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Hexachloroethane	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Hexachloroethane	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Hexachloroethane	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Isophorone	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Isophorone	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Isophorone	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Isophorone	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	M/P-Cresol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	M/P-Cresol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	M/P-Cresol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	M/P-Cresol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	M-Nitroaniline	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	M-Nitroaniline	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	M-Nitroaniline	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	M-Nitroaniline	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Naphthalene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Naphthalene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Naphthalene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Naphthalene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	N-Dioctyl Phthalate	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	N-Dioctyl Phthalate	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	N-Dioctyl Phthalate	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	N-Dioctyl Phthalate	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Nitrobenzene	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Nitrobenzene	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Nitrobenzene	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Nitrobenzene	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodipropylamine	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodipropylamine	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodipropylamine	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	N-Nitrosodipropylamine	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	P-Chloro-M-Cresol	EPA8270D	144	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	P-Chloro-M-Cresol	EPA8270D	142	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	P-Chloro-M-Cresol	EPA8270D	147	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	P-Chloro-M-Cresol	EPA8270D	147	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Pentachlorophenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Pentachlorophenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Pentachlorophenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Pentachlorophenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Phenanthrene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Phenanthrene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Phenanthrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Phenanthrene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Phenol	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Phenol	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Phenol	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Phenol	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	P-Nitroaniline	EPA8270D	108	361	U	361	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	P-Nitroaniline	EPA8270D	106	354	U	354	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	P-Nitroaniline	EPA8270D	110	368	U	368	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	P-Nitroaniline	EPA8270D	110	367	U	367	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Pyrene	EPA8270D	10.8	36.1	U	36.1	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Pyrene	EPA8270D	10.6	35.4	U	35.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Pyrene	EPA8270D	11	36.8	U	36.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Pyrene	EPA8270D	11	36.7	U	36.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Cyanide	EPA9012B	78.5	235	U	235	µg/kg	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Cyanide	EPA9012B	53.2	159	U	159	µg/kg	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Cyanide	EPA9012B	84.1	252	U	252	µg/kg	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Cyanide	EPA9012B	79.7	239	U	239	µg/kg	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Gross Alpha	RADA-001	2.93	8.21		12.6	pCi/g	REG	1	3	ft
488-1D-BRMFLL-05	9/15/2016	Gross Alpha	RADA-001	2.96	7.56	J	7.44	pCi/g	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Gross Alpha	RADA-001	2.99	8.03		11.4	pCi/g	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Gross Alpha	RADA-001	2.96	10.3		24.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Nonvolatile Beta	RADA-001	2.29	5.79		9.85	pCi/g	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-05	9/15/2016	Nonvolatile Beta	RADA-001	1.54	4.1		5.68	pCi/g	REG	3	5	ft
488-1D-BRMFLL-05	9/15/2016	Nonvolatile Beta	RADA-001	2.16	5.58		11	pCi/g	REG	6	8	ft
488-1D-BRMFLL-05	9/15/2016	Nonvolatile Beta	RADA-001	1.72	5.04		10.8	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Uranium-233/234	RADA-011	0.0449	0.399		1.05	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Uranium-235	RADA-011	0.0284	0.113	U	0.0378	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Uranium-238	RADA-011	0.054	0.416		1.09	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Radium-226	RADA-013	0.146	0.536		0.843	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Radium-228	RADA-013	0.228	0.93		1.46	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Thorium-228	RADA-038	0.0676	0.442		1.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Thorium-230	RADA-038	0.0758	0.346		0.837	pCi/g	REG	8	10	ft
488-1D-BRMFLL-05	9/15/2016	Thorium-232	RADA-038	0.0651	0.403		1.37	pCi/g	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aluminum	EPA6010C	6,550	19,300		4,210,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aluminum	EPA6010C	7,440	21,900		4,590,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aluminum	EPA6010C	6,520	19,200		4,620,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aluminum	EPA6010C	7,370	21,700		5,270,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Antimony	EPA6010C	318	963	U	963	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Antimony	EPA6010C	361	1,090	J	1,080	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Antimony	EPA6010C	317	959	U	959	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Antimony	EPA6010C	358	1,080	U	373	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Arsenic	EPA6010C	481	2,890	J	1,510	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Arsenic	EPA6010C	547	3,280	J	1,950	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Arsenic	EPA6010C	480	2,880	J	2,070	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Arsenic	EPA6010C	542	3,250	J	1,450	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Barium	EPA6010C	96.3	481		16,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Barium	EPA6010C	109	547		39,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Barium	EPA6010C	95.9	480		42,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Barium	EPA6010C	108	542		52,500	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Beryllium	EPA6010C	96.3	481	J	154	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Beryllium	EPA6010C	1,090	5,470	U	5,470	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Beryllium	EPA6010C	95.9	480	J	343	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Beryllium	EPA6010C	108	542	J	401	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cadmium	EPA6010C	96.3	481	U	481	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cadmium	EPA6010C	109	547	U	547	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cadmium	EPA6010C	95.9	480	U	480	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cadmium	EPA6010C	108	542	U	542	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Calcium	EPA6010C	7,700	24,100		268,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Calcium	EPA6010C	8,750	27,400	J	108,000	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Calcium	EPA6010C	7,670	24,000		587,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Calcium	EPA6010C	8,670	27,100		129,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chromium	EPA6010C	144	481		4,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chromium	EPA6010C	164	547		7,760	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Chromium	EPA6010C	144	480		8,730	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chromium	EPA6010C	163	542		8,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cobalt	EPA6010C	144	481		499	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cobalt	EPA6010C	164	547		1,150	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cobalt	EPA6010C	144	480	J	316	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cobalt	EPA6010C	163	542	U	542	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Copper	EPA6010C	289	963		1,450	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Copper	EPA6010C	328	1,090		2,090	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Copper	EPA6010C	288	959		1,400	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Copper	EPA6010C	325	1,080	J	838	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Iron	EPA6010C	7,700	24,100		6,110,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Iron	EPA6010C	8,750	27,400		5,790,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Iron	EPA6010C	7,670	24,000		6,960,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Iron	EPA6010C	8,670	27,100		8,180,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Lead	EPA6010C	318	963		5,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Lead	EPA6010C	361	1,090		5,920	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Lead	EPA6010C	317	959		6,080	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Lead	EPA6010C	358	1,080		7,030	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Magnesium	EPA6010C	8,180	28,900		173,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Magnesium	EPA6010C	9,300	32,800		116,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Magnesium	EPA6010C	8,150	28,800		155,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Magnesium	EPA6010C	9,210	32,500		169,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Manganese	EPA6010C	193	963		51,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Manganese	EPA6010C	219	1,090		17,900	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Manganese	EPA6010C	192	959		29,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Manganese	EPA6010C	217	1,080		13,200	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Nickel	EPA6010C	144	481		774	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Nickel	EPA6010C	164	547		1,010	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Nickel	EPA6010C	144	480	J	441	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Nickel	EPA6010C	163	542	J	375	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Potassium	EPA6010C	6,160	24,100		133,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Potassium	EPA6010C	7,000	27,400		112,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Potassium	EPA6010C	6,140	24,000		136,000	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Potassium	EPA6010C	6,940	27,100		137,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Selenium	EPA6010C	,481	2,890	U	2,890	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Selenium	EPA6010C	547	3,280	J	592	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Selenium	EPA6010C	480	2,880	U	2,880	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Selenium	EPA6010C	542	3,250	U	3,250	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Silver	EPA6010C	96.3	481	U	481	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Silver	EPA6010C	109	547	J	188	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Silver	EPA6010C	95.9	480	U	480	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Silver	EPA6010C	108	542	U	542	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Sodium	EPA6010C	6,740	24,100	J	28,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Sodium	EPA6010C	7,660	27,400	U	20,100	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Sodium	EPA6010C	6,710	24,000	U	17,900	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Sodium	EPA6010C	7,590	27,100	U	22,600	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Thallium	EPA6010C	481	1,930	U	1,930	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Thallium	EPA6010C	547	2,190	U	2,190	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Thallium	EPA6010C	480	1,920	U	1,920	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Thallium	EPA6010C	542	2,170	U	2,170	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Vanadium	EPA6010C	96.3	481		15,200	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Vanadium	EPA6010C	109	547		16,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Vanadium	EPA6010C	95.9	480		19,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Vanadium	EPA6010C	108	542		20,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Zinc	EPA6010C	398	995		5,140	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Zinc	EPA6010C	430	1,080		1,710	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Zinc	EPA6010C	410	1,030		4,540	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Zinc	EPA6010C	412	1,030	J	830	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Mercury	EPA7471B	4.01	12		22	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Mercury	EPA7471B	3.96	11.8		17.7	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Mercury	EPA7471B	4.48	13.4	J	12.9	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Mercury	EPA7471B	3.89	11.6		37.3	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aldrin	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aldrin	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aldrin	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aldrin	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Alpha-Chlordane	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Chlordane	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Chlordane	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Alpha-Chlordane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	DDD	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	DDD	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	DDD	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	DDD	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	DDE	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	DDE	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	DDE	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	DDE	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	DDT	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	DDT	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	DDT	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	DDT	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dieldrin	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dieldrin	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dieldrin	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dieldrin	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan I	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan I	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan I	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan I	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan II	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan II	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan II	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan II	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan Sulfate	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Endosulfan Sulfate	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan Sulfate	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Endosulfan Sulfate	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Endrin	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Endrin	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Endrin	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Endrin	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Aldehyde	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Aldehyde	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Aldehyde	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Aldehyde	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Ketone	EPA8081B	0.352	1.41	U	1.41	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Ketone	EPA8081B	0.373	1.49	U	1.49	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Ketone	EPA8081B	0.37	1.48	U	1.48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Endrin Ketone	EPA8081B	0.372	1.49	U	1.49	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Gamma-Chlordane	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Gamma-Chlordane	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Gamma-Chlordane	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Gamma-Chlordane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor Epoxide	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor Epoxide	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor Epoxide	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Heptachlor Epoxide	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Lindane	EPA8081B	0.176	0.705	U	0.705	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Lindane	EPA8081B	0.187	0.746	U	0.746	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Lindane	EPA8081B	0.185	0.74	U	0.74	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Lindane	EPA8081B	0.186	0.745	U	0.745	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Methoxychlor	EPA8081B	1.76	7.05	U	7.05	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Methoxychlor	EPA8081B	1.87	7.46	U	7.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Methoxychlor	EPA8081B	1.85	7.4	U	7.4	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Methoxychlor	EPA8081B	1.86	7.45	U	7.45	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Toxaphene	EPA8081B	5.87	17.6	U	17.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Toxaphene	EPA8081B	6.21	18.7	U	18.7	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Toxaphene	EPA8081B	6.16	18.5	U	18.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Toxaphene	EPA8081B	6.2	18.6	U	18.6	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1016	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1016	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1016	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1016	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1221	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1221	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1221	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1221	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1232	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1232	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1232	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1232	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1242	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1242	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1242	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1242	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1248	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1248	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1248	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1248	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1254	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1254	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1254	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1254	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1260	EPA8082A	1.18	3.53	U	3.53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1260	EPA8082A	1.26	3.77	U	3.77	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1260	EPA8082A	1.23	3.7	U	3.7	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Aroclor 1260	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.506	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.555	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.529	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.518	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromoethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromoethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromoethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dibromoethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloropropane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloropropane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloropropane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2-Dichloropropane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dioxane	EPA8260B	16.9	50.6	U	50.6	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dioxane	EPA8260B	18.5	55.5	U	55.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dioxane	EPA8260B	17.6	52.9	U	52.9	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,4-Dioxane	EPA8260B	17.3	51.8	U	51.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2-Hexanone	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2-Hexanone	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2-Hexanone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2-Hexanone	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Acetone	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Acetone	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Acetone	EPA8260B	1.76	5.29		8.13	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Acetone	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bromochloromethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bromochloromethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bromochloromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bromodichloromethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Bromodichloromethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bromodichloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bromodichloromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Disulfide	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Disulfide	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Disulfide	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Disulfide	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Tetrachloride	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Tetrachloride	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Tetrachloride	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Carbon Tetrachloride	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chlorobenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chlorobenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Chlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chloroform	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chloroform	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Chloroform	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chloroform	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cyclohexane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cyclohexane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cyclohexane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dibromochloromethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dibromochloromethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dibromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dibromochloromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Ethylbenzene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Ethylbenzene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Ethylbenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Ethylbenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	M,P-Xylene	EPA8260B	0.675	2.02	U	2.02	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	M,P-Xylene	EPA8260B	0.74	2.22	U	2.22	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	M,P-Xylene	EPA8260B	0.706	2.12	U	2.12	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	M,P-Xylene	EPA8260B	0.691	2.07	U	2.07	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Acetate	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Acetate	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Acetate	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Acetate	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.69	5.06	U	5.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.85	5.55	U	5.55	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.76	5.29	U	5.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.73	5.18	U	5.18	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Methylcyclohexane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Methylcyclohexane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Methylcyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Methylcyclohexane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	O-Xylene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	O-Xylene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	O-Xylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	O-Xylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Styrene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Styrene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Styrene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Styrene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Toluene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Toluene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Toluene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Toluene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Trichlorofluoromethane	EPA8260B	0.337	1.01	U	1.01	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Trichlorofluoromethane	EPA8260B	0.369	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Trichlorofluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Trichlorofluoromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,1'-Biphenyl	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,1'-Biphenyl	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,1'-Biphenyl	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,1'-Biphenyl	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dichlorophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	2,4-Dichlorophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dichlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dichlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dimethylphenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dimethylphenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dimethylphenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dimethylphenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrophenol	EPA8270D	107	715	UJ	715	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrophenol	EPA8270D	113	751	U	751	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrophenol	EPA8270D	112	744	U	744	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrophenol	EPA8270D	111	740	U	740	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrotoluene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrotoluene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrotoluene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,4-Dinitrotoluene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2,6-Dinitrotoluene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2,6-Dinitrotoluene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2,6-Dinitrotoluene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2,6-Dinitrotoluene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2-Chloronaphthalene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2-Chloronaphthalene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2-Chloronaphthalene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2-Chloronaphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2-Chlorophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2-Chlorophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2-Chlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2-Chlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2-Methylnaphthalene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2-Methylnaphthalene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2-Methylnaphthalene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2-Methylnaphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitroaniline	EPA8270D	118	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitroaniline	EPA8270D	124	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitroaniline	EPA8270D	123	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitroaniline	EPA8270D	122	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitrophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitrophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	2-Nitrophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	2-Nitrophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	4-Chloroaniline	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	4-Chloroaniline	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	4-Chloroaniline	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	4-Chloroaniline	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	4-Nitrophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	4-Nitrophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	4-Nitrophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	4-Nitrophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthylene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthylene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthylene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Acenaphthylene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Acetophenone	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Acetophenone	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Acetophenone	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Acetophenone	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Anthracene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Anthracene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Anthracene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Atrazine	EPA8270D	143	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Atrazine	EPA8270D	150	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Atrazine	EPA8270D	149	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Atrazine	EPA8270D	148	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzaldehyde	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzaldehyde	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzaldehyde	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzaldehyde	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Anthracene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Anthracene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Anthracene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Pyrene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Pyrene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Pyrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[A]Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Caprolactam	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Caprolactam	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Caprolactam	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Caprolactam	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Carbazole	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Carbazole	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Carbazole	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Carbazole	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Chrysene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Chrysene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Chrysene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Chrysene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dibenzofuran	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dibenzofuran	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dibenzofuran	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dibenzofuran	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Diethyl Phthalate	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Diethyl Phthalate	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Diethyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Diethyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dimethyl Phthalate	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Dimethyl Phthalate	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dimethyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dimethyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Dinitro-O-Cresol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Dinitro-O-Cresol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Dinitro-O-Cresol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Dinitro-O-Cresol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Fluoranthene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Fluoranthene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Fluoranthene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Fluoranthene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Fluorene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Fluorene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Fluorene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Fluorene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobenzene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobenzene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobenzene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobenzene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobutadiene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobutadiene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobutadiene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorobutadiene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Hexachloroethane	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Hexachloroethane	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Hexachloroethane	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Hexachloroethane	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Isophorone	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Isophorone	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Isophorone	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Isophorone	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	M/P-Cresol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	M/P-Cresol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	M/P-Cresol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	M/P-Cresol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	M-Nitroaniline	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	M-Nitroaniline	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	M-Nitroaniline	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	M-Nitroaniline	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Naphthalene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Naphthalene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Naphthalene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Naphthalene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	N-Dioctyl Phthalate	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	N-Dioctyl Phthalate	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	N-Dioctyl Phthalate	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	N-Dioctyl Phthalate	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Nitrobenzene	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Nitrobenzene	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Nitrobenzene	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Nitrobenzene	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodipropylamine	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodipropylamine	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodipropylamine	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	N-Nitrosodipropylamine	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-06	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	P-Chloro-M-Cresol	EPA8270D	143	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	P-Chloro-M-Cresol	EPA8270D	150	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	P-Chloro-M-Cresol	EPA8270D	149	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	P-Chloro-M-Cresol	EPA8270D	148	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Pentachlorophenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Pentachlorophenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Pentachlorophenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Pentachlorophenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Phenanthrene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Phenanthrene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Phenanthrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Phenanthrene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Phenol	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Phenol	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Phenol	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Phenol	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	P-Nitroaniline	EPA8270D	107	357	UJ	357	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	P-Nitroaniline	EPA8270D	113	375	U	375	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	P-Nitroaniline	EPA8270D	112	372	U	372	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	P-Nitroaniline	EPA8270D	111	370	U	370	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Pyrene	EPA8270D	10.7	35.7	UJ	35.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Pyrene	EPA8270D	11.3	37.5	U	37.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Pyrene	EPA8270D	11.2	37.2	U	37.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Pyrene	EPA8270D	11.1	37	U	37	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Cyanide	EPA9012B	82.9	248	U	248	µg/kg	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Cyanide	EPA9012B	77.4	232	U	232	µg/kg	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Cyanide	EPA9012B	71	213	U	213	µg/kg	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Cyanide	EPA9012B	88.1	264	U	264	µg/kg	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Gross Alpha	RADA-001	2.22	6.7		10	pCi/g	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Gross Alpha	RADA-001	2.98	7.98		10.8	pCi/g	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Gross Alpha	RADA-001	2.48	7.84	J	7.82	pCi/g	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Gross Alpha	RADA-001	2.84	10.8		19.9	pCi/g	REG	8	10	ft
488-1D-BRMFLL-06	9/15/2016	Nonvolatile Beta	RADA-001	2.14	5.42		8.53	pCi/g	REG	1	3	ft
488-1D-BRMFLL-06	9/15/2016	Nonvolatile Beta	RADA-001	1.73	5.09		13.8	pCi/g	REG	3	5	ft
488-1D-BRMFLL-06	9/15/2016	Nonvolatile Beta	RADA-001	3.35	8.71		12.5	pCi/g	REG	6	8	ft
488-1D-BRMFLL-06	9/15/2016	Nonvolatile Beta	RADA-001	1.98	5.42		6.85	pCi/g	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Aluminum	EPA6010C	7,120	21,000		4,490,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aluminum	EPA6010C	7,150	21,000		4,140,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aluminum	EPA6010C	6,810	20,000		5,080,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Antimony	EPA6010C	346	1,050	U	1,050	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Antimony	EPA6010C	347	1,050	U	1,050	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Antimony	EPA6010C	330	1,000	U	1,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Arsenic	EPA6010C	524	3,140		3,150	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Arsenic	EPA6010C	526	3,150	J	2,130	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Arsenic	EPA6010C	501	3,000	J	2,570	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Barium	EPA6010C	105	524		38,800	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Barium	EPA6010C	105	526		37,900	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Barium	EPA6010C	100	501		19,400	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Beryllium	EPA6010C	105	524	J	127	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Beryllium	EPA6010C	105	526	J	237	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Beryllium	EPA6010C	100	501	J	129	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cadmium	EPA6010C	105	524	U	524	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cadmium	EPA6010C	105	526	U	526	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cadmium	EPA6010C	100	501	U	501	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Calcium	EPA6010C	8,380	26,200		172,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Calcium	EPA6010C	8,410	26,300		149,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Calcium	EPA6010C	8,010	25,000		70,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chromium	EPA6010C	157	524		8,210	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chromium	EPA6010C	158	526		8,060	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chromium	EPA6010C	150	501		8,260	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cobalt	EPA6010C	157	524	U	524	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cobalt	EPA6010C	158	526	J	380	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cobalt	EPA6010C	150	501	U	501	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Copper	EPA6010C	314	1,050		2,270	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Copper	EPA6010C	315	1,050		2,020	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Copper	EPA6010C	300	1,000		1,080	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Iron	EPA6010C	8,380	26,200		10,200,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Iron	EPA6010C	8,410	26,300		7,030,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Iron	EPA6010C	8,010	25,000		9,000,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Lead	EPA6010C	346	1,050		7,160	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Lead	EPA6010C	347	1,050		6,190	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Lead	EPA6010C	330	1,000		6,920	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Magnesium	EPA6010C	8,910	31,400		134,000	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Magnesium	EPA6010C	8,940	31,500		142,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Magnesium	EPA6010C	8,510	30,000		91,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Manganese	EPA6010C	210	1,050		76,300	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Manganese	EPA6010C	210	1,050		42,300	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Manganese	EPA6010C	200	1,000		10,700	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Nickel	EPA6010C	157	524		1,030	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Nickel	EPA6010C	158	526		958	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Nickel	EPA6010C	150	501	J	248	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Potassium	EPA6010C	6,710	26,200		89,600	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Potassium	EPA6010C	6,730	26,300		132,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Potassium	EPA6010C	6,410	25,000		81,300	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Selenium	EPA6010C	524	3,140	U	3,140	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Selenium	EPA6010C	526	3,150	U	3,150	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Selenium	EPA6010C	501	3,000	U	3,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Silver	EPA6010C	105	524	U	524	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Silver	EPA6010C	105	526	U	526	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Silver	EPA6010C	100	501	U	501	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Sodium	EPA6010C	7,330	26,200	J	27,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Sodium	EPA6010C	7,360	26,300	U	20,200	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Sodium	EPA6010C	7,010	25,000	U	22,600	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Thallium	EPA6010C	2,620	10,500	U	10,500	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Thallium	EPA6010C	526	2,100	U	2,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Thallium	EPA6010C	501	2,000	U	2,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Vanadium	EPA6010C	105	524		15,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Vanadium	EPA6010C	105	526		16,100	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Vanadium	EPA6010C	100	501		22,200	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Zinc	EPA6010C	424	1,060	J	721	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Zinc	EPA6010C	409	1,020		1,510	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Zinc	EPA6010C	399	998	U	998	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Mercury	EPA7471B	4.02	12		12.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Mercury	EPA7471B	4.07	12.1		29.1	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Mercury	EPA7471B	4.33	12.9		31.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aldrin	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aldrin	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aldrin	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Alpha-Chlordane	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Alpha-Chlordane	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Alpha-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	DDD	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	DDD	EPA8081B	0.364	1.46	J	0.652	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	DDD	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	DDE	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	DDE	EPA8081B	0.364	1.46	J	0.444	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	DDE	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	DDT	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	DDT	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	DDT	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dieldrin	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dieldrin	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dieldrin	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan I	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan I	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan I	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan II	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan II	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan II	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan Sulfate	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan Sulfate	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Endosulfan Sulfate	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Endrin	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Endrin	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Endrin	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Endrin Aldehyde	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Endrin Aldehyde	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Endrin Aldehyde	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Endrin Ketone	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Endrin Ketone	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Endrin Ketone	EPA8081B	0.368	1.47	U	1.47	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Gamma-Chlordane	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Gamma-Chlordane	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Gamma-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Heptachlor	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Heptachlor	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Heptachlor	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Heptachlor Epoxide	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Heptachlor Epoxide	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Heptachlor Epoxide	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Lindane	EPA8081B	0.182	0.73	U	0.73	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Lindane	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Lindane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Methoxychlor	EPA8081B	1.82	7.3	U	7.3	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Methoxychlor	EPA8081B	1.82	7.29	U	7.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Methoxychlor	EPA8081B	1.84	7.35	U	7.35	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Toxaphene	EPA8081B	6.07	18.2	U	18.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Toxaphene	EPA8081B	6.07	18.2	U	18.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Toxaphene	EPA8081B	6.12	18.4	U	18.4	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1016	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1016	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1016	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1221	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1221	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1221	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1232	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1232	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1232	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1242	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1242	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1242	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1248	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1248	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1248	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1254	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Aroclor 1254	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1254	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1260	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1260	EPA8082A	1.21	3.64	U	3.64	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Aroclor 1260	EPA8082A	1.22	3.66	U	3.66	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1-Dichloroethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1-Dichloroethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1-Dichloroethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.528	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.48	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.522	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dibromoethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dibromoethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dibromoethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichloropropane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichloropropane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2-Dichloropropane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,4-Dioxane	EPA8260B	17.6	52.8	U	52.8	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,4-Dioxane	EPA8260B	16	48	U	48	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,4-Dioxane	EPA8260B	17.4	52.2	U	52.2	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2-Hexanone	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2-Hexanone	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2-Hexanone	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Acetone	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Acetone	EPA8260B	1.6	4.8	J	2.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Acetone	EPA8260B	1.74	5.22		7.1	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bromochloromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bromochloromethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bromochloromethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bromodichloromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bromodichloromethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bromodichloromethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Carbon Disulfide	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Carbon Disulfide	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Carbon Disulfide	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Carbon Tetrachloride	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Carbon Tetrachloride	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Carbon Tetrachloride	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chlorobenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chlorobenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chlorobenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chloroform	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chloroform	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chloroform	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cyclohexane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cyclohexane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cyclohexane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dibromochloromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dibromochloromethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dibromochloromethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Ethylbenzene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Ethylbenzene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Ethylbenzene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	M,P-Xylene	EPA8260B	0.704	2.11	U	2.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	M,P-Xylene	EPA8260B	0.641	1.92	U	1.92	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	M,P-Xylene	EPA8260B	0.697	2.09	U	2.09	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Acetate	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Acetate	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Acetate	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.76	5.28	U	5.28	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.6	4.8	U	4.8	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.74	5.22	U	5.22	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Methylcyclohexane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Methylcyclohexane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Methylcyclohexane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	O-Xylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	O-Xylene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	O-Xylene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Styrene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Styrene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Styrene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Toluene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Toluene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Toluene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Trichlorofluoromethane	EPA8260B	0.352	1.06	U	1.06	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Trichlorofluoromethane	EPA8260B	0.32	0.961	U	0.961	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Trichlorofluoromethane	EPA8260B	0.348	1.04	U	1.04	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,1'-Biphenyl	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,1'-Biphenyl	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,1'-Biphenyl	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dichlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dichlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dichlorophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dimethylphenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dimethylphenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dimethylphenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dinitrophenol	EPA8270D	109	725	U	725	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dinitrophenol	EPA8270D	109	725	U	725	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dinitrophenol	EPA8270D	110	736	UJ	736	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	2,4-Dinitrotoluene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dinitrotoluene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,4-Dinitrotoluene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2,6-Dinitrotoluene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2,6-Dinitrotoluene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2,6-Dinitrotoluene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2-Chloronaphthalene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2-Chloronaphthalene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2-Chloronaphthalene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2-Chlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2-Chlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2-Chlorophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2-Methylnaphthalene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2-Methylnaphthalene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2-Methylnaphthalene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2-Nitroaniline	EPA8270D	120	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2-Nitroaniline	EPA8270D	120	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2-Nitroaniline	EPA8270D	121	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	2-Nitrophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	2-Nitrophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	2-Nitrophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	4-Chloroaniline	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	4-Chloroaniline	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	4-Chloroaniline	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	4-Nitrophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	4-Nitrophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	4-Nitrophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Acenaphthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Acenaphthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Acenaphthene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Acenaphthylene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Acenaphthylene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Acenaphthylene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Acetophenone	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Acetophenone	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Acetophenone	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Anthracene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Anthracene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Anthracene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Atrazine	EPA8270D	145	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Atrazine	EPA8270D	145	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Atrazine	EPA8270D	147	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzaldehyde	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzaldehyde	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzaldehyde	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[A]Anthracene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[A]Anthracene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[A]Anthracene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[A]Pyrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[A]Pyrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[A]Pyrene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Caprolactam	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Caprolactam	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Caprolactam	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Carbazole	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Carbazole	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Carbazole	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Chrysene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Chrysene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Chrysene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dibenzofuran	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dibenzofuran	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dibenzofuran	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Diethyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Diethyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Diethyl Phthalate	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dimethyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dimethyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dimethyl Phthalate	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Dinitro-O-Cresol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Dinitro-O-Cresol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Dinitro-O-Cresol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Fluoranthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Fluoranthene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Fluoranthene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Fluorene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Fluorene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Fluorene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorobenzene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorobenzene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorobenzene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorobutadiene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorobutadiene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorobutadiene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Hexachloroethane	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Hexachloroethane	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Hexachloroethane	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Isophorone	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Isophorone	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Isophorone	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	M/P-Cresol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	M/P-Cresol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	M/P-Cresol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	M-Nitroaniline	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	M-Nitroaniline	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	M-Nitroaniline	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Naphthalene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Naphthalene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Naphthalene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	N-Dioctyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	N-Dioctyl Phthalate	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	N-Dioctyl Phthalate	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Nitrobenzene	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Nitrobenzene	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Nitrobenzene	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	N-Nitrosodipropylamine	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	N-Nitrosodipropylamine	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	N-Nitrosodipropylamine	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	P-Chloro-M-Cresol	EPA8270D	145	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	P-Chloro-M-Cresol	EPA8270D	145	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	P-Chloro-M-Cresol	EPA8270D	147	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Pentachlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Pentachlorophenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Pentachlorophenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Phenanthrene	EPA8270D	10.9	36.2	J	17	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Phenanthrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Phenanthrene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Phenol	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Phenol	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Phenol	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	P-Nitroaniline	EPA8270D	109	362	U	362	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	P-Nitroaniline	EPA8270D	109	362	U	362	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	P-Nitroaniline	EPA8270D	110	368	UJ	368	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Pyrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Pyrene	EPA8270D	10.9	36.2	U	36.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Pyrene	EPA8270D	11	36.8	UJ	36.8	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Cyanide	EPA9012B	71.6	214	U	214	µg/kg	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Cyanide	EPA9012B	64.4	193	U	193	µg/kg	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Cyanide	EPA9012B	78.4	235	U	235	µg/kg	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Gross Alpha	RADA-001	2.97	11.4		17.5	pCi/g	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Gross Alpha	RADA-001	2.2	10.8		22.3	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Gross Alpha	RADA-001	2.45	11.6		27.4	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Nonvolatile Beta	RADA-001	3.17	8.45		13.6	pCi/g	REG	3	5	ft
488-1D-BRMFLL-07	9/15/2016	Nonvolatile Beta	RADA-001	2.93	8.35		16.3	pCi/g	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-07	9/15/2016	Nonvolatile Beta	RADA-001	3.2	8.86		17.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Uranium-233/234	RADA-011	0.0524	0.398		1.02	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Uranium-233/234	RADA-011	0.0705	0.385		0.915	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Uranium-235	RADA-011	0.0539	0.191	U	0.115	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Uranium-235	RADA-011	0.0483	0.171	U	0.103	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Uranium-238	RADA-011	0.0592	0.405		1.02	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Uranium-238	RADA-011	0.0531	0.339		0.776	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Radium-226	RADA-013	0.143	0.553		1.09	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Radium-226	RADA-013	0.116	0.456		1.05	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Radium-228	RADA-013	0.306	1.25		1.69	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Radium-228	RADA-013	0.183	0.983		1.84	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Thorium-228	RADA-038	0.0555	0.474		1.54	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Thorium-228	RADA-038	0.108	0.468		1.14	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Thorium-230	RADA-038	0.123	0.447		0.836	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Thorium-230	RADA-038	0.0879	0.388		0.837	pCi/g	REG	8	10	ft
488-1D-BRMFLL-07	9/15/2016	Thorium-232	RADA-038	0.0546	0.449		1.44	pCi/g	REG	6	8	ft
488-1D-BRMFLL-07	9/15/2016	Thorium-232	RADA-038	0.0622	0.448		1.48	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aluminum	EPA6010C	7,160	21,100		4,230,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aluminum	EPA6010C	7,220	21,200		4,370,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aluminum	EPA6010C	6,630	19,500		4,220,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aluminum	EPA6010C	7,060	20,800		4,430,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Antimony	EPA6010C	347	1,050	U	,1,050	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Antimony	EPA6010C	350	1,060	U	1,060	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Antimony	EPA6010C	322	975	U	975	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Antimony	EPA6010C	343	1,040	U	1,040	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Arsenic	EPA6010C	526	3,160	J	1,410	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Arsenic	EPA6010C	531	3,180	J	2,080	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Arsenic	EPA6010C	487	2,920		3,640	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Arsenic	EPA6010C	519	3,120	J	3,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Barium	EPA6010C	105	526		39,800	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Barium	EPA6010C	106	531		19,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Barium	EPA6010C	97.5	487		25,500	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Barium	EPA6010C	104	519		23,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Beryllium	EPA6010C	105	526	J	250	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Beryllium	EPA6010C	106	531	J	128	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Beryllium	EPA6010C	97.5	487	J	238	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Beryllium	EPA6010C	104	519	J	163	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Cadmium	EPA6010C	105	526	U	526	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cadmium	EPA6010C	106	531	U	531	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cadmium	EPA6010C	97.5	487	U	487	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cadmium	EPA6010C	104	519	U	519	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Calcium	EPA6010C	8,420	26,300		130,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Calcium	EPA6010C	8,490	26,500		131,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Calcium	EPA6010C	7,800	24,400		617,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Calcium	EPA6010C	8,310	26,000		89,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Chromium	EPA6010C	158	526		8,310	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chromium	EPA6010C	159	531		8,070	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chromium	EPA6010C	146	487		17,200	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chromium	EPA6010C	156	519		9,770	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Cobalt	EPA6010C	158	526		559	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cobalt	EPA6010C	159	531	J	479	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cobalt	EPA6010C	146	487		720	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cobalt	EPA6010C	156	519	U	519	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Copper	EPA6010C	316	1,050		1,230	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Copper	EPA6010C	318	1,060		1,330	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Copper	EPA6010C	292	975		4,250	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Copper	EPA6010C	312	1,040	J	923	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Iron	EPA6010C	8,420	26,300		7,160,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Iron	EPA6010C	8,490	26,500		7,160,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Iron	EPA6010C	7,800	24,400		8,030,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Iron	EPA6010C	8,310	26,000		7,430,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Lead	EPA6010C	347	1,050		6,570	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Lead	EPA6010C	350	1,060		5,910	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Lead	EPA6010C	322	975		4,780	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Lead	EPA6010C	343	1,040		6,630	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Magnesium	EPA6010C	8,950	31,600		133,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Magnesium	EPA6010C	9,020	31,800		101,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Magnesium	EPA6010C	8,290	29,200		150,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Magnesium	EPA6010C	8,830	31,200		126,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Manganese	EPA6010C	211	1,050		82,100	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Manganese	EPA6010C	212	1,060		36,000	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Manganese	EPA6010C	195	975		71,300	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Manganese	EPA6010C	208	1,040		11,800	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Nickel	EPA6010C	158	526		529	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Nickel	EPA6010C	159	531	J	430	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Nickel	EPA6010C	146	487		2,200	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Nickel	EPA6010C	156	519	U	519	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Potassium	EPA6010C	6,740	26,300		116,000	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Potassium	EPA6010C	6,790	26,500		96,400	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Potassium	EPA6010C	6,240	24,400		154,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Potassium	EPA6010C	6,650	26,000		102,000	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Selenium	EPA6010C	526	3,160	U	3,160	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Selenium	EPA6010C	531	3,180	U	3,180	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Selenium	EPA6010C	487	2,920	J	634	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Selenium	EPA6010C	519	3,120	U	3,120	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Silver	EPA6010C	105	526	U	526	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Silver	EPA6010C	106	531	U	531	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Silver	EPA6010C	97.5	487	U	487	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Silver	EPA6010C	104	519	U	519	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Sodium	EPA6010C	7,370	26,300	J	25,400	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Sodium	EPA6010C	7,430	26,500	U	18,900	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Sodium	EPA6010C	6,820	24,400	J	30,000	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Sodium	EPA6010C	7,270	26,000	U	17,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Thallium	EPA6010C	526	2,110	U	2110	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Thallium	EPA6010C	531	2,120	U	2120	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Thallium	EPA6010C	2,440	9,750	U	9,750	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Thallium	EPA6010C	519	2,080	U	2,080	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Vanadium	EPA6010C	105	526		17,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Vanadium	EPA6010C	106	531		17,700	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Vanadium	EPA6010C	97.5	487		16,400	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Vanadium	EPA6010C	104	519		20,100	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Zinc	EPA6010C	407	1,020		1,500	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Zinc	EPA6010C	442	1,110	J	773	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Zinc	EPA6010C	404	1,010		3,740	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Zinc	EPA6010C	459	1,150	U	1,150	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Mercury	EPA7471B	4.43	13.2		25	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Mercury	EPA7471B	3.98	11.9		38.3	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Mercury	EPA7471B	4.4	13.1		39.3	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Mercury	EPA7471B	4.46	13.3		22.6	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aldrin	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aldrin	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Aldrin	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aldrin	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Benzene Hexachloride	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Chlordane	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Chlordane	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Alpha-Chlordane	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Beta-Benzene Hexachloride	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	DDD	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	DDD	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	DDD	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	DDD	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	DDE	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	DDE	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	DDE	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	DDE	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	DDT	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	DDT	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	DDT	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	DDT	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Delta-Benzene Hexachloride	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dieldrin	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dieldrin	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dieldrin	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dieldrin	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan I	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan I	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan I	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Endosulfan I	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan II	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan II	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan II	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan II	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan Sulfate	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan Sulfate	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan Sulfate	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Endosulfan Sulfate	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Endrin	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Endrin	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Endrin	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Endrin	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Aldehyde	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Aldehyde	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Aldehyde	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Aldehyde	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Ketone	EPA8081B	0.364	1.46	U	1.46	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Ketone	EPA8081B	0.367	1.47	U	1.47	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Ketone	EPA8081B	0.365	1.46	U	1.46	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Endrin Ketone	EPA8081B	0.389	1.56	U	1.56	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Gamma-Chlordane	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Gamma-Chlordane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Gamma-Chlordane	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Gamma-Chlordane	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor Epoxide	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor Epoxide	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor Epoxide	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Heptachlor Epoxide	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Lindane	EPA8081B	0.182	0.728	U	0.728	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Lindane	EPA8081B	0.184	0.735	U	0.735	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Lindane	EPA8081B	0.182	0.729	U	0.729	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Lindane	EPA8081B	0.195	0.778	U	0.778	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Methoxychlor	EPA8081B	1.82	7.28	U	7.28	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Methoxychlor	EPA8081B	1.84	7.35	U	7.35	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Methoxychlor	EPA8081B	1.82	7.29	U	7.29	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Methoxychlor	EPA8081B	1.95	7.78	U	7.78	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Toxaphene	EPA8081B	6.06	18.2	U	18.2	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Toxaphene	EPA8081B	6.11	18.4	U	18.4	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Toxaphene	EPA8081B	6.07	18.2	U	18.2	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Toxaphene	EPA8081B	6.48	19.5	U	19.5	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1016	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1016	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1016	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1016	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1221	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1221	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1221	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1221	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1232	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1232	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1232	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1232	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1242	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1242	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1242	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1242	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1248	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1248	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1248	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1248	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1254	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1254	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1254	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1254	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1260	EPA8082A	1.21	3.63	U	3.63	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1260	EPA8082A	1.22	3.67	U	3.67	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1260	EPA8082A	1.2	3.61	U	3.61	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Aroclor 1260	EPA8082A	1.3	3.89	U	3.89	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1,1-Trichloroethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2,2-Tetrachloroethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.73	5.19	U	5.19	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1,2-Trichloroethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1-Dichloroethylene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2,3-Trichlorobenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4-Trichlorobenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.53	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.553	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.519	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromo-3-Chloropropane	EPA8260B	0.587	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromoethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromoethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromoethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dibromoethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichlorobenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloroethane (EDC)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloropropane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloropropane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloropropane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2-Dichloropropane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,3-Dichlorobenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dichlorobenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dioxane	EPA8260B	17.7	53	U	53	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dioxane	EPA8260B	18.4	55.3	U	55.3	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dioxane	EPA8260B	17.3	51.9	U	51.9	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,4-Dioxane	EPA8260B	19.6	58.7	U	58.7	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2-Hexanone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2-Hexanone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2-Hexanone	EPA8260B	1.73	5.19	U	5.19	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2-Hexanone	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Acetone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Acetone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Acetone	EPA8260B	1.73	5.19		24.6	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Acetone	EPA8260B	1.96	5.87		25.6	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Benzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bromochloromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bromochloromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bromochloromethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bromodichloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bromodichloromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bromodichloromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bromodichloromethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bromoform (Tribromomethane)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bromomethane (Methyl Bromide)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Disulfide	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Disulfide	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Disulfide	EPA8260B	1.73	5.19	U	5.19	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Disulfide	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Tetrachloride	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Tetrachloride	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Tetrachloride	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Carbon Tetrachloride	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Chlorobenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chlorobenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chlorobenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chlorobenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethane (Ethyl Chloride)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chloroethene (Vinyl Chloride)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Chloroform	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chloroform	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chloroform	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chloroform	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chloromethane (Methyl Chloride)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,2-Dichloroethylene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cis-1,3-Dichloropropene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cumene (Isopropylbenzene)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Cyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cyclohexane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cyclohexane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cyclohexane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dibromochloromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dibromochloromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dibromochloromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dibromochloromethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dichlorodifluoromethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.73	5.19	U	5.19	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dichloromethane (Methylene Chloride)	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Ethylbenzene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Ethylbenzene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Ethylbenzene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Ethylbenzene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	M,P-Xylene	EPA8260B	0.707	2.12	U	2.12	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	M,P-Xylene	EPA8260B	0.738	2.21	U	2.21	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	M,P-Xylene	EPA8260B	0.692	2.07	U	2.07	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	M,P-Xylene	EPA8260B	0.783	2.35	U	2.35	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Acetate	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Acetate	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Acetate	EPA8260B	1.73	5.19	U	5.19	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Acetate	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.73	5.19	J	3.9	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Ethyl Ketone	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.77	5.3	U	5.3	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.84	5.53	U	5.53	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.73	5.19	U	5.19	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Isobutyl Ketone	EPA8260B	1.96	5.87	U	5.87	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Methyl Tertiary Butyl Ether (MTBE)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Methylcyclohexane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Methylcyclohexane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Methylcyclohexane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Methylcyclohexane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	O-Xylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	O-Xylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	O-Xylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	O-Xylene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Styrene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Styrene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Styrene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Styrene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Tetrachloroethylene (PCE)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Toluene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Toluene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Toluene	EPA8260B	0.345	1.04	J	0.415	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Toluene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,2-Dichloroethylene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Trans-1,3-Dichloropropene	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Trichloroethylene (TCE)	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Trichlorofluoromethane	EPA8260B	0.353	1.06	U	1.06	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Trichlorofluoromethane	EPA8260B	0.368	1.11	U	1.11	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Trichlorofluoromethane	EPA8260B	0.345	1.04	U	1.04	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Trichlorofluoromethane	EPA8260B	0.391	1.17	U	1.17	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,1’-Biphenyl	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,1’-Biphenyl	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,1’-Biphenyl	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,1’-Biphenyl	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	1,2,4,5-Tetrachlorobenzene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,3,4,6-Tetrachlorophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	2,4,5-Trichlorophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,4,6-Trichlorophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dichlorophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dichlorophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dichlorophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dichlorophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dimethylphenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dimethylphenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dimethylphenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dimethylphenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrophenol	EPA8270D	110	733	UJ	733	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrophenol	EPA8270D	110	730	U	730	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrophenol	EPA8270D	110	731	UJ	731	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrophenol	EPA8270D	117	780	U	780	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrotoluene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrotoluene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrotoluene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,4-Dinitrotoluene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2,6-Dinitrotoluene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2,6-Dinitrotoluene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2,6-Dinitrotoluene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2,6-Dinitrotoluene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2-Chloronaphthalene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2-Chloronaphthalene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2-Chloronaphthalene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2-Chloronaphthalene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2-Chlorophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2-Chlorophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2-Chlorophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2-Chlorophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2-Methylnaphthalene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2-Methylnaphthalene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2-Methylnaphthalene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2-Methylnaphthalene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	2-Nitroaniline	EPA8270D	121	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitroaniline	EPA8270D	120	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitroaniline	EPA8270D	121	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitroaniline	EPA8270D	129	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitrophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitrophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitrophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	2-Nitrophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	3,3-Dichlorobenzidine	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	4-Bromophenyl Phenyl Ether	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	4-Chloroaniline	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	4-Chloroaniline	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	4-Chloroaniline	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	4-Chloroaniline	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	4-Chlorophenyl Phenyl Ether	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	4-Nitrophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	4-Nitrophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	4-Nitrophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	4-Nitrophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthylene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthylene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthylene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Acenaphthylene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Acetophenone	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Acetophenone	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Acetophenone	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Acetophenone	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Anthracene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Anthracene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Anthracene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Anthracene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Atrazine	EPA8270D	147	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Atrazine	EPA8270D	146	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Atrazine	EPA8270D	146	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Atrazine	EPA8270D	156	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzaldehyde	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzaldehyde	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzaldehyde	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Benzaldehyde	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Benzo(g,h,i)Perylene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Anthracene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Anthracene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Anthracene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Anthracene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Pyrene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Pyrene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Pyrene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[A]Pyrene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[B]Fluoranthene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Benzo[K]Fluoranthene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloro-1-Methylethyl)Ether	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethoxy)Methane	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Chloroethyl)Ether	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Bis(2-Ethylhexyl)Phthalate (DEHP)	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Butyl Benzyl Phthalate	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Caprolactam	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Caprolactam	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Caprolactam	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Caprolactam	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Carbazole	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Carbazole	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Carbazole	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Carbazole	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Chrysene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Chrysene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Chrysene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Chrysene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dibenz[Ah]Anthracene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dibenzofuran	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dibenzofuran	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dibenzofuran	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Dibenzofuran	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Diethyl Phthalate	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Diethyl Phthalate	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Diethyl Phthalate	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Diethyl Phthalate	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dimethyl Phthalate	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dimethyl Phthalate	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dimethyl Phthalate	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dimethyl Phthalate	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Di-N-Butyl Phthalate	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Dinitro-O-Cresol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Dinitro-O-Cresol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Dinitro-O-Cresol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Dinitro-O-Cresol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Fluoranthene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Fluoranthene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Fluoranthene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Fluoranthene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Fluorene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Fluorene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Fluorene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Fluorene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobenzene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobenzene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobenzene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobenzene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobutadiene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobutadiene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobutadiene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorobutadiene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Hexachlorocyclopentadiene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Hexachloroethane	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Hexachloroethane	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Hexachloroethane	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Hexachloroethane	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Indeno[1,2,3-Cd]Pyrene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Isophorone	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Isophorone	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Isophorone	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Isophorone	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	M/P-Cresol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	M/P-Cresol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	M/P-Cresol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	M/P-Cresol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	M-Nitroaniline	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	M-Nitroaniline	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	M-Nitroaniline	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	M-Nitroaniline	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Naphthalene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Naphthalene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Naphthalene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Naphthalene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	N-Dioctyl Phthalate	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	N-Dioctyl Phthalate	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	N-Dioctyl Phthalate	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	N-Dioctyl Phthalate	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Nitrobenzene	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Nitrobenzene	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Nitrobenzene	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Nitrobenzene	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodiphenylamine+Diphenylamine	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodipropylamine	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodipropylamine	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodipropylamine	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	N-Nitrosodipropylamine	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	O-Cresol (2-Methylphenol)	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	P-Chloro-M-Cresol	EPA8270D	147	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	P-Chloro-M-Cresol	EPA8270D	146	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	P-Chloro-M-Cresol	EPA8270D	146	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	P-Chloro-M-Cresol	EPA8270D	156	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Pentachlorophenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Pentachlorophenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Pentachlorophenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Pentachlorophenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Phenanthrene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Phenanthrene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Phenanthrene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Phenanthrene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Phenol	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Phenol	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Phenol	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Phenol	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	P-Nitroaniline	EPA8270D	110	367	UJ	367	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	P-Nitroaniline	EPA8270D	110	365	U	365	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	P-Nitroaniline	EPA8270D	110	365	UJ	365	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	P-Nitroaniline	EPA8270D	117	390	U	390	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Pyrene	EPA8270D	11	36.7	UJ	36.7	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Pyrene	EPA8270D	11	36.5	U	36.5	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Pyrene	EPA8270D	11	36.5	UJ	36.5	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Pyrene	EPA8270D	11.7	39	U	39	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Cyanide	EPA9012B	74.3	222	U	222	µg/kg	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Cyanide	EPA9012B	81	243	U	243	µg/kg	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Cyanide	EPA9012B	63.8	191	U	191	µg/kg	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Cyanide	EPA9012B	86	257	U	257	µg/kg	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Gross Alpha	RADA-001	2.45	10.1		14.7	pCi/g	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Gross Alpha	RADA-001	2.96	8.04		8.79	pCi/g	REG	3	5	ft

Station Name	Collection Date	Analyte	Analytical Method	MDL	PQL	Lab Qual.	Result	Units	Lab QC Code	Top Sample Interval	Bottom Sample Interval	Interval Units
488-1D-BRMFLL-08	9/15/2016	Gross Alpha	RADA-001	2.15	6.23		9.44	pCi/g	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Gross Alpha	RADA-001	2.94	11.2		24.6	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Nonvolatile Beta	RADA-001	3.14	8.34		11.6	pCi/g	REG	1	3	ft
488-1D-BRMFLL-08	9/15/2016	Nonvolatile Beta	RADA-001	2.32	5.82		9.19	pCi/g	REG	3	5	ft
488-1D-BRMFLL-08	9/15/2016	Nonvolatile Beta	RADA-001	2.28	5.88		10.6	pCi/g	REG	6	8	ft
488-1D-BRMFLL-08	9/15/2016	Nonvolatile Beta	RADA-001	2.67	7.21		13.3	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Uranium-233/234	RADA-011	0.0687	0.413		1.02	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Uranium-235	RADA-011	0.0849	0.21	U	0.0674	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Uranium-238	RADA-011	0.0847	0.419		0.938	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Radium-226	RADA-013	0.116	0.46		0.906	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Radium-228	RADA-013	0.213	0.873		1.73	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Thorium-228	RADA-038	0.111	0.567		1.65	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Thorium-230	RADA-038	0.112	0.45		0.903	pCi/g	REG	8	10	ft
488-1D-BRMFLL-08	9/15/2016	Thorium-232	RADA-038	0.0713	0.503		1.62	pCi/g	REG	8	10	ft

APPENDIX S

DATA USABILITY REPORTS

Appendix S1 DUR for Confirmation Sampling-489-D CPBR
Appendix S2 DUR for Confirmation Sampling-488-1D Ash Basin
Appendix S3 DUR for Confirmation Sampling-488-1D Inlet Basins

This page was intentionally left blank.

APPENDIX S1

DUR for Confirmation Sampling at the 489-D Coal Pile Runoff Basin

This page was intentionally left blank.

TABLE OF CONTENTS

Section **Page**

LIST OF TABLES **S1-4**

I. CONFIRMATION SAMPLES **S1-5**

1.0 PROJECT SUMMARY **S1-5**

2.0 ASSESSMENT OF PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, AND COMPLETENESS DATA QUALITY INDICATORS AND MEASUREMENT PERFORMANCE CRITERIA **S1-7**
2.1 Precision S1-7
2.2 Accuracy S1-8
2.3 Representativeness **S1-9**
2.4 Comparability **S1-10**
2.5 Completeness **S1-10**

3.0 VALIDATION FINDINGS **S1-11**
3.1 Holding Times **S1-11**
3.2 Preservation **S1-11**
3.3 Calibration, Identification, and Quantitation **S1-12**
3.4 Trip Blanks and Rinsate Blanks **S1-12**
3.5 Method Blanks **S1-13**
3.6 Laboratory Duplicate Relative Percent Difference **S1-14**
3.7 Field Duplicate Relative Percent Difference **S1-15**
3.8 Matrix Spike Recovery **S1-16**
3.9 Laboratory Control Sample Recovery **S1-17**
3.10 Surrogate/Tracer Recovery **S1-18**
3.11 Split Samples Comparability **S1-18**

4.0 DATA USABILITY **S1-18**

5.0 REFERENCES **S1-19**

II. HEXAVALENT CHROMIUM STUDY SAMPLES **S1-21**

LIST OF TABLES

Table		Page
Table 1.	Sample Identification Summary	S1-5
Table 2.	Total Number of Records	S1-6
Table 3.	Environmental Record Review Qualifier Summary	S1-7
Table 4.	Holding Time Review Qualifier Summary	S1-11
Table 5.	Preservation Review Qualifier Summary	S1-11
Table 6.	Calibration, Identification, and Quantitation Review Summary	S1-12
Table 7A.	Trip Blank Review Qualifier Summary	S1-12
Table 7B.	Rinsate Blank Review Qualifier Summary	S1-12
Table 8.	Method Blank Review Qualifier Summary	S1-14
Table 9.	Laboratory Duplicate Qualifier Summary	S1-15
Table 10.	Field Duplicate Qualifier Summary	S1-15
Table 11.	Matrix Spike Recovery Qualifier Summary	S1-17
Table 12.	Laboratory Control Sample Qualifier Summary	S1-17
Table 13.	Surrogate/Tracer Recovery Qualifier Summary	S1-18

I. CONFIRMATION SAMPLES

1.0 PROJECT SUMMARY

This report presents analytical data verification, validation and usability assessment results for the soil confirmation sampling that was conducted in accordance with the *Field Sampling Plan for the 489-D Coal Pile Runoff Basin* (FSP) (SRNS 2015a) and presented in the *Human Health and Ecological Evaluation for Confirmation Sampling at the 489-D Coal Pile Runoff Basin* (SRNS 2017). The project generated 39 regular (REG) field samples, five field duplicate (FD) samples, three split (SPL) samples and one rinsate blank (RB). The samples, along with the requested analytical analyses, are listed in Table S1-1.

Table S1-1. Sample Identification Summary

Station ID	Sample ID	Sample Type	Sample Date	Sample Time	Matrix	Interval *(ft)*	Analysis Requested
DCRB-56	489D3QCON0001	REG	9/22/16	0815	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-57	489D3QCON0004	REG	9/22/16	0830	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-58	489D3QCON0007	REG	9/22/16	0840	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-59	489D3QCON0010	REG	9/29/16	0840	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-59	489D3QCON0013	SPL	9/29/16	0840	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-60	489D3QCON0014	REG	9/29/16	0810	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-61	489D3QCON0017	REG	9/29/16	0900	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-62	489D3QCON0020	FD	11/02/16	0930	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-62	489D3QCON0021	REG	11/02/16	0910	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-62	489D3QCON0048	FD	11/02/16	0930	SOIL	0 - 1	6
DCRB-62	489D3QCON0049	REG	11/02/16	0930	SOIL	0 - 1	6
DCRB-63	489D3QCON0024	REG	11/02/16	0915	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-63	489D3QCON0052	REG	11/02/16	0915	SOIL	0 - 1	6
DCRB-64	489D3QCON0027	REG	11/02/16	0855	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-65	489D3QCON0031	FD	11/02/16	0810	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-65	489D3QCON0032	REG	11/02/16	0810	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-65	489D3QCON0059	FD	11/02/16	0810	SOIL	0 - 1	6
DCRB-65	489D3QCON0060	REG	11/02/16	0810	SOIL	0 - 1	6
DCRB-66	489D3QCON0035	REG	9/29/16	0925	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-67	489D3QCON0038	REG	11/16/16	0850	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-67	489D3QCON0064	REG	11/16/16	0850	SOIL	0 - 1	6
DCRB-67	489DCONF-ADD1	REG	11/16/16	0904	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-67	489DCONF-ADD3	FD	11/16/16	0904	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-68	489D3QCON0039	REG	11/16/16	0900	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-68	489D3QCON0065	REG	11/16/16	0900	SOIL	0 - 1	6
DCRB-69	489D3QCON0040	REG	11/16/16	0910	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-69	489D3QCON0066	REG	11/16/16	0910	SOIL	0 - 1	6
DCRB-70	489D3QCON0003	REG	11/16/16	0915	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-70	489D3QCON0042	REG	11/16/16	0915	SOIL	0 - 1	6
DCRB-71	489D3QCON0006	REG	11/16/16	0930	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-71	489D3QCON0043	REG	11/16/16	0930	SOIL	0 - 1	6
DCRB-72	489D3QCON0009	REG	11/16/16	0940	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-72	489D3QCON0044	REG	11/16/16	0940	SOIL	0 - 1	6

Table S1-1. Sample Identification Summary *(Continued/End)*

Station ID	Sample ID	Sample Type	Sample Date	Sample Time	Matrix	Interval *(ft)*	Analysis Requested
DCRB-73	489D3QCON0012	REG	11/16/16	0920	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-73	489D3QCON0045	REG	11/16/16	0920	SOIL	0 - 1	6
DCRB-74	489D3QCON0016	REG	11/16/16	0950	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-74	489D3QCON0046	REG	11/16/16	0950	SOIL	0 - 1	6
DCRB-75	489D3QCON0019	REG	11/16/16	1000	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-75	489D3QCON0047	REG	11/16/16	1000	SOIL	0 - 1	6
DCRB-76	489D3QCON0023	REG	11/16/16	1010	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-76	489D3QCON0051	REG	11/16/16	1010	SOIL	0 - 1	6
DCRB-77	489D3QCON0026	REG	11/16/16	1015	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-77	489D3QCON0054	REG	11/16/16	1015	SOIL	0 - 1	6
DCRB-78	489D3QCON0029	REG	11/16/16	1030	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-78	489D3QCON0030	SPL	11/16/16	1030	SOIL	0 - 1	1, 2, 3, 4, 5
DCRB-78	489D3QCON0057	REG	11/16/16	1030	SOIL	0 - 1	6
DCRB-78	489D3QCON0058	SPL	11/16/16	1030	SOIL	0 - 1	6
RINSATE	489D3QCON0041	RB	9/29/16	0915	WATER	-	1, 2, 3, 4, 5

ID = Identification

Analyses Requested:

1. Chromium, Hexavalent
2. inductively coupled plasma (ICP) Metals
3. Mercury, Total Recoverable
4. Gamma Spectroscopy
5. Uranium, Alpha Spectroscopy
6. Semi-Volatiles (2-Methylnaphthalene)

A total of 952 analytical records were produced consisting of 920 REG records and 32 Quality Control (QC) records. See Table S1-2.

Table S1-2. Total Number of Records

Number of Records	Chemical	Radiochemical	Totals
Analytical	715	205	920
Field QC	25	7	32
Totals	840	212	952

The verification process was conducted to review completeness of the sampling and analytical requirements. Validation has been performed to assess compliance with methods, procedures, and contracts, and to assess a comparison with measurement performance criteria in the ER-SOP-033, *Analytical Data Qualification* (SRNS 2015b). A usability assessment will provide the data user with an assessment of whether the process execution and resulting data meet project quality objectives in the Quality Assurance Project Plan (QAPP) (SRNS 2012) and the *Confirmation Sampling and Analysis Plan for Coal and/or Ash Removal at the Savannah River Site* (SAP) (SRNS 2014). These processes involve examination of the FSP (SRNS 2015a) and SAP (SRNS 2014), electronic data files, field data, analytical data, and laboratory records. Computer programs are used to verify that samples were properly preserved and were analyzed within the required holding time (HT), that QC results were within specified acceptable ranges, and that the appropriate detection limits were employed by the laboratories. Additionally, manual reviews of field data and laboratory records are conducted to ensure the quality of these items.

Validation summaries for HT, preservation, calibration (CAL), analyte identification (ID), and analyte quantitation can be found in Subsections 3.1, *Holding Times*; 3.2, *Preservation*; and 3.3, *Calibration, Identification, and Quantitation*.

The data were validated to determine if the records conform to the technical criteria associated with definitive data per ER-SOP-033 (SRNS 2015b). Table S1-3 provides a brief validation summary for the project. Review qualifiers are assigned by a data validator internal to Savannah River Nuclear Solutions and external to the analytical laboratory. Environmental records include REG sample, SPL and FD records.

Table S1-3. Environmental Record Review Qualifier Summary

	Detects		Non-detects		Rejected	
Method Code	**# NULL Qualifiers**	**# J Qualifiers**	**# U Qualifiers**	**# UJ Qualifiers**	**# R Qualifiers**	**Total**
A-01-RMOD	6	0	2	0	0	8
EPA6010C	0	18	37	1	0	56
EPA6020A	397	96	88	1	0	582
EPA7196A	9	10	10	0	0	29
EPA7471B	20	7	2	0	0	29
EPA8270D	0	2	16	1	0	19
GA-01-RMOD	7	1	0	0	0	8
RADA-011	49	13	19	0	0	81
RADA-013	87	20	0	0	1	108
Total	**575**	**167**	**174**	**3**	**1**	**920**
% of Total	**62.5**	**18.2**	**18.9**	**0.3**	**0.1**	**100%**

2.0 ASSESSMENT OF PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, and COMPLETENESS DATA QUALITY INDICATORS AND MEASUREMENT PERFORMANCE CRITERIA

This section discusses the analytical data in terms of the following indicators of data quality: precision, accuracy, representativeness, comparability, and completeness. Precision is determined from the field and laboratory duplicate analyses and indicates the consistency of field and laboratory techniques. Accuracy is determined from the laboratory control samples (LCS), matrix spikes (MSs) and the results of the method blanks (MBs), field, trip and RBs; it indicates the ability of the laboratory to generate correct results. Representativeness measures how well the data represents the sample population. Comparability expresses the confidence with which data from different laboratories are considered to be equivalent. Representative completeness measures the amount of data resulting from the data collection activity.

2.1 Precision

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. FD measure the repeatability of the

sampling and analytical techniques, and laboratory duplicates measure the ability of the laboratory to reproduce a result. Low precision can be caused by poor instrument performance, poor operator technique, inconsistent application of method protocols, laboratory environment, time between analyses, or by a difficult, heterogeneous sample matrix. Precision is especially important when the action limit approaches the quantification limit. At least 5% of the samples were collected in duplicate for this project in accordance with the SAP. The laboratory performs duplicate analyses on at least 5% of the samples received.

Precision is expressed in terms of the relative percent differences (RPD) as follows:

$$\text{RPD} = \frac{|x - y|}{\left(\frac{x + y}{2}\right)} \times 100$$

where

x is the original sample result, and

y is the duplicate sample result.

When one result of a duplicate pair is below the method detection limit (MDL), the sample-specific estimated quantification limit (ssEQL) is used for that result in the calculation. When both results are below the MDL, the RPD is not calculated.

The RPD should be less than 20% for water samples and less than 35% for solid samples when results are greater than the ssEQL. In the case where results are between the ssEQL and the MDL, the RPD should be less than 100% for water samples and less than 200% for soil samples. In the event analytical precision goals are not met, a determination of the usability of that information is made through the environmental data assessment process.

No records were rejected due to precision issues. Details for this project can be found in Subsections 3.6*, Laboratory Duplicate Relative Percent Differences*; and 3.7, *Field Duplicate Relative Percent Differences*

2.2 Accuracy

Accuracy is defined as the closeness of agreement between an observed value and an accepted reference value. Accuracy is especially important when the concentration of concern approaches the detection limit and/or the action limit. When the concentration is underestimated near the detection limit, the analyte may be present but reported as not detected. When the concentration is underestimated near the action limit, the analyte may be at a concentration that would require remediation, but the remediation would not be performed. When the concentration is overestimated near the detection limit, the analyte may not be present but reported as detected. When the concentration is overestimated near the action limit, the analyte may not be at a concentration that would require remediation, but the remediation would be performed. The sample types used to evaluate accuracy are performance evaluation studies LCSs, surrogate spikes, MSs, MBs, trip blanks (TBs), and RBs.

LCSs monitor the performance of all steps in the analytical process, including sample preparation, and are used to identify problems with the analytical procedure. LCSs are deionized water that is spiked with the target analyte, digested, and analyzed with the REG samples. The LCS spiking solution is obtained from the Environmental Protection Agency, a third-party supplier, or is prepared in the laboratory using chemicals from a different source than the CAL standards.

The LCS percent recovery is calculated as follows:

$$\% \text{ Recovery} = \frac{\text{Blank spike concentration}}{\text{Spike concentration}} \times 100$$

One hundred percent recovery is equivalent to 100% accuracy. Values less than 100% or greater than 100% may indicate a sample matrix effect and a false reading. A periodic program of sample spiking is required (e.g., one MS and one MS duplicate per 20 samples). In the event that analytical accuracy goals are not met, a determination is made through the environmental data assessment process relative to the usability of that information.

No environmental records were rejected because the MS was outside of limits. Details for this project can be found in Subsections 3.4*, Trip Blanks*; 3.5, *Method Blanks*; 3.8, *Matrix Spike Recovery*; 3.9, *Laboratory Control Samples Recovery*; and 3.10, *Surrogate/Tracer Recovery*.

2.3 Representativeness

The representativeness of samples collected is controlled by adhering to the detailed descriptions of sampling procedures. Representativeness expresses the relative degree to which the data depict the characteristics of a population, parameter, sampling point, process condition, or environmental condition. The objective of this study is to accurately represent the concentrations of target analytes or compounds. Representative samples for this investigation will be required by implementing approved sampling and analytical procedures that will generate data representative of the sampling point location and will be maintained. Analytical methods are selected that will most accurately represent the true concentration of the parameter of interest. The accumulation of QC procedures and information (i.e., RPD values, blank QC concentrations, MS percent recoveries, etc.) employed for a given analysis combine to exhibit the representativeness of the data generated.

The goal for representative sample data will therefore be met by properly documenting field and analytical protocols. In the event these procedures and methods are not able to be implemented, the appropriate corrective action documentation should encompass the impact on the representativeness of the information. When review of the data and documentation determines the data to be non-representative, the information is qualified in its use or is not used by the project.

All samples were collected and analyzed per established procedures.

2.4 Comparability

Comparability is the degree to which different methods, data sets, and decisions agree or can be represented as similar. The comparability of the data from the laboratories is based on the results of the SPL samples and on confirmation that the laboratories used the same standardized procedures for sample analysis, the same reporting unit, and obtained similar quantitation limits. Comparability of the data produced for this investigation may be obtained by implementing the identified protocols for sampling and analysis of samples. Implementation of traceable reference materials such as laboratory standards, expression of results in standard concentration units, and successful participation by the laboratories in external performance evaluation programs will enable the information produced through this investigation to be compared with future data sets, if required. For this project, three SPL samples were collected and sent to the designated QC laboratory.

2.5 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under correct, normal circumstances. The Quality Assurance (QA) completeness objective for this project is to obtain valid field and laboratory analytical results for at least 90% of the samples collected during the project. This implies that completeness of sample collection (i.e., the number of samples collected compared to the number of samples planned) must be virtually 100% to allow for some loss of data during the laboratory analytical process. Accountability of samples collected, from field to final disposal, must be 100%.

Completeness is a measure of the amount of data obtained from a measurement process that achieves the project goals as compared to the amount of data planned to be obtained by the project. Completeness is affected by unexpected conditions during the data collection process that reduce the usable data achieved relative to the data planned.

When review of the data and documentation determines the data to be incomplete, the impact relative to the project objective will be assessed and documented.

The following are measures of completeness:

$$\text{Completeness} = \frac{\text{Number of Sample Points Sampled}}{\text{Number of Sample Points Planned}} \times 100 \quad \textit{Sample Collection:}$$

$$\text{Completeness} = \frac{\text{Number of Valid Measurements Made}}{\text{Number of Measurements Planned}} \times 100 \quad \textit{Field Measurement:}$$

$$\text{Completeness} = \frac{\text{Number of Valid Data Points}}{\text{Number of Data Points Planned}} \times 100 \quad \textit{Laboratory Analysis:}$$

The completeness numbers for this project are listed below:

- Sample Collection Completeness 100%
- Field Measurement Completeness 100%
- Laboratory Analysis Completeness 100%

3.0 VALIDATION FINDINGS

3.1 Holding Times

HTs for the reported analyses were within the recommended limits, as shown in Table S1-4. No qualification was required.

Table S1-4. Holding Time Review Qualifier Summary

Method Code	Total # of Records	# of Records Qualified for HT	Associated Samples Qualified
A-01-RMOD	8	0	Not Required
EPA6010C	56	0	Not Required
EPA6020A	582	0	Not Required
EPA7196A	29	0	Not Required
EPA7471B	29	0	Not Required
EPA8270D	19	0	Not Required
GA-01-RMOD	8	0	Not Required
RADA-011	81	0	Not Required
RADA-013	108	0	Not Required

3.2 Preservation

All chemical and physical preservation for the reported analyses were properly applied. No qualification was required as shown in Table S1-5.

Table S1-5. Preservation Review Qualifier Summary

Method Code	Total # of Records	# of Records Qualified for Preservation	Associated Samples Qualified
A-01-RMOD	8	0	Not Required
EPA6010C	56	0	Not Required
EPA6020A	582	0	Not Required
EPA7196A	29	0	Not Required
EPA7471B	29	0	Not Required
EPA8270D	19	0	Not Required
GA-01-RMOD	8	0	Not Required
RADA-011	81	0	Not Required
RADA-013	108	0	Not Required

3.3 Calibration, Identification, and Quantitation

CAL, ID, and Quantitation for the reported analyses results are shown in Table S1-6.

RADA-013, Gamma Spectroscopy

One potassium-40 record was rejected due to compound ID criteria not being met, R/1.

Table S1-6. Calibration, Identification, and Quantitation Review Summary

Method Code	Total # of Records	# of Records Qualified for CAL, ID and Quantitation	Associated Samples Qualified
A-01-RMOD	8	0	Not Required
EPA6010C	56	0	Not Required
EPA6020A	582	0	Not Required
EPA7196A	29	0	Not Required
EPA7471B	29	0	Not Required
EPA8270D	19	0	Not Required
GA-01-RMOD	8	0	Not Required
RADA-011	81	0	Not Required
RADA-013	108	1	489D3QCON0032

CAL = calibration ID= identification

3.4 Trip Blanks and Rinsate Blanks

No TBs were taken as indicated in Table S1-7A.

Table S1-7A. Trip Blank Review Qualifier Summary

Method Code	Total # of TB Records	# of TB Records Qualified	Associated Samples Qualified

RB for the reported analyses results are shown in Table S1-7B.

One actinium-228 record was rejected due to compound ID criteria not being met, R/1.

Table S1-7B. Rinsate Blank Review Qualifier Summary

Method Code	Total # of RB Records	# of RB Records Qualified	Associated Samples Qualified
EPA6020A	23	0	Not Required
EPA7196A	1	0	Not Required
EPA7470A	1	0	Not Required
RADA-011	3	0	Not Required
RADA-013	4	1	489D3QCON0041

3.5 Method Blanks

MB for the reported analyses results are shown in Table S1-8.

EPA6020A, ICP-MS Metals

One iron record was qualified as estimated due to the detection of the analyte in the MB, J/V.

Two manganese records were qualified as detected due to the detection of the analyte in the MB, V.

Four molybdenum records were qualified as non-detect due to the detection of the analyte in the MB, U/V.

Nine zinc records were qualified as estimated due to the detection of the analyte in the MB, J/V.

EPA7196A, Hexavalent Chromium

Two hexavalent chromium records were qualified as estimated due to the detection of the analyte in the MB, J/V.

Two hexavalent chromium records were qualified as non-detect due to the detection of the analyte in the MB, U/V.

RADA-011, Uranium Series

Four uranium-233/234 records were qualified as estimated due to the detection of the analyte in the MB, J/V.

Twelve uranium-235 records qualified as non-detect due to the detection of the analyte in the MB, U/V.

Two uranium-238 records were qualified as estimated due to the detection of the analyte in the MB, J/V.

Table S1-8. Method Blank Review Qualifier Summary

Method Code	Total # of MB Records	# of MB Records Qualified	Associated Samples Qualified
EPA6010C	33	0	Not Required
EPA6020A	142	16	489D3QCON0001, 489D3QCON0007, 489D3QCON0012, 489D3QCON0013, 489D3QCON0019, 489D3QCON0023, 489D3QCON0026, 489D3QCON0027, 489D3QCON0029, 489D3QCON0030, 489D3QCON0031, 489D3QCON0032, 489D3QCON0039, 489D3QCON0040
EPA7196A	8	4	489D3QCON0010, 489D3QCON0014, 489D3QCON0017, 489D3QCON0035
EPA7471B	7	0	Not Required
EPA8270D	4	0	Not Required
A-01-MOD	8	0	Not Required
GA-01-MOD	14	0	Not Required
RADA-011	15	18	489D3QCON0001, 489D3QCON0003, 489D3QCON0004, 489D3QCON0007, 489D3QCON0009, 489D3QCON0012, 489D3QCON0019, 489D3QCON0020, 489D3QCON0021, 489D3QCON0023, 489D3QCON0024, 489D3QCON0026, 489D3QCON0027, 489D3QCON0038, 489D3QCON0039, 489D3QCON0040, 489DCONF-ADD1, 489DCONF-ADD3
RADA-013	20	0	Not Required

Method Blank = MB

3.6 Laboratory Duplicate Relative Percent Differences

Laboratory Duplicate Qualifier for the reported analyses results are shown in Table S1-9.

EPA6020A, ICP-MS Metals

One barium record was qualified estimated due to the RPD between the MS and MS duplicate recovery was above the established control limits, J/18.

Two beryllium records were qualified as estimated due to the %D between the parent sample and the serial dilution was above the established control limits, J/3.

Three copper records were qualified as estimated due to the %D between the parent sample and the serial dilution was above the established control limits, J/3.

One strontium record was qualified estimated due to the RPD between the MS and MS duplicate recovery was above the established control limits, J/18.

Table S1-9. Laboratory Duplicate Qualifier Summary

Method Code	Total # of Duplicate Records	# of Duplicate Records Qualified	Associated Samples Qualified
A-01-RMOD	8	0	Not Required
EPA6010C	10	0	Not Required
EPA6020A	100	5	489D3QCON0003, 489D3QCON0030, 489DCONF-ADD1, 489DCONF-ADD3
EPA7471B	4	0	Not Required
EPA7196A	6	0	Not Required
RADA-011	15	0	Not Required
RADA-013	20	0	Not Required

3.7 Field Duplicate Relative Percent Differences

FD RPD for the reported analyses results are shown in Table S1-10.

EPA6020A, ICP-MS Metals

Two copper records were qualified as estimated due to the FD RPD recovery was not within control limits, J/9.

Two nickel records were qualified as estimated due to the FD RPD recovery was not within control limits, J/9.

EPA7471B, Mercury

Two mercury records were qualified as estimated due to the FD RPD recovery was not within control limits, J/9.

Table S1-10. Field Duplicate Qualifier Summary

Method Code	Total # of Duplicate Records	# of FD Records Qualified	Associated Samples Qualified
EPA6010C	6	0	Not Required
EPA6020A	60	4	489D3QCON0031, 489D3QCON0032, 489DCONF-ADD1, 489DCONF-ADD3
EPA7196A	3	0	Not Required
EPA7471B	3	1	489D3QCON0020, 489D3QCON0021
RADA-011	9	0	Not Required
RADA-013	12	0	Not Required

FD = Field Duplicate

3.8 Matrix Spike Recovery

MS Recovery for the reported analyses results are shown in Table S1-11.

EPA6010C, ICP-ES Metals

One boron record was qualified as approximate due to the MS/Matrix Spike Duplicate (MSD) recovery was outside the established control limits, UJ/11.

EPA6020A, ICP-MS Metals

Two arsenic records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One barium record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four chromium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Two copper records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One iron record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four lead records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One manganese record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four magnesium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One molybdenum record was qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

One nickel record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Three strontium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Two selenium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five vanadium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Three zinc records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

EPA8270D, Semi-Volatiles

One 2-methylnaphthalene record was qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

Table S1-11. Matrix Spike Recovery Qualifier Summary

Method Code	Total # of MS/MSD Records	# of MS/MSD Records Qualified	Associated Samples Qualified
EPA6010C	24	1	489D3QCON0030
EPA6020A	307	34	489D3QCON0001, 489D3QCON0003, 489D3QCON0014, 489D3QCON0030, 489D3QCON0031, 489D3QCON0032, 489DCONF-ADD1, 489DCONF-ADD3
EPA7196A	13	0	Not Required
EPA7471B	10	0	Not Required
EPA8270D	8	1	489D3QCON0042

3.9 Laboratory Control Samples Recovery

LCS Recovery for the reported analyses results are shown in Table S1-12.

EPA6010C, ICP-ES Metals

One boron record was qualified as approximate due to the LCS recovery was outside the established control limits, UJ/2.

Table S1-12. Laboratory Control Samples Qualifier Summary

Method Code	Total # of LCS Records	# of LCS Records Qualified	Associated Samples Qualified
A-01-RMOD	10	0	Not Required
EPA6010C	12	1	489D3QCON0030
EPA6020A	165	0	Not Required
EPA7471B	7	0	Not Required
EPA7196A	14	0	Not Required
EPA8270D	28	0	Not Required
GA-01-MOD	6	0	Not Required
RADA-011	12	0	Not Required
RADA-013	18	0	Not Required

3.10 Surrogate/Tracer Recovery

All Surrogate/Tracer recovery criteria for the reported analyses were within the recommended limits. No qualification was required, as shown in Table S1-13.

Table S1-13. Surrogate/Tracer Recovery Qualifier Summary

Method Code	Total # of Surr./Tracer Records	# of Surr. Records Qualified	Associated Samples Qualified
A-01-RMOD	2	0	Not Required
EPA8270D	138	0	Not Required
RADA-011	38	0	Not Required

Surr. = Surrogate

3.11 Split Samples Comparability

SPL soil samples were taken from three locations (DCRB-59, DCRB-78 and DCRB-78) at the 0- to 1-foot interval and were analyzed by similar methods at different laboratories (General Engineering Labs (GEL), and Test America Labs (TAL). Sample IDs 489D3QCON0058 and 489D3QCON0059 were analyzed for 2-methylnaphthalene only, and both reported results were non-detects form GEL and TAL, respectively.

GEL	TAL
EPA6010C	EPA6010C
EPA6020A	EPA6020A
EPA7196A	EPA7196A
EPA7471B	EPA7471B

GEL	TAL
EPA8270D	EPA8270D
RADA-011	A-01-RMOD
RADA-013	GA-01-RMOD

There were no SPL sample results that exceeded the RPD criteria of <200% for soil samples.

4.0 DATA USABILITY

All analytical data associated with this project should be considered usable for the purposes outlined in the *Field Sampling Plan for the 489-D Coal Pile Runoff Basin* (SRNS 2015a) and the *Human Health and Ecological Evaluation for Confirmation Sampling at the 489-D Coal Pile Runoff Basin* (SRNS 2017). One environmental sample record was rejected. Rejected data should not be used. Qualification details are found in section 3.0, *Validation Findings*.

5.0 REFERENCES

SRNS, 2012. *Area Completion Projects Programmatic Quality Assurance Project Plan for Environmental Data Collection and Management*, ERD-AG-2005-00001, Revision 5, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2014. *Confirmation Sampling and Analysis Plan for Coal and/or Ash Removal at the Savannah River Site (U),* Revision 1.1, SRNS-RP-2013-00332, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2015a. *Field Sampling Plan for the 489-D Coal Pile Runoff Basin (U),* Revision 1, SRNS-RP-2014-01048, Savannah River Nuclear Solutions, LLS, Savannah River Site, Aiken SC

SRNS, 2015b. *Analytical Data Qualification*, ER-SOP-033, Revision 6, Environmental Compliance and Area Completion Projects (EC&ACP) Geochemical Monitoring Procedures Manual C-3, Volume 10, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2017. *Human Health and Ecological Evaluation for Confirmation Sampling at the 489-D Coal Pile Runoff Basin (U),* Revision 1, ERD-EN-2017-0027, Savannah River Nuclear Solutions, LLS, Savannah River Site, Aiken SC

This page intentionally left blank.

II. HEXAVALENT CHROMIUM STUDY SAMPLES

BAL Report 1639047

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: DAAB 488-2D-CR6
Samples Collected: September 22-29, 2016
Report Date: October 27, 2016

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Rand Labs
Project ID: 1639047

1 of 26

BAL Report 1639047

Table of Contents

Case Narrative 3-5
Report Information 6
Sample Information 7
Batch Summary 7
Sample Results 8-9
Accuracy & Precision Summary 10-13
Method Blanks & Reporting Limits 14-16
Instrument Calibration 17-20
Sample Containers 21-23
Shipping Containers 23
Chain-of-Custody Forms and Waybills 24-27
Total Cr - Sequence 1601162, Batch B162523 28-163
Hexavalent Chromium - Sequence 1601144, Batch B162545 164-261
Total Solids - Batch B162683 262

Chain of Custody forms (pages 24 thru 27) and Analytical Instrument Outputs (pages 28 thru 262) from the BAL Report are not included in this appendix.

2 of 262

BAL Report 1639047

1. Sample Reception

Fourteen (14) soil samples were submitted for hexavalent chromium and total chromium analyses. The samples were received in acceptable condition on September 23 and 30, 2016 in sealed coolers at 3.0°C and 2.0°C, respectively.

All samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. Upon reception, all samples were designated discrete sample identifiers. All samples were then stored in a secure, monitored refrigerator (maintained at a temperature of ≤6°C) until preparation and analysis could be performed.

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are monitored for contamination to account for any biases associated with the sample results.

Hexavalent Chromium Quantitation by IC-ICP-MS All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

Total Chromium Quantitation A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

Total Solids Determination A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

3. Sample Analysis

All sample analysis is preceded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases associated with the

3 of 262

analytical platform. All sample results for hexavalent chromium and total chromium have also been **dry weight corrected** in accordance with the measured total solids concentrations.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimum interval of every ten analytical runs.

Hexavalent Chromium Quantitation All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

The retention time for hexavalent chromium is compared to known standards for species identification.

Total Chromium Quantitation All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific reactive gasses or collision gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

4. Analytical Issues and Discussion

No significant issues were encountered with the requested analyses. All quality control parameters associated with these samples were within acceptance limits with the following exceptions:

During the analyses for hexavalent chromium in Sequence 1601144, an autosampler error resulted in the highest calibration standard (CALA) being skipped. This standard was re-analyzed as soon as this issue was identified by the analyst, but this meant that the highest calibration standard was analyzed after the initial calibration verification (ICV) standards and the first continuing calibration verification (CCV) standard. Since the calibration generated using CALA met all requirements, no further corrective action was required.

The RPD associated with the matrix duplicate performed on sample DCRB-59 2'-3' was above the control limit of 25% for hexavalent chromium in Batch B162545 (B162545-DUP1, RPD of 80%). The native sample and duplicate were re-analyzed, and the elevated RPD was confirmed, therefore, only the results associated with the initial analyses have been reported. Visual inspection of sample DCRB-59 2'-3' indicated that the matrix was heterogeneous in nature, containing both green- and orange-colored particles. The elevated duplicate RPD therefore reflects the sample heterogeneity and does not impact the validity of the reported results. The hexavalent chromium result for DCRB-59 2'-3' has been qualified M to indicate the observed variability.

It should be noted that the method detection limits (MDLs) for hexavalent and total chromium are those determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
ben@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BAL	Brooks Applied Labs	**MS**	matrix spike
BLK	method blank	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCB	continuing calibration blank	**N/C**	not calculated
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
D	dissolved fraction	**RPD**	relative percent difference
DUP	duplicate	**SCV**	secondary calibration verification
IBL	instrument blank	**SOP**	standard operating procedure
ICV	initial calibration verification	**SRM**	standard reference material
MDL	method detection limit	**T**	total fraction
MRL	method reporting limit	**TR**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19654 North Creek Parkway, Suite 107, Bothell, WA 98011 · P (206) 632-6206 · F (206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
DCRB-56 0'-1'	1639047-01	Soil/Sediment	Sample	09/22/2016	09/23/2016
DCRB-56 2'-3'	1639047-02	Soil/Sediment	Sample	09/22/2016	09/23/2016
DCRB-57 0'-1'	1639047-03	Soil/Sediment	Sample	09/22/2016	09/23/2016
DCRB-57 2'-3'	1639047-04	Soil/Sediment	Sample	09/22/2016	09/23/2016
DCRB-58 0'-1'	1639047-05	Soil/Sediment	Sample	09/22/2016	09/23/2016
DCRB-58 2'-3'	1639047-06	Soil/Sediment	Sample	09/22/2016	09/23/2016
DCRB-60 0'-1'	1639047-07	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-60 2'-3'	1639047-08	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-59 0'-1'	1639047-09	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-59 2'-3'	1639047-10	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-61 0'-1'	1639047-11	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-61 2'-3'	1639047-12	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-66 0'-1'	1639047-13	Soil/Sediment	Sample	09/29/2016	09/30/2016
DCRB-66 2'-3'	1639047-14	Soil/Sediment	Sample	09/29/2016	09/30/2016

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	10/24/2016	10/26/2016	B162683	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	10/07/2016	10/12/2016	B162523	1601162
Cr(VI)	Soil/Sediment	IC-ICP-MS	10/10/2016	10/11/2016	B162545	1601144

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DCRB-56 0'-1'										
1639047-01	%TS	Soil/Sediment	NA	86.94		0.08	0.25	%	B162683	N/A
1639047-01	Cr	Soil/Sediment	dry	7.67		0.237	0.733	mg/kg	B162523	1601162
1639047-01	Cr(VI)	Soil/Sediment	dry	0.127		0.003	0.024	mg/kg	B162545	1601144
DCRB-56 2'-3'										
1639047-02	%TS	Soil/Sediment	NA	89.25		0.08	0.25	%	B162683	N/A
1639047-02	Cr	Soil/Sediment	dry	8.19		0.224	0.694	mg/kg	B162523	1601162
1639047-02	Cr(VI)	Soil/Sediment	dry	0.122		0.003	0.023	mg/kg	B162545	1601144
DCRB-57 0'-1'										
1639047-03	%TS	Soil/Sediment	NA	83.87		0.08	0.25	%	B162683	N/A
1639047-03	Cr	Soil/Sediment	dry	17.5		0.251	0.778	mg/kg	B162523	1601162
1639047-03	Cr(VI)	Soil/Sediment	dry	0.110		0.004	0.025	mg/kg	B162545	1601144
DCRB-57 2'-3'										
1639047-04	%TS	Soil/Sediment	NA	83.05		0.08	0.25	%	B162683	N/A
1639047-04	Cr	Soil/Sediment	dry	15.2		0.246	0.763	mg/kg	B162523	1601162
1639047-04	Cr(VI)	Soil/Sediment	dry	0.106		0.004	0.025	mg/kg	B162545	1601144
DCRB-58 0'-1'										
1639047-05	%TS	Soil/Sediment	NA	88.43		0.08	0.25	%	B162683	N/A
1639047-05	Cr	Soil/Sediment	dry	6.89		0.233	0.721	mg/kg	B162523	1601162
1639047-05	Cr(VI)	Soil/Sediment	dry	0.140		0.003	0.023	mg/kg	B162545	1601144
DCRB-58 2'-3'										
1639047-06	%TS	Soil/Sediment	NA	84.80		0.08	0.25	%	B162683	N/A
1639047-06	Cr	Soil/Sediment	dry	16.3		0.247	0.763	mg/kg	B162523	1601162
1639047-06	Cr(VI)	Soil/Sediment	dry	0.359		0.004	0.025	mg/kg	B162545	1601144
DCRB-59 0'-1'										
1639047-09	%TS	Soil/Sediment	NA	87.47		0.08	0.25	%	B162683	N/A
1639047-09	Cr	Soil/Sediment	dry	10.4		0.239	0.740	mg/kg	B162523	1601162
1639047-09	Cr(VI)	Soil/Sediment	dry	0.190		0.003	0.024	mg/kg	B162545	1601144

16804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DCRB-59 2'-3'										
1639047-10	%TS	Soil/Sediment	NA	81.10		0.08	0.25	%	B162683	N/A
1639047-10	Cr	Soil/Sediment	dry	18.2		0.255	0.790	mg/kg	B162523	1601162
1639047-10	Cr(VI)	Soil/Sediment	dry	0.099	M	0.004	0.025	mg/kg	B162545	1601144
DCRB-60 0'-1'										
1639047-07	%TS	Soil/Sediment	NA	83.06		0.08	0.25	%	B162683	N/A
1639047-07	Cr	Soil/Sediment	dry	15.8		0.247	0.764	mg/kg	B162523	1601162
1639047-07	Cr(VI)	Soil/Sediment	dry	0.360		0.004	0.025	mg/kg	B162545	1601144
DCRB-60 2'-3'										
1639047-08	%TS	Soil/Sediment	NA	77.16		0.08	0.25	%	B162683	N/A
1639047-08	Cr	Soil/Sediment	dry	15.5		0.241	0.747	mg/kg	B162523	1601162
1639047-08	Cr(VI)	Soil/Sediment	dry	0.185		0.004	0.027	mg/kg	B162545	1601144
DCRB-61 0'-1'										
1639047-11	%TS	Soil/Sediment	NA	84.37		0.08	0.25	%	B162683	N/A
1639047-11	Cr	Soil/Sediment	dry	12.9		0.221	0.684	mg/kg	B162523	1601162
1639047-11	Cr(VI)	Soil/Sediment	dry	0.333		0.004	0.025	mg/kg	B162545	1601144
DCRB-61 2'-3'										
1639047-12	%TS	Soil/Sediment	NA	83.78		0.08	0.25	%	B162683	N/A
1639047-12	Cr	Soil/Sediment	dry	34.8		0.248	0.768	mg/kg	B162523	1601162
1639047-12	Cr(VI)	Soil/Sediment	dry	0.435		0.004	0.025	mg/kg	B162545	1601144
DCRB-66 0'-1'										
1639047-13	%TS	Soil/Sediment	NA	81.92		0.08	0.25	%	B162683	N/A
1639047-13	Cr	Soil/Sediment	dry	10.9		0.245	0.757	mg/kg	B162523	1601162
1639047-13	Cr(VI)	Soil/Sediment	dry	0.174		0.004	0.025	mg/kg	B162545	1601144
DCRB-66 2'-3'										
1639047-14	%TS	Soil/Sediment	NA	84.28		0.08	0.25	%	B162683	N/A
1639047-14	Cr	Soil/Sediment	dry	10.2		0.228	0.705	mg/kg	B162523	1601162
1639047-14	Cr(VI)	Soil/Sediment	dry	0.196		0.003	0.024	mg/kg	B162545	1601144

16804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Accuracy & Precision Summary

Batch: B162523
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162523-BS1	**Laboratory Fortified Blank, (1634047)**						
	Cr		40.00	37.57	mg/kg	94% 75-125	
B162523-SRM1	**Certified Reference Material, (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	306.9	mg/kg	92% 75-125	
B162523-DUP1	**Duplicate, (1639047-03)**						
	Cr	17.54		15.65	mg/kg		11% 30
B162523-MS1	**Matrix Spike, (1639047-03)**						
	Cr	17.54	44.74	56.89	mg/kg	88% 70-130	
B162523-MSD1	**Matrix Spike Duplicate, (1639047-03)**						
	Cr	17.54	47.89	62.88	mg/kg	95% 70-130	7% 30
B162523-DUP2	**Duplicate, (1639047-10)**						
	Cr	18.21		21.18	mg/kg		15% 30
B162523-MS2	**Matrix Spike, (1639047-10)**						
	Cr	18.21	44.20	65.06	mg/kg	106% 70-130	
B162523-MSD2	**Matrix Spike Duplicate, (1639047-10)**						
	Cr	18.21	44.84	66.13	mg/kg	107% 70-130	0.8% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Accuracy & Precision Summary

Batch: B162545
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162545-BS1	**Laboratory Fortified Blank, Cr(III) (1637021)**						
	Cr(VI)		20.00	ND	mg/kg	NR 0-1%	N/C
B162545-BS2	**Laboratory Fortified Blank, Cr(VI) (1637018)**						
	Cr(VI)		20.00	20.17	mg/kg	101% 75-125	
B162545-BS3	**Laboratory Fortified Blank, PbCrO4 (NC00442)**						
	Cr(VI)		598.5	638.1	mg/kg	107% 75-125	
B162545-SRM1	**Certified Reference Material, (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	493.7	mg/kg	90% 75-125	
B162545-DUP1	**Duplicate, (1639047-10)**						
	Cr(VI)	0.099		0.230	mg/kg		*80%* 25
B162545-MS1	**Matrix Spike, Cr(III) (1639047-10)**						
	Cr(VI)	0.099	24.20	0.539	mg/kg	2% 0-15%	
B162545-MS2	**Matrix Spike, Cr(VI) (1639047-10)**						
	Cr(VI)	0.099	24.52	25.27	mg/kg	103% 75-125	
B162545-MS3	**Matrix Spike, PbCrO4 (1639047-10)**						
	Cr(VI)	0.099	873.5	870.4	mg/kg	100% 75-125	
B162545-MSD1	**Matrix Spike Duplicate, Cr(III) (1639047-10)**						
	Cr(VI)	0.099	24.23	0.593	mg/kg	2% 0-15%	11% N/A
B162545-MSD2	**Matrix Spike Duplicate, Cr(VI) (1639047-10)**						
	Cr(VI)	0.099	24.52	24.50	mg/kg	99% 75-125	3% 25
B162545-MSD3	**Matrix Spike Duplicate, PbCrO4 (1639047-10)**						
	Cr(VI)	0.099	851.3	782.9	mg/kg	92% 75-125	8% 25
B162545-DUP2	**Duplicate, (1639047-14)**						
	Cr(VI)	0.196		0.200	mg/kg		2% 25

16804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Accuracy & Precision Summary

Batch: B162545
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162545-MS4	**Matrix Spike, Cr(III) (1639047-14)**						
	Cr(VI)	0.196	23.42	0.159	mg/kg	-0.2% 0-15%	
B162545-MS5	**Matrix Spike, Cr(VI) (1639047-14)**						
	Cr(VI)	0.196	23.34	24.24	mg/kg	103% 75-125	
B162545-MS6	**Matrix Spike, PbCrO4 (1639047-14)**						
	Cr(VI)	0.196	744.7	741.8	mg/kg	100% 75-125	
B162545-MSD4	**Matrix Spike Duplicate, Cr(III) (1639047-14)**						
	Cr(VI)	0.196	23.68	0.247	mg/kg	0.2% 0-15%	1300% N/A
B162545-MSD5	**Matrix Spike Duplicate, Cr(VI) (1639047-14)**						
	Cr(VI)	0.196	23.31	23.23	mg/kg	99% 75-125	4% 25
B162545-MSD6	**Matrix Spike Duplicate, PbCrO4 (1639047-14)**						
	Cr(VI)	0.196	820.9	839.6	mg/kg	102% 75-125	3% 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Accuracy & Precision Summary

Batch: B162683
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162683-DUP2	**Duplicate, (1639047-08)**						
	%TS	77.16		77.93	%		1% 15
B162683-DUP1	**Duplicate, (1639047-14)**						
	%TS	84.28		83.20	%		1% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Method Blanks & Reporting Limits

Batch: B162523
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B162523-BLK1	-0.033	mg/kg wet
B162523-BLK2	-0.057	mg/kg wet
B162523-BLK3	-0.054	mg/kg wet
B162523-BLK4	-0.032	mg/kg wet

Average: -0.044 **Standard Deviation:** 0.013 **MDL:** 0.210
Limit: 0.650 **Limit:** 0.210 **MRL:** 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Method Blanks & Reporting Limits

Batch: B162545
Matrix: Soil/Sediment
Method: IC-ICP-MS
Analyte: Cr(VI)

Sample	Result	Units
B162545-BLK1	0.005	mg/kg wet
B162545-BLK2	0.005	mg/kg wet
B162545-BLK3	0.005	mg/kg wet
B162545-BLK4	0.005	mg/kg wet

Average: 0.005
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Method Blanks & Reporting Limits

Batch: B162683
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B162683-BLK1	-0.03	%
B162683-BLK2	-0.03	%

Average: -0.03
Limit: 0.25

MDL: 0.08
MRL: 0.25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Instrument Calibration

Sequence: 1601144
Instrument: ICPMS5
Date: 10/11/2016
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1601144-ICB1		0.000	µg/L		
1601144-CAL1	0.01000	0.010	µg/L	101%	
1601144-CAL2	0.01000	0.010	µg/L	100%	
1601144-CAL3	0.01000	0.010	µg/L	101%	
1601144-CAL4	0.01000	0.010	µg/L	96%	
1601144-CAL5	0.05000	0.049	µg/L	97%	
1601144-CAL6	0.1000	0.098	µg/L	98%	
1601144-CAL7	0.5000	0.495	µg/L	99%	
1601144-CAL8	1.000	0.981	µg/L	98%	
1601144-CAL9	5.000	5.050	µg/L	101%	
1601144-IBL1		-0.0001	µg/L		
1601144-ICV1	2.000	-0.0005	µg/L	0%	0-1
1601144-ICV2	2.000	2.003	µg/L	100%	80-120
1601144-ICB2		-0.0002	µg/L		
1601144-CCV1	1.000	0.993	µg/L	99%	75-125
1601144-CCB1		-0.0003	µg/L		
1601144-CALA	10.00	9.988	µg/L	100%	
1601144-CCV2	1.000	1.042	µg/L	104%	75-125
1601144-CCB2		0.0003	µg/L		
1601144-CCV3	1.000	1.015	µg/L	102%	75-125
1601144-CCB3		0.0004	µg/L		
1601144-CCV4	1.000	1.032	µg/L	103%	75-125
1601144-CCB4		0.002	µg/L		
1601144-CCV5	1.000	1.096	µg/L	110%	75-125
1601144-CCB5		0.0003	µg/L		
1601144-CCV6	1.000	1.080	µg/L	108%	75-125
1601144-CCB6		0.0001	µg/L		
1601144-CCV7	1.000	1.066	µg/L	107%	75-125
1601144-CCB7		0.0001	µg/L		
1601144-CCV8	1.000	1.080	µg/L	108%	75-125
1601144-CCB8		-0.0001	µg/L		
1601144-CCV9	1.000	1.069	µg/L	107%	75-125
1601144-CCB9		0.001	µg/L		
1601144-CCVA	1.000	1.078	µg/L	108%	75-125
1601144-CCBA		0.002	µg/L		
1601144-CCVB	1.000	0.999	µg/L	100%	75-125
1601144-CCBB		0.00002	µg/L		
1601144-CCVC	1.000	1.002	µg/L	100%	75-125
1601144-CCBC		-0.0003	µg/L		
1601144-CCVD	1.000	0.995	µg/L	100%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Instrument Calibration

Sequence: 1601144
Instrument: ICPMS5
Date: 10/11/2016
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1601144-CCBD		0.00002	µg/L		
1601144-CCVE	1.000	1.003	µg/L	100%	75-125
1601144-CCBE		0.0001	µg/L		
1601144-CCVF	1.000	1.035	µg/L	104%	75-125
1601144-CCBF		0.001	µg/L		
1601144-CCVG	1.000	1.019	µg/L	102%	75-125
1601144-CCBG		-0.0003	µg/L		
1601144-CCVH	1.000	1.105	µg/L	111%	75-125
1601144-CCBH		-0.0001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Instrument Calibration

Sequence: 1601162
Instrument: ICPMS8
Date: 10/12/2016
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1601162-ICB1		0.000	µg/L		
1601162-CAL1	0.04000	0.032	µg/L	81%	
1601162-CAL2	0.1000	0.082	µg/L	82%	
1601162-CAL3	0.4000	0.408	µg/L	102%	
1601162-CAL4	1.000	1.000	µg/L	100%	
1601162-CAL5	4.000	4.033	µg/L	101%	
1601162-CAL6	10.00	10.06	µg/L	101%	
1601162-CAL7	40.00	40.06	µg/L	100%	
1601162-CAL8	100.0	99.97	µg/L	100%	
1601162-ICB2		0.016	µg/L		
1601162-ICV1	10.00	10.19	µg/L	102%	85-115
1601162-ICB3		-0.017	µg/L		
1601162-SCV1	3.810	3.756	µg/L	99%	75-125
1601162-ICB4		2.059	µg/L		
1601162-ICB5		2.053	µg/L		
1601162-SCV2	18.50	18.48	µg/L	100%	75-125
1601162-ICB6		2.093	µg/L		
1601162-ICB7		2.063	µg/L		
1601162-IBL1		0.0003	µg/L		
1601162-IBL2		-0.014	µg/L		
1601162-IBL3		-0.016	µg/L		
1601162-IBL4		-0.004	µg/L		
1601162-HCV1	1000	1004	µg/L	100%	90-110
1601162-ICB8		2.243	µg/L		
1601162-ICB9		2.080	µg/L		
1601162-ICBA		2.079	µg/L		
1601162-ICBB		2.049	µg/L		
1601162-ICBC		2.080	µg/L		
1601162-ICBD		2.092	µg/L		
1601162-ICBE		2.050	µg/L		
1601162-ICBF		2.025	µg/L		
1601162-CCV1	10.00	10.38	µg/L	104%	75-125
1601162-CCB1		-0.008	µg/L		
1601162-CCV2	10.00	10.42	µg/L	104%	75-125
1601162-CCB2		-0.012	µg/L		
1601162-CCV3	10.00	10.37	µg/L	104%	75-125
1601162-CCB3		-0.018	µg/L		
1601162-CCV4	10.00	10.26	µg/L	103%	75-125
1601162-CCB4		-0.021	µg/L		
1601162-CCV5	10.00	10.19	µg/L	102%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Instrument Calibration

Sequence: 1601162
Instrument: ICPMS8
Date: 10/12/2016
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1601162-CCB5		-0.012	µg/L		
1601162-CCV6	10.00	10.21	µg/L	102%	75-125
1601162-CCB6		-0.026	µg/L		
1601162-CCV7	10.00	10.28	µg/L	103%	75-125
1601162-CCB7		-0.014	µg/L		
1601162-CCV8	10.00	10.00	µg/L	100%	75-125
1601162-CCB8		-0.017	µg/L		
1601162-CCV9	10.00	10.17	µg/L	102%	75-125
1601162-CCB9		-0.017	µg/L		
1601162-CCVA	10.00	9.880	µg/L	99%	75-125
1601162-CCBA		-0.022	µg/L		
1601162-CCVB	10.00	10.22	µg/L	102%	75-125
1601162-CCBB		-0.017	µg/L		
1601162-CCVC	10.00	10.35	µg/L	103%	75-125
1601162-CCBC		-0.012	µg/L		
1601162-CCVD	10.00	10.50	µg/L	105%	75-125
1601162-CCBD		-0.010	µg/L		
1601162-CCVE	10.00	10.55	µg/L	105%	75-125
1601162-CCBE		-0.017	µg/L		
1601162-CCVF	10.00	10.52	µg/L	105%	75-125
1601162-CCBF		-0.012	µg/L		
1601162-CCVG	10.00	10.69	µg/L	107%	75-125
1601162-CCBG		-0.014	µg/L		
1601162-CCVH	10.00	10.99	µg/L	110%	75-125
1601162-CCBH		-0.011	µg/L		
1601162-CCVI	10.00	10.70	µg/L	107%	75-125
1601162-CCBI		-0.014	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Sample Containers

Lab ID: 1639047-01 **Report Matrix:** Soil/Sediment **Collected:** 09/22/2016
Sample: DCRB-56 0'-1' **Sample Type:** Sample **Received:** 09/23/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler

Lab ID: 1639047-02 **Report Matrix:** Soil/Sediment **Collected:** 09/22/2016
Sample: DCRB-56 2'-3' **Sample Type:** Sample **Received:** 09/23/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler

Lab ID: 1639047-03 **Report Matrix:** Soil/Sediment **Collected:** 09/22/2016
Sample: DCRB-57 0'-1' **Sample Type:** Sample **Received:** 09/23/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler

Lab ID: 1639047-04 **Report Matrix:** Soil/Sediment **Collected:** 09/22/2016
Sample: DCRB-57 2'-3' **Sample Type:** Sample **Received:** 09/23/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler

Lab ID: 1639047-05 **Report Matrix:** Soil/Sediment **Collected:** 09/22/2016
Sample: DCRB-58 0'-1' **Sample Type:** Sample **Received:** 09/23/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler

Lab ID: 1639047-06 **Report Matrix:** Soil/Sediment **Collected:** 09/22/2016
Sample: DCRB-58 2'-3' **Sample Type:** Sample **Received:** 09/23/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Sample Containers

Lab ID: 1639047-07
Sample: DCRB-60 0'-1'
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 09/29/2016
Received: 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Lab ID: 1639047-08
Sample: DCRB-60 2'-3'
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 09/29/2016
Received: 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Lab ID: 1639047-09
Sample: DCRB-59 0'-1'
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 09/29/2016
Received: 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Lab ID: 1639047-10
Sample: DCRB-59 2'-3'
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 09/29/2016
Received: 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Lab ID: 1639047-11
Sample: DCRB-61 0'-1'
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 09/29/2016
Received: 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Lab ID: 1639047-12
Sample: DCRB-61 2'-3'
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 09/29/2016
Received: 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1639047
Client PM: Allison Walker
Client PO: 10797.016

Sample Containers

Lab ID: 1639047-13 **Report Matrix:** Soil/Sediment **Collected:** 09/29/2016
Sample: DCRB-66 0'-1' **Sample Type:** Sample **Received:** 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Lab ID: 1639047-14 **Report Matrix:** Soil/Sediment **Collected:** 09/29/2016
Sample: DCRB-66 2'-3' **Sample Type:** Sample **Received:** 09/30/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz Jar	16-0160	None	NA		Cooler 2

Shipping Containers

Cooler
Received: September 23, 2016 9:20
Tracking No: 784156649895 via FedEx
Coolant Type: Blue Ice
Temperature: 3.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: Ir #7

Custody seals present? No
Custody seals intact? No
COC present? Yes

Cooler 2
Received: September 30, 2016 9:50
Tracking No: 784521799629 via FedEx
Coolant Type: Blue Ice
Temperature: 2.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: Ir #8

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

This page was intentionally left blank.

BAL Report 1645033

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: DAAB 488-2D-CR6
Samples Collected: November 2, 2016
Report Date: December 21, 2016

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Rand Labs
Project ID: 1645033

1 of 201

BAL Report 1645033

Table of Contents

Case Narrative 3-5
Report Information 6
Sample Information 7
Batch Summary 7
Sample Results 8-9
Accuracy & Precision Summary 10-12
Method Blanks & Reporting Limits 13-15
Instrument Calibration 16-18
Sample Containers 19-20
Shipping Containers 20
Chain-of-Custody Forms and Waybills 21-22
Total Cr - Sequence 1601342, Batch B162838 23-137
Hexavalent Chromium - Sequence 1601334, Batch B162972 138-200
Total Solids - Batch B162837 201

Chain of Custody forms (pages 21 thru 22) and Analytical Instrument Outputs (pages 23 thru 201) from the BAL Report are not included in this appendix.

2 of 201

BAL Report 1645033

1. Sample Reception

Eight (8) soil samples were submitted for hexavalent chromium and total chromium analyses. The samples were received in acceptable condition on November 3, 2016 in a sealed cooler at 3.0°C.

All samples were received in a laminar flow clean hood void of trace metals contamination and ultra-violet radiation. Upon reception, all samples were designated discrete sample identifiers. All samples were then stored in a secure, monitored refrigerator (maintained at a temperature of ≤6°C) until preparation and analysis could be performed.

2. Sample Preparation

All sample preparation is performed in laminar flow clean hoods known to be free from trace metals contamination. All applied water for dilutions and sample preservatives are monitored for contamination to account for any biases associated with the sample results.

Hexavalent Chromium Quantitation by IC-ICP-MS All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

Total Chromium Quantitation A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

Total Solids Determination A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

3. Sample Analysis

All sample analysis is preceded by a minimum of a five-point calibration curve spanning the entire concentration range of interest. All calibration curves, associated with each species of interest, are standardized by linear regression resulting in a response factor. All sample results are **instrument blank corrected** to account for any operational biases associated with the

3 of 201

analytical platform. All sample results for hexavalent chromium and total chromium have also been **dry weight corrected** in accordance with the measured total solids concentrations.

Prior to sample analysis, all calibration curves are verified using second source standards which are identified as initial calibration verification standards (ICV).

Ongoing instrument performance is identified by the analysis of continuing calibration verification standards (CCV) and continuing calibration blanks (CCB) at a minimum interval of every ten analytical runs.

Hexavalent Chromium Quantitation All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma dynamic reaction cell mass spectrometry (IC-ICP-DRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (DRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

The retention time for hexavalent chromium is compared to known standards for species identification.

Total Chromium Quantitation All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific reactive gasses or collision gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

4. Analytical Issues and Discussion

No significant issues were encountered with the requested analyses. All quality control parameters associated with these samples were within acceptance limits with the following exceptions:

During the analyses for hexavalent chromium in Sequence 1601334, the ICV standard identified as 1601334-ICV2 was mistakenly not spiked with hexavalent chromium. As soon as the issue was identified, the analyst re-prepared hexavalent chromium ICV standards in duplicate (identified as 1601334-ICV3 and 1601334-ICV4). The recoveries of the two re-prepared ICVs were within acceptance limits (recovering at 108% and 104%, respectively), demonstrating the accuracy of the calibration curve. Consequently, no further corrective action was deemed necessary.

The recovery of the matrix spike duplicate (MSD) identified as B162972-MSD2 was below the control limit of 75% for hexavalent chromium (69%). This MSD was prepared with an aqueous hexavalent chromium spike solution and its associated matrix spike (MS), identified as B162972-MS2, was biased low but within acceptance limits (83% recovery). All other batch quality control samples spiked with either soluble or insoluble forms of hexavalent chromium were within acceptance limits, demonstrating the accuracy of the applied methods. Visual inspection of the native sample DCRB-65 (2'-3') indicated that the matrix was heterogeneous in nature, containing orange-colored particles within the sandy soil. The low recovery observed for B162972-MSD2 is therefore attributed to a variable reductive capacity of the matrix with respect to Cr(VI). All reported Cr(VI) results are deemed representative of the submitted samples, but the low spike recovery for B162972-MSD2 should be taken into consideration when evaluating the data.

It should be noted that the method detection limits (MDLs) for hexavalent and total chromium are those determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
ben@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations /certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BAL	Brooks Applied Labs	**MS**	matrix spike
BLK	method blank	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCB	continuing calibration blank	**N/C**	not calculated
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
D	dissolved fraction	**RPD**	relative percent difference
DUP	duplicate	**SCV**	secondary calibration verification
IBL	instrument blank	**SOP**	standard operating procedure
ICV	initial calibration verification	**SRM**	standard reference material
MDL	method detection limit	**T**	total fraction
MRL	method reporting limit	**TR**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

[illegible] P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
DCRB-62 (0'-1')	1645033-01	Soil	Sample	11/02/2016	11/03/2016
DCRB-62 (2'-3')	1645033-02	Soil	Sample	11/02/2016	11/03/2016
DCRB-63 (0'-1')	1645033-03	Soil	Sample	11/02/2016	11/03/2016
DCRB-63 (2'-3')	1645033-04	Soil	Sample	11/02/2016	11/03/2016
DCRB-64 (0'-1')	1645033-05	Soil	Sample	11/02/2016	11/03/2016
DCRB-64 (2'-3')	1645033-06	Soil	Sample	11/02/2016	11/03/2016
DCRB-65 (0'-1')	1645033-07	Soil	Sample	11/02/2016	11/03/2016
DCRB-65 (2'-3')	1645033-08	Soil	Sample	11/02/2016	11/03/2016

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	11/16/2016	11/18/2016	B162837	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	11/16/2016	11/22/2016	B162838	1601342
Cr(VI)	Soil/Sediment	IC-ICP-MS	11/14/2016	11/21/2016	B162972	1601334

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DCRB-62 (0'-1')										
1645033-01	%TS	Soil	NA	85.08		0.11	0.38	%	B162837	N/A
1645033-01	Cr	Soil	dry	10.1		0.272	0.841	mg/kg	B162838	1601342
1645033-01	Cr(VI)	Soil	dry	0.282		0.003	0.024	mg/kg	B162972	1601334
DCRB-62 (2'-3')										
1645033-02	%TS	Soil	NA	83.29		0.11	0.38	%	B162837	N/A
1645033-02	Cr	Soil	dry	9.52		0.262	0.811	mg/kg	B162838	1601342
1645033-02	Cr(VI)	Soil	dry	0.187		0.004	0.025	mg/kg	B162972	1601334
DCRB-63 (0'-1')										
1645033-03	%TS	Soil	NA	84.44		0.11	0.38	%	B162837	N/A
1645033-03	Cr	Soil	dry	19.1		0.257	0.797	mg/kg	B162838	1601342
1645033-03	Cr(VI)	Soil	dry	0.196		0.004	0.025	mg/kg	B162972	1601334
DCRB-63 (2'-3')										
1645033-04	%TS	Soil	NA	77.76		0.11	0.38	%	B162837	N/A
1645033-04	Cr	Soil	dry	13.6		0.262	0.810	mg/kg	B162838	1601342
1645033-04	Cr(VI)	Soil	dry	0.533		0.004	0.026	mg/kg	B162972	1601334
DCRB-64 (0'-1')										
1645033-05	%TS	Soil	NA	85.54		0.11	0.38	%	B162837	N/A
1645033-05	Cr	Soil	dry	8.59		0.242	0.749	mg/kg	B162838	1601342
1645033-05	Cr(VI)	Soil	dry	0.315		0.003	0.024	mg/kg	B162972	1601334
DCRB-64 (2'-3')										
1645033-06	%TS	Soil	NA	77.87		0.11	0.38	%	B162837	N/A
1645033-06	Cr	Soil	dry	7.46		0.272	0.841	mg/kg	B162838	1601342
1645033-06	Cr(VI)	Soil	dry	0.217		0.004	0.026	mg/kg	B162972	1601334
DCRB-65 (0'-1')										
1645033-07	%TS	Soil	NA	85.30		0.11	0.38	%	B162837	N/A
1645033-07	Cr	Soil	dry	20.8		0.267	0.827	mg/kg	B162838	1601342
1645033-07	Cr(VI)	Soil	dry	0.459		0.003	0.024	mg/kg	B162972	1601334

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DCRB-65 (2'-3')										
1645033-08	%TS	Soil	NA	73.04		0.11	0.38	%	B162837	N/A
1645033-08	Cr	Soil	dry	14.1		0.276	0.856	mg/kg	B162838	1601342
1645033-08	Cr(VI)	Soil	dry	0.386		0.004	0.028	mg/kg	B162972	1601334

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B162837
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162837-DUP1	**Duplicate, (1645033-04)**						
	%TS	77.76		78.36	%		0.8% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B162838
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162838-BS1	**Laboratory Fortified Blank, (1634047)**						
	Cr		40.00	40.99	mg/kg	102% 75-125	
B162838-SRM1	**Certified Reference Material, (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	345.4	mg/kg	103% 75-125	
B162838-DUP1	**Duplicate, (1645033-04)**						
	Cr	13.65		13.00	mg/kg		5% 30
B162838-MS1	**Matrix Spike, (1645033-04)**						
	Cr	13.65	52.28	69.08	mg/kg	106% 70-130	
B162838-MSD1	**Matrix Spike Duplicate, (1645033-04)**						
	Cr	13.65	49.46	66.23	mg/kg	106% 70-130	0.3% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B162972
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B162972-BS1	**Laboratory Fortified Blank, Cr(III) (1637021)**						
	Cr(VI)		20.00	ND	mg/kg	NR 0-1%	N/C
B162972-BS2	**Laboratory Fortified Blank, Cr(VI) (1637018)**						
	Cr(VI)		20.00	20.92	mg/kg	105% 75-125	
B162972-BS3	**Laboratory Fortified Blank, PbCrO4 (NC00442)**						
	Cr(VI)		759.4	680.1	mg/kg	90% 75-125	
B162972-SRM1	**Certified Reference Material, (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	551.2	mg/kg	100% 75-125	
B162972-DUP2	**Duplicate, Analytical (1645033-06)**						
	Cr(VI)	0.217		0.218	mg/kg		0.2% 25
B162972-DUP1	**Duplicate, (1645033-08)**						
	Cr(VI)	0.386		0.473	mg/kg		20% 25
B162972-MS1	**Matrix Spike, Cr(III) (1645033-08)**						
	Cr(VI)	0.386	26.73	0.688	mg/kg	1% 0-15%	
B162972-MS2	**Matrix Spike, Cr(VI) (1645033-08)**						
	Cr(VI)	0.386	27.23	22.99	mg/kg	83% 75-125	
B162972-MS3	**Matrix Spike, PbCrO4 (1645033-08)**						
	Cr(VI)	0.386	834.2	788.5	mg/kg	95% 75-125	
B162972-MSD1	**Matrix Spike Duplicate, Cr(III) (1645033-08)**						
	Cr(VI)	0.386	26.15	0.592	mg/kg	0.8% 0-15%	36% N/A
B162972-MSD2	**Matrix Spike Duplicate, Cr(VI) (1645033-08)**						
	Cr(VI)	0.386	26.09	18.38	mg/kg	69% 75-125	18% 25
B162972-MSD3	**Matrix Spike Duplicate, PbCrO4 (1645033-08)**						
	Cr(VI)	0.386	982.6	890.1	mg/kg	91% 75-125	4% 25

(18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B162837
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B162837-BLK1	-0.04	%
B162837-BLK2	-0.04	%

Average: -0.04
Limit: 0.38

MDL: 0.11
MRL: 0.38

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B162838
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B162838-BLK1	0.038	mg/kg wet
B162838-BLK2	0.018	mg/kg wet
B162838-BLK3	0.027	mg/kg wet
B162838-BLK4	0.034	mg/kg wet

Average: 0.029 **Standard Deviation:** 0.009 **MDL:** 0.210
Limit: 0.650 **Limit:** 0.210 **MRL:** 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B162972
Matrix: Soil/Sediment
Method: IC-ICP-MS
Analyte: Cr(VI)

Sample	Result	Units
B162972-BLK1	0.006	mg/kg wet
B162972-BLK2	0.005	mg/kg wet
B162972-BLK3	0.003	mg/kg wet
B162972-BLK4	0.004	mg/kg wet

Average: 0.005
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601334
Instrument: ICPMS5
Date: 11/21/2016
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1601334-ICB1		0.00	µg/L		
1601334-CAL1	0.01000	0.01	µg/L	104%	
1601334-CAL2	0.01000	0.01	µg/L	103%	
1601334-CAL3	0.01000	0.01	µg/L	107%	
1601334-CAL4	0.01000	0.01	µg/L	104%	
1601334-CAL5	0.05000	0.05	µg/L	100%	
1601334-CAL6	0.1000	0.10	µg/L	101%	
1601334-CAL7	0.5000	0.50	µg/L	99%	
1601334-CAL8	1.000	1.01	µg/L	101%	
1601334-CAL9	5.000	4.96	µg/L	99%	
1601334-CALA	10.00	10.0	µg/L	100%	
1601334-ICB2		0.0006	µg/L		
1601334-ICV1	2.000	0.0005	µg/L	0%	0-1
1601334-ICV2	2.000	0.0007	µg/L	0.04%	80-120
1601334-ICB3		0.0003	µg/L		
1601334-CCV1	1.000	1.00	µg/L	100%	75-125
1601334-CCB1		0.0003	µg/L		
1601334-CCV2	1.000	0.96	µg/L	96%	75-125
1601334-CCB2		0.0001	µg/L		
1601334-CCV3	1.000	1.01	µg/L	101%	75-125
1601334-CCB3		0.0002	µg/L		
1601334-CCV4	1.000	0.99	µg/L	99%	75-125
1601334-CCB4		0.00001	µg/L		
1601334-CCV5	1.000	0.95	µg/L	95%	75-125
1601334-CCB5		0.0002	µg/L		
1601334-CCV6	1.000	1.13	µg/L	113%	75-125
1601334-CCB6		-0.0001	µg/L		
1601334-ICV3	2.000	2.16	µg/L	108%	80-120
1601334-ICV4	2.000	2.08	µg/L	104%	80-120
1601334-CCV7	1.000	1.05	µg/L	105%	75-125
1601334-CCB7		0.0004	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601342
Instrument: ICPMS8
Date: 11/22/2016
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1601342-ICB1		0.000	µg/L		
1601342-CAL1	0.04000	0.051	µg/L	127%	
1601342-CAL2	0.1000	0.106	µg/L	106%	
1601342-CAL3	0.4000	0.430	µg/L	108%	
1601342-CAL4	1.000	1.098	µg/L	110%	
1601342-CAL5	4.000	4.054	µg/L	101%	
1601342-CAL6	10.00	10.07	µg/L	101%	
1601342-CAL7	40.00	40.24	µg/L	101%	
1601342-CAL8	100.0	99.89	µg/L	100%	
1601342-ICB2		0.014	µg/L		
1601342-ICV1	10.00	10.68	µg/L	107%	85-115
1601342-ICB3		0.020	µg/L		
1601342-SCV1	3.810	4.253	µg/L	112%	75-125
1601342-ICB4		0.004	µg/L		
1601342-ICB5		0.013	µg/L		
1601342-SCV2	18.50	19.43	µg/L	105%	75-125
1601342-ICB6		0.018	µg/L		
1601342-ICB7		0.013	µg/L		
1601342-IBL1		0.002	µg/L		
1601342-IBL2		0.003	µg/L		
1601342-IBL3		0.003	µg/L		
1601342-IBL4		-0.0005	µg/L		
1601342-HCV1	1000	1080	µg/L	108%	90-110
1601342-ICB8		0.072	µg/L		
1601342-ICB9		0.029	µg/L		
1601342-ICBA		0.013	µg/L		
1601342-ICBB		0.023	µg/L		
1601342-ICBC		0.027	µg/L		
1601342-ICBD		0.023	µg/L		
1601342-ICBE		0.022	µg/L		
1601342-ICBF		0.017	µg/L		
1601342-CCV1	10.00	10.16	µg/L	102%	75-125
1601342-CCB1		0.022	µg/L		
1601342-CCV2	10.00	10.42	µg/L	104%	75-125
1601342-CCB2		0.010	µg/L		
1601342-CCV3	10.00	10.34	µg/L	103%	75-125
1601342-CCB3		0.014	µg/L		
1601342-CCV4	10.00	10.19	µg/L	102%	75-125
1601342-CCB4		0.010	µg/L		
1601342-CCV5	10.00	10.09	µg/L	101%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601342
Instrument: ICPMS8
Date: 11/22/2016
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1601342-CCB5		0.002	µg/L		
1601342-CCV6	10.00	10.10	µg/L	101%	75-125
1601342-CCB6		0.009	µg/L		
1601342-CCV7	10.00	10.10	µg/L	101%	75-125
1601342-CCB7		0.008	µg/L		
1601342-CCV8	10.00	10.13	µg/L	101%	75-125
1601342-CCB8		0.010	µg/L		
1601342-CCV9	10.00	10.19	µg/L	102%	75-125
1601342-CCB9		0.011	µg/L		
1601342-CCVA	10.00	10.31	µg/L	103%	75-125
1601342-CCBA		0.005	µg/L		
1601342-CCVB	10.00	10.28	µg/L	103%	75-125
1601342-CCBB		-0.001	µg/L		
1601342-CCVC	10.00	10.25	µg/L	102%	75-125
1601342-CCBC		0.002	µg/L		
1601342-CCVD	10.00	10.26	µg/L	103%	75-125
1601342-CCBD		0.017	µg/L		
1601342-CCVE	10.00	10.04	µg/L	100%	75-125
1601342-CCBE		0.013	µg/L		
1601342-CCVF	10.00	10.20	µg/L	102%	75-125
1601342-CCBF		0.009	µg/L		
1601342-CCVG	10.00	10.24	µg/L	102%	75-125
1601342-CCBG		0.076	µg/L		
1601342-CCVH	10.00	10.30	µg/L	103%	75-125
1601342-CCBH		0.032	µg/L		
1601342-CCVI	10.00	10.35	µg/L	103%	75-125
1601342-CCBI		0.015	µg/L		
1601342-CCVJ	10.00	10.30	µg/L	103%	75-125
1601342-CCBJ		0.003	µg/L		
1601342-CCVK	10.00	10.19	µg/L	102%	75-125
1601342-CCBK		0.009	µg/L		
1601342-CCVL	10.00	10.41	µg/L	104%	75-125
1601342-CCBL		0.025	µg/L		
1601342-CCVM	10.00	10.70	µg/L	107%	75-125
1601342-CCBM		0.012	µg/L		
1601342-CCVN	10.00	10.45	µg/L	105%	75-125
1601342-CCBN		0.007	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Sample Containers

Lab ID: 1645033-01 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-62 (0'-1') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Lab ID: 1645033-02 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-62 (2'-3') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Lab ID: 1645033-03 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-63 (0'-1') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Lab ID: 1645033-04 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-63 (2'-3') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Lab ID: 1645033-05 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-64 (0'-1') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Lab ID: 1645033-06 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-64 (2'-3') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1645033
Client PM: Allison Walker

Sample Containers

Lab ID: 1645033-07 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-65 (0'-1') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Lab ID: 1645033-08 **Report Matrix:** Soil **Collected:** 11/02/2016
Sample: DCRB-65 (2'-3') **Sample Type:** Sample **Received:** 11/03/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar Glass	4oz	16-0160	None	NA		Cooler

Shipping Containers

Cooler
Received: November 3, 2016 9:30
Tracking No: 784531433626 via FedEx
Coolant Type: Blue Ice
Temperature: 3.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#9

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

BAL Report 1647043

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: DAAB 488-2D-CR6
Samples Collected: November 16, 2016
Report Date: January 5, 2017

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Rand Labs
Project ID: 1647043

1 of 447

BAL Report 1647043

Table of Contents

Case Narrative 3-5
Report Information 6
Sample Information 7
Batch Summary 7
Sample Results 8-9
Accuracy & Precision Summary 10-13
Method Blanks & Reporting Limits 14-16
Instrument Calibration 17-21
Sample Containers 22-23
Shipping Containers 24
Chain-of-Custody Forms and Waybills 25-27
Total Cr - Sequence 1601487, Batch B163157 28-313
Hexavalent Chromium - Sequence 1601444, Batch B163162 314-446
Total Solids - Batch B163156 447

Chain of Custody forms (pages 25 thru 27) and Analytical Instrument Outputs (pages 28 thru 447) from the BAL Report are not included in this appendix.

2 of 447

Case Narrative

Sample Reception

Twelve (12) soil samples were received by Brooks Applied Labs (BAL) on November 17, 2016. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Batch B163162

The recovery of hexavalent chromium for the matrix spike B163162-MS5 (17%) and its associated matrix spike duplicate B163162-MSD5 (24%), which were prepared with an aqueous hexavalent chromium solution, were both below the control limit of 75%. The RPD for this matrix spike duplicate set (35%) was also elevated above the control limit of 25%. All other batch quality control samples spiked with either soluble (i.e., B163162-BS2, B163162-MS2, and B163162-MSD2) or insoluble (i.e., B163162-BS3, B163162-MS3, B163162-MSD3, B163162-MS6 and B163162-MSD6) forms of hexavalent chromium were within acceptance limits, demonstrating the accuracy and precision of the applied methods. The low recoveries observed for B163162-MS5 and B163162-MSD5 are therefore attributed to matrix-induced reduction of hexavalent chromium. The elevated RPD for B163162-MS5/B163162-MSD5 is attributed to the fact that most of the hexavalent chromium added to these spikes was reduced by the sample matrix; the acceptable RPD (16%) for the associated matrix duplicate set B163162-DUP2 instead demonstrates the precision of the applied methods in this matrix. No qualification of the hexavalent chromium result for the source sample DCRB-78 was applied, as the obtained result is deemed representative of the submitted sample matrix; however, the observed reduction of hexavalent chromium in this matrix should be taken into consideration when evaluating the reported results.

The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific reactive gasses or collision gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Batch B163157

The recovery of the matrix spike B163157-MS2 was above the control limit of 130% for Cr (131%). Moreover, the RPD for the associated matrix spike duplicate B163157-MSD2 was above the control limit of 30% for Cr (32%). B163157-MS2, B163157-MSD2, and their associated parent sample DCRB-75 were reanalyzed and these results were confirmed. All other quality control parameters associated with this batch were within acceptance limits – including the matrix spike duplicate set performed on sample DCRB-73 – demonstrating the accuracy and precision of the applied methods. Visual inspection of sample DCRB-75 revealed the matrix to be heterogeneous in nature, containing sand grains of varying size and color. The elevated spike recovery for B163157-MS2 and elevated RPD for B163157-MSD2 are therefore attributed to sample heterogeneity. The total recoverable Cr result for sample DCRB-75 has therefore been qualified (M, N) to indicate the observed variability.

The MDL for this batch of samples has been calculated as the absolute value of the average of the four method blanks plus three times the standard deviation of these blanks.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs, and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the Sample Results pages for sample-specific MDLs, MRLs, and other details.

All data was reported without further qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
ben@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BAL	Brooks Applied Labs	**MS**	matrix spike
BLK	method blank	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCB	continuing calibration blank	**N/C**	not calculated
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
D	dissolved fraction	**RPD**	relative percent difference
DUP	duplicate	**SCV**	secondary calibration verification
IBL	instrument blank	**SOP**	standard operating procedure
ICV	initial calibration verification	**SRM**	standard reference material
MDL	method detection limit	**T**	total fraction
MRL	method reporting limit	**TR**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P (206) 632-6206 · F (206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
DCRB-67	1647043-01	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-68	1647043-02	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-69	1647043-03	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-70	1647043-04	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-73	1647043-05	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-71	1647043-06	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-72	1647043-07	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-74	1647043-08	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-75	1647043-09	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-76	1647043-10	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-77	1647043-11	Soil/Sediment	Sample	11/16/2016	11/17/2016
DCRB-78	1647043-12	Soil/Sediment	Sample	11/16/2016	11/17/2016

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	12/16/2016	12/19/2016	B163156	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	12/20/2016	12/22/2016	B163157	1601487
Cr(VI)	Soil/Sediment	IC-ICP-MS	12/12/2016	12/15/2016	B163162	1601444

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DCRB-67										
1647043-01	%TS	Soil/Sediment	NA	82.92		0.12	0.40	%	B163156	N/A
1647043-01	Cr	Soil/Sediment	dry	43.5		0.138	0.277	mg/kg	B163157	1601487
1647043-01	Cr(VI)	Soil/Sediment	dry	0.633		0.004	0.026	mg/kg	B163162	1601444
DCRB-68										
1647043-02	%TS	Soil/Sediment	NA	82.65		0.12	0.40	%	B163156	N/A
1647043-02	Cr	Soil/Sediment	dry	8.16		0.154	0.308	mg/kg	B163157	1601487
1647043-02	Cr(VI)	Soil/Sediment	dry	0.111		0.004	0.025	mg/kg	B163162	1601444
DCRB-69										
1647043-03	%TS	Soil/Sediment	NA	88.61		0.12	0.40	%	B163156	N/A
1647043-03	Cr	Soil/Sediment	dry	12.7		0.141	0.281	mg/kg	B163157	1601487
1647043-03	Cr(VI)	Soil/Sediment	dry	0.394		0.004	0.025	mg/kg	B163162	1601444
DCRB-70										
1647043-04	%TS	Soil/Sediment	NA	86.23		0.12	0.40	%	B163156	N/A
1647043-04	Cr	Soil/Sediment	dry	9.48		0.161	0.321	mg/kg	B163157	1601487
1647043-04	Cr(VI)	Soil/Sediment	dry	0.229		0.003	0.024	mg/kg	B163162	1601444
DCRB-71										
1647043-06	%TS	Soil/Sediment	NA	89.37		0.12	0.40	%	B163156	N/A
1647043-06	Cr	Soil/Sediment	dry	17.3		0.141	0.282	mg/kg	B163157	1601487
1647043-06	Cr(VI)	Soil/Sediment	dry	1.52		0.003	0.023	mg/kg	B163162	1601444
DCRB-72										
1647043-07	%TS	Soil/Sediment	NA	76.41		0.12	0.40	%	B163156	N/A
1647043-07	Cr	Soil/Sediment	dry	16.9		0.181	0.363	mg/kg	B163157	1601487
1647043-07	Cr(VI)	Soil/Sediment	dry	0.230		0.004	0.027	mg/kg	B163162	1601444
DCRB-73										
1647043-05	%TS	Soil/Sediment	NA	85.90		0.12	0.40	%	B163156	N/A
1647043-05	Cr	Soil/Sediment	dry	12.1		0.153	0.305	mg/kg	B163157	1601487
1647043-05	Cr(VI)	Soil/Sediment	dry	0.488		0.003	0.024	mg/kg	B163162	1601444

16804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DCRB-74										
1647043-08	%TS	Soil/Sediment	NA	86.59		0.12	0.40	%	B163156	N/A
1647043-08	Cr	Soil/Sediment	dry	15.8		0.153	0.306	mg/kg	B163157	1601487
1647043-08	Cr(VI)	Soil/Sediment	dry	0.625		0.004	0.025	mg/kg	B163162	1601444
DCRB-75										
1647043-09	%TS	Soil/Sediment	NA	86.15		0.12	0.40	%	B163156	N/A
1647043-09	Cr	Soil/Sediment	dry	10.9	M, N	0.134	0.267	mg/kg	B163157	1601487
1647043-09	Cr(VI)	Soil/Sediment	dry	0.258		0.003	0.024	mg/kg	B163162	1601444
DCRB-76										
1647043-10	%TS	Soil/Sediment	NA	84.82		0.12	0.40	%	B163156	N/A
1647043-10	Cr	Soil/Sediment	dry	21.0		0.145	0.291	mg/kg	B163157	1601487
1647043-10	Cr(VI)	Soil/Sediment	dry	0.492		0.003	0.024	mg/kg	B163162	1601444
DCRB-77										
1647043-11	%TS	Soil/Sediment	NA	80.36		0.12	0.40	%	B163156	N/A
1647043-11	Cr	Soil/Sediment	dry	10.5		0.148	0.296	mg/kg	B163157	1601487
1647043-11	Cr(VI)	Soil/Sediment	dry	0.181		0.004	0.026	mg/kg	B163162	1601444
DCRB-78										
1647043-12	%TS	Soil/Sediment	NA	87.10		0.12	0.40	%	B163156	N/A
1647043-12	Cr	Soil/Sediment	dry	15.5		0.132	0.263	mg/kg	B163157	1601487
1647043-12	Cr(VI)	Soil/Sediment	dry	0.168		0.003	0.023	mg/kg	B163162	1601444

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B163156
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B163156-DUP1	**Duplicate, (1647043-02)**						
	%TS	82.65		84.13	%		2% 15
B163156-DUP2	**Duplicate, (1647043-08)**						
	%TS	86.59		87.00	%		0.5% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B163157
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B163157-BS1	**Laboratory Fortified Blank, (1634047)**						
	Cr		40.00	38.74	mg/kg	97% 75-125	
B163157-SRM1	**Certified Reference Material, (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	278.5	mg/kg	83% 75-125	
B163157-DUP1	**Duplicate, (1647043-05)**						
	Cr	12.09		13.25	mg/kg		9% 30
B163157-MS1	**Matrix Spike, (1647043-05)**						
	Cr	12.09	48.91	58.94	mg/kg	96% 70-130	
B163157-MSD1	**Matrix Spike Duplicate, (1647043-05)**						
	Cr	12.09	43.12	49.81	mg/kg	87% 70-130	9% 30
B163157-DUP2	**Duplicate, (1647043-09)**						
	Cr	10.87		14.64	mg/kg		30% 30
B163157-MS2	**Matrix Spike, (1647043-09)**						
	Cr	10.87	43.72	68.08	mg/kg	*131%* 70-130	
B163157-MSD2	**Matrix Spike Duplicate, (1647043-09)**						
	Cr	10.87	48.06	56.38	mg/kg	95% 70-130	*32%* 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B163162
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B163162-BS1	**Laboratory Fortified Blank, Cr(III) (1637021)**						
	Cr(VI)		20.00	0.017	mg/kg	0.08% 0-1%	
B163162-BS2	**Laboratory Fortified Blank, Cr(VI) (1637018)**						
	Cr(VI)		20.00	20.38	mg/kg	102% 75-125	
B163162-BS3	**Laboratory Fortified Blank, PbCrO4 (NC00442)**						
	Cr(VI)		643.6	677.7	mg/kg	105% 75-125	
B163162-SRM1	**Certified Reference Material, (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	516.5	mg/kg	94% 75-125	
B163162-DUP1	**Duplicate, (1647043-01)**						
	Cr(VI)	0.633		0.520	mg/kg		19% 25
B163162-MS1	**Matrix Spike, Cr(III) (1647043-01)**						
	Cr(VI)	0.633	24.71	0.906	mg/kg	1% 0-15%	
B163162-MS2	**Matrix Spike, Cr(VI) (1647043-01)**						
	Cr(VI)	0.633	24.49	24.99	mg/kg	99% 75-125	
B163162-MS3	**Matrix Spike, PbCrO4 (1647043-01)**						
	Cr(VI)	0.633	740.1	712.8	mg/kg	96% 75-125	
B163162-MSD1	**Matrix Spike Duplicate, Cr(III) (1647043-01)**						
	Cr(VI)	0.633	24.00	0.822	mg/kg	0.8% 0-15%	33% N/A
B163162-MSD2	**Matrix Spike Duplicate, Cr(VI) (1647043-01)**						
	Cr(VI)	0.633	24.48	25.73	mg/kg	103% 75-125	3% 25
B163162-MSD3	**Matrix Spike Duplicate, PbCrO4 (1647043-01)**						
	Cr(VI)	0.633	791.4	734.7	mg/kg	93% 75-125	4% 25
B163162-PS1	**Post Spike, (1647043-01)**						
	Cr(VI)	0.633	2.464	3.190	mg/kg	104% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-8017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B163162
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B163162-DUP2	**Duplicate, (1647043-12)**						
	Cr(VI)	0.168		0.143	mg/kg		16% 25
B163162-MS4	**Matrix Spike, Cr(III) (1647043-12)**						
	Cr(VI)	0.168	23.15	0.304	mg/kg	0.6% 0-15%	
B163162-MS5	**Matrix Spike, Cr(VI) (1647043-12)**						
	Cr(VI)	0.168	23.18	4.061	mg/kg	*17%* 75-125	
B163162-MS6	**Matrix Spike, PbCrO4 (1647043-12)**						
	Cr(VI)	0.168	805.4	718.4	mg/kg	89% 75-125	
B163162-MSD4	**Matrix Spike Duplicate, Cr(III) (1647043-12)**						
	Cr(VI)	0.168	23.05	0.305	mg/kg	0.6% 0-15%	0.7% N/A
B163162-MSD5	**Matrix Spike Duplicate, Cr(VI) (1647043-12)**						
	Cr(VI)	0.168	23.55	5.826	mg/kg	*24%* 75-125	*35%* 25
B163162-MSD6	**Matrix Spike Duplicate, PbCrO4 (1647043-12)**						
	Cr(VI)	0.168	753.7	699.7	mg/kg	93% 75-125	4% 25
B163162-PS2	**Post Spike, (1647043-12)**						
	Cr(VI)	0.168	2.222	2.463	mg/kg	103% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B163156
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B163156-BLK1	0.00	%
B163156-BLK2	-0.04	%

Average: -0.02
Limit: 0.40

MDL: 0.12
MRL: 0.40

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B163157
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B163157-BLK1	-0.108	mg/kg wet
B163157-BLK2	-0.111	mg/kg wet
B163157-BLK3	-0.099	mg/kg wet
B163157-BLK4	-0.091	mg/kg wet

Average: -0.102 **Standard Deviation:** 0.009 **MDL:** 0.125
Limit: 0.250 **Limit:** 0.125 **MRL:** 0.250

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B163162
Matrix: Soil/Sediment
Method: IC-ICP-MS
Analyte: Cr(VI)

Sample	Result	Units
B163162-BLK1	0.005	mg/kg wet
B163162-BLK2	0.005	mg/kg wet
B163162-BLK3	0.006	mg/kg wet
B163162-BLK4	0.006	mg/kg wet

Average: 0.006
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601444
Instrument: ICPMS6
Date: 12/15/2016
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1601444-ICB1		0.000	µg/L		
1601444-CAL1	0.01000	0.011	µg/L	108%	
1601444-CAL2	0.01000	0.011	µg/L	114%	
1601444-CAL3	0.01000	0.011	µg/L	109%	
1601444-CAL4	0.01000	0.011	µg/L	109%	
1601444-CAL5	0.05000	0.052	µg/L	104%	
1601444-CAL6	0.1000	0.105	µg/L	105%	
1601444-CAL7	0.5000	0.522	µg/L	104%	
1601444-CAL8	1.000	1.041	µg/L	104%	
1601444-CAL9	5.000	5.162	µg/L	103%	
1601444-CALA	10.00	9.914	µg/L	99%	
1601444-ICB2		0.000	µg/L		
1601444-ICV2	2.000	2.110	µg/L	106%	80-120
1601444-ICB3		0.000	µg/L		
1601444-CCV1	1.000	1.042	µg/L	104%	75-125
1601444-CCB1		0.000	µg/L		
1601444-CCV2	1.000	1.072	µg/L	107%	75-125
1601444-CCB2		0.000	µg/L		
1601444-CCV3	1.000	1.049	µg/L	105%	75-125
1601444-CCB3		0.000	µg/L		
1601444-CCV4	1.000	1.044	µg/L	104%	75-125
1601444-CCB4		0.000	µg/L		
1601444-CCV5	1.000	1.038	µg/L	104%	75-125
1601444-CCB5		0.000	µg/L		
1601444-CCV6	1.000	1.025	µg/L	102%	75-125
1601444-CCB6		0.002	µg/L		
1601444-CCV7	1.000	1.004	µg/L	100%	75-125
1601444-CCB7		0.000	µg/L		
1601444-CCV8	1.000	0.974	µg/L	97%	75-125
1601444-CCB8		0.000	µg/L		
1601444-CCV9	1.000	0.966	µg/L	97%	75-125
1601444-CCB9		0.000	µg/L		
1601444-CCVA	1.000	0.949	µg/L	95%	75-125
1601444-CCBA		0.000	µg/L		
1601444-CCVB	1.000	0.905	µg/L	91%	75-125
1601444-CCBB		0.000	µg/L		
1601444-CCVC	1.000	0.910	µg/L	91%	75-125
1601444-CCBC		0.001	µg/L		
1601444-CCVD	1.000	0.987	µg/L	99%	75-125
1601444-CCBD		0.0007	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601444
Instrument: ICPMS6
Date: 12/15/2016
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1601444-CCVE	1.000	0.939	µg/L	94%	75-125
1601444-CCBE		0.001	µg/L		
1601444-CCVF	1.000	0.990	µg/L	99%	75-125
1601444-CCBF		0.000	µg/L		
1601444-CCVG	1.000	1.039	µg/L	104%	75-125
1601444-CCBG		0.0005	µg/L		
1601444-CCVH	1.000	1.045	µg/L	104%	75-125
1601444-CCBH		0.000	µg/L		
1601444-CCVI	1.000	1.019	µg/L	102%	75-125
1601444-CCBI		0.000	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601487
Instrument: ICPMS8
Date: 12/22/2016
Analyte: Cr 86 [NH3]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1601487-ICB1		0.000	µg/L		
1601487-CAL1	0.04000	0.051	µg/L	129%	
1601487-CAL2	0.1000	0.100	µg/L	100%	
1601487-CAL3	0.4000	0.424	µg/L	106%	
1601487-CAL4	1.000	0.998	µg/L	100%	
1601487-CAL5	4.000	3.835	µg/L	96%	
1601487-CAL6	10.00	9.290	µg/L	93%	
1601487-CAL7	40.00	38.77	µg/L	97%	
1601487-CAL8	100.0	100.6	µg/L	101%	
1601487-ICB2		-0.009	µg/L		
1601487-ICV1	10.00	10.67	µg/L	107%	85-115
1601487-ICB3		-0.024	µg/L		
1601487-SCV1	3.810	3.891	µg/L	102%	75-125
1601487-ICB4		-0.016	µg/L		
1601487-ICB5		-0.025	µg/L		
1601487-SCV2	18.50	18.53	µg/L	100%	75-125
1601487-ICB6		-0.021	µg/L		
1601487-ICB7		-0.018	µg/L		
1601487-IBL1		0.000	µg/L		
1601487-IBL2		0.000	µg/L		
1601487-IBL3		0.000	µg/L		
1601487-IBL4		0.000	µg/L		
1601487-HCV1	1000	925.8	µg/L	93%	90-110
1601487-ICB8		0.097	µg/L		
1601487-ICB9		-0.004	µg/L		
1601487-ICBA		-0.008	µg/L		
1601487-ICBB		-0.016	µg/L		
1601487-ICBC		-0.025	µg/L		
1601487-ICBD		-0.020	µg/L		
1601487-ICBE		-0.011	µg/L		
1601487-ICBF		-0.016	µg/L		
1601487-CCV1	10.00	10.56	µg/L	106%	75-125
1601487-CCB1		-0.023	µg/L		
1601487-CCV2	10.00	10.59	µg/L	106%	75-125
1601487-CCB2		-0.027	µg/L		
1601487-CCV3	10.00	10.40	µg/L	104%	75-125
1601487-CCB3		-0.035	µg/L		
1601487-CCV4	10.00	10.42	µg/L	104%	75-125
1601487-CCB4		-0.023	µg/L		
1601487-CCV5	10.00	10.38	µg/L	104%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601487
Instrument: ICPMS8
Date: 12/22/2016
Analyte: Cr 86 [NH3]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1601487-CCB5		-0.028	µg/L		
1601487-CCV6	10.00	10.18	µg/L	102%	75-125
1601487-CCB6		-0.033	µg/L		
1601487-CCV7	10.00	9.563	µg/L	96%	75-125
1601487-CCB7		-0.030	µg/L		
1601487-CCV8	10.00	9.811	µg/L	98%	75-125
1601487-CCB8		-0.030	µg/L		
1601487-CCV9	10.00	10.08	µg/L	101%	75-125
1601487-CCB9		-0.042	µg/L		
1601487-CCVA	10.00	10.30	µg/L	103%	75-125
1601487-CCBA		-0.035	µg/L		
1601487-CCVB	10.00	9.878	µg/L	99%	75-125
1601487-CCBB		-0.033	µg/L		
1601487-CCVC	10.00	9.779	µg/L	98%	75-125
1601487-CCBC		-0.029	µg/L		
1601487-CCVD	10.00	10.01	µg/L	100%	75-125
1601487-CCBD		-0.034	µg/L		
1601487-CCVE	10.00	9.869	µg/L	99%	75-125
1601487-CCBE		-0.031	µg/L		
1601487-CCVF	10.00	9.965	µg/L	100%	75-125
1601487-CCBF		-0.035	µg/L		
1601487-CCVG	10.00	9.169	µg/L	92%	75-125
1601487-CCBG		-0.034	µg/L		
1601487-CCVH	10.00	10.07	µg/L	101%	75-125
1601487-CCBH		-0.037	µg/L		
1601487-CCVI	10.00	10.77	µg/L	108%	75-125
1601487-CCBI		-0.038	µg/L		
1601487-CCVJ	10.00	10.14	µg/L	101%	75-125
1601487-CCBJ		-0.042	µg/L		
1601487-CCVK	10.00	9.045	µg/L	90%	75-125
1601487-CCBK		-0.044	µg/L		
1601487-CCVL	10.00	9.664	µg/L	97%	75-125
1601487-CCBL		-0.036	µg/L		
1601487-CCVM	10.00	9.496	µg/L	95%	75-125
1601487-CCBM		-0.041	µg/L		
1601487-ICBG		-0.040	µg/L		
1601487-CCVN	10.00	9.753	µg/L	98%	75-125
1601487-CCBN		-0.039	µg/L		
1601487-CCVO	10.00	9.597	µg/L	96%	75-125
1601487-CCBO		-0.040	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Instrument Calibration

Sequence: 1601487
Instrument: ICPMS8
Date: 12/22/2016
Analyte: Cr 86 [NH3]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits
1601487-CCVP	10.00	9.580	µg/L	96% 75-125
1601487-CCBP		-0.040	µg/L	
1601487-CCVQ	10.00	9.814	µg/L	98% 75-125
1601487-CCBQ		-0.038	µg/L	
1601487-CCVR	10.00	9.626	µg/L	96% 75-125
1601487-CCBR		-0.032	µg/L	
1601487-CCVS	10.00	9.041	µg/L	90% 75-125
1601487-CCBS		-0.032	µg/L	
1601487-CCVT	10.00	9.511	µg/L	95% 75-125
1601487-CCBT		-0.034	µg/L	
1601487-CCVU	10.00	9.714	µg/L	97% 75-125
1601487-CCBU		-0.028	µg/L	
1601487-CCVV	10.00	9.016	µg/L	90% 75-125
1601487-CCBV		-0.039	µg/L	
1601487-CCVW	10.00	8.747	µg/L	87% 75-125
1601487-CCBW		-0.050	µg/L	
1601487-CCVX	10.00	9.171	µg/L	92% 75-125
1601487-CCBX		-0.043	µg/L	
1601487-CCVY	10.00	9.273	µg/L	93% 75-125
1601487-CCBY		-0.044	µg/L	
1601487-CCVZ	10.00	9.011	µg/L	90% 75-125
1601487-CCBZ		-0.047	µg/L	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Sample Containers

Lab ID: 1647043-01 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-67 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-02 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-68 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-03 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-69 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-04 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-70 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-05 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-73 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-06 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-71 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Sample Containers

Lab ID: 1647043-07 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-72 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-08 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-74 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-09 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-75 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-10 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-76 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-11 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-77 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

Lab ID: 1647043-12 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2016
Sample: DCRB-78 **Sample Type:** Sample **Received:** 11/17/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz	16-0150	None	NA		Cooler

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1647043
Client PM: Allison Walker

Shipping Containers

Cooler

Received: November 17, 2016 10:00
Tracking No: 784666215559 via FedEx
Coolant Type: Blue Ice
Temperature: 5.6 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR #9

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

BAL Report 1702018

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: DAAB 488-2D-CR6
Samples Collected: January 11, 2017 and January 16, 2017
Report Date: February 10, 2017

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Rand Labs
Project ID: 1702018

1 of 300

Table of Contents

Case Narrative 3-4
Report Information 5
Sample Information 6
Batch Summary 6
Sample Results 7-8
Accuracy & Precision Summary 9-12
Method Blanks & Reporting Limits 13-15
Instrument Calibration 16-18
Sample Containers 19-20
Shipping Containers 21
Chain-of-Custody Forms and Waybills 22-25
Total Cr - Sequence 1700135, Batch B170286 26-185
Hexavalent Chromium - Sequence 1700098, Batch B170225 186-299
Total Solids - Batch B163263 300

Chain of Custody forms (pages 22 thru 25) and Analytical Instrument Outputs (pages 26 thru 300) from the BAL Report are not included in this appendix.

Case Narrative

Sample Reception

Nine (9) soil samples were received by Brooks Applied Labs (BAL) on January 12, 2017 and January 18, 2017. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1700098 / Batch B170225

The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific reactive gasses or collision gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions

transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system

Sequence 1700135 / Batch B170286
Due to issues associated with the analysis of the initial calibration curve, the analyst prepared and analyzed a second calibration curve shortly after the submitted samples. This second calibration was applied to the initial calibration verification standard (ICV) and all subsequent samples in the sequence. The Cr recoveries of the ICV, all continuing calibration verification (CCV) standards, and all batch quality control were within their respective control limits, demonstrating the accuracy of this second calibration. Consequently, no further corrective action was deemed necessary.

The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

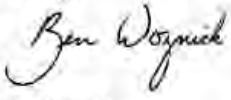
All results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs, and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the Sample Results pages for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact me if you have any questions regarding this report.

Sincerely,



Ben Wozniak
Project Manager
ben@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BAL	Brooks Applied Labs	**MS**	matrix spike
BLK	method blank	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCB	continuing calibration blank	**N/C**	not calculated
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
D	dissolved fraction	**RPD**	relative percent difference
DUP	duplicate	**SCV**	secondary calibration verification
IBL	instrument blank	**SOP**	standard operating procedure
ICV	initial calibration verification	**SRM**	standard reference material
MDL	method detection limit	**T**	total fraction
MRL	method reporting limit	**TR**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P (206) 632-6206 · F (206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4882DAB-40	1702018-01	Soil/Sediment	Sample	01/11/2017	01/12/2017
4882DAB-43	1702018-02	Soil/Sediment	Sample	01/11/2017	01/12/2017
4882DAB-42	1702018-03	Soil/Sediment	Sample	01/11/2017	01/12/2017
4882DAB-41	1702018-04	Soil/Sediment	Sample	01/11/2017	01/12/2017
4882DAB-44	1702018-05	Soil/Sediment	Sample	01/11/2017	01/12/2017
4882DAB-44 (Dup)	1702018-06	Soil/Sediment	Field Duplicate	01/11/2017	01/12/2017
4882DAB-46	1702018-07	Soil/Sediment	Sample	01/11/2017	01/12/2017
4882DAB-45	1702018-08	Soil/Sediment	Sample	01/11/2017	01/12/2017
DCRB-67	1702018-09	Soil/Sediment	Sample	01/17/2017	01/18/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	02/06/2017	02/06/2017	B170097	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	02/02/2017	02/07/2017	B170286	1700135
Cr(VI)	Soil/Sediment	IC-ICP-MS	01/26/2017	01/28/2017	B170225	1700098

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4882DAB-40										
1702018-01	%TS	Soil/Sediment	NA	67.22		0.21	0.70	%	B170097	N/A
1702018-01	Cr	Soil/Sediment	dry	17.6		0.346	1.07	mg/kg	B170286	1700135
1702018-01	Cr(VI)	Soil/Sediment	dry	1.23		0.005	0.032	mg/kg	B170225	1700098
4882DAB-41										
1702018-04	%TS	Soil/Sediment	NA	85.70		0.21	0.70	%	B170097	N/A
1702018-04	Cr	Soil/Sediment	dry	12.3		0.266	0.823	mg/kg	B170286	1700135
1702018-04	Cr(VI)	Soil/Sediment	dry	0.960		0.003	0.024	mg/kg	B170225	1700098
4882DAB-42										
1702018-03	%TS	Soil/Sediment	NA	90.55		0.21	0.70	%	B170097	N/A
1702018-03	Cr	Soil/Sediment	dry	5.79		0.224	0.693	mg/kg	B170286	1700135
1702018-03	Cr(VI)	Soil/Sediment	dry	0.748		0.003	0.023	mg/kg	B170225	1700098
4882DAB-43										
1702018-02	%TS	Soil/Sediment	NA	84.39		0.21	0.70	%	B170097	N/A
1702018-02	Cr	Soil/Sediment	dry	7.32		0.269	0.834	mg/kg	B170286	1700135
1702018-02	Cr(VI)	Soil/Sediment	dry	0.234		0.004	0.025	mg/kg	B170225	1700098
4882DAB-44										
1702018-05	%TS	Soil/Sediment	NA	93.12		0.21	0.70	%	B170097	N/A
1702018-05	Cr	Soil/Sediment	dry	4.51		0.242	0.749	mg/kg	B170286	1700135
1702018-05	Cr(VI)	Soil/Sediment	dry	0.122		0.003	0.023	mg/kg	B170225	1700098
4882DAB-44 (Dup)										
1702018-06	%TS	Soil/Sediment	NA	93.90		0.21	0.70	%	B170097	N/A
1702018-06	Cr	Soil/Sediment	dry	3.61		0.221	0.683	mg/kg	B170286	1700135
1702018-06	Cr(VI)	Soil/Sediment	dry	0.121		0.003	0.022	mg/kg	B170225	1700098
4882DAB-45										
1702018-08	%TS	Soil/Sediment	NA	92.40		0.21	0.70	%	B170097	N/A
1702018-08	Cr	Soil/Sediment	dry	5.84		0.223	0.690	mg/kg	B170286	1700135
1702018-08	Cr(VI)	Soil/Sediment	dry	0.117		0.003	0.023	mg/kg	B170225	1700098

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4882DAB-46										
1702018-07	%TS	Soil/Sediment	NA	93.30		0.21	0.70	%	B170097	N/A
1702018-07	Cr	Soil/Sediment	dry	4.50		0.209	0.646	mg/kg	B170286	1700135
1702018-07	Cr(VI)	Soil/Sediment	dry	0.305		0.003	0.023	mg/kg	B170225	1700098
DCRB-67										
1702018-09	%TS	Soil/Sediment	NA	79.09		0.21	0.70	%	B170097	N/A
1702018-09	Cr	Soil/Sediment	dry	33.1		0.269	0.834	mg/kg	B170286	1700135
1702018-09	Cr(VI)	Soil/Sediment	dry	0.357		0.004	0.027	mg/kg	B170225	1700098

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B170097
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B170097-DUP1	Duplicate, (1702018-07)						
	%TS	93.30		93.48	%		0.2% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B170225
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B170225-BS1	**Laboratory Fortified Blank, Cr(III) (1637021)**						
	Cr(VI)		20.00	0.053	mg/kg	0.3% 0-1%	
B170225-BS2	**Laboratory Fortified Blank, Cr(VI) (1637018)**						
	Cr(VI)		20.00	22.07	mg/kg	110% 75-125	
B170225-BS3	**Laboratory Fortified Blank, PbCrO4 (NC00442)**						
	Cr(VI)		637.2	644.5	mg/kg	101% 75-125	
B170225-SRM1	**Certified Reference Material, (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	514.1	mg/kg	93% 75-125	
B170225-DUP1	**Duplicate, (1702018-09)**						
	Cr(VI)	0.357		0.326	mg/kg		9% 25
B170225-DUP4	**Duplicate, Analytical (1702018-09)**						
	Cr(VI)	0.357		0.351	mg/kg		2% 25
B170225-MS1	**Matrix Spike, Cr(III) (1702018-09)**						
	Cr(VI)	0.357	25.26	0.601	mg/kg	1% 0-15%	
B170225-MS2	**Matrix Spike, Cr(VI) (1702018-09)**						
	Cr(VI)	0.357	25.31	27.33	mg/kg	107% 75-125	
B170225-MS3	**Matrix Spike, PbCrO4 (1702018-09)**						
	Cr(VI)	ND	787.0	624.6	mg/kg	79% 75-125	
B170225-MSD1	**Matrix Spike Duplicate, Cr(III) (1702018-09)**						
	Cr(VI)	0.357	25.53	0.579	mg/kg	0.9% 0-15%	11% N/A
B170225-MSD2	**Matrix Spike Duplicate, Cr(VI) (1702018-09)**						
	Cr(VI)	0.357	25.46	27.70	mg/kg	107% 75-125	0.8% 25
B170225-MSD3	**Matrix Spike Duplicate, PbCrO4 (1702018-09)**						
	Cr(VI)	ND	798.3	688.0	mg/kg	86% 75-125	8% 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P (206) 632-6206 - F (206) 632-8017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B170225
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B170225-PS1	**Post Spike, (1702018-09)**						
	Cr(VI)	0.357	2.580	2.967	mg/kg	101% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B170286
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B170286-BS1	**Laboratory Fortified Blank, (1634047)**						
	Cr		40.00	41.36	mg/kg	103% 75-125	
B170286-SRM1	**Certified Reference Material, (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	345.1	mg/kg	103% 75-125	
B170286-DUP1	**Duplicate, (1702018-01)**						
	Cr	17.64		15.55	mg/kg		13% 30
B170286-MS1	**Matrix Spike, (1702018-01)**						
	Cr	17.64	55.82	72.74	mg/kg	99% 70-130	
B170286-MSD1	**Matrix Spike Duplicate, (1702018-01)**						
	Cr	17.64	58.80	76.67	mg/kg	100% 70-130	2% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B170097
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B170097-BLK1	0.07	%
B170097-BLK2	0.00	%

Average: 0.04
Limit: 0.70

MDL: 0.21
MRL: 0.70

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B170225
Matrix: Soil/Sediment
Method: IC-ICP-MS
Analyte: Cr(VI)

Sample	Result	Units
B170225-BLK1	0.014	mg/kg wet
B170225-BLK2	0.009	mg/kg wet
B170225-BLK3	0.008	mg/kg wet
B170225-BLK4	0.007	mg/kg wet

Average: 0.010
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B170286
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B170286-BLK1	0.009	mg/kg wet
B170286-BLK2	0.010	mg/kg wet
B170286-BLK3	0.010	mg/kg wet
B170286-BLK4	0.019	mg/kg wet

Average: 0.012 **Standard Deviation:** 0.005 **MDL:** 0.210
Limit: 0.650 **Limit:** 0.210 **MRL:** 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1700098
Instrument: ICPMS7
Date: 01/28/2017
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1700098-ICB1		0.000	µg/L		
1700098-CAL1	0.01000	0.011	µg/L	114%	
1700098-CAL2	0.01000	0.011	µg/L	115%	
1700098-CAL3	0.01000	0.011	µg/L	111%	
1700098-CAL4	0.01000	0.012	µg/L	115%	
1700098-CAL5	0.05000	0.052	µg/L	104%	
1700098-CAL6	0.1000	0.101	µg/L	101%	
1700098-CAL7	0.5000	0.504	µg/L	101%	
1700098-CAL8	1.000	1.003	µg/L	100%	
1700098-CAL9	5.000	5.136	µg/L	103%	
1700098-CALA	10.00	9.932	µg/L	99%	
1700098-IBL1		0.000	µg/L		
1700098-ICV1	2.000	0.001	µg/L	0.06%	0-1
1700098-ICV2	2.000	2.011	µg/L	101%	80-120
1700098-ICB2		0.000	µg/L		
1700098-CCV1	1.000	0.988	µg/L	99%	75-125
1700098-CCB1		0.000	µg/L		
1700098-CCV2	1.000	0.971	µg/L	97%	75-125
1700098-CCB2		0.000	µg/L		
1700098-CCV3	1.000	1.005	µg/L	101%	75-125
1700098-CCB3		0.000	µg/L		
1700098-CCV4	1.000	1.046	µg/L	105%	75-125
1700098-CCB4		0.001	µg/L		
1700098-CCV5	1.000	1.012	µg/L	101%	75-125
1700098-CCB5		0.0009	µg/L		
1700098-CCV6	1.000	0.998	µg/L	100%	75-125
1700098-CCB6		0.002	µg/L		
1700098-CCV7	1.000	1.003	µg/L	100%	75-125
1700098-CCB7		0.007	µg/L		
1700098-CCV8	1.000	1.002	µg/L	100%	75-125
1700098-CCB8		0.000	µg/L		
1700098-ICV3	2.000	2.026	µg/L	101%	80-120
1700098-ICB3		0.000	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1700135
Instrument: ICPMS8
Date: 02/07/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1700135-ICB2		0.010	µg/L		
1700135-ICV1	10.00	10.75	µg/L	107%	85-115
1700135-ICB3		0.005	µg/L		
1700135-SCV1	3.810	4.669	µg/L	123%	75-125
1700135-ICB4		0.011	µg/L		
1700135-ICB5		0.008	µg/L		
1700135-SCV2	18.50	21.23	µg/L	115%	75-125
1700135-ICB6		0.011	µg/L		
1700135-ICB7		0.014	µg/L		
1700135-IBL1		0.007	µg/L		
1700135-IBL2		0.010	µg/L		
1700135-IBL3		0.002	µg/L		
1700135-IBL4		0.005	µg/L		
1700135-CCV1	10.00	11.38	µg/L	114%	75-125
1700135-CCB1		0.009	µg/L		
1700135-CCV2	10.00	11.21	µg/L	112%	75-125
1700135-CCB2		0.009	µg/L		
1700135-CCV3	10.00	11.31	µg/L	113%	75-125
1700135-CCB3		0.014	µg/L		
1700135-CCV4	10.00	11.33	µg/L	113%	75-125
1700135-CCB4		0.014	µg/L		
1700135-CCV5	10.00	11.03	µg/L	110%	75-125
1700135-CCB5		0.012	µg/L		
1700135-CCV6	10.00	10.89	µg/L	109%	75-125
1700135-CCB6		0.006	µg/L		
1700135-CCV7	10.00	10.83	µg/L	108%	75-125
1700135-CCB7		0.009	µg/L		
1700135-CCV8	10.00	10.34	µg/L	103%	75-125
1700135-CCB8		0.010	µg/L		
1700135-CCV9	10.00	10.88	µg/L	109%	75-125
1700135-CCB9		0.003	µg/L		
1700135-CCVA	10.00	10.61	µg/L	106%	75-125
1700135-CCBA		0.004	µg/L		
1700135-CCVB	10.00	10.81	µg/L	108%	75-125
1700135-CCBB		0.003	µg/L		
1700135-CCVC	10.00	10.90	µg/L	109%	75-125
1700135-CCBC		0.008	µg/L		
1700135-CCVD	10.00	10.59	µg/L	106%	75-125
1700135-CCBD		0.008	µg/L		
1700135-CCVE	10.00	10.41	µg/L	104%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1700135
Instrument: ICPMS8
Date: 02/07/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1700135-CCBE		0.012	µg/L		
1700135-CCVF	10.00	10.05	µg/L	101%	75-125
1700135-CCBF		0.003	µg/L		
1700135-CCVG	10.00	10.05	µg/L	100%	75-125
1700135-CCBG		0.002	µg/L		
1700135-CCVH	10.00	10.05	µg/L	100%	75-125
1700135-CCBH		0.0006	µg/L		
1700135-CCVI	10.00	9.958	µg/L	100%	75-125
1700135-CCBI		0.002	µg/L		
1700135-CCVJ	10.00	9.810	µg/L	98%	75-125
1700135-CCBJ		0.003	µg/L		
1700135-CCVK	10.00	10.03	µg/L	100%	75-125
1700135-CCBK		0.0002	µg/L		
1700135-CCVL	10.00	10.05	µg/L	101%	75-125
1700135-CCBL		0.004	µg/L		
1700135-CCVM	10.00	10.28	µg/L	103%	75-125
1700135-CCBM		0.004	µg/L		
1700135-ICBG		0.000	µg/L		
1700135-CAL1	0.04000	0.039	µg/L	97%	
1700135-CAL2	0.1000	0.101	µg/L	101%	
1700135-CAL3	0.4000	0.394	µg/L	99%	
1700135-CAL4	1.000	1.025	µg/L	102%	
1700135-CAL5	4.000	3.896	µg/L	97%	
1700135-CAL6	10.00	9.751	µg/L	98%	
1700135-CAL7	40.00	39.40	µg/L	98%	
1700135-CAL8	100.0	100.3	µg/L	100%	
1700135-ICBH		0.002	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1702018-01 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-40 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-02 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-43 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-03 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-42 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-04 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-41 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-05 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-44 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1702018-06 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-44 (Dup) **Sample Type:** Field Duplicate **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-07 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-46 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-08 **Report Matrix:** Soil/Sediment **Collected:** 01/11/2017
Sample: 4882DAB-45 **Sample Type:** Sample **Received:** 01/12/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler

Lab ID: 1702018-09 **Report Matrix:** Soil/Sediment **Collected:** 01/17/2017
Sample: DCRB-67 **Sample Type:** Sample **Received:** 01/18/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4oz HDPE	16-0074	none	n/a	n/a	Cooler 2

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1702018
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Shipping Containers

Cooler

Received: January 12, 2017 10:10
Tracking No: 785289484892 via FedEx
Coolant Type: Blue Ice
Temperature: 3.3 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#10

Custody seals present? No
Custody seals intact? No
COC present? Yes

Cooler 2

Received: January 18, 2017 9:50
Tracking No: 785339829523 via FedEx
Coolant Type: Blue Ice
Temperature: 3.8 °C

Description: Cooler 2
Damaged in transit? No
Returned to client? No
Comments: IR#7

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

This page intentionally left blank.

DATA VALIDATION REPORT

For

Project DAAB-488-2D-CR6

September, 2016 sampling

Prepared by North Wind, Inc. – Greenville, SC

November 2, 2016

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8

IC-ICP-DRC-MS

SM 2540G

Specific Data package information 4

Sample IDs

Sample collection dates

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 6

QC indicators

QC results

Qualified results based on QC results

Statement of Data Usability 7

ATTACHMENT: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on October 28, 2016, and consists of data from two sampling events. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. A data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of fourteen (14) soil samples for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the six samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of Ion chromatography and ta modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for hexavalent chromium is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 262 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following fourteen samples were submitted for analysis: All sample numbers are preceded by **DCRB:**

Sample date: September 22, 2016

-56 0-1' -56 2-3' 57 0-1' 57 2-3' 58 0-1' 58 2-3'

Sample date: September 29, 2016

60 0-1' **60 2-3'** **59 0-1'** **59 2-3'** **61 0-1'** **61 2-3'**

66 0-1' **66 2-3'**

Sample Collection and Receipt

They were all collected on September 22 and 29, 2016. All samples were received by the laboratory on September 23 and 30, 2016 in good condition.

Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B162683	Batch B162523	Batch B162545
DCRB...		Method 2540G-% moisture	Method 200.8-Total Chromium ICP-QQQ-MS	Chromium (VI):EPA 200.8: IC-ICP-DRC-MS
-56 0-1'	1603947-01	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-56 2-3'	1603947-02	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-57 0-1'	1603947-03	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-57 2-3'	1603947-04	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-58 0-1'	1603947-05	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-58 2-3'	1603947-06	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-60 0-1'	1603947-07	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-60 2-3'	1603947-08	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-59 0-1'	1603947-09	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-59 2-3'	1603947-10	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-61 0-1'	1603947-11	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-61 2-3'	1603947-12	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-66 0-1'	1603947-13	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16
-66 2-3'	1603947-14	Prep: 10/24/16 Anal.:10/26/16	Prep: 10/07/16 Anal.:10/12/16	Prep: 10/10/16 Anal.:10/11/16

NORTHWIND INCORPORATED

QC SUMMARY

QC Indicators

The following QC indicators were employed for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (if submitted)

QC results

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). A maximum value of 0.005 mg/kg was obtained. This blank value has no impact on actual sample results; all sample results were at least 19 times this blank value. All other blanks for the other methods were acceptable. No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110%.
- Matrix spike analysis (MS): all MS recoveries were within acceptable ranges of 80-120%.
- Matrix Spike Duplicate analyses (MSD): All MSD recoveries were within acceptable ranges of 80-120%.
- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%).
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): All but one laboratory duplicate relative percent difference (RPD) values were less than 40%, which is considered acceptable for solid matrix result precision. The only exception was for sample DCRB-59 2-3', where the duplicate RPD for the Cr^{+6} analysis was

80%. Upon sample inspection, the sample was very heterogeneous; green and orange particles were seen throughout the sample. Since this heterogeneity observation appears to be specific to this one field sample, **the Cr^{+6} result in this sample alone has been qualified as estimated (J).** It should be noted that lab duplicate precision for the total chromium analysis for this sample was acceptable.

- NO field replicate samples were collected for these sampling events. No assessment of field duplicate precision could be made.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results except one are considered confident as reported***. One hexavalent chromium result is qualified **estimated (J)** for sample DCRB-59 2-3'. The RPD calculations from the lab replicate analyses affirm the reliability of the overall accuracy of the analyses, with the one exception noted above. For soils, the acceptable precision criterion is < 40% RPD. All result pairs except one easily met this criterion; in fact, most replicate analyses easily exceeded the criterion (in a favorable direction - all much less than 40% RPD). In addition, very good precision was observed for the several MS/MSD analyses, further adding to the confidence of the reported results.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

No other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data validation process of the data for this project, all results are considered confident as reported and usable for the intended use of the data as qualified. No data are considered significantly compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: November 2, 2016

Project Chemist, North Wind.

Att: Excel data summary

This page was intentionally left blank.

CHROMIUM DATA - PROJECT DAAB-488-2D-CR6; Sept. 2016 sampling event

sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
DCRB-56 0-1'	9/22/2016	1639047-01	SOLIDS	86.94	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-56 0-1'	9/22/2016	1639047-01	TOT CR	7.67	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-56 0-1'	9/22/2016	1639047-01	CR+6	0.127	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-56 2-3'	9/22/2016	1639047-02	SOLIDS	89.25	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-56 2-3'	9/22/2016	1639047-02	TOT CR	8.19	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-56 2-3"	9/22/2016	1639047-02	CR+6	0.122	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-57 0-1'	9/22/2016	1639047-03	SOLIDS	83.87	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-57 0-1'	9/22/2016	1639047-03	TOT CR	17.5	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-57 0-1'	9/22/2016	1639047-03	CR+6	0.11	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-57 2-3'	9/22/2016	1639047-04	SOLIDS	83.05	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-57 2-3'	9/22/2016	1639047-04	TOT CR	15.2	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-57 2-3'	9/22/2016	1639047-04	CR+6	0.106	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-58 0-1'	9/22/2016	1639047-05	SOLIDS	88.43	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-58 0-1'	9/22/2016	1639047-05	TOT CR	6.89	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-58 0-1'	9/22/2016	1639047-05	CR+6	0.14	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-58 2-3'	9/22/2016	1639047-06	SOLIDS	84.8	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-58 2-3'	9/22/2016	1639047-06	TOT CR	16.3	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-58 2-3'	9/22/2016	1639047-06	CR+6	0.359	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-60 0-1'	9/29/2016	1639047-07	SOLIDS	83.06	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-60 0-1'	9/29/2016	1639047-07	TOT CR	15.8	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-60 0-1'	9/29/2016	1639047-07	CR+6	0.36	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-60 2-3'	9/29/2016	1639047-08	SOLIDS	77.16	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-60 2-3'	9/29/2016	1639047-08	TOT CR	15.5	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-60 2-3'	9/29/2016	1639047-08	CR+6	0.185	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-59 0-1'	9/29/2016	1639047-09	SOLIDS	87.47	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-59 0-1'	9/29/2016	1639047-09	TOT CR	10.4	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-59 0-1'	9/29/2016	1639047-09	CR+6	0.19	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-59 2-3'	9/29/2016	1639047-10	SOLIDS	81.1	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-59 2-3'	9/29/2016	1639047-10	TOT CR	18.2	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-59 2-3'	9/29/2016	1639047-10	CR+6	0.099	mg/kg	J	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-61 0-1'	9/29/2016	1639047-11	SOLIDS	84.37	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-61 0-1'	9/29/2016	1639047-11	TOT CR	12.9	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-61 0-1'	9/29/2016	1639047-11	CR+6	0.333	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-61 2-3'	9/29/2016	1639047-12	SOLIDS	83.78	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-61 2-3'	9/29/2016	1639047-12	TOT CR	34.8	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-61 2-3'	9/29/2016	1639047-12	CR+6	0.435	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-66 0-1'	9/29/2016	1639047-13	SOLIDS	81.92	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-66 0-1'	9/29/2016	1639047-13	TOT CR	10.9	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-66 0-1'	9/29/2016	1639047-13	CR+6	0.174	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545
DCRB-66 2-3'	9/29/2016	1639047-14	SOLIDS	84.28	%	=	SM2540G	10/24/2016	10/26/2016	B162683
DCRB-66 2-3'	9/29/2016	1639047-14	TOT CR	10.2	mg/kg	=	EPA200.8	10/7/2016	10/12/2016	B162523
DCRB-66 2-3'	9/29/2016	1639047-14	Cr+6	0.196	mg/kg	=	IC-ICP-DRC-MS	10/10/2016	10/11/2016	B162545

VAL_QUAL KEY: = means result is confident as reported
J means that the result is estimated due to QC deficiency (SEE REPORT)

This page was intentionally left blank.

DATA VALIDATION REPORT

For

Project DAAB-488-2D-CR6

November 2, 2016 sampling

Prepared by North Wind, Inc. – Greenville, SC

December 23, 2016

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8

IC-ICP-DRC-MS

SM 2540G

Specific Data package information 4

Sample IDs

Sample collection dates

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results

Qualified results based on QC results

Statement of Data Usability 7

ATTACHMENT: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on December 21, 2016, and consists of data from one sampling event- November 2, 2016. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. A data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of eight (8) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the eight (8) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography-Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of Ion chromatography and ta modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

Page 3

The specific mass/charge (m/z) ratio for hexavalent chromium is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 201 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following eight (8) samples were submitted for analysis: All sample numbers are preceded by **DCRB:**

Sample date: November 2, 2016

-62 (0-1') -62 (2-3') -63 (0-1') -63 (2-3') -64 (0-1') -64 (2-3')

-65 (0-1') -65 (2-3')

Page 4

Sample Collection and Receipt

The samples were all collected on November 2, 2016. All samples were received and documented by the laboratory on November 3, 2016 in good condition.

Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B162837	Batch B162838	Batch B162972
DCRB...		Method 2540G-% moisture	Method 200.8-Total Chromium ICP-QQQ-MS	Chromium (VI):EPA 200.8: IC-ICP-DRC-MS
-62 0-1'	1645033-01	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-62 2-3'	1645033-02	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-63 0-1'	1645033-03	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-63 2-3'	1645033-04	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-64 0-1'	1645033-05	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-64 2-3'	1645033-06	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-65 0-1'	1645033-07	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16
-65 2-3'	1645033-08	Prep: 11/16/16 Anal.:11/18/16	Prep: 11/16/16 Anal.:11/22/16	Prep: 11/14/16 Anal.:11/21/16

QC SUMMARY

QC Indicators

The following QC indicators were employed for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (if submitted)

Page 5

NORTHWIND INCORPORATED

QC results

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). A maximum value of 0.006 mg/kg was obtained. This blank value has no impact on actual sample results; all sample results were at least 30 times this blank value. All other blanks for the other methods were acceptable. No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110%.
- Matrix spike analysis (MS): all MS recoveries were within acceptable ranges of 80-120%.
- Matrix Spike Duplicate analyses (MSD): All MSD recoveries except one were within acceptable ranges of 80-120%. The outlier recovery was 69%. This slightly low recovery may be reasonably attributable to sample inhomogeneity. The lab analyst categorized this sample as such and actually advised mixing the sample before weighing out the aliquots needed for analysis. Since all other QC results associated with these analyses were good, no action has been taken based on this one MSD recovery.
- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%).
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): All laboratory duplicate relative percent difference (RPD) values were less than or equal to 20%, which is considered acceptable for solid matrix result duplicate precision.
- NO field replicate samples were collected for these sampling events. No assessment of field duplicate precision could be made.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported***. NO results have been qualified in any way. The RPD calculations from the lab replicate analyses affirm the reliability of the overall accuracy of the analyses. All result pairs easily met this criterion; in fact, most replicate analyses easily exceeded the criterion (in a favorable direction - all much less than 40% RPD). In addition, very good accuracy and precision were observed for the several MS/MSD analyses, further adding to the confidence of the reported results.

Page 6

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

No other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data validation process of the data for this project, all results are considered confident as reported and usable for the intended use of the data as qualified. No data are considered compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: December 23, 2016

Project Chemist, North Wind.

Att: Excel data summary

CHROMIUM DATA - PROJECT DAAB-488-2D-CR6; Nov. 2, 2016 sampling event

sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
DCRB-62 0-1'	11/2/2016	1645033-01	SOLIDS	85.08	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-62 0-1'	11/2/2016	1645033-01	TOT CR	10.1	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-62 0-1'	11/2/2016	1645033-01	CR+6	0.282	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-62 2-3'	11/2/2016	1645033-02	SOLIDS	83.29	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-62 2-3'	11/2/2016	1645033-02	TOT CR	9.52	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-62 2-3"	11/2/2016	1645033-02	CR+6	0.187	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-63 0-1'	11/2/2016	1645033-03	SOLIDS	84.44	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-63 0-1'	11/2/2016	1645033-03	TOT CR	19.1	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-63 0-1'	11/2/2016	1645033-03	CR+6	0.196	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-63 2-3'	11/2/2016	1645033-04	SOLIDS	77.76	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-63 2-3'	11/2/2016	1645033-04	TOT CR	13.6	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-63 2-3'	11/2/2016	1645033-04	CR+6	0.533	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-64 0-1'	11/2/2016	1645033-05	SOLIDS	85.54	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-64 0-1'	11/2/2016	1645033-05	TOT CR	8.59	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-64 0-1'	11/2/2016	1645033-05	CR+6	0.315	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-64 2-3'	11/2/2016	1645033-06	SOLIDS	77.87	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-64 2-3'	11/2/2016	1645033-06	TOT CR	7.46	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-64 2-3'	11/2/2016	1645033-06	CR+6	0.217	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-65 0-1'	11/2/2016	1645033-07	SOLIDS	85.3	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-65 0-1'	11/2/2016	1645033-07	TOT CR	20.8	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-65 0-1'	11/2/2016	1645033-07	CR+6	0.459	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972
DCRB-65 2-3'	11/2/2016	1645033-08	SOLIDS	73.04	%	=	SM2540G	11/16/2016	11/18/2016	B162837
DCRB-65 2-3'	11/2/2016	1645033-08	TOT CR	14.1	mg/kg	=	EPA200.8	11/16/2016	11/22/2016	B162838
DCRB-65 2-3'	11/2/2016	1645033-08	CR+6	0.386	mg/kg	=	IC-ICP-DRC-MS	11/14/2016	11/21/2016	B162972

VAL_QUAL KEY: = means result is confident as reported

DATA VALIDATION REPORT

For

Project DAAB-488-2D-CR6

Lab Project Report ID: 1647043

November 16, 2016 sampling

Prepared by North Wind, Inc. – Greenville, SC

January 10, 2017

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs

Table 1 - Sample collection dates 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 6

QC indicators

QC results summary

Qualified results based on QC results

Statement of Data Usability 8

ATTACHMENT: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package for **Project 1647043** that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on January 5, 2017, and consists of analytical data from one sampling event - November 16, 2016. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of twelve (12) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the twelve (12) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography-Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and ta modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

Page 3

The specific mass/charge (m/z) ratio for the hexavalent chromium – ammonia complex is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 447 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following twelve (12) samples were submitted for analysis **(Sample date: November 16, 2016)**

DCRB-67	**DCRB-68**	**DCRB-69**	**DCRB-70**	**DCRB-71**	**DCRB-72**
DCRB-73	**DCRB-74**	**DCRB-75**	**DCRB-76**	**DCRB-77**	**DCRB-78**

Page 4

NORTHWIND INCORPORATED

Sample Collection and Receipt

The samples were all collected on November 16, 2016. All samples were received and documented by the laboratory on November 17, 2016 in good condition.

TABLE 1 Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B163156	Batch B163157	Batch B163162
DCRB... (All collected 11/16/16)	Received 11/17/16	Method 2540G-% moisture	EPA Method 200.8- Total Chromium ICP-QQQ-MS	modified EPA 200.8 Chromium (VI): IC-ICP-DRC-MS
-67	1647043-01	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-68	1647043-02	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-69	1647043-03	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-70	1647043-04	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-71	1647043-06	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-72	1647043-07	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-73	1647043-05	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-74	1647043-08	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-75	1647043-09	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-76	1647043-10	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-77	1647043-11	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16
-78	1647043-12	Prep: 12/16/16 Anal.:12/19/16	Prep: 12/20/16 Anal.:12/22/16	Prep: 12/12/16 Anal.:12/15/16

Page 5

NORTHWIND INCORPORATED

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (if submitted)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). A maximum value of 0.006 mg/kg was obtained. This blank value has no impact on actual sample results; all sample results were at least 18 times this blank value. All other blanks for the other methods were acceptable. No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110%.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked three field samples: DCRB-67, DCRB-75, and DCRB-78 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries were generally acceptable for the total chromium analyses. All but one of the MS/MSD recoveries for total chromium were within acceptable ranges of 70-130% for samples DCRB-67 and -75. One slightly high total chromium MS recovery (131%) was observed for sample DCRB-75. This slightly high recovery (and the related slightly high RPD between the MS and MSD recoveries) has no effect on the overall confidence of the reported results. No total chromium data have been qualified.
    - The MS/MSD recoveries for hexavalent chromium were acceptable for samples DCRB-67 and -75. However, the Cr^{+6} MS recovery for sample DCRB-78 was 17% and the Cr^{+6} MSD

Page 6

NORTHWIND INCORPORATED

recovery for this sample was **24**% (MS/MSD precision was 35%). The lab analyzed a post-spike analysis on this sample, and it was acceptable, indicating acceptable instrument performance. These low recoveries may then be reasonably attributable to a matrix effect of this one sample on the reduction efficiency of hexavalent chromium prior to the measurement of the concentration of this species. (The lab analyst also categorized this sample non-homogenous.) Since all other QC results associated with these analyses were good, a matrix effect appears to be demonstrated for the hexavalent chromium analysis of sample **DCRB-78 only**. Therefore, **the hexavalent chromium result has been qualified as estimated (J) for this one sample**, and may be biased low. It should be noted that the lab also performed a high-level MS analysis on this sample, and obtained a recovery of 93%. However, the spike amount was 4500 times the native sample result for hexavalent chromium (and over 30 times the spike amount used for the other MS/MSD analyses of this sample), which indicates acceptable instrument performance, but does not yield useful information regarding any matrix effect on the Cr^{+6} reduction efficiency in this sample.

- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%) except for the total chromium MS/MSD analysis of sample DCRB-75 and the hexavalent chromium analysis of DCRB-78, as discussed above.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): All laboratory duplicate relative percent difference (RPD) values were less than or equal to 20%, which is considered acceptable for solid matrix result duplicate precision.
- NO field replicate samples were collected for these sampling events. No assessment of field duplicate precision could be made.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported except for the hexavalent chromium result for sample DCRB-78, which has been qualified as estimated, biased low (J)***. No other results have been qualified in any way. The RPD calculations from the lab replicate analyses affirm the reliability of the overall accuracy of the analyses. All result pairs easily met this criterion; in fact, most replicate analyses easily exceeded the criterion (in a favorable direction - all much less than 40% RPD). In addition, good accuracy and precision were observed for all of the MS/MSD analyses, (*except for hexavalent chromium MS/MSD values in one sample, as described above*), further adding to the confidence of all but one of the reported results for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

No other data have been qualified in any way.

Page 7

NORTHWIND INCORPORATED

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results **except for the Cr^{+6} result in sample DCRB-78** are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. The hexavalent chromium result in sample DCRB-78 is considered quantitatively estimated, but this analyte ***is*** considered qualitatively present in the affected field sample. No other data are considered compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: January 10, 2017

Project Chemist, North Wind.

Att: Excel data summary

Page 8

ATTACHMENT 1

CHROMIUM DATA - PROJECT DAAB-488-2D-CR6; Nov. 16, 2016 sampling event Lab Work order 1647043

sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH	
DCRB-67	11/16/2016	1647043-01	SOLIDS	82.92	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-67	11/16/2016	1647043-01	TOT CR	43.5	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-67	11/16/2016	1647043-01	CR+6	0.633	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-68	11/16/2016	1647043-02	SOLIDS	82.65	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-68	11/16/2016	1647043-02	TOT CR	8.16	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-68	11/16/2016	1647043-02	CR+6	0.111	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-69	11/16/2016	1647043-03	SOLIDS	88.61	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-69	11/16/2016	1647043-03	TOT CR	12.7	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-69	11/16/2016	1647043-03	CR+6	0.394	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-70	11/16/2016	1647043-04	SOLIDS	86.23	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-70	11/16/2016	1647043-04	TOT CR	9.48	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-70	11/16/2016	1647043-04	CR+6	0.229	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-71	11/16/2016	1647043-06	SOLIDS	89.37	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-71	11/16/2016	1647043-06	TOT CR	17.3	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-71	11/16/2016	1647043-06	CR+6	1.52	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-72	11/16/2016	1647043-07	SOLIDS	76.41	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-72	11/16/2016	1647043-07	TOT CR	16.9	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-72	11/16/2016	1647043-07	CR+6	0.230	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-73	11/16/2016	1647043-05	SOLIDS	85.90	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-73	11/16/2016	1647043-05	TOT CR	12.1	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-73	11/16/2016	1647043-05	CR+6	0.488	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-74	11/16/2016	1647043-08	SOLIDS	86.59	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-74	11/16/2016	1647043-08	TOT CR	15.8	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-74	11/16/2016	1647043-08	CR+6	0.625	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-75	11/16/2016	1647043-09	SOLIDS	86.15	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-75	11/16/2016	1647043-09	TOT CR	10.9	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-75	11/16/2016	1647043-09	CR+6	0.258	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-76	11/16/2016	1647043-10	SOLIDS	84.82	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-76	11/16/2016	1647043-10	TOT CR	21.0	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-76	11/16/2016	1647043-10	CR+6	0.492	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-77	11/16/2016	1647043-11	SOLIDS	80.36	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-77	11/16/2016	1647043-11	TOT CR	10.5	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-77	11/16/2016	1647043-11	CR+6	0.181	mg/kg	=	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	
DCRB-78	11/16/2016	1647043-12	SOLIDS	87.10	%	=	SM2540G	12/16/2016	12/19/2016	B163156	
DCRB-78	11/16/2016	1647043-12	TOT CR	15.5	mg/kg	=	EPA200.8	12/20/2016	12/22/2016	B163157	
DCRB-78	11/16/2016	1647043-12	CR+6	0.168	mg/kg	J	IC-ICP-DRC-MS	12/12/2016	12/15/2016	B163162	low MS/MSD

KEY:	= means result is qualitatively and quantitatively confident as reported J means result is qualitatively confident but quantitatively estimated due to one or more QC deficiencies

DATA VALIDATION REPORT

For

Project DAAB-488-2D-CR6

Lab Project Report ID: 1702018

January 11 and 17, 2017 sampling

Prepared by North Wind, Inc. – Greenville, SC

February 17, 2017

Page 1

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs ..... 4 and 5

Table 1 - Sample collection dates 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 6

QC indicators

QC results summary

Qualified results based on QC results 7

Statement of Data Usability 7

ATTACHMENT: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package for **Project 1702018** that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on February 10, 2017, and consists of analytical data from two sampling events- January 11 and 17, 2016. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of nine (9) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the nine (9) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole-Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "O" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography-Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and ta modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 300 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3) sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: **(Sample date: January 11, 2017)**

4882 DAB-40 4882 DAB-41 4882 DAB-42 4882 DAB-43 4882 DAB-44 4882 DAB-44 DUP

4882 DAB-45 4882 DAB-46

Page 4

NORTHWIND INCORPORATED

Sample Date: January 17, 2017:

DCRB-67

Sample Collection and Receipt

The samples were all collected on January 11 and 17, 2017. All samples were received and documented by the laboratory on January 12 and 18, 2017 in good condition.

TABLE 1 Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B170097	Batch B170268	Batch B170225
4882DAB-	Received 01/12/17	Method 2540G- % moisture	EPA Method 200.8 & Total Chromium ICP-QQQ-MS	modified EPA 200.8 Chromium (VI) IC-ICP-DRC-MS
-40	1702018-01	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-41	1702018-04	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-42	1702018-03	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-43	1702018-02	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-44	1702018-05	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-44 dup	1702018-06	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-45	1702018-07	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
-46	1702018-08	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17
	Received 01/18/17			
DCRB-67	1702018-09	Prep: 02/06/17 Anal.:02/06/17	Prep: 02/02/17 Anal.:02/07/17	Prep: 01/26/17 Anal.:01/28/17

The Laboratory batched all the samples together prior to analysis.

Page 5

NORTHWIND INCORPORATED

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (if submitted)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). A maximum value of 0.014 mg/kg was obtained. This blank value has no impact on actual sample results; all sample results were at least eight times this blank value. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field samples 4882DAB-40 and DCRB-67 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries were acceptable for the total chromium analyses. No total chromium data have been qualified.
    - The MS/MSD recoveries for hexavalent chromium were acceptable, and do data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%). No data have been qualified on this basis.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.

Page 6

- Laboratory duplicates (DUP): All laboratory duplicate relative percent difference (RPD) values were less than or equal to 20%, which is considered acceptable for solid matrix result duplicate precision.
- Two Field replicate samples were collected for these sampling events- 4882DAB-44 and 4882DAB-44 DUP. The relative percent differences (RPD) for the total solids and hexavalent chromium results were less than 10%. The RPD for the total chromium results was 22%. All these values are considered acceptable for solid matrix field duplicate precision.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported.*** No results have been qualified in any way. The RPD calculations from the lab replicate and field duplicate analyses affirm the reliability of the overall accuracy of the analyses. All result pairs easily met this criterion; in fact, most replicate analyses easily exceeded the criterion (in a favorable direction - all much less than 40% RPD). In addition, good accuracy and precision were observed for all of the MS/MSD analyses, further adding to the confidence of all but one of the reported results for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

No data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No data are considered compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: February 17, 2017

Project Chemist, North Wind.

Att: Excel data summary

Page 7

This page was intentionally left blank.

CHROMIUM DATA - PROJECT DAAB-488-2D-CR6; January 11 and 17, 2017 sampling events Lab Work order 1702018

sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
4882DAB-40	1/11/2017	1702018-01	SOLIDS	67.22	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-40	1/11/2017	1702018-01	TOT CR	17.6	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-40	1/11/2017	1702018-01	CR+6	1.230	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-41	1/11/2017	1702018-04	SOLIDS	85.70	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-41	1/11/2017	1702018-04	TOT CR	12.30	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-41	1/11/2017	1702018-04	CR+6	0.960	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-42	1/11/2017	1702018-03	SOLIDS	90.55	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-42	1/11/2017	1702018-03	TOT CR	5.79	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-42	1/11/2017	1702018-03	CR+6	0.748	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-43	1/11/2017	1702018-02	SOLIDS	84.39	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-43	1/11/2017	1702018-02	TOT CR	7.32	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-43	1/11/2017	1702018-02	CR+6	0.234	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-44	1/11/2017	1702018-05	SOLIDS	93.12	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-44	1/11/2017	1702018-05	TOT CR	4.51	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-44	1/11/2017	1702018-05	CR+6	0.122	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-44Dup	1/11/2017	1702018-06	SOLIDS	93.90	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-44Dup	1/11/2017	1702018-06	TOT CR	3.61	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-44Dup	1/11/2017	1702018-06	CR+6	0.121	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-45	1/11/2017	1702018-08	SOLIDS	92.40	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-45	1/11/2017	1702018-08	TOT CR	5.84	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-45	1/11/2017	1702018-08	CR+6	0.117	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
4882DAB-46	1/11/2017	1702018-07	SOLIDS	93.30	%	=	SM2540G	2/6/2017	2/6/2017	B170097
4882DAB-46	1/11/2017	1702018-07	TOT CR	4.50	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
4882DAB-46	1/11/2017	1702018-07	CR+6	0.305	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225
DCRB-67	1/17/2017	1702018-09	SOLIDS	79.09	%	=	SM2540G	2/6/2017	2/6/2017	B170097
DCRB-67	1/17/2017	1702018-09	TOT CR	33.1	mg/kg	=	EPA200.8	2/2/2017	2/7/2017	B170286
DCRB-67	1/17/2017	1702018-09	CR+6	0.357	mg/kg	=	IC-ICP-DRC-MS	1/26/2017	1/28/2017	B170225

KEY: = means result is qualitatively and quantitatively confident as reported

This page was intentionally left blank.

APPENDIX S2

DUR for Confirmation Sampling at the 488-1D Ash Basin

This page was intentionally left blank.

TABLE OF CONTENTS

Section **Page**

LIST OF TABLES **S2-4**

I. CONFIRMATION SAMPLES **S2-5**

1.0 PROJECT SUMMARY **S2-5**

2.0 ASSESSMENT OF PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, AND COMPLETENESS DATA QUALITY INDICATORS AND MEASUREMENT PERFORMANCE CRITERIA **S2-7**
2.1 Precision **S2-7**
2.2 Accuracy **S2-8**
2.3 Representativeness **S2-8**
2.4 Comparability **S2-9**
2.5 Completeness **S2-9**

3.0 VALIDATION FINDINGS **S2-10**
3.1 Holding Times **S2-10**
3.2 Preservation **S2-10**
3.3 Calibration, Identification, and Quantitation **S2-11**
3.4 Trip Blanks and Rinsate Blanks **S2-11**
3.5 Method Blanks **S2-12**
3.6 Laboratory Duplicate Relative Percent Differences **S2-13**
3.7 Field Duplicate Relative Percent Differences **S2-14**
3.8 Matrix Spike Recovery **S2-14**
3.9 Laboratory Control Samples Recovery **S2-16**
3.10 Surrogate/Tracer Recovery **S2-16**
3.11 Split Samples Comparability. **S2-17**

4.0 DATA USABILITY **S2-17**

5.0 REFERENCE **S2-18**

II. HEXAVALENT CHROMIUM STUDY SAMPLES **S2-19**

LIST OF TABLES

Table		Page
Table S2-1.	Sample Identification Summary	S2-5
Table S2-2.	Total Number of Records	S2-6
Table S2-3.	Environmental Record Review Qualifier Summary	S2-6
Table S2-4.	Holding Time Review Qualifier Summary	S2-10
Table S2-5.	Preservation Review Qualifier Summary	S2-11
Table S2-6.	Calibration, Identification, and Quantitation Review Summary	S2-11
Table S2-7A.	Trip Blank Review Qualifier Summary	S2-11
Table S2-7B.	Rinsate Blank Review Qualifier Summary	S2-12
Table S2-8.	Method Blank Review Qualifier Summary	S2-13
Table S2-9.	Laboratory Duplicate Qualifier Summary	S2-13
Table S2-10.	Field Duplicate Qualifier Summary	S2-14
Table S2-11.	Matrix Spike Recovery Qualifier Summary	S2-16
Table S2-12.	Laboratory Control Samples Qualifier Summary	S2-16
Table S2-13.	Surrogate/Tracer Recovery Qualifier Summary	S2-17
Table S2-14	Split Samples	S2-17

I. CONFIRMATION SAMPLES

1.0 PROJECT SUMMARY

This report presents analytical data verification, validation and usability assessment results for the soil confirmation sampling that was conducted in accordance with the *Field Sampling Plan for the 488-1D Ash Basin* (FSP) (SRNS 2015a) and presented in the *Human Health and Ecological Evaluation for Confirmation Sampling at the 488-1D Ash Basin and Inlet Basins* (SRNS 2018). The project generated 22 regular (REG) field samples, two field duplicate (FD) samples, one split (SPL) sample and one rinsate blank (RB). The samples, along with the requested analytical analyses, are listed in Table S2-1.

Table S2-1. Sample Identification Summary

Station ID	Sample ID	Sample Type	Sample Date	Sample Time	Matrix	Interval *(ft)*	Analysis Requested
4881D-WE-CONF01	4881D-WE-0001	REG	11/08/17	0850	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF02	4881D-WE-0002	REG	11/08/17	0920	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF03	4881D-WE-0003	REG	11/08/17	0900	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF04	4881D-WE-0004	REG	11/08/17	0930	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF05	4881D-WE-0005	REG	11/16/17	0845	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF06	4881D-WE-0006	REG	11/16/17	0840	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF07	4881D-WE-0007	REG	12/14/17	0900	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF08	4881D-WE-0008	REG	12/07/17	0930	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF08	4881D-WE-0009	SPL	12/07/17	0930	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF09	4881D-WE-0010	REG	12/14/17	0915	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF10	4881D-WE-0011	FD	12/07/17	0950	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF10	4881D-WE-0012	REG	12/07/17	0950	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF11	4881D-WE-0013	REG	12/07/17	0910	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF12	4881D-WE-0014	REG	12/07/17	0900	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF13	4881D-WE-0015	REG	11/30/17	0915	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF14	4881D-WE-0016	REG	11/30/17	0848	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF15	4881D-WE-0017	REG	11/30/17	0930	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF16	4881D-WE-0018	REG	11/30/17	0905	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF17	4881D-WE-0019	REG	11/16/17	0940	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF18	4881D-WE-0020	REG	09/07/17	0955	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF19	4881D-WE-0021	REG	09/07/17	1010	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF20	4881D-WE-0022	REG	01/17/18	0845	SOIL	0 - 1	1, 2, 3, 4, 5
4881D-WE-CONF26	RINSATE	RB	11/30/17	0900	WATER	-	1, 2, 3, 4, 5
DAC488-4D-9B-01	4884D9BCONF01	REG	12/15/16	0930	SOIL	0-1	1, 2, 3, 4, 5
DAC488-4D-9B-02	4884D9BCONF02	FD	12/15/16	0905	SOIL	0-1	1, 2, 3, 4, 5
DAC488-4D-9B-02	4884D9BCONF03	REG	12/15/16	0905	SOIL	0-1	1, 2, 3, 4, 5

ID = identification

Analyses Requested:

1. Chromium, Hexavalent
2. inductively coupled plasma (ICP) Metals
3. Mercury, Total Recoverable
4. Gamma Spectroscopy
5. Uranium, Alpha Spectroscopy

A total of 806 analytical records were produced consisting of 775 REG records and 31 Quality Control (QC) records. See Table S2-2.

Table S2-2. Total Number of Records

Number of Records	Chemical	Radiochemical	Totals
Analytical	593	182	775
Field QC	24	7	31
Totals	**617**	**189**	**806**

The verification process was conducted to review completeness of the sampling and analytical requirements. Validation has been performed to assess compliance with methods, procedures, and contracts, and to assess a comparison with measurement performance criteria in the ER-SOP-033, *Analytical Data Qualification* (SRNS 2015b). A usability assessment will provide the data user with an assessment of whether the process execution and resulting data meet project quality objectives in the Quality Assurance Project Plan (QAPP) (SRNS 2012) and the *Confirmation Sampling and Analysis Plan for Coal and/or Ash Removal at the Savannah River Site* (SAP) (SRNS 2014). These processes involve examination of the FSP (SRNS 2015a) and SAP (SRNS 2014), electronic data files, the field data, analytical data, and laboratory records. Computer programs are used to verify that samples were properly preserved and were analyzed within the required holding time (HT), that QC results were within specified acceptable ranges, and that the appropriate detection limits were employed by the laboratories. Additionally, manual reviews of field data and laboratory records are conducted to ensure the quality of these items. Validation summaries for HT, preservation, calibration (CAL), analyte identification (ID), and analyte quantitation can be found in Subsections 3.1, *Holding Times*; 3.2, *Preservation*; and 3.3, *Calibration, Identification, and Quantitation*.

The data were validated to determine if the records conform to the technical criteria associated with definitive data per ER-SOP-033 (SRNS 2015b). Table S2-3 provides a brief validation summary for the project. Review qualifiers are assigned by a data validator internal to Savannah River Nuclear Solutions and external to the analytical laboratory. Environmental records include REG sample, SPL and FD records.

Table S2-3. Environmental Record Review Qualifier Summary

	Detects		Non-detects		Rejected	
Method Code	**# NULL Qualifiers**	**# J Qualifiers**	**# U Qualifiers**	**# UJ Qualifiers**	**# R Qualifiers**	**Total**
A-01-RMOD	2	0	1	0	0	3
EPA6010C/D	0	3	43	3	0	49
EPA6020A/B	323	126	49	3	0	501
EPA7196A	9	9	6	1	0	25
EPA7471B	16	9	0	0	0	25
GA-01-RMOD	3	1	0	0	0	4
RADA-011	32	26	14	0	0	72
RADA-013	84	12	0	0	0	96
Total	**469**	**186**	**113**	**7**	**0**	**775**
% of Total	**60.5**	**24.0**	**14.6**	**0.9**	**0.0**	**100%**

2.0 ASSESSMENT OF PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, and COMPLETENESS DATA QUALITY INDICATORS AND MEASUREMENT PERFORMANCE CRITERIA

This section discusses the analytical data in terms of the following indicators of data quality: precision, accuracy, representativeness, comparability, and completeness. Precision is determined from the field and laboratory duplicate analyses and indicates the consistency of field and laboratory techniques. Accuracy is determined from the laboratory control samples (LCS), matrix spikes (MS) and the results of the results of the method blanks (MBs), field, trip and RBs; it indicates the ability of the laboratory to generate correct results. Representativeness measures how well the data represents the sample population. Comparability expresses the confidence with which data from different laboratories are considered to be equivalent. Representative completeness measures the amount of data resulting from the data collection activity.

2.1 Precision

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. FDs measure the repeatability of the sampling and analytical techniques, and laboratory duplicates measure the ability of the laboratory to reproduce a result. Low precision can be caused by poor instrument performance, poor operator technique, inconsistent application of method protocols, laboratory environment, time between analyses, or by a difficult, heterogeneous sample matrix. Precision is especially important when the action limit approaches the quantification limit. At least 5% the samples were collected in duplicate for this project in accordance with the SAP. The laboratory performs duplicate analyses on at least 5% of the samples received.

Precision is expressed in terms of the relative percent differences (RPD) as follows:

$$\mathrm{RPD} = \frac{|x - y|}{\left(\frac{x + y}{2}\right)} \times 100$$

where

x is the original sample result, and
y is the duplicate sample result.

When one result of a duplicate pair is below the method detection limit (MDL), the sample-specific estimated quantification limit (ssEQL) is used for that result in the calculation. When both results are below the MDL, the RPD is not calculated.

The RPD should be less than 20% for water samples and less than 35% for solid samples when results are greater than the ssEQL. In the case where results are between the ssEQL and the MDL, the RPD should be less than 100% for water samples and less than 200% for soil samples. In the event analytical precision goals are not met, a determination of the usability of that information is made through the environmental data assessment process.

No records were rejected due to precision issues. Details for this project can be found in Subsections 3.6*, Laboratory Duplicate RPD*; and 3.7, *Field Duplicate RPD*.

2.2 Accuracy

Accuracy is defined as the closeness of agreement between an observed value and an accepted reference value. Accuracy is especially important when the concentration of concern approaches the detection limit and/or the action limit. When the concentration is underestimated near the detection limit, the analyte may be present but reported as not detected. When the concentration is underestimated near the action limit, the analyte may be at a concentration that would require remediation, but the remediation would not be performed. When the concentration is overestimated near the detection limit, the analyte may not be present but reported as detected. When the concentration is overestimated near the action limit, the analyte may not be at a concentration that would require remediation, but the remediation would be performed. The sample types used to evaluate accuracy are performance evaluation studies LCSs, surrogate spikes, MSs, MBs, trip blanks (TBs), and RBs.

LCSs monitor the performance of all steps in the analytical process, including sample preparation, and are used to identify problems with the analytical procedure. LCSs are deionized water that is spiked with the target analyte, digested, and analyzed with the REG samples. The LCS spiking solution is obtained from a third-party supplier or is prepared in the laboratory using chemicals from a different source than the CAL standards.

The LCS percent recovery is calculated as follows:

$$\%\ \text{Recovery} = \frac{\text{Blank spike concentration}}{\text{Spike concentration}} \times 100$$

One hundred percent recovery is equivalent to 100% accuracy. Values less than 100% or greater than 100% may indicate a sample matrix effect and a false reading. A periodic program of sample spiking is required (e.g., one MS and one MS duplicate per 20 samples). In the event that analytical accuracy goals are not met, a determination is made through the environmental data assessment process relative to the usability of that information.

No environmental records were rejected because the MS was outside of limits. Details for this project can be found in Subsections 3.4*, Trip Blanks*; 3.5, *Method Blanks*; 3.8, *Matrix Spike Recovery*; 3.9, *LCS Recovery*; and 3.10, *Surrogate/Tracer Recovery*.

2.3 Representativeness

The representativeness of samples collected is controlled by adhering to the detailed descriptions of sampling procedures. Representativeness expresses the relative degree to which the data depict the characteristics of a population, parameter, sampling point, process condition, or environmental condition. The objective of this study is to accurately represent the concentrations of target analytes or compounds. Representative samples for this investigation will be required by implementing approved sampling and analytical procedures that will generate data representative

of the sampling point location and will be maintained. Analytical methods are selected that will most accurately represent the true concentration of the parameter of interest. The accumulation of QC procedures and information (i.e., RPD values, blank QC concentrations, MS percent recoveries, etc.) employed for a given analysis combine to exhibit the representativeness of the data generated.

The goal for representative sample data will therefore be met by properly documenting field and analytical protocols. In the event these procedures and methods are not able to be implemented, the appropriate corrective action documentation should encompass the impact on the representativeness of the information. When review of the data and documentation determines the data to be non-representative, the information is qualified in its use or is not used by the project.

All samples were collected and analyzed per established procedures.

2.4 Comparability

Comparability is the degree to which different methods, data sets, and decisions agree or can be represented as similar. The comparability of the data from the laboratories is based on the results of the SPL samples and on confirmation that the laboratories used the same standardized procedures for sample analysis, the same reporting unit, and obtained similar quantitation limits. Comparability of the data produced for this investigation may be obtained by implementing the identified protocols for sampling and analysis of samples. Implementation of traceable reference materials such as laboratory standards, expression of results in standard concentration units, and successful participation by the laboratories in external performance evaluation programs will enable the information produced through this investigation to be compared with future data sets, if required. For this project, one SPL sample was collected and sent to the designated QC laboratory.

2.5 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under correct, normal circumstances. The Quality Assurance (QA) completeness objective for this project is to obtain valid field and laboratory analytical results for at least 90% of the samples collected during the project. This implies that completeness of sample collection (i.e., the number of samples collected compared to the number of samples planned) must be virtually 100% to allow for some loss of data during the laboratory analytical process. Accountability of samples collected, from field to final disposal, must be 100%.

Completeness is a measure of the amount of data obtained from a measurement process that achieves the project goals as compared to the amount of data planned to be obtained by the project. Completeness is affected by unexpected conditions during the data collection process that reduce the usable data achieved relative to the data planned.

When review of the data and documentation determines the data to be incomplete, the impact relative to the project objective will be assessed and documented.

The following are measures of completeness:

$$\text{Completeness} = \frac{\text{Number of Sample Points Sampled}}{\text{Number of Sample Points Planned}} \times 100 \quad \textit{Sample Collection:}$$

$$\text{Completeness} = \frac{\text{Number of Valid Measurements Made}}{\text{Number of Measurements Planned}} \times 100 \quad \textit{Field Measurement:}$$

$$\text{Completeness} = \frac{\text{Number of Valid Data Points}}{\text{Number of Data Points Planned}} \times 100 \quad \textit{Laboratory Analysis:}$$

The completeness numbers for this project are listed below:

- Sample Collection Completeness 100%
- Field Measurement Completeness 100%
- Laboratory Analysis Completeness 100%

3.0 VALIDATION FINDINGS

3.1 Holding Times

HTs for the reported analyses were within the recommended limits, as shown in Table S2-4. No qualification was required.

Table S2-4. Holding Time Review Qualifier Summary

Method Code	Total # of Records	# of Records Qualified for HT	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
EPA6010C/D	49	0	Not Required
EPA6020A/B	501	0	Not Required
EPA7196A	25	0	Not Required
EPA7471B	25	0	Not Required
GA-01-RMOD	4	0	Not Required
RADA-011	72	0	Not Required
RADA-013	96	0	Not Required

3.2 Preservation

All chemical and physical preservation for the reported analyses were properly applied. No qualification was required as shown in Table S2-5.

Table S2-5. Preservation Review Qualifier Summary

Method Code	Total # of Records	# of Records Qualified for Preservation	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
EPA6010C/D	49	0	Not Required
EPA6020A/B	501	0	Not Required
EPA7196A	25	0	Not Required
EPA7471B	25	0	Not Required
GA-01-RMOD	4	0	Not Required
RADA-011	72	0	Not Required
RADA-013	96	0	Not Required

3.3 Calibration, Identification, and Quantitation

CAL, ID, and Quantitation for the reported analyses results are shown in Table S2-6.

Table S2-6. Calibration, Identification, and Quantitation Review Summary

Method Code	Total # of Records	# of Records Qualified for CAL, ID and Quantitation	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
EPA6010C/D	49	0	Not Required
EPA6020A/B	501	0	Not Required
EPA7196A	25	0	Not Required
EPA7471B	25	0	Not Required
GA-01-RMOD	4	0	Not Required
RADA-011	72	0	Not Required
RADA-013	96	0	Not Required

CAL = calibration ID = identification

3.4 Trip Blanks and Rinsate Blanks

No TBs were taken as shown in Table S2-7A.

Table S2-7A. Trip Blank Review Qualifier Summary

Method Code	Total # of TB Records	# of TB Records Qualified	Associated Samples Qualified

RB for the reported analyses results are shown in Table S2-7B.

One lead-214 record was rejected due to compound identification criteria not being met, R/1.

Table S2-7B. Rinsate Blank Review Qualifier Summary

Method Code	Total # of Records	# of RB Records Qualified	Associated Samples Qualified
EPA6020A	22	0	
EPA7196A	1	0	Not Required
EPA7470A	1	0	Not Required
RADA-011	3	0	Not Required
RADA-013	4	1	4881D-WE-0026

3.5 Method Blanks

MB for the reported analyses results are shown in Table S2-8.

EPA7471B, Mercury

Two mercury records were qualified as estimated due to the detection of the analyte in the MB, J/V.

RADA-011, Uranium Series

Eleven uranium-233/234 records were qualified as estimated due to the detection of the analyte in the MB, J/V.

Eleven uranium-235 records were qualified as non-detect due to the detection of the analyte in the MB, U/V.

Four uranium-235 records were qualified as estimated due to the detection of the analyte in the MB, J/V.

Five uranium-238 records were qualified as estimated due to the detection of the analyte in the MB, J/V.

RADA-013, Gamma Spectroscopy

One lead-212 record was qualified as estimated due to the detection of the analyte in the MB, J/V.

Table S2-8. Method Blank Review Qualifier Summary

Method Code	Total # of MB Records	# of MB Records Qualified	Associated Samples Qualified
EPA6010C	1	0	Not required
EPA6010D	12	0	Not required
EPA6020A	21	0	Not required
EPA6020B	142	0	Not required
EPA7196A	7	0	Not required
EPA7471B	7	2	4881D-WE-0011, 4881D-WE-0012
A-01-MOD	4	0	Not required
GA-01-MOD	7	0	Not required
RADA-011	24	31	4881D-WE-0001, 4881D-WE-0002, 4881D-WE-0003, 4881D-WE-0004, 4881D-WE-0005, 4881D-WE-0006, 4881D-WE-0008, 4881D-WE-0011, 4881D-WE-0012, 4881D-WE-0014, 4881D-WE-0015, 4881D-WE-0016, 4881D-WE-0017, 4881D-WE-0018, 4881D-WE-0019, 4881D-WE-0020, 4881D-WE-0021, 4884D9BCONF02, 4884D9BCONF03
RADA-013	32	1	4884D9BCONF03

3.6 Laboratory Duplicate Relative Percent Differences

Laboratory Duplicate RPD for the reported analyses results are shown in Table S2-9.

EPA6020A/B, ICP-MS Metals

One barium record was qualified as estimated due to the %D between the parent sample and the serial dilution was above the established control limits, J/3.

One lead record was qualified as estimated due to the %D between the parent sample and the serial dilution was above the established control limits, J/3.

EPA7471B, Mercury

One mercury record was qualified as estimated due to MS/MSD RPD was not within control limits, J/18.

Table S2-9. Laboratory Duplicate Qualifier Summary

Method Code	Total # of MB Records	# of MB Records Qualified	Associated Samples Qualified
A-01-RMOD	3	0	Not required
GA-01-RMOD	7	0	Not required
EPA6010C/D	14	0	Not required
EPA6020A/B	140	2	4881D-WE-0010
EPA7471B	7	1	4881D-WE-0001
EPA7196A	7	0	Not required
RADA-011	21	0	Not required
RADA-013	28	0	Not required

3.7 Field Duplicate Relative Percent Differences

FD for the reported analyses results are shown in Table S2-10.

EPA7471B, Mercury

Two mercury records were qualified as estimated due to the FD RPD recovery was not within control limits, J/9.

Table S2-10. Field Duplicate Qualifier Summary

Method Code	Total # of Duplicate Records	# of FD Records Qualified	Associated Samples Qualified
EPA6010C/D	4	0	Not required
EPA6020A/B	40	0	Not required
EPA7196A	2	0	Not required
EPA7471B	2	2	4884D9BCONF02, 4884D9BCONF03
RADA-011	6	0	Not required
RADA-013	8	0	Not required

3.8 Matrix Spike Recovery

MS for the reported analyses results are shown in Table S2-11.

EPA6010C/D, ICP-ES Metals

Two antimony records were qualified as approximate due to the MS/Matrix Spike Duplicate (MSD) recovery was outside the established control limits, UJ/11.

One boron record was qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

EPA6020A/B, ICP-MS Metals

One aluminum record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Seven arsenic records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Three barium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One beryllium record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five boron records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One cobalt record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One copper record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six chromium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Two iron records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six lead records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four manganese records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six magnesium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Three molybdenum records were qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

Five molybdenum records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five nickel records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Eight selenium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four strontium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One thallium record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Three vanadium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six zinc records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Table S2-11. Matrix Spike Recovery Qualifier Summary

Method Code	Total # of Duplicate Records	# of FD Records Qualified	Associated Samples Qualified
EPA6010C/D	9	3	4881D-WE-0006, 4881D-WE-0009, 4881D-WE-0010
EPA6020A/B	134	78	4881D-WE-0001, 4881D-WE-0006, 4881D-WE-0007, 4881D-WE-0009, 4881D-WE-0010, 4881D-WE-0011, 4881D-WE-0015, 4881D-WE-0022, 4884D9BCONF01
EPA7196A	6	0	Not required
EPA7471B	4	0	Not required

3.9 Laboratory Control Sample Recovery

LCS for the reported analyses results are shown in Table S2-12.

EPA7196, Hexavalent Chromium

One hexavalent chromium record was qualified as estimated due to the LCS recovery was outside the established control limits, J/2.

Table S2-12. Laboratory Control Sample Qualifier Summary

Method Code	Total # of LCS Records	# of LCS Records Qualified	Associated Samples Qualified
A-01-RMOD	3	0	Not required
GA-01-RMOD	3	0	Not required
EPA6010C/D	15	1	Not required
EPA6020A/B	183	0	Not required
EPA7470A	1	0	Not required
EPA7471B	8	0	Not required
EPA7196A	14	1	4881D-WE-0009
RADA-011	8	0	Not required
RADA-013	24	0	Not required

3.10 Surrogate/Tracer Recovery

All Surrogate/Tracer recovery criteria for the reported analyses were within the recommended limits. No qualification was required as shown in Table S2-13.

Table S2-13. Surrogate/Tracer Recovery Qualifier Summary

Method Code	Total # of Surrogate/Tracer Records	# of Surrogate Records Qualified	Associated Samples Qualified
A-01-RMOD	2	0	Not required
RADA-011	31	0	Not required

3.11 Split Samples Comparability

SPL samples comparability for the reported analyses results are shown in Table S2-13.

Table S2-14. Split Samples

Station ID	Sample ID	Interval *(ft.)*	Date/Time	Sample Type	Matrix	Lab
4881D-WE-CONF09	4881D-WE-0008	0-1	12/7/16 0930	REG	SOIL	GEL
4881D-WE-CONF08	4881D-WE-0008	0-1	12/7/16 0930	SPL	SOIL	TAL

SPL soil samples were taken from one location (4881D-WE-0008) at the 0- to 1-foot interval and were analyzed by similar methods at different laboratories (General Engineering Labs (GEL), and Test America Labs (TAL).

GEL	TAL
EPA6010D	EPA6010C
EPA6020B	EPA6020A
EPA7196A	EPA7196A

GEL	TAL
EPA7471B	EPA7471B
RADA-011	A-01-RMOD
RADA-013	GA-01-RMOD

There were no SPL soil sample results that exceeded the RPD criteria of 200%.

4.0 DATA USABILITY

All analytical data associated with this project should be considered usable for the purposes outlined in the *Field Sampling Plan for the 488-1D Ash Basin* (SRNS 2015a) and the *Human Health and Ecological Evaluation for Confirmation Sampling at the 488-1D Ash Basin and Inlet Basins* (SRNS 2018). No environmental sample records were rejected. Qualification details are found in Section 3.0, *Validation Findings*.

5.0 REFERENCES

SRNS, 2012. *Area Completion Projects Programmatic Quality Assurance Project Plan for Environmental Data Collection and Management*, ERD-AG-2005-00001, Revision 5, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2014. *Confirmation Sampling and Analysis Plan for Coal and/or Ash Removal at the Savannah River Site (U),* Revision 1.1, SRNS-RP-2013-00332, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2015a. *Field Sampling Plan for the 488-1D Ash Basin (U),* Revision 1, SRNS-RP-2015-00096, Savannah River Nuclear Solutions, LLS, Savannah River Site, Aiken SC

SRNS, 2015b. *Analytical Data Qualification*, ER-SOP-033, Revision 6, Environmental Compliance and Area Completion Projects (EC&ACP) Geochemical Monitoring Procedures Manual C-3, Volume 10, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2018. *Human Health and Ecological Evaluation for Confirmation Sampling at the 488-1D Ash Basin and Inlet Basins (U),* Revision 0, ERD-EN-2018-0007, Savannah River Nuclear Solutions, LLS, Savannah River Site, Aiken SC

II. HEXAVALENT CHROMIUM STUDY SAMPLES

BAL Report 1651056

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: DAAB 488-2D-CR6
Samples Collected: December 15, 2016
Report Date: January 18, 2017

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Rand Labs
Project ID: 1651056

1 of 353

BAL Report 1651056

Table of Contents

Case Narrative 3-4
Report Information 5
Sample Information 6
Batch Summary 6
Sample Results 6
Accuracy & Precision Summary 7-10
Method Blanks & Reporting Limits 11-13
Instrument Calibration 14-17
Sample Containers 18
Shipping Containers 18
Chain-of-Custody Forms and Waybills 19-20
Total Cr - Sequence 1700037, Batch B163264 21-184
Hexavalent Chromium - Sequence 1700036, Batch B170070 185-352
Total Solids - Batch B163263 353

Chain of Custody forms (pages 19 thru 20) and Analytical Instrument Outputs (pages 21 thru 353) from the BAL Report are not included in this appendix.

2 of 353

Case Narrative

Sample Reception

Two (2) soil samples were received by Brooks Applied Labs (BAL) on December 16, 2016. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Batch B170070

The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific reactive gasses or collision gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions

transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system

Batch B163264
The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All results were *not* method blank corrected, as described in the calculations section of the relevant BAL SOPs, and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the Sample Results pages for sample-specific MDLs, MRLs, and other details.

All data was reported without qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact me if you have any questions regarding this report.

Sincerely,

Ben Wozniak

Ben Wozniak
Project Manager
ben@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

BAL	Brooks Applied Labs	**MS**	matrix spike
BLK	method blank	**MSD**	matrix spike duplicate
BS	laboratory fortified blank	**ND**	non-detect
CAL	calibration standard	**NR**	non-reportable
CCB	continuing calibration blank	**N/C**	not calculated
CCV	continuing calibration verification	**PS**	post preparation spike
COC	chain of custody record	**REC**	percent recovery
D	dissolved fraction	**RPD**	relative percent difference
DUP	duplicate	**SCV**	secondary calibration verification
IBL	instrument blank	**SOP**	standard operating procedure
ICV	initial calibration verification	**SRM**	standard reference material
MDL	method detection limit	**T**	total fraction
MRL	method reporting limit	**TR**	total recoverable fraction

Definition of Data Qualifiers

(Effective 9/23/09)

J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19654 North Creek Parkway, Suite 107, Bothell, WA 98011 · P (206) 632-6206 · F (206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
DAC488-4D-9B-02	1651056-01	Soil/Sediment	Sample	12/15/2016	12/16/2016
DAC488-4D-9B-01	1651056-02	Soil/Sediment	Sample	12/15/2016	12/16/2016

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	01/09/2017	01/12/2017	B163263	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	01/09/2017	01/11/2017	B163264	1700037
Cr(VI)	Soil/Sediment	IC-ICP-MS	01/11/2017	01/12/2017	B170070	1700036

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DAC488-4D-9B-01										
1651056-02	%TS	Soil/Sediment	NA	80.23		0.28	0.92	%	B163263	N/A
1651056-02	Cr	Soil/Sediment	dry	13.5		0.270	0.837	mg/kg	B163264	1700037
1651056-02	Cr(VI)	Soil/Sediment	dry	0.141		0.003	0.024	mg/kg	B170070	1700036
DAC488-4D-9B-02										
1651056-01	%TS	Soil/Sediment	NA	79.42		0.28	0.92	%	B163263	N/A
1651056-01	Cr	Soil/Sediment	dry	16.4		0.242	0.748	mg/kg	B163264	1700037
1651056-01	Cr(VI)	Soil/Sediment	dry	0.725		0.004	0.027	mg/kg	B170070	1700036

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B163263
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B163263-DUP1	**Duplicate, (1651056-01)**						
	%TS	79.42		76.14	%		4% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B163264
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B163264-BS1	**Laboratory Fortified Blank, (1634047)**						
	Cr		40.00	39.86	mg/kg	100% 75-125	
B163264-SRM1	**Certified Reference Material, (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	322.1	mg/kg	96% 75-125	
B163264-DUP1	**Duplicate, (1651056-01)**						
	Cr	16.43		16.31	mg/kg		0.7% 30
B163264-MS1	**Matrix Spike, (1651056-01)**						
	Cr	16.43	50.87	65.81	mg/kg	97% 70-130	
B163264-MSD1	**Matrix Spike Duplicate, (1651056-01)**						
	Cr	16.43	46.21	59.47	mg/kg	93% 70-130	4% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B170070
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B170070-BS1	**Laboratory Fortified Blank, Cr(III) (1637021)**						
	Cr(VI)		20.00	0.036	mg/kg	0.2% 0-1%	
B170070-BS2	**Laboratory Fortified Blank, Cr(VI) (1637018)**						
	Cr(VI)		20.00	23.70	mg/kg	119% 75-125	
B170070-BS3	**Laboratory Fortified Blank, PbCrO4 (NC00442)**						
	Cr(VI)		708.0	847.8	mg/kg	120% 75-125	
B170070-SRM1	**Certified Reference Material, (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	589.0	mg/kg	107% 75-125	
B170070-DUP2	**Duplicate, Analytical (1651056-01)**						
	Cr(VI)	0.725		0.743	mg/kg		3% 25
B170070-PS1	**Post Spike, (1651056-01)**						
	Cr(VI)	0.725	2.354	3.479	mg/kg	117% 75-125	
B170070-PS2	**Post Spike, (1651056-01)**						
	Cr(VI)	0.725	2.354	3.528	mg/kg	119% 75-125	
B170070-DUP1	**Duplicate, (1651056-02)**						
	Cr(VI)	0.141		0.137	mg/kg		3% 25
B170070-MS1	**Matrix Spike, Cr(III) (1651056-02)**						
	Cr(VI)	0.141	24.21	0.692	mg/kg	2% 0-15%	
B170070-MS2	**Matrix Spike, Cr(VI) (1651056-02)**						
	Cr(VI)	0.141	24.83	25.79	mg/kg	103% 75-125	
B170070-MS3	**Matrix Spike, PbCrO4 (1651056-02)**						
	Cr(VI)	0.141	763.5	820.1	mg/kg	107% 75-125	
B170070-MSD1	**Matrix Spike Duplicate, Cr(III) (1651056-02)**						
	Cr(VI)	0.141	23.83	0.683	mg/kg	2% 0-15%	0.01% N/A

15804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Accuracy & Precision Summary

Batch: B170070
Lab Matrix: Soil/Sediment
Method: IC-ICP-MS

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B170070-MSD2	**Matrix Spike Duplicate, Cr(VI) (1651056-02)**						
	Cr(VI)	0.141	25.23	25.82	mg/kg	102% 75-125	1% 25
B170070-MSD3	**Matrix Spike Duplicate, PbCrO4 (1651056-02)**						
	Cr(VI)	0.141	766.8	802.3	mg/kg	105% 75-125	3% 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B163263
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B163263-BLK1	-0.28	%
B163263-BLK2	0.00	%

Average: -0.14
Limit: 0.92

MDL: 0.28
MRL: 0.92

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B163264
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B163264-BLK1	-0.001	mg/kg wet
B163264-BLK2	0 0002	mg/kg wet
B163264-BLK3	-0.010	mg/kg wet
B163264-BLK4	-0.003	mg/kg wet

Average: -0.003 **Standard Deviation:** 0.005 **MDL:** 0.210
Limit: 0.650 **Limit:** 0.210 **MRL:** 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Method Blanks & Reporting Limits

Batch: B170070
Matrix: Soil/Sediment
Method: IC-ICP-MS
Analyte: Cr(VI)

Sample	Result	Units
B170070-BLK1	0.008	mg/kg wet
B170070-BLK2	0.008	mg/kg wet
B170070-BLK3	0.008	mg/kg wet
B170070-BLK4	0.009	mg/kg wet

Average: 0.008
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Instrument Calibration

Sequence: 1700036
Instrument: ICPMS6
Date: 01/12/2017
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1700036-ICB1		0.000	µg/L		
1700036-CAL1	0.01000	0.011	µg/L	112%	
1700036-CAL2	0.01000	0.011	µg/L	109%	
1700036-CAL3	0.01000	0.011	µg/L	113%	
1700036-CAL4	0.01000	0.011	µg/L	108%	
1700036-CAL5	0.05000	0.052	µg/L	104%	
1700036-CAL6	0.1000	0.104	µg/L	104%	
1700036-CAL7	0.5000	0.521	µg/L	104%	
1700036-CAL8	1.000	1.028	µg/L	103%	
1700036-CAL9	5.000	5.062	µg/L	101%	
1700036-CALA	10.00	9.965	µg/L	100%	
1700036-ICB2		0.000	µg/L		
1700036-ICV1	2.000	0.002	µg/L	0.1%	0-1
1700036-ICV2	2.000	2.009	µg/L	100%	80-120
1700036-ICB3		0.000	µg/L		
1700036-CCV1	1.000	1.014	µg/L	101%	75-125
1700036-CCB1		0.000	µg/L		
1700036-CCV2	1.000	0.986	µg/L	99%	75-125
1700036-CCB2		0.0005	µg/L		
1700036-CCV3	1.000	1.041	µg/L	104%	75-125
1700036-CCB3		0.000	µg/L		
1700036-CCV4	1.000	1.139	µg/L	114%	75-125
1700036-CCB4		0.0007	µg/L		
1700036-CCV5	1.000	1.177	µg/L	118%	75-125
1700036-CCB5		0.0007	µg/L		
1700036-CCV6	1.000	1.197	µg/L	120%	75-125
1700036-CCB6		0.000	µg/L		
1700036-CCV7	1.000	1.076	µg/L	108%	75-125
1700036-CCB7		0.000	µg/L		
1700036-CCV8	1.000	1.031	µg/L	103%	75-125
1700036-CCB8		0.0007	µg/L		
1700036-CCV9	1.000	1.021	µg/L	102%	75-125
1700036-CCB9		0.000	µg/L		
1700036-CCVA	1.000	1.073	µg/L	107%	75-125
1700036-CCBA		0.0006	µg/L		
1700036-CCVB	1.000	1.098	µg/L	110%	75-125
1700036-CCBB		0.0005	µg/L		
1700036-CCVC	1.000	1.088	µg/L	109%	75-125
1700036-CCBC		0.0009	µg/L		
1700036-CCVD	1.000	1.096	µg/L	110%	75-125

15804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Instrument Calibration

Sequence: 1700036
Instrument: ICPMS6
Date: 01/12/2017
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1700036-CCBD		0.000	µg/L		
1700036-CCVE	1.000	1.045	µg/L	105%	75-125
1700036-CCBE		0.000	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Instrument Calibration

Sequence: 1700037
Instrument: ICPMS8
Date: 01/11/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1700037-ICB1		0.000	µg/L		
1700037-CAL1	0.04000	0.036	µg/L	90%	
1700037-CAL2	0.1000	0.103	µg/L	103%	
1700037-CAL3	0.4000	0.427	µg/L	107%	
1700037-CAL4	1.000	1.109	µg/L	111%	
1700037-CAL5	4.000	3.846	µg/L	96%	
1700037-CAL6	10.00	10.20	µg/L	102%	
1700037-CAL7	40.00	38.83	µg/L	97%	
1700037-CAL8	100.0	100.5	µg/L	100%	
1700037-ICB2		-0.0002	µg/L		
1700037-ICV1	10.00	9.817	µg/L	98%	85-115
1700037-ICB3		0.003	µg/L		
1700037-SCV1	3.810	3.844	µg/L	101%	75-125
1700037-ICB4		0.191	µg/L		
1700037-ICB5		0.217	µg/L		
1700037-SCV2	18.50	18.66	µg/L	101%	75-125
1700037-ICB6		0.183	µg/L		
1700037-ICB7		0.168	µg/L		
1700037-IBL1		-0.002	µg/L		
1700037-IBL2		-0.005	µg/L		
1700037-IBL3		-0.006	µg/L		
1700037-IBL4		-0.004	µg/L		
1700037-HCV1	1000	953.8	µg/L	95%	90-110
1700037-ICB8		0.331	µg/L		
1700037-ICB9		0.204	µg/L		
1700037-ICBA		0.192	µg/L		
1700037-ICBB		0.203	µg/L		
1700037-ICBC		0.215	µg/L		
1700037-ICBD		0.207	µg/L		
1700037-ICBE		0.172	µg/L		
1700037-ICBF		0.230	µg/L		
1700037-CCV1	10.00	10.40	µg/L	104%	75-125
1700037-CCB1		-0.0009	µg/L		
1700037-CCV2	10.00	10.49	µg/L	105%	75-125
1700037-CCB2		0.004	µg/L		
1700037-CCV3	10.00	10.69	µg/L	107%	75-125
1700037-CCB3		0.004	µg/L		
1700037-CCV4	10.00	10.56	µg/L	106%	75-125
1700037-CCB4		0.003	µg/L		
1700037-CCV5	10.00	10.50	µg/L	105%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Instrument Calibration

Sequence: 1700037
Instrument: ICPMS8
Date: 01/11/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1700037-CCB5		0.006	µg/L		
1700037-CCV6	10.00	10.25	µg/L	102%	75-125
1700037-CCB6		0.010	µg/L		
1700037-CCV7	10.00	12.14	µg/L	121%	75-125
1700037-CCB7		0.013	µg/L		
1700037-CCV8	10.00	10.41	µg/L	104%	75-125
1700037-CCB8		0.013	µg/L		
1700037-CCV9	10.00	10.73	µg/L	107%	75-125
1700037-CCB9		0.005	µg/L		
1700037-CCVA	10.00	10.73	µg/L	107%	75-125
1700037-CCBA		0.007	µg/L		
1700037-CCVB	10.00	10.58	µg/L	106%	75-125
1700037-CCBB		0.004	µg/L		
1700037-CCVC	10.00	10.64	µg/L	106%	75-125
1700037-CCBC		0.009	µg/L		
1700037-CCVD	10.00	10.64	µg/L	106%	75-125
1700037-CCBD		-0.001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1651056
Client PM: Allison Walker

Sample Containers

Lab ID: 1651056-01 **Report Matrix:** Soil/Sediment **Collected:** 12/15/2016
Sample: DAC488-4D-9B-02 **Sample Type:** Sample **Received:** 12/16/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	None	None		Cooler

Lab ID: 1651056-02 **Report Matrix:** Soil/Sediment **Collected:** 12/15/2016
Sample: DAC488-4D-9B-01 **Sample Type:** Sample **Received:** 12/16/2016

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	None	None		Cooler

Shipping Containers

Cooler
Received: December 16, 2016 11:10
Tracking No: 785015175561 via FedEx
Coolant Type: None
Temperature: 2.8 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR #8

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

BAL Report 1736056

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 10797.016.02
Samples Collected: September 8, 2017
Report Date: October 30, 2017

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1736056

1 of 365

Table of Contents

Case Narrative 3
Report Information 5
Sample Information 6
Batch Summary 6
Sample Results 7
Accuracy & Precision Summary 8
Method Blanks & Reporting Limits 12
Instrument Calibration 15
Sample Containers 17
Shipping Containers 18
Chain-of-Custody Forms and Waybills 19
Hexavalent Chromium - Sequence 1701153, Batch B172336 21
Total Cr - Sequence 1701298, Batch B172668 117
Total Solids - Batch B172333 364

Chain of Custody forms (pages 19 thru 20) and Analytical Instrument Outputs (pages 21 thru 364) from the BAL Report are not included in this appendix.

Case Narrative

Sample Reception

Six (6) soil samples were received by Brooks Applied Labs (BAL) on September 8, 2017. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1701153 / Batch B172336

The relative percent difference (RPD) for the matrix duplicate B172336-DUP1 performed on sample *4881D-WE-CONF18* (1736056-02) was greater than the control limit of 25%. Reanalysis confirmed the original results. Visual inspection identified that this sample is heterogenous in nature, containing granules of various colors. The hexavalent chromium result for sample *4881D-WE-CONF18* has therefore been qualified **M** to denote the elevated variability and should be considered an estimate.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been *method blank corrected* (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Sequence 1701298 / Batch B172668
Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP, and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without further qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

I certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Ben Wozniak
Project Manager
ben@brooksapplied.com

Jacki Aitken
Project Coordinator
jacki@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19803 North Creek Parkway Suite 100 Bothell WA 98011 | P (206) 632-6398 F (206) 632-6017 | info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881D-ST1-1CONF	1736056-01	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-ST1-2CONF	1736056-02	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-ST1-3CONF	1736056-03	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-ST1-4CONF	1736056-04	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-WE-CONF18	1736056-05	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-WE-CONF19	1736056-06	Soil/Sediment	Sample	09/06/2017	09/08/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	09/18/2017	09/20/2017	B172333	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	10/12/2017	10/18/2017	B172668	1701298
Cr(VI)	Soil/Sediment	SOP BAL-4300	09/21/2017	09/21/2017	B172336	1701153

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881D-ST1-1CONF										
1736056-01	%TS	Soil/Sediment	NA	88.34		0.004	0.01	%	B172333	N/A
1736056-01	Cr	Soil/Sediment	dry	11.5		0.203	0.628	mg/kg	B172668	1701298
1736056-01	Cr(VI)	Soil/Sediment	dry	0.237		0.003	0.024	mg/kg	B172336	1701153
4881D-ST1-2CONF										
1736056-02	%TS	Soil/Sediment	NA	88.57		0.004	0.01	%	B172333	N/A
1736056-02	Cr	Soil/Sediment	dry	9.47		0.230	0.711	mg/kg	B172668	1701298
1736056-02	Cr(VI)	Soil/Sediment	dry	0.216		0.003	0.023	mg/kg	B172336	1701153
4881D-ST1-3CONF										
1736056-03	%TS	Soil/Sediment	NA	79.12		0.004	0.01	%	B172333	N/A
1736056-03	Cr	Soil/Sediment	dry	10.4		0.233	0.721	mg/kg	B172668	1701298
1736056-03	Cr(VI)	Soil/Sediment	dry	0.090		0.004	0.026	mg/kg	B172336	1701153
4881D-ST1-4CONF										
1736056-04	%TS	Soil/Sediment	NA	88.19		0.004	0.01	%	B172333	N/A
1736056-04	Cr	Soil/Sediment	dry	10.2		0.234	0.724	mg/kg	B172668	1701298
1736056-04	Cr(VI)	Soil/Sediment	dry	0.022	J	0.003	0.023	mg/kg	B172336	1701153
4881D-WE-CONF18										
1736056-05	%TS	Soil/Sediment	NA	92.32		0.004	0.01	%	B172333	N/A
1736056-05	Cr	Soil/Sediment	dry	12.7		0.253	0.784	mg/kg	B172668	1701298
1736056-05	Cr(VI)	Soil/Sediment	dry	0.087	M	0.003	0.022	mg/kg	B172336	1701153
4881D-WE-CONF19										
1736056-06	%TS	Soil/Sediment	NA	93.66		0.004	0.01	%	B172333	N/A
1736056-06	Cr	Soil/Sediment	dry	9.45		0.219	0.678	mg/kg	B172668	1701298
1736056-06	Cr(VI)	Soil/Sediment	dry	0.303		0.003	0.022	mg/kg	B172336	1701153

19804 North Creek Parkway Suite 100 Bothell, WA 98011 | P(206) 632-8206 | F(206) 632-8017 | info@brooksapplied.com | www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B172333
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B172333-DUP2	**Duplicate, (1736056-05)**						
	%TS	92.32		92.78	%		0.5% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

BAL Report 1745034

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 1-00000702
Samples Collected: November 8, 2017 and November 16, 2017
Report Date: December 19, 2017

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1745034

1 of 374

BAL Report 1745034

Table of Contents

Case Narrative 3
Report Information 6
Sample Information 7
Batch Summary 7
Sample Results 8
Accuracy & Precision Summary 9
Method Blanks & Reporting Limits 15
Instrument Calibration 20
Sample Containers 25
Shipping Containers 26
Chain-of-Custody Forms and Waybills 27
Hexavalent Chromium - Sequence 1701469, Batch B173191 31
Total Cr - Sequence 1701478, Batch B173118 129
Total Cr - Sequence 1701518, Batch B173211 253
Total Solids - Batch B173119 371
Total Solids - Batch B173290 373

Chain of Custody forms (pages 27 thru 30) and Analytical Instrument Outputs (pages 31 thru 373) from the BAL Report are not included in this appendix.

2 of 374

Case Narrative

Sample Reception

Seven (7) soil samples were received by Brooks Applied Labs (BAL) on November 8, 2017, and November 16, 2017. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1701469 / Batch B173191

The recovery of hexavalent chromium for the matrix spike B173191-MS2 (61%) and its associated matrix spike duplicate B173191-MSD2 (72%), which were prepared with an aqueous hexavalent chromium solution, were both below the control limit of 75%. All other batch quality control samples spiked with either soluble (i.e., B163162-BS2) or insoluble (i.e., B173191-BS3, B173191-MS3, B173191-MSD3) forms of hexavalent chromium were within acceptance limits, demonstrating the accuracy and precision of the applied methods. The low recoveries observed for B173191-MS2 and B173191-MSD2 are therefore attributed to matrix-induced reduction of hexavalent chromium. No qualification of the hexavalent chromium result for the source sample *4881D-WE-CONF05* was applied, as the obtained result is deemed representative of the submitted sample matrix; however, the observed reduction of hexavalent chromium in this matrix should be taken into consideration when evaluating the reported results.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been method blank corrected (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an

MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP, and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Sequence 1701478 / Batch B173118

Chromium was detected above the method reporting limit (MRL) in the initial calibration blank (1701478-ICB9). There were no client samples bracketing this elevated blank, so no corrective action was deemed necessary.

The internal standard recovery as well as the relative standard deviation (RSD) of the internal standard was elevated in the sample identified as *4881D-WE-CONF02*. This sample was reanalyzed in B173211. Since no internal standard issues were observed in the reanalysis, the sample result was reported from B173211 without qualification.

The RSD of the internal standard was elevated in the continuing calibration blank (CCB) identified as 1701478-CCBA. The acceptability and consistency of the internal standard recoveries of this injection and that of the associated continuing calibration verification standard 1701478-CCVA show that the elevated RSD had no significant impact on the accuracy of the CCB result. Consequently, no corrective action was deemed necessary.

Sequence 1701518 / Batch B173211

The RSD of the internal standard was elevated in the matrix spike duplicate B173211-MSD1 (19.2%). Though BAL does not specify control limits for this criterion, this RSD was significantly greater than those of the bracketing samples, which ranged from 0.2% - 9.7%. The recovery of the internal standard for B173211-MSD1 was within acceptance limits (116.6%), as were the recoveries of chromium for the MSD (101%) and its associated matrix

spike B173211-MS1 (101%). Since these acceptable quality control parameters indicate that the elevated internal standard RSD had no significant impact on the obtained results, no corrective action or qualification of the data was necessary.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

I certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Ben Wozniak
Project Manager
ben@brooksapplied.com

Jacki Aitken
Project Coordinator
jacki@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

18804 North Creek Parkway Suite 100 Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881D-WE-CONF01	1745034-01	Soil/Sediment	Sample	11/08/2017	11/09/2017
4881D-WE-CONF02	1745034-02	Soil/Sediment	Sample	11/08/2017	11/09/2017
4881D-WE-CONF03	1745034-03	Soil/Sediment	Sample	11/08/2017	11/09/2017
4881D-WE-CONF04	1745034-04	Soil/Sediment	Sample	11/08/2017	11/09/2017
4881D-WE-CONF05	1745034-05	Soil/Sediment	Sample	11/16/2017	11/17/2017
4881D-WE-CONF06	1745034-06	Soil/Sediment	Sample	11/16/2017	11/17/2017
4881D-WE-CONF17	1745034-07	Soil/Sediment	Sample	11/16/2017	11/17/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Biota	SM 2540G	11/20/2017	11/22/2017	B173119	N/A
%TS	Soil/Sediment	SM 2540G	12/07/2017	12/11/2017	B173290	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	11/20/2017	11/29/2017	B173118	1701478
Cr	Soil/Sediment	EPA 200.8 Mod	11/20/2017	12/06/2017	B173118	1701518
Cr	Soil/Sediment	EPA 200.8 Mod	11/30/2017	12/06/2017	B173211	1701518
Cr(VI)	Soil/Sediment	SOP BAL-4300	11/27/2017	11/27/2017	B173191	1701469

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881D-WE-CONF01										
1745034-01	%TS	Soil/Sediment	NA	82.35		0.04	0.14	%	B173119	N/A
1745034-01	Cr	Soil/Sediment	dry	28.1		0.283	0.875	mg/kg	B173118	1701478
1745034-01	Cr(VI)	Soil/Sediment	dry	0.837		0.004	0.025	mg/kg	B173191	1701469
4881D-WE-CONF02										
1745034-02	%TS	Soil/Sediment	NA	85.81		0.04	0.14	%	B173119	N/A
1745034-02	Cr	Soil/Sediment	dry	16.0		0.216	0.669	mg/kg	B173118	1701518
1745034-02	Cr(VI)	Soil/Sediment	dry	1.24		0.003	0.024	mg/kg	B173191	1701469
4881D-WE-CONF03										
1745034-03	%TS	Soil/Sediment	NA	80.39		0.04	0.14	%	B173119	N/A
1745034-03	Cr	Soil/Sediment	dry	27.1		0.214	0.662	mg/kg	B173118	1701478
1745034-03	Cr(VI)	Soil/Sediment	dry	0.899		0.004	0.026	mg/kg	B173191	1701469
4881D-WE-CONF04										
1745034-04	%TS	Soil/Sediment	NA	82.79		0.04	0.14	%	B173119	N/A
1745034-04	Cr	Soil/Sediment	dry	20.7		0.284	0.880	mg/kg	B173118	1701478
1745034-04	Cr(VI)	Soil/Sediment	dry	1.10		0.004	0.025	mg/kg	B173191	1701469
4881D-WE-CONF05										
1745034-05	%TS	Soil/Sediment	NA	83.39		0.01	0.02	%	B173290	N/A
1745034-05	Cr	Soil/Sediment	dry	22.4		0.257	0.795	mg/kg	B173211	1701518
1745034-05	Cr(VI)	Soil/Sediment	dry	1.00		0.004	0.025	mg/kg	B173191	1701469
4881D-WE-CONF06										
1745034-06	%TS	Soil/Sediment	NA	81.42		0.01	0.02	%	B173290	N/A
1745034-06	Cr	Soil/Sediment	dry	22.7		0.261	0.808	mg/kg	B173211	1701518
1745034-06	Cr(VI)	Soil/Sediment	dry	1.01		0.004	0.025	mg/kg	B173191	1701469
4881D-WE-CONF17										
1745034-07	%TS	Soil/Sediment	NA	87.44		0.01	0.02	%	B173290	N/A
1745034-07	Cr	Soil/Sediment	dry	11.2		0.244	0.756	mg/kg	B173211	1701518
1745034-07	Cr(VI)	Soil/Sediment	dry	0.223		0.003	0.024	mg/kg	B173191	1701469

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173118
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173118-BS1	**Blank Spike, (1732083)**						
	Cr		40.00	43.06	mg/kg	108% 75-125	
B173118-SRM1	**Standard Reference Material (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	364.8	mg/kg	109% 75-125	
B173118-DUP1	**Duplicate, (1745034-03)**						
	Cr	27.10		22.95	mg/kg		17% 30
B173118-MS1	**Matrix Spike, (1745034-03)**						
	Cr	27.10	45.15	75.41	mg/kg	107% 70-130	
B173118-MSD1	**Matrix Spike Duplicate, (1745034-03)**						
	Cr	27.10	45.07	72.47	mg/kg	101% 70-130	6% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173119
Lab Matrix: Biota
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173119-DUP1	**Duplicate, (1745034-04)**						
	%TS	82.79		81.92	%		1% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173191
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173191-BS1	**Blank Spike, Cr(III) (1637021)**						
	Cr(VI)		20.00	ND	mg/kg	NR 0-1%	N/C
B173191-BS2	**Blank Spike, Cr(VI) (1742024)**						
	Cr(VI)		20.04	20.18	mg/kg	101% 75-125	
B173191-BS3	**Blank Spike, PbCrO4 (NC00442)**						
	Cr(VI)		714.4	673.0	mg/kg	94% 75-125	
B173191-SRM1	**Standard Reference Material (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	531.0	mg/kg	96% 75-125	
B173191-DUP1	**Duplicate, (1745034-05)**						
	Cr(VI)	1.004		0.874	mg/kg		14% 25
B173191-DUP2	**Duplicate, Analytical (1745034-05)**						
	Cr(VI)	1.004		1.029	mg/kg		2% 25
B173191-MS1	**Matrix Spike, Cr(III) (1745034-05)**						
	Cr(VI)	1.004	24.56	2.186	mg/kg	5% 0-15%	
B173191-MS2	**Matrix Spike, Cr(VI) (1745034-05)**						
	Cr(VI)	1.004	23.95	15.61	mg/kg	*61%* 75-125	
B173191-MS3	**Matrix Spike, PbCrO4 (1745034-05)**						
	Cr(VI)	1.004	653.1	598.8	mg/kg	92% 75-125	
B173191-MSD1	**Matrix Spike Duplicate, Cr(III) (1745034-05)**						
	Cr(VI)	1.004	24.07	1.913	mg/kg	4% 0-15%	24% N/A
B173191-MSD2	**Matrix Spike Duplicate, Cr(VI) (1745034-05)**						
	Cr(VI)	1.004	24.22	18.57	mg/kg	*73%* 75-125	17% 25
B173191-MSD3	**Matrix Spike Duplicate, PbCrO4 (1745034-05)**						
	Cr(VI)	1.004	680.0	617.4	mg/kg	91% 75-125	1% 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-8206 F(206) 632-8017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173191
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173191-PS1	**Post Spike, (1745034-05)**						
	Cr(VI)	1.004	2.388	3.523	mg/kg	105% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173211
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173211-BS1	**Blank Spike, (1732083)**						
	Cr		40.00	40.36	mg/kg	101% 75-125	
B173211-SRM1	**Standard Reference Material (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	338.0	mg/kg	101% 75-125	
B173211-DUP1	**Duplicate, (1745034-05)**						
	Cr	22.40		22.51	mg/kg		0.5% 30
B173211-MS1	**Matrix Spike, (1745034-05)**						
	Cr	22.40	46.66	69.62	mg/kg	101% 70-130	
B173211-MSD1	**Matrix Spike Duplicate, (1745034-05)**						
	Cr	22.40	46.69	69.45	mg/kg	101% 70-130	0.4% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173290
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173290-DUP1	**Duplicate, (1745034-05)**						
	%TS	83.39		83.98	%		0.7% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173118
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B173118-BLK1	0.010	mg/kg
B173118-BLK2	0.009	mg/kg
B173118-BLK3	-0.005	mg/kg
B173118-BLK4	0.003	mg/kg
Average:	0.004	
Limit:	0.650	

MDL: 0.210
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173119
Matrix: Biota
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B173119-BLK1	0.00	%
B173119-BLK2	0.00	%
	Average: 0.00	
	Limit: 0.14	

MDL: 0.04
MRL: 0.14

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173191
Matrix: Soil/Sediment
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B173191-BLK1	0.007	mg/kg
B173191-BLK2	0.005	mg/kg
B173191-BLK3	0.009	mg/kg
B173191-BLK4	0.008	mg/kg
Average:	0.007	
Limit:	0.021	

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173211
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B173211-BLK1	0.004	mg/kg
B173211-BLK2	0.010	mg/kg
B173211-BLK3	-0.003	mg/kg
B173211-BLK4	-0.007	mg/kg
Average:	0.001	
Limit:	0.650	

MDL: 0.210
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173290
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B173290-BLK1	-0.02	%
B173290-BLK2	-0.02	%

Average: -0.02
Limit: 0.02

MDL: 0.01
MRL: 0.02

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701469
Instrument: ICPMS7
Date: 11/27/2017
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1701469-ICB1		0.000	µg/L		
1701469-CAL1	0.01002	0.010	µg/L	98%	
1701469-CAL2	0.01002	0.010	µg/L	96%	
1701469-CAL3	0.01002	0.010	µg/L	103%	
1701469-CAL4	0.01002	0.009	µg/L	94%	
1701469-CAL5	0.05010	0.047	µg/L	94%	
1701469-CAL6	0.1002	0.095	µg/L	94%	
1701469-CAL7	0.5010	0.491	µg/L	98%	
1701469-CAL8	1.002	0.995	µg/L	99%	
1701469-CAL9	5.010	4.908	µg/L	98%	
1701469-CALA	10.02	10.07	µg/L	101%	
1701469-IBL1		0.000	µg/L		
1701469-ICV1	2.000	0.000	µg/L	0%	0-1%
1701469-ICV2	2.000	2.039	µg/L	102%	80-120
1701469-ICB2		0.000	µg/L		
1701469-CCV1	1.002	0.957	µg/L	96%	75-125
1701469-CCB1		0.00	µg/L		
1701469-CCV2	1.002	0.964	µg/L	96%	75-125
1701469-CCB2		0.00	µg/L		
1701469-CCV3	1.002	0.990	µg/L	99%	75-125
1701469-CCB3		0.001	µg/L		
1701469-CCV4	1.002	1.032	µg/L	103%	75-125
1701469-CCB4		0.00	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701478
Instrument: ICPMS8
Date: 11/29/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1701478-ICB1		0.000	µg/L		
1701478-CAL1	0.04000	0.039	µg/L	98%	
1701478-CAL2	0.1000	0.106	µg/L	106%	
1701478-CAL3	0.4000	0.387	µg/L	97%	
1701478-CAL4	1.000	0.981	µg/L	98%	
1701478-CAL5	4.000	4.075	µg/L	102%	
1701478-CAL6	10.00	10.64	µg/L	106%	
1701478-CAL7	40.00	39.70	µg/L	99%	
1701478-CAL8	100.0	100.1	µg/L	100%	
1701478-ICB2		-0.002	µg/L		
1701478-ICV1	10.00	10.86	µg/L	109%	85-115
1701478-ICB3		-0.0005	µg/L		
1701478-ICB4		-0.004	µg/L		
1701478-SCV1	1.710	1.878	µg/L	110%	75-125
1701478-ICB5		-0.005	µg/L		
1701478-ICB6		-0.003	µg/L		
1701478-SCV2	40.54	42.81	µg/L	106%	75-125
1701478-ICB7		0.001	µg/L		
1701478-ICB8		-0.0004	µg/L		
1701478-IBL1		-0.0005	µg/L		
1701478-IBL2		-0.005	µg/L		
1701478-IBL3		-0.002	µg/L		
1701478-IBL4		-0.004	µg/L		
1701478-HCV1	200.0	204.3	µg/L	102%	90-110
1701478-ICB9		0.185	µg/L		
1701478-ICBA		-0.004	µg/L		
1701478-ICBB		-0.003	µg/L		
1701478-ICBC		-0.002	µg/L		
1701478-ICBD		-0.004	µg/L		
1701478-ICBE		0.0004	µg/L		
1701478-ICBF		-0.003	µg/L		
1701478-ICBG		0.002	µg/L		
1701478-CCV1	10.00	11.30	µg/L	113%	75-125
1701478-CCB1		-0.002	µg/L		
1701478-CCV2	10.00	11.46	µg/L	115%	75-125
1701478-CCB2		-0.004	µg/L		
1701478-CCV3	10.00	11.47	µg/L	115%	75-125
1701478-CCB3		-0.005	µg/L		
1701478-CCV4	10.00	11.41	µg/L	114%	75-125
1701478-CCB4		-0.003	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701478
Instrument: ICPMS8
Date: 11/29/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits
1701478-CCV5	10.00	11.55	µg/L	115% 75-125
1701478-CCB5		-0.003	µg/L	
1701478-CCV6	10.00	11.45	µg/L	114% 75-125
1701478-CCB6		-0.006	µg/L	
1701478-CCV7	10.00	11.56	µg/L	116% 75-125
1701478-CCB7		-0.003	µg/L	
1701478-CCV8	10.00	11.64	µg/L	116% 75-125
1701478-CCB8		0.002	µg/L	
1701478-CCV9	10.00	11.60	µg/L	116% 75-125
1701478-CCB9		-0.001	µg/L	
1701478-CCVA	10.00	11.73	µg/L	117% 75-125
1701478-CCBA		-0.001	µg/L	
1701478-CCVB	10.00	11.72	µg/L	117% 75-125
1701478-CCBB		-0.004	µg/L	
1701478-CCVC	10.00	11.57	µg/L	116% 75-125
1701478-CCBC		-0.001	µg/L	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701518
Instrument: ICPMS8
Date: 12/06/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1701518-ICB1		0.000	µg/L		
1701518-CAL1	0.04000	0.038	µg/L	94%	
1701518-CAL2	0.1000	0.102	µg/L	102%	
1701518-CAL3	0.4000	0.405	µg/L	101%	
1701518-CAL4	1.000	0.988	µg/L	99%	
1701518-CAL5	4.000	3.882	µg/L	97%	
1701518-CAL6	10.00	9.893	µg/L	99%	
1701518-CAL7	40.00	40.54	µg/L	101%	
1701518-CAL8	100.0	99.80	µg/L	100%	
1701518-ICB2		0.003	µg/L		
1701518-ICV1	10.00	10.28	µg/L	103%	85-115
1701518-ICB3		0.0007	µg/L		
1701518-ICB4		0.0006	µg/L		
1701518-IBL1		-0.004	µg/L		
1701518-IBL2		0.0001	µg/L		
1701518-IBL3		0.0005	µg/L		
1701518-IBL4		-0.002	µg/L		
1701518-SCV1	1.710	1.753	µg/L	102%	75-125
1701518-ICB5		-0.003	µg/L		
1701518-ICB6		0.0004	µg/L		
1701518-SCV2	40.54	40.13	µg/L	99%	75-125
1701518-ICB7		0.0005	µg/L		
1701518-ICB8		-0.002	µg/L		
1701518-HCV1	200.0	197.9	µg/L	99%	90-110
1701518-ICB9		0.008	µg/L		
1701518-ICBA		-0.002	µg/L		
1701518-ICBB		-0.00004	µg/L		
1701518-ICBC		0.002	µg/L		
1701518-ICBD		0.0006	µg/L		
1701518-ICBE		0.003	µg/L		
1701518-ICBF		-0.0007	µg/L		
1701518-ICBG		-0.004	µg/L		
1701518-CCV1	10.00	10.55	µg/L	106%	75-125
1701518-CCB1		0.002	µg/L		
1701518-CCV2	10.00	10.46	µg/L	105%	75-125
1701518-CCB2		-0.002	µg/L		
1701518-CCV3	10.00	10.53	µg/L	105%	75-125
1701518-CCB3		-0.003	µg/L		
1701518-CCV4	10.00	10.53	µg/L	105%	75-125
1701518-CCB4		-0.002	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701518
Instrument: ICPMS8
Date: 12/06/2017
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1701518-CCV5	10.00	10.43	µg/L	104%	75-125
1701518-CCB5		-0.002	µg/L		
1701518-CCV6	10.00	10.70	µg/L	107%	75-125
1701518-CCB6		0.001	µg/L		
1701518-CCV7	10.00	10.64	µg/L	106%	75-125
1701518-CCB7		0.003	µg/L		
1701518-CCV8	10.00	11.04	µg/L	110%	75-125
1701518-CCB8		0.001	µg/L		
1701518-CCV9	10.00	10.89	µg/L	109%	75-125
1701518-CCB9		-0.0005	µg/L		
1701518-CCVA	10.00	10.86	µg/L	109%	75-125
1701518-CCBA		0.002	µg/L		
1701518-CCVB	10.00	11.62	µg/L	116%	75-125
1701518-CCBB		0.001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1745034-01 **Report Matrix:** Soil/Sediment **Collected:** 11/08/2017
Sample: 4881D-WE-CONF01 **Sample Type:** Sample **Received:** 11/09/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1745034

Lab ID: 1745034-02 **Report Matrix:** Soil/Sediment **Collected:** 11/08/2017
Sample: 4881D-WE-CONF02 **Sample Type:** Sample **Received:** 11/09/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1745034

Lab ID: 1745034-03 **Report Matrix:** Soil/Sediment **Collected:** 11/08/2017
Sample: 4881D-WE-CONF03 **Sample Type:** Sample **Received:** 11/09/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1745034

Lab ID: 1745034-04 **Report Matrix:** Soil/Sediment **Collected:** 11/08/2017
Sample: 4881D-WE-CONF04 **Sample Type:** Sample **Received:** 11/09/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1745034

Lab ID: 1745034-05 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2017
Sample: 4881D-WE-CONF05 **Sample Type:** Sample **Received:** 11/17/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4 oz	17-0228	none			Cooler 2 - 1745034

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1745034
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1745034-06 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2017
Sample: 4881D-WE-CONF06 **Sample Type:** Sample **Received:** 11/17/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4 oz	17-0228	none			Cooler 2 - 1745034

Lab ID: 1745034-07 **Report Matrix:** Soil/Sediment **Collected:** 11/16/2017
Sample: 4881D-WE-CONF17 **Sample Type:** Sample **Received:** 11/17/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4 oz	17-0228	none			Cooler 2 - 1745034

Shipping Containers

Cooler - 1745034

Received: November 9, 2017 9:30
Tracking No: 788382478552 via FedEx
Coolant Type: Blue Ice
Temperature: 3.8 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#15

Custody seals present? N
Custody seals intact? N
COC present? Ye

Cooler 2 - 1745034

Received: November 17, 2017 9:30
Tracking No: 788490506877 via FedEx
Coolant Type: Blue Ice
Temperature: 3.0 °C

Description: Cooler 2
Damaged in transit? No
Returned to client? No
Comments: IR#15

Custody seals present? Ye
Custody seals intact? Ye
COC present? Ye

18804 North Creek Parkway/Suite 100 Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 1-00000702
Samples Collected: November 30, 2017
Report Date: January 12, 2018

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1748071

Table of Contents

Case Narrative 3
Report Information 6
Sample Information 7
Batch Summary 7
Sample Results 8
Accuracy & Precision Summary 9
Method Blanks & Reporting Limits 13
Instrument Calibration 16
Sample Containers 20
Shipping Containers 21
Chain-of-Custody Forms and Waybills 22
Hexavalent Chromium - Sequence 1701517, Batch B173292 24
Total Cr - Sequence 1800014, Batch B173518 123
Total Solids - Batch B173290 323

Chain of Custody forms (pages 22 thru 23) and Analytical Instrument Outputs (pages 24 thru 323) from the BAL Report are not included in this appendix.

Case Narrative

Sample Reception

Four (4) soil samples were received by Brooks Applied Labs (BAL) on December 1, 2017. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1701517 / Batch B173292

The recovery of hexavalent chromium for the matrix spike B173292-MS2 (7%) and its associated matrix spike duplicate B173292-MSD2 (4%), which were prepared with an aqueous hexavalent chromium solution, were both below the control limit of 75%. The relative percent deviation (RPD) of the hexavalent chromium recoveries between B173292-MS2 and B173292-MSD2 (57%) was also above the control limit of 25%. Reanalysis confirmed the original results. All other batch quality control samples spiked with either soluble (i.e., B163162-BS2) or insoluble (i.e., B173191-BS3, B173292-MS3, B173292-MSD3) forms of hexavalent chromium were within acceptance limits, demonstrating the accuracy of the applied methods. The low recoveries observed for B173292-MS2 and B173292-MSD2 are therefore attributed to matrix-induced reduction of hexavalent chromium. A variable matrix-induced reduction capacity is demonstrated by the elevated RPD between the -MS2 and -MSD2. No qualification of the hexavalent chromium result for the source sample *4881D-WE-CONF15* was applied, as the obtained result is deemed representative of the submitted sample matrix; however, the observed reduction of hexavalent chromium in this matrix should be taken into consideration when evaluating the reported results.

The RPD of the hexavalent chromium recoveries between the matrix spike B173292-MS3 and its associated matrix spike duplicate B173292-MSD3 (32%), prepared with a solid lead chromate spike, was above the control limit of 25%. Reanalysis confirmed the original results. The spike recoveries of B173292-MS3 and MSD3 are acceptable, demonstrating that no

significant matrix interferences were present for this spike set. Although the RPD was elevated, the RPD between the native sample and its associated matrix duplicate was acceptable (16%), demonstrating the precision of the applied methods; therefore, no qualification of the data was deemed necessary.

Hexavalent chromium was detected above the method reporting limit (MRL) in the continuing calibration blank 1701517-CCB7. All results for client-submitted samples were greater than ten times the chromium level of the CCB and therefore not significantly impacted. However, the results for the batch blanks (B173292-BLK1-4), lab fortified trivalent chromium spike (B173292-BS1), and matrix spike/matrix spike duplicate pair prepared with trivalent chromium (B173292-MS1/B173292-MSD1) were less than ten times the level of the elevated CCB. These quality control parameters did recover within acceptance criteria and, thus, were not affected by the high bias associated with CCB7. On the other hand, the liquid hexavalent chromium fortified matrix spike (B173292-MS2) and associated matrix spike duplicate (B173292-MSD2) were also less than ten times the elevated CCB, but recovered outside of acceptance limits. Since B173292-MS2 and -MSD2 were subject to substantial matrix-induced reduction of hexavalent chromium, the high bias associated with CCB7 was deemed to have had no significant impact on these matrix spike recoveries. No corrective action was necessary.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been method blank corrected (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP, and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR

136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

We certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Ben Wozniak
Project Manager
ben@brooksapplied.com

Jacki Aitken
Project Coordinator
jacki@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

18804 North Creek Parkway Suite 100 Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881D-WE-CONF13	1748071-01	Soil/Sediment	Sample	11/30/2017	12/01/2017
4881D-WE-CONF14	1748071-02	Soil/Sediment	Sample	11/30/2017	12/01/2017
4881D-WE-CONF15	1748071-03	Soil/Sediment	Sample	11/30/2017	12/01/2017
4881D-WE-CONF16	1748071-04	Soil/Sediment	Sample	11/30/2017	12/01/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	12/07/2017	12/11/2017	B173290	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	01/04/2018	01/05/2018	B173518	1800014
Cr(VI)	Soil/Sediment	SOP BAL-4300	12/05/2017	12/06/2017	B173292	1701517

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881D-WE-CONF13										
1748071-01	%TS	Soil/Sediment	NA	79.31		0.01	0.02	%	B173290	N/A
1748071-01	Cr	Soil/Sediment	dry	13.2		0.247	0.766	mg/kg	B173518	1800014
1748071-01	Cr(VI)	Soil/Sediment	dry	1.24		0.004	0.026	mg/kg	B173292	1701517
4881D-WE-CONF14										
1748071-02	%TS	Soil/Sediment	NA	87.66		0.01	0.02	%	B173290	N/A
1748071-02	Cr	Soil/Sediment	dry	11.1		0.214	0.661	mg/kg	B173518	1800014
1748071-02	Cr(VI)	Soil/Sediment	dry	0.484		0.003	0.024	mg/kg	B173292	1701517
4881D-WE-CONF15										
1748071-03	%TS	Soil/Sediment	NA	81.81		0.01	0.02	%	B173290	N/A
1748071-03	Cr	Soil/Sediment	dry	14.3		0.244	0.754	mg/kg	B173518	1800014
1748071-03	Cr(VI)	Soil/Sediment	dry	0.651		0.004	0.026	mg/kg	B173292	1701517
4881D-WE-CONF16										
1748071-04	%TS	Soil/Sediment	NA	82.88		0.01	0.02	%	B173290	N/A
1748071-04	Cr	Soil/Sediment	dry	17.2		0.280	0.866	mg/kg	B173518	1800014
1748071-04	Cr(VI)	Soil/Sediment	dry	1.60		0.004	0.026	mg/kg	B173292	1701517

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173290
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173290-DUP1	**Duplicate, (1745034-05)**						
	%TS	83.39		83.98	%		0.7% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173292
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173292-BS1	**Blank Spike, Cr(III) (1637021)**						
	Cr(VI)		20.00	0.076	mg/kg	0.4% 0-1%	
B173292-BS2	**Blank Spike, Cr(VI) (1742024)**						
	Cr(VI)		20.04	21.82	mg/kg	109% 75-125	
B173292-BS3	**Blank Spike, PbCrO4 (NC00442)**						
	Cr(VI)		643.6	653.2	mg/kg	101% 75-125	
B173292-SRM1	**Standard Reference Material (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	639.4	mg/kg	116% 75-125	
B173292-DUP1	**Duplicate, (1748071-03)**						
	Cr(VI)	0.651		0.553	mg/kg		16% 25
B173292-DUP2	**Duplicate, Analytical (1748071-03)**						
	Cr(VI)	0.651		0.671	mg/kg		3% 25
B173292-MS1	**Matrix Spike, Cr(III) (1748071-03)**						
	Cr(VI)	0.651	23.97	1.713	mg/kg	4% 0-15%	
B173292-MS2	**Matrix Spike, Cr(VI) (1748071-03)**						
	Cr(VI)	0.651	24.21	2.463	mg/kg	*7%* 75-125	
B173292-MS3	**Matrix Spike, PbCrO4 (1748071-03)**						
	Cr(VI)	0.651	728.8	573.3	mg/kg	79% 75-125	
B173292-MSD1	**Matrix Spike Duplicate, Cr(III) (1748071-03)**						
	Cr(VI)	0.651	23.66	1.341	mg/kg	3% 0-15%	41% N/A
B173292-MSD2	**Matrix Spike Duplicate, Cr(VI) (1748071-03)**						
	Cr(VI)	0.651	24.10	1.650	mg/kg	*4%* 75-125	*57%* 25
B173292-MSD3	**Matrix Spike Duplicate, PbCrO4 (1748071-03)**						
	Cr(VI)	0.651	709.3	770.7	mg/kg	109% 75-125	*32%* 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173292
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173292-PS1	**Post Spike, (1748071-03)**						
	Cr(VI)	0.651	2.472	3.407	mg/kg	111% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173518
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173518-BS1	**Blank Spike, (1732083)**						
	Cr		40.00	38.19	mg/kg	95% 75-125	
B173518-SRM1	**Standard Reference Material (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	314.5	mg/kg	94% 75-125	
B173518-DUP1	**Duplicate, (1748071-03)**						
	Cr	14.32		14.27	mg/kg		0.4% 30
B173518-MS1	**Matrix Spike, (1748071-03)**						
	Cr	14.32	52.35	63.30	mg/kg	94% 70-130	
B173518-MSD1	**Matrix Spike Duplicate, (1748071-03)**						
	Cr	14.32	59.34	74.39	mg/kg	101% 70-130	8% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173290
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B173290-BLK1	-0.01	%
B173290-BLK2	-0.01	%

Average: -0.01
Limit: 0.02

MDL: 0.01
MRL: 0.02

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173292
Matrix: Soil/Sediment
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B173292-BLK1	0.009	mg/kg
B173292-BLK2	0.008	mg/kg
B173292-BLK3	0.009	mg/kg
B173292-BLK4	0.009	mg/kg
Average:	0.009	
Limit:	0.021	

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173518
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B173518-BLK1	0.011	mg/kg
B173518-BLK2	0.002	mg/kg
B173518-BLK3	0.003	mg/kg
B173518-BLK4	0.001	mg/kg
Average:	0.004	
Limit:	0.650	

MDL: 0.210
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701517
Instrument: ICPMS7
Date: 12/06/2017
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1701517-ICB1		0.00	µg/L		
1701517-CAL1	0.01002	0.01	µg/L	103%	
1701517-CAL2	0.01002	0.01	µg/L	102%	
1701517-CAL3	0.01002	0.01	µg/L	108%	
1701517-CAL4	0.01002	0.01	µg/L	107%	
1701517-CAL5	0.05010	0.05	µg/L	100%	
1701517-CAL6	0.1002	0.10	µg/L	101%	
1701517-CAL7	0.5010	0.52	µg/L	103%	
1701517-CAL8	1.002	1.04	µg/L	103%	
1701517-CAL9	5.010	5.01	µg/L	100%	
1701517-CALA	10.02	10.0	µg/L	100%	
1701517-IBL1		0.00	µg/L		
1701517-ICV1	2.000	0.00	µg/L	*ND*	0-1
1701517-ICV2	2.000	2.15	µg/L	107%	80-120
1701517-ICB2		0.00	µg/L		
1701517-CCV1	1.002	1.00	µg/L	100%	75-125
1701517-CCB1		0.00	µg/L		
1701517-CCV2	1.002	1.02	µg/L	102%	75-125
1701517-CCB2		0.00	µg/L		
1701517-CCV3	1.002	1.04	µg/L	103%	75-125
1701517-CCB3		0.00	µg/L		
1701517-CCV4	1.002	1.08	µg/L	108%	75-125
1701517-CCB4		0.00	µg/L		
1701517-CCV5	1.002	1.08	µg/L	108%	75-125
1701517-CCB5		0.00	µg/L		
1701517-CCV6	1.002	1.09	µg/L	109%	75-125
1701517-CCB6		0.00	µg/L		
1701517-CCV7	1.002	1.09	µg/L	109%	75-125
1701517-CCB7		0.02	µg/L		
1701517-CCV8	1.002	1.11	µg/L	110%	75-125
1701517-CCB8		0.00	µg/L		
1701517-CCV9	1.002	1.12	µg/L	112%	75-125
1701517-CCB9		0.00	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800014
Instrument: ICPMS8
Date: 01/05/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800014-ICB1		0.000	µg/L		
1800014-CAL1	0.04000	0.036	µg/L	91%	
1800014-CAL2	0.1000	0.103	µg/L	103%	
1800014-CAL3	0.4000	0.372	µg/L	93%	
1800014-CAL4	1.000	0.941	µg/L	94%	
1800014-CAL5	4.000	3.897	µg/L	97%	
1800014-CAL6	10.00	9.797	µg/L	98%	
1800014-CAL7	40.00	39.35	µg/L	98%	
1800014-CAL8	100.0	100.3	µg/L	100%	
1800014-ICB2		0.003	µg/L		
1800014-ICV1	10.00	9.889	µg/L	99%	85-115
1800014-ICB3		0.0002	µg/L		
1800014-ICB4		0.002	µg/L		
1800014-ICB5		0.004	µg/L		
1800014-ICB6		-0.001	µg/L		
1800014-IBL1		-0.001	µg/L		
1800014-IBL2		0.0002	µg/L		
1800014-IBL3		0.002	µg/L		
1800014-IBL4		-0.0002	µg/L		
1800014-SCV1	1.710	1.731	µg/L	101%	75-125
1800014-ICB7		0.002	µg/L		
1800014-ICB8		-0.001	µg/L		
1800014-SCV2	40.54	40.84	µg/L	101%	75-125
1800014-ICB9		0.0008	µg/L		
1800014-ICBA		-0.0005	µg/L		
1800014-HCV1	200.0	200.4	µg/L	100%	90-110
1800014-ICBB		0.022	µg/L		
1800014-ICBC		0.001	µg/L		
1800014-ICBD		0.002	µg/L		
1800014-ICBE		0.001	µg/L		
1800014-ICBF		0.012	µg/L		
1800014-ICBG		-0.0006	µg/L		
1800014-ICBH		0.001	µg/L		
1800014-ICBI		0.0004	µg/L		
1800014-CCV1	10.00	10.60	µg/L	106%	75-125
1800014-CCB1		0.005	µg/L		
1800014-CCV2	10.00	10.74	µg/L	107%	75-125
1800014-CCB2		0.002	µg/L		
1800014-CCV3	10.00	10.68	µg/L	107%	75-125
1800014-CCB3		0.001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800014
Instrument: ICPMS8
Date: 01/05/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800014-CCV4	10.00	10.60	µg/L	106%	75-125
1800014-CCB4		-0.0002	µg/L		
1800014-CCV5	10.00	10.63	µg/L	106%	75-125
1800014-CCB5		0.004	µg/L		
1800014-CCV6	10.00	10.92	µg/L	109%	75-125
1800014-CCB6		0.003	µg/L		
1800014-CCV7	10.00	10.32	µg/L	103%	75-125
1800014-CCB7		0.002	µg/L		
1800014-CCV8	10.00	10.11	µg/L	101%	75-125
1800014-CCB8		-0.002	µg/L		
1800014-CCV9	10.00	9.859	µg/L	99%	75-125
1800014-CCB9		0.007	µg/L		
1800014-CCVA	10.00	10.13	µg/L	101%	75-125
1800014-CCBA		0.00002	µg/L		
1800014-CCVB	10.00	10.29	µg/L	103%	75-125
1800014-CCBB		0.001	µg/L		
1800014-CCVC	10.00	10.11	µg/L	101%	75-125
1800014-CCBC		0.004	µg/L		
1800014-CCVD	10.00	10.07	µg/L	101%	75-125
1800014-CCBD		0.005	µg/L		
1800014-CCVE	10.00	10.08	µg/L	101%	75-125
1800014-CCBE		0.005	µg/L		
1800014-CCVF	10.00	9.928	µg/L	99%	75-125
1800014-CCBF		-0.001	µg/L		
1800014-CCVG	10.00	10.04	µg/L	100%	75-125
1800014-CCBG		-0.001	µg/L		
1800014-CCVH	10.00	10.08	µg/L	101%	75-125
1800014-CCBH		0.002	µg/L		
1800014-CCVI	10.00	9.929	µg/L	99%	75-125
1800014-CCBI		0.001	µg/L		
1800014-CCVJ	10.00	10.23	µg/L	102%	75-125
1800014-CCBJ		-0.003	µg/L		
1800014-CCVK	10.00	9.827	µg/L	98%	75-125
1800014-CCBK		-0.002	µg/L		
1800014-CCVL	10.00	9.981	µg/L	100%	75-125
1800014-CCBL		-0.002	µg/L		
1800014-CCVM	10.00	9.721	µg/L	97%	75-125
1800014-CCBM		-0.001	µg/L		
1800014-CCVN	10.00	9.626	µg/L	96%	75-125
1800014-CCBN		-0.003	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800014
Instrument: ICPMS8
Date: 01/05/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800014-CCVO	10.00	10.12	µg/L	101%	75-125
1800014-CCBO		-0.003	µg/L		
1800014-CCVP	10.00	9.870	µg/L	99%	75-125
1800014-CCBP		-0.002	µg/L		
1800014-CCVQ	10.00	9.925	µg/L	99%	75-125
1800014-CCBQ		0.002	µg/L		
1800014-CCVR	10.00	9.878	µg/L	99%	75-125
1800014-CCBR		-0.005	µg/L		
1800014-CCVS	10.00	9.961	µg/L	100%	75-125
1800014-CCBS		-0.004	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1748071-01 **Report Matrix:** Soil/Sediment **Collected:** 11/30/2017
Sample: 4881D-WE-CONF13 **Sample Type:** Sample **Received:** 12/01/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1748071

Lab ID: 1748071-02 **Report Matrix:** Soil/Sediment **Collected:** 11/30/2017
Sample: 4881D-WE-CONF14 **Sample Type:** Sample **Received:** 12/01/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1748071

Lab ID: 1748071-03 **Report Matrix:** Soil/Sediment **Collected:** 11/30/2017
Sample: 4881D-WE-CONF15 **Sample Type:** Sample **Received:** 12/01/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1748071

Lab ID: 1748071-04 **Report Matrix:** Soil/Sediment **Collected:** 11/30/2017
Sample: 4881D-WE-CONF16 **Sample Type:** Sample **Received:** 12/01/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4 oz	17-0228	none			Cooler - 1748071

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1748071
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Shipping Containers

Cooler - 1748071

Received: December 1, 2017 9:40
Tracking No: 788695600170 via FedEx
Coolant Type: Blue Ice
Temperature: 5.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#8

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

BAL Report 1749064

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 1-00000702
Samples Collected: December 7, 2017 – December 14, 2017
Report Date: January 16, 2018

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1749064

1 of 358

BAL Report 1749064

Table of Contents

Case Narrative 3
Report Information 6
Sample Information 7
Batch Summary 7
Sample Results 8
Accuracy & Precision Summary 9
Method Blanks & Reporting Limits 13
Instrument Calibration 16
Sample Containers 20
Shipping Containers 21
Chain-of-Custody Forms and Waybills 22
Hexavalent Chromium - Sequence 1800021, Batch B180036 26
Total Cr - Sequence 1800014, Batch B173438 148
Total Solids - Batch B173442 357

Chain of Custody forms (pages 22 thru 25) and Analytical Instrument Outputs (pages 26 thru 357) from the BAL Report are not included in this appendix.

2 of 358

Case Narrative

Sample Reception

Six (6) soil samples were received by Brooks Applied Labs (BAL) between December 8, 2017 and December 15, 2017. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1800021 / Batch B180036

A sharp electronic noise peak, which appeared near the end of the hexavalent chromium peak, was present in the calibration standard identified as CAL5. No other samples, batch quality control, or sequence quality control contained such electronic noise peaks, demonstrating that this issue was isolated to CAL5. Due to limitations with the instrument software, the electronic noise peak observed in CAL5 was included as part of the hexavalent chromium peak. Although the inclusion of the noise slightly biased the result for CAL5, the recovery of hexavalent chromium in this standard (124%) was within acceptance criteria. Moreover, since the calibration curve is generated via a non-weighted linear regression, any bias associated with CAL5 (which is spiked near the low end of the calibration curve) has no significant impact on the final sample results. On this basis, no corrective action was deemed necessary.

The recovery of hexavalent chromium for the matrix spike B180036-MS2 (39%) and its associated matrix spike duplicate B180036-MSD2 (48%), which were prepared with an aqueous hexavalent chromium solution, were both below the control limit of 75%. Reanalysis confirmed the original results. All other batch quality control samples spiked with either soluble (i.e., B180036-BS2) or insoluble (i.e., B180036-BS3, B180036-MS3, B180036-MSD3) forms of hexavalent chromium were within acceptance limits, demonstrating the accuracy and precision of the applied methods. The low recoveries observed for B180036-MS2 and

B180036-MSD2 are therefore attributed to matrix-induced reduction of hexavalent chromium. No qualification of the hexavalent chromium result for the source sample *4881D-WE-0010* was applied, as the obtained result was deemed representative of the submitted sample matrix; however, the observed reduction of hexavalent chromium in this matrix should be taken into consideration when evaluating the reported results.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been method blank corrected (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Sequence 1800014 / Batch B173438

During the analysis of the batch specific standard reference material B173438-SRM1, there was an instrument error as evidenced by the low internal standard recovery (0.4%). The internal standard recoveries of all other samples and quality control associated with this batch were within acceptance limits, demonstrating that the error was isolated to this SRM. The SRM was reanalyzed later and the internal standard recovered acceptably (105%), indicating that the sample was analyzed properly; the reanalysis was therefore reported.

Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP, and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

BAL Report 1749084

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

We certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Ben Wozniak
Project Manager
ben@brooksapplied.com

Jacki Aitken
Project Coordinator
jacki@brooksapplied.com

5 of 358

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

18804 North Creek Parkway Suite 100 Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881D-WE-CONF11	1749064-01	Soil/Sediment	Sample	12/07/2017	12/08/2017
4881D-WE-CONF12	1749064-02	Soil/Sediment	Sample	12/07/2017	12/08/2017
4881D-WE-CONF08	1749064-03	Soil/Sediment	Sample	12/07/2017	12/08/2017
4881D-WE-CONF10	1749064-04	Soil/Sediment	Sample	12/07/2017	12/08/2017
4881D-WE-0007	1749064-05	Soil/Sediment	Sample	12/14/2017	12/15/2017
4881D-WE-0010	1749064-06	Soil/Sediment	Sample	12/14/2017	12/15/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	01/04/2018	01/12/2018	B173442	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	01/04/2018	01/05/2018	B173438	1800014
Cr(VI)	Soil/Sediment	SOP BAL-4300	01/05/2018	01/05/2018	B180036	1800021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881D-WE-CONF11										
1749064-01	%TS	Soil/Sediment	NA	77.46		0.07	0.23	%	B173442	N/A
1749064-01	Cr	Soil/Sediment	dry	20.0		0.268	0.828	mg/kg	B173438	1800014
1749064-01	Cr(VI)	Soil/Sediment	dry	1.54		0.004	0.027	mg/kg	B180036	1800021
4881D-WE-CONF12										
1749064-02	%TS	Soil/Sediment	NA	86.86		0.07	0.23	%	B173442	N/A
1749064-02	Cr	Soil/Sediment	dry	16.0		0.241	0.747	mg/kg	B173438	1800014
1749064-02	Cr(VI)	Soil/Sediment	dry	0.630		0.003	0.024	mg/kg	B180036	1800021
4881D-WE-CONF08										
1749064-03	%TS	Soil/Sediment	NA	88.13		0.07	0.23	%	B173442	N/A
1749064-03	Cr	Soil/Sediment	dry	15.1		0.236	0.731	mg/kg	B173438	1800014
1749064-03	Cr(VI)	Soil/Sediment	dry	0.695		0.003	0.024	mg/kg	B180036	1800021
4881D-WE-CONF10										
1749064-04	%TS	Soil/Sediment	NA	85.93		0.07	0.23	%	B173442	N/A
1749064-04	Cr	Soil/Sediment	dry	13.1		0.241	0.746	mg/kg	B173438	1800014
1749064-04	Cr(VI)	Soil/Sediment	dry	0.997		0.003	0.024	mg/kg	B180036	1800021
4881D-WE-0007										
1749064-05	%TS	Soil/Sediment	NA	76.56		0.07	0.23	%	B173442	N/A
1749064-05	Cr	Soil/Sediment	dry	31.1		0.273	0.845	mg/kg	B173438	1800014
1749064-05	Cr(VI)	Soil/Sediment	dry	1.63		0.004	0.027	mg/kg	B180036	1800021
4881D-WE-0010										
1749064-06	%TS	Soil/Sediment	NA	75.66		0.07	0.23	%	B173442	N/A
1749064-06	Cr	Soil/Sediment	dry	28.9		0.261	0.808	mg/kg	B173438	1800014
1749064-06	Cr(VI)	Soil/Sediment	dry	1.37		0.004	0.028	mg/kg	B180036	1800021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 | P(206) 632-6206 | F(206) 632-6017 | info@brooksapplied.com | www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173438
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173438-BS1	**Blank Spike, (1732083)**						
	Cr		40.00	38.20	mg/kg	95% 75-125	
B173438-SRM1	**Standard Reference Material (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	329.7	mg/kg	99% 75-125	
B173438-DUP1	**Duplicate, (1749064-03)**						
	Cr	15.10		14.66	mg/kg		3% 30
B173438-MS1	**Matrix Spike, (1749064-03)**						
	Cr	15.10	44.66	58.93	mg/kg	98% 70-130	
B173438-MSD1	**Matrix Spike Duplicate, (1749064-03)**						
	Cr	15.10	43.53	52.83	mg/kg	87% 70-130	12% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B173442
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B173442-DUP1	**Duplicate, (1749064-05)**						
	%TS	76.56		75.87	%		0.9% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B180036
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B180036-BS1	**Blank Spike, Cr(III) (1637021)**						
	Cr(VI)		20.00	ND	mg/kg	NR 0-1%	N/C
B180036-BS2	**Blank Spike, Cr(VI) (1742024)**						
	Cr(VI)		20.04	22.18	mg/kg	111% 75-125	
B180036-BS3	**Blank Spike, PbCrO4 (NC00442)**						
	Cr(VI)		592.1	585.3	mg/kg	99% 75-125	
B180036-SRM1	**Standard Reference Material (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	579.7	mg/kg	105% 75-125	
B180036-DUP1	**Duplicate, (1749064-06)**						
	Cr(VI)	1.368		1.099	mg/kg		22% 25
B180036-DUP2	**Duplicate, Analytical (1749064-06)**						
	Cr(VI)	1.368		1.349	mg/kg		1% 25
B180036-MS1	**Matrix Spike, Cr(III) (1749064-06)**						
	Cr(VI)	1.368	26.16	2.426	mg/kg	4% 0-15%	
B180036-MS2	**Matrix Spike, Cr(VI) (1749064-06)**						
	Cr(VI)	1.368	26.36	11.54	mg/kg	*39%* 75-125	
B180036-MS3	**Matrix Spike, PbCrO4 (1749064-06)**						
	Cr(VI)	1.368	857.4	834.9	mg/kg	97% 75-125	
B180036-MSD1	**Matrix Spike Duplicate, Cr(III) (1749064-06)**						
	Cr(VI)	1.368	26.42	2.975	mg/kg	6% 0-15%	40% N/A
B180036-MSD2	**Matrix Spike Duplicate, Cr(VI) (1749064-06)**						
	Cr(VI)	1.368	26.07	13.83	mg/kg	*48%* 75-125	21% 25
B180036-MSD3	**Matrix Spike Duplicate, PbCrO4 (1749064-06)**						
	Cr(VI)	1.368	928.3	866.1	mg/kg	93% 75-125	4% 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-8206 F(206) 632-8017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B180036
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B180036-PS1	**Post Spike, (1749064-06)**						
	Cr(VI)	1.368	2.666	4.466	mg/kg	116% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173438
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B173438-BLK1	0.0005	mg/kg
B173438-BLK2	-0.010	mg/kg
B173438-BLK3	-0.009	mg/kg
B173438-BLK4	-0.009	mg/kg

Average: -0.007
Limit: 0.650

MDL: 0.210
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B173442
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B173442-BLK1	-0.03	%
B173442-BLK2	0.02	%

Average: -0.01
Limit: 0.23

MDL: 0.07
MRL: 0.23

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B180036
Matrix: Soil/Sediment
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B180036-BLK1	0.005	mg/kg
B180036-BLK2	0.006	mg/kg
B180036-BLK3	0.006	mg/kg
B180036-BLK4	0.005	mg/kg

Average: 0.006
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800014
Instrument: ICPMS8
Date: 01/05/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800014-ICB1		0.000	µg/L		
1800014-CAL1	0.04000	0.036	µg/L	91%	
1800014-CAL2	0.1000	0.103	µg/L	103%	
1800014-CAL3	0.4000	0.372	µg/L	93%	
1800014-CAL4	1.000	0.941	µg/L	94%	
1800014-CAL5	4.000	3.897	µg/L	97%	
1800014-CAL6	10.00	9.797	µg/L	98%	
1800014-CAL7	40.00	39.35	µg/L	98%	
1800014-CAL8	100.0	100.3	µg/L	100%	
1800014-ICB2		0.003	µg/L		
1800014-ICV1	10.00	9.889	µg/L	99%	85-115
1800014-ICB3		0.0002	µg/L		
1800014-ICB4		0.002	µg/L		
1800014-ICB5		0.004	µg/L		
1800014-ICB6		-0.001	µg/L		
1800014-IBL1		-0.001	µg/L		
1800014-IBL2		0.0002	µg/L		
1800014-IBL3		0.002	µg/L		
1800014-IBL4		-0.0002	µg/L		
1800014-SCV1	1.710	1.731	µg/L	101%	75-125
1800014-ICB7		0.002	µg/L		
1800014-ICB8		-0.001	µg/L		
1800014-SCV2	40.54	40.84	µg/L	101%	75-125
1800014-ICB9		0.0008	µg/L		
1800014-ICBA		-0.0005	µg/L		
1800014-HCV1	200.0	200.4	µg/L	100%	90-110
1800014-ICBB		0.022	µg/L		
1800014-ICBC		0.001	µg/L		
1800014-ICBD		0.002	µg/L		
1800014-ICBE		0.001	µg/L		
1800014-ICBF		0.012	µg/L		
1800014-ICBG		-0.0006	µg/L		
1800014-ICBH		0.001	µg/L		
1800014-ICBI		0.0004	µg/L		
1800014-CCV1	10.00	10.60	µg/L	106%	75-125
1800014-CCB1		0.005	µg/L		
1800014-CCV2	10.00	10.74	µg/L	107%	75-125
1800014-CCB2		0.002	µg/L		
1800014-CCV3	10.00	10.68	µg/L	107%	75-125
1800014-CCB3		0.001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800014
Instrument: ICPMS8
Date: 01/05/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800014-CCV4	10.00	10.60	µg/L	106%	75-125
1800014-CCB4		-0.0002	µg/L		
1800014-CCV5	10.00	10.63	µg/L	106%	75-125
1800014-CCB5		0.004	µg/L		
1800014-CCV6	10.00	10.92	µg/L	109%	75-125
1800014-CCB6		0.003	µg/L		
1800014-CCV7	10.00	10.32	µg/L	103%	75-125
1800014-CCB7		0.002	µg/L		
1800014-CCV8	10.00	10.11	µg/L	101%	75-125
1800014-CCB8		-0.002	µg/L		
1800014-CCV9	10.00	9.859	µg/L	99%	75-125
1800014-CCB9		0.007	µg/L		
1800014-CCVA	10.00	10.13	µg/L	101%	75-125
1800014-CCBA		0.00002	µg/L		
1800014-CCVB	10.00	10.29	µg/L	103%	75-125
1800014-CCBB		0.001	µg/L		
1800014-CCVC	10.00	10.11	µg/L	101%	75-125
1800014-CCBC		0.004	µg/L		
1800014-CCVD	10.00	10.07	µg/L	101%	75-125
1800014-CCBD		0.005	µg/L		
1800014-CCVE	10.00	10.08	µg/L	101%	75-125
1800014-CCBE		0.005	µg/L		
1800014-CCVF	10.00	9.928	µg/L	99%	75-125
1800014-CCBF		-0.001	µg/L		
1800014-CCVG	10.00	10.04	µg/L	100%	75-125
1800014-CCBG		-0.001	µg/L		
1800014-CCVH	10.00	10.08	µg/L	101%	75-125
1800014-CCBH		0.002	µg/L		
1800014-CCVI	10.00	9.929	µg/L	99%	75-125
1800014-CCBI		0.001	µg/L		
1800014-CCVJ	10.00	10.23	µg/L	102%	75-125
1800014-CCBJ		-0.003	µg/L		
1800014-CCVK	10.00	9.827	µg/L	98%	75-125
1800014-CCBK		-0.002	µg/L		
1800014-CCVL	10.00	9.981	µg/L	100%	75-125
1800014-CCBL		-0.002	µg/L		
1800014-CCVM	10.00	9.721	µg/L	97%	75-125
1800014-CCBM		-0.001	µg/L		
1800014-CCVN	10.00	9.626	µg/L	96%	75-125
1800014-CCBN		-0.003	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800014
Instrument: ICPMS8
Date: 01/05/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800014-CCVO	10.00	10.12	µg/L	101%	75-125
1800014-CCBO		-0.003	µg/L		
1800014-CCVP	10.00	9.870	µg/L	99%	75-125
1800014-CCBP		-0.002	µg/L		
1800014-CCVQ	10.00	9.925	µg/L	99%	75-125
1800014-CCBQ		0.002	µg/L		
1800014-CCVR	10.00	9.878	µg/L	99%	75-125
1800014-CCBR		-0.005	µg/L		
1800014-CCVS	10.00	9.961	µg/L	100%	75-125
1800014-CCBS		-0.004	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800021
Instrument: ICPMS7
Date: 01/05/2018
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1800021-ICB1		0.000	µg/L		
1800021-CAL1	0.01002	0.010	µg/L	100%	
1800021-CAL2	0.01002	0.012	µg/L	120%	
1800021-CAL3	0.01002	0.011	µg/L	110%	
1800021-CAL4	0.01002	0.011	µg/L	110%	
1800021-CAL5	0.05010	0.062	µg/L	124%	
1800021-CAL6	0.1002	0.102	µg/L	102%	
1800021-CAL7	0.5010	0.520	µg/L	104%	
1800021-CAL8	1.002	1.017	µg/L	101%	
1800021-CAL9	5.010	5.094	µg/L	102%	
1800021-CALA	10.02	9.975	µg/L	100%	
1800021-IBL1		0.002	µg/L		
1800021-ICV1	2.000	0.000	µg/L	ND	0-1
1800021-ICV2	2.000	2.077	µg/L	104%	80-120
1800021-ICB2		0.001	µg/L		
1800021-CCV1	1.002	1.054	µg/L	105%	75-125
1800021-CCB1		0.00	µg/L		
1800021-CCV2	1.002	1.089	µg/L	109%	75-125
1800021-CCB2		0.00	µg/L		
1800021-CCV3	1.002	1.103	µg/L	110%	75-125
1800021-CCB3		0.00	µg/L		
1800021-CCV4	1.002	1.097	µg/L	109%	75-125
1800021-CCB4		0.00	µg/L		
1800021-ICV3	2.000	0.000	µg/L	ND	0-1
1800021-ICV4	2.000	2.220	µg/L	111%	80-120
1800021-ICB3		0.000	µg/L		
1800021-CCV5	1.002	1.104	µg/L	110%	75-125
1800021-CCB5		0.00	µg/L		
1800021-CCV6	1.002	1.095	µg/L	109%	75-125
1800021-CCB6		0.00	µg/L		
1800021-CCV7	1.002	1.157	µg/L	115%	75-125
1800021-CCB7		0.00	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 | P(206) 632-6206 | F(206) 632-6017 | info@brooksapplied.com | www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1749064-01 **Report Matrix:** Soil/Sediment **Collected:** 12/07/2017
Sample: 4881D-WE-CONF11 **Sample Type:** Sample **Received:** 12/08/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0150	none			Cooler - 1749064

Lab ID: 1749064-02 **Report Matrix:** Soil/Sediment **Collected:** 12/07/2017
Sample: 4881D-WE-CONF12 **Sample Type:** Sample **Received:** 12/08/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0150	none			Cooler - 1749064

Lab ID: 1749064-03 **Report Matrix:** Soil/Sediment **Collected:** 12/07/2017
Sample: 4881D-WE-CONF08 **Sample Type:** Sample **Received:** 12/08/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none			Cooler - 1749064

Lab ID: 1749064-04 **Report Matrix:** Soil/Sediment **Collected:** 12/07/2017
Sample: 4881D-WE-CONF10 **Sample Type:** Sample **Received:** 12/08/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	4 oz	17-0228	none			Cooler - 1749064

Lab ID: 1749064-05 **Report Matrix:** Soil/Sediment **Collected:** 12/14/2017
Sample: 4881D-WE-0007 **Sample Type:** Sample **Received:** 12/15/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none	n/a	n/a	Cooler#2 - 1749064

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1749064
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1749064-06
Sample: 4881D-WE-0010
Report Matrix: Soil/Sediment
Sample Type: Sample
Collected: 12/14/2017
Received: 12/15/2017

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0074	none	n/a	n/a	Cooler#2 - 1749064

Shipping Containers

Cooler - 1749064

Received: December 8, 2017 9:30
Tracking No: 788812162380 via FedEx
Coolant Type: Blue Ice
Temperature: 2.2 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#8

Custody seals present? No
Custody seals intact? No
COC present? Yes

Cooler#2 - 1749064

Received: December 15, 2017 9:30
Tracking No: 788934506907 via FedEx
Coolant Type: Blue Ice
Temperature: 4.2 °C

Description: Cooler#2
Damaged in transit? No
Returned to client? No
Comments: IR#8

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

BAL Report 1803031

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 1-00000702
Samples Collected: January 17, 2018
Report Date: February 22, 2018

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1803031

1 of 345

BAL Report 1803031

Table of Contents

Case Narrative....3
Report Information....5
Sample Information....6
Batch Summary....6
Sample Results....6
Accuracy & Precision Summary....7
Method Blanks & Reporting Limits....10
Instrument Calibration....13
Sample Containers....16
Shipping Containers....16
Chain-of-Custody Forms and Waybills....17
Hexavalent Chromium - Sequence 1800198, Batch B180247....19
Total Cr - Sequence 1800179, Batch B180183....102
Total Solids - Batch B180184....343

Chain of Custody forms (pages 17 thru 18) and Analytical Instrument Outputs (pages 19 thru 343) from the BAL Report are not included in this appendix.

2 of 345

Case Narrative

Sample Reception

One (1) soil sample was received by Brooks Applied Labs (BAL) on January 18, 2018. The sample was logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

The sample was extracted using EPA Method 3060A. In summary, a known mass of the sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1800198 / Batch B180247

The quality control samples prepared with lead chromate (*i.e.*, B180247-BS3, B180247-MS3, and B180247-MSD3) were mistakenly spiked with approximately 50 mg of insoluble chromate. EPA Method 3060a specifies that each lead chromate spiked sample be prepared using 10 - 20 mg of insoluble chromate. All batch quality control samples spiked with either soluble (*i.e.*, B180247-BS2, B180247-MS2, and B180247-MSD2) or insoluble (*i.e.*, B180247-BS3, B180247-MS3, and B180247-MSD3) forms of hexavalent chromium were within acceptance limits, demonstrating that the applied spike level had no impact on the accuracy or validity of the method. Consequently, no corrective action was deemed necessary.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been method blank corrected (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

We certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Ben Wozniak
Project Manager
ben@brooksapplied.com

Jacki Aitken
Project Coordinator
jacki@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P (206) 632-6206 · F (206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881D-WE-0022	1803031-01	Soil/Sediment	Sample	01/17/2018	01/18/2018

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	01/30/2018	02/07/2018	B180184	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	01/25/2018	02/11/2018	B180183	1800179
Cr(VI)	Soil/Sediment	SOP BAL-4300	02/12/2018	02/12/2018	B180247	1800198

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881D-WE-0022										
1803031-01	%TS	Soil/Sediment	NA	84.59		0.01	0.03	%	B180184	N/A
1803031-01	Cr	Soil/Sediment	dry	11.1		0.319	0.753	mg/kg	B180183	1800179
1803031-01	Cr(VI)	Soil/Sediment	dry	0.489		0.003	0.024	mg/kg	B180247	1800198

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B180183
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B180183-BS1	**Blank Spike, (1730058)**						
	Cr		40.00	43.77	mg/kg	109% 75-125	
B180183-SRM1	**Standard Reference Material (1732010, CRM052-50G Loamy Clay 1)**						
	Cr		107.0	118.6	mg/kg	111% 75-125	
B180183-DUP1	**Duplicate, (1803031-01)**						
	Cr	11.15		12.75	mg/kg		13% 30
B180183-MS1	**Matrix Spike, (1803031-01)**						
	Cr	11.15	44.79	60.85	mg/kg	111% 70-130	
B180183-MSD1	**Matrix Spike Duplicate, (1803031-01)**						
	Cr	11.15	42.10	58.41	mg/kg	112% 70-130	1% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B180184
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B180184-DUP1	**Duplicate, (1803031-01)**						
	%TS	84.59		83.41	%		1% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B180247
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B180247-BS1	**Blank Spike, Cr(III) (1637021)**						
	Cr(VI)		20.00	0.020	mg/kg	0.1% ≤ 1%	
B180247-BS2	**Blank Spike, Cr(VI) (1742024)**						
	Cr(VI)		20.04	22.04	mg/kg	110% 75-125	
B180247-BS3	**Blank Spike, PbCrO4 (NC00442)**						
	Cr(VI)		3064	2924	mg/kg	95% 75-125	
B180247-DUP1	**Duplicate, (1803031-01)**						
	Cr(VI)	0.489		0.427	mg/kg		14% 25
B180247-DUP2	**Duplicate, Analytical (1803031-01)**						
	Cr(VI)	0.489		0.496	mg/kg		1% 25
B180247-MS1	**Matrix Spike, Cr(III) (1803031-01)**						
	Cr(VI)	0.489	23.55	0.173	mg/kg	-1% ≤ 15%	
B180247-MS2	**Matrix Spike, Cr(VI) (1803031-01)**						
	Cr(VI)	0.489	23.32	27.95	mg/kg	118% 75-125	
B180247-MS3	**Matrix Spike, PbCrO4 (1803031-01)**						
	Cr(VI)	0.489	3715	3902	mg/kg	105% 75-125	
B180247-MSD1	**Matrix Spike Duplicate, Cr(III) (1803031-01)**						
	Cr(VI)	0.489	23.41	0.167	mg/kg	-1% ≤ 15%	-2% N/A
B180247-MSD2	**Matrix Spike Duplicate, Cr(VI) (1803031-01)**						
	Cr(VI)	0.489	23.62	26.75	mg/kg	111% 75-125	6% 25
B180247-MSD3	**Matrix Spike Duplicate, PbCrO4 (1803031-01)**						
	Cr(VI)	0.489	3622	3882	mg/kg	107% 75-125	2% 25
B180247-PS1	**Post Spike, (1803031-01)**						
	Cr(VI)	0.489	2.341	3.148	mg/kg	114% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P (206) 632-6206 - F (206) 632-8017 - info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B180183
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B180183-BLK1	-0.136	mg/kg
B180183-BLK2	-0.218	mg/kg
B180183-BLK3	-0.166	mg/kg
B180183-BLK4	-0.130	mg/kg

Average: -0.163
Limit: 0.650

MDL: 0.275
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B180184
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B180184-BLK1	-0.003	%
B180184-BLK2	-0.003	%

Average: 0.00
Limit: 0.03

MDL: 0.01
MRL: 0.03

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B180247
Matrix: Soil/Sediment
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B180247-BLK1	0.009	mg/kg
B180247-BLK2	0.008	mg/kg
B180247-BLK3	0.008	mg/kg
B180247-BLK4	0.009	mg/kg

Average: 0.009
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800179
Instrument: ICPMS8
Date: 02/11/2018
Analyte: Cr 52 [O2]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1800179-ICB1		0.000	µg/L		
1800179-CAL1	0.04000	0.030	µg/L	75%	
1800179-CAL2	0.1000	0.094	µg/L	94%	
1800179-CAL3	0.4000	0.391	µg/L	98%	
1800179-CAL4	1.000	0.935	µg/L	94%	
1800179-CAL5	4.000	4.096	µg/L	102%	
1800179-CAL6	10.00	10.29	µg/L	103%	
1800179-CAL7	40.00	38.91	µg/L	97%	
1800179-CAL8	100.0	100.4	µg/L	100%	
1800179-ICB2		-0.052	µg/L		
1800179-ICV1	10.00	10.81	µg/L	108%	85-115
1800179-ICB3		-0.0002	µg/L		
1800179-ICV2	10.00	10.96	µg/L	110%	85-115
1800179-ICB4		-0.044	µg/L		
1800179-ICB5		-0.042	µg/L		
1800179-IBL1		0.026	µg/L		
1800179-IBL2		-0.004	µg/L		
1800179-IBL3		0.012	µg/L		
1800179-IBL4		-0.020	µg/L		
1800179-SCV1	1.710	1.407	µg/L	82%	75-125
1800179-ICB6		-0.084	µg/L		
1800179-ICB7		-0.090	µg/L		
1800179-SCV2	40.54	41.85	µg/L	103%	75-125
1800179-ICB8		-0.089	µg/L		
1800179-ICB9		-0.102	µg/L		
1800179-ICBB		-0.019	µg/L		
1800179-ICBC		-0.041	µg/L		
1800179-ICBD		-0.053	µg/L		
1800179-ICBE		-0.048	µg/L		
1800179-ICBF		-0.079	µg/L		
1800179-ICBG		-0.069	µg/L		
1800179-ICBH		-0.055	µg/L		
1800179-CCV1	10.00	10.93	µg/L	109%	75-125
1800179-CCB1		-0.009	µg/L		
1800179-CCV2	10.00	10.83	µg/L	108%	75-125
1800179-CCB2		-0.041	µg/L		
1800179-CCV3	10.00	10.90	µg/L	109%	75-125
1800179-CCB3		-0.055	µg/L		
1800179-CCV4	10.00	10.76	µg/L	108%	75-125
1800179-CCB4		-0.023	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 - P(206) 632-6206 - F(206) 632-6017 - info@brooksapplied.com - www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800179
Instrument: ICPMS8
Date: 02/11/2018
Analyte: Cr 52 [O2]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC	& Limits
1800179-CCV5	10.00	10.95	µg/L	109%	75-125
1800179-CCB5		-0.024	µg/L		
1800179-CCV6	10.00	11.26	µg/L	113%	75-125
1800179-CCB6		0.020	µg/L		
1800179-CCV7	10.00	10.91	µg/L	109%	75-125
1800179-CCB7		0.062	µg/L		
1800179-CCV9	10.00	11.17	µg/L	112%	75-125
1800179-CCB9		0.212	µg/L		
1800179-CCVA	10.00	11.32	µg/L	113%	75-125
1800179-CCBA		0.134	µg/L		
1800179-CCVB	10.00	11.28	µg/L	113%	75-125
1800179-CCBB		0.186	µg/L		
1800179-CCVC	10.00	11.39	µg/L	114%	75-125
1800179-CCBC		0.290	µg/L		
1800179-CCVD	10.00	11.14	µg/L	111%	75-125
1800179-CCBD		0.217	µg/L		
1800179-CCVE	10.00	11.12	µg/L	111%	75-125
1800179-CCBE		0.193	µg/L		
1800179-CCVF	10.00	10.79	µg/L	108%	75-125
1800179-CCBF		-0.011	µg/L		
1800179-CCVG	10.00	10.83	µg/L	108%	75-125
1800179-CCBG		-0.055	µg/L		
1800179-CCVH	10.00	10.80	µg/L	108%	75-125
1800179-CCBH		-0.021	µg/L		
1800179-CCVI	10.00	10.99	µg/L	110%	75-125
1800179-CCBI		0.035	µg/L		
1800179-CCVJ	10.00	11.12	µg/L	111%	75-125
1800179-CCBJ		0.030	µg/L		
1800179-CCVK	10.00	11.20	µg/L	112%	75-125
1800179-CCBK		-0.043	µg/L		
1800179-CCVL	10.00	10.92	µg/L	109%	75-125
1800179-CCBL		-0.079	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1800198
Instrument: ICPMS6
Date: 02/12/2018
Analyte: Cr(VI)

Chromium Speciation IC-ICPMS

Lab ID	True Value	Result	Units	REC & Limits	
1800198-ICB1		0.00	µg/L		
1800198-CAL1	0.01002	0.01	µg/L	109%	
1800198-CAL2	0.01002	0.01	µg/L	117%	
1800198-CAL3	0.01002	0.01	µg/L	112%	
1800198-CAL4	0.01002	0.01	µg/L	115%	
1800198-CAL5	0.05010	0.05	µg/L	106%	
1800198-CAL6	0.1002	0.10	µg/L	104%	
1800198-CAL7	0.5010	0.52	µg/L	104%	
1800198-CAL8	1.002	1.04	µg/L	104%	
1800198-CAL9	5.010	5.16	µg/L	103%	
1800198-CALA	10.02	9.91	µg/L	99%	
1800198-IBL1		0.0007	µg/L		
1800198-ICV2	2.000	2.15	µg/L	108%	80-120
1800198-ICB2		0.00	µg/L		
1800198-CCV1	1.002	1.03	µg/L	103%	75-125
1800198-CCB1		0.0009	µg/L		
1800198-CCV2	1.002	1.11	µg/L	111%	75-125
1800198-CCB2		0.002	µg/L		
1800198-CCV3	1.002	1.16	µg/L	116%	75-125
1800198-CCB3		0.001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1803031
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1803031-01 **Report Matrix:** Soil/Sediment **Collected:** 01/17/2018
Sample: 4881D-WE-0022 **Sample Type:** Sample **Received:** 01/18/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Jar HDPE	8 oz	16-0150	none	n/a	n/a	Cooler - 1803031

Shipping Containers

Cooler - 1803031

Received: January 18, 2018 10:20
Tracking No: 789385177027 via FedEx
Coolant Type: Blue Ice
Temperature: 5.5 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#15

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

DATA VALIDATION REPORT

For

Project DAAB-488-2D-CR6

Lab Project Report ID: 1651056

December 15, 2016 sampling

Prepared by North Wind, Inc. – Greenville, SC

January 24, 2017

SRNS NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs

Table 1 - Sample collection dates 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results

Statement of Data Usability 7

ATTACHMENT A : Electronic Data Deliverable- Excel spreadsheet with summary of all results

SRNS NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package for **Project 1651056** that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on January 19, 2017, and consists of analytical data from one sampling event- December 15, 2016. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of two (2) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the twelve (12) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of Ion chromatography and ta modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 353 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following two (2) samples were submitted for analysis: **(Sample date: December 15, 2016)**

DAC488-4D-9B-01 **DAC488-4D-9B-02**

Sample Collection and Receipt

The samples were all collected on December 15, 2016. All samples were received and documented by the laboratory on December 16, 2016 in good condition.

TABLE 1 Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B163263	Batch B163264	Batch B170070
DAC488-4D-9B.... (All collected 12/15/16)	Received 12/16/16	Method 2540G- % moisture	EPA Method 200.8- Total Chromium ICP-QQQ-MS	modified EPA 200.8: Chromium (VI): IC-ICP-DRC-MS
-01	1651056-02	Prep: 01/09/17 Anal.:01/12/17	Prep: 01/09/17 Anal.:01/11/17	Prep: 01/11/17 Anal.:01/12/17
-02	1651056-01	Prep: 01/09/17 Anal.:01/12/17	Prep: 01/09/17 Anal.:01/11/17	Prep: 01/11/17 Anal.:01/12/17

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (if submitted)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). A maximum value of 0.009 mg/kg was obtained. This

blank value has no impact on actual sample results; all sample results were at least 15 times this blank value. All other blanks for the other methods were acceptable. No data have been qualified on this basis.

- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field sample DAC488-4D-9B-01 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries were acceptable for the total chromium analyses. No total chromium data have been qualified.
    - The MS/MSD recoveries for hexavalent chromium were acceptable, and do data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%). No data have been qualified on this basis.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): All laboratory duplicate relative percent difference (RPD) values were less than or equal to 20%, which is considered acceptable for solid matrix result duplicate precision.
- NO field replicate samples were collected for these sampling events. No assessment of field duplicate precision could be made.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported***. No results have been qualified in any way. The RPD calculations from the lab replicate analyses affirm the reliability of the overall accuracy of the analyses. All result pairs easily met this criterion; in fact, most replicate analyses easily exceeded the criterion (in a favorable direction - all much less than 40% RPD). In addition, good accuracy and precision were observed for all of the MS/MSD analyses, further adding to the confidence of all but one of the reported results for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

No data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No data are considered compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: January 24, 2017

Project Chemist, North Wind.

DATA VALIDATION REPORT

For

Hexavalent Chromium

Total Chromium

Lab Project Report ID: 1736056

September 6, 2017 sampling

Prepared by North Wind, Inc. – Greenville, SC
Project 10797.016.02

November 7, 2017

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 4

Table 1 - Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results 7

Statement of Data Usability 7

ATTACHMENT A. Electronic Data Deliverable- Excel spreadsheet with summary of all results

ATTACHMENT B. Brooks Applied Lab Data Package

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on October 30, 2017, and consists of analytical data from one event- September 6, 2016. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of six (6) soil samples from the Savannah River Site D-Area for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the nine (9) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and a modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.006 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 365 pages in length and is included as Attachment B. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: (Sample date: September 6, 2017)

4881D-ST1-1CONF
4881D-ST1-2CONF

4881D-ST1-3CONF
4881D-ST1-4CONF
4881D-WE-CONF18
4881D-WE-CONF19

Sample Collection and Receipt

The samples were all collected on September 6, 2017. All samples were received and documented by the laboratory on September 8, 2017 in good condition.

TABLE 1 Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B172333	Batch B172668	Batch B172336
4881D-	Received 09/08/17	Method 2540G- % moisture	EPA Method 200.8- Total Chromium ICP-QQQ-MS	modified EPA 200.8: Chromium (VI): IC-ICP-DRC-MS
ST1_1CONF	1736056-01	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
ST1_2CONF	1736056-02	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
ST1_3CONF	1736056-03	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
ST1_4CONF	1736056-04	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
WE-CONF18	1736056-05	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
WE_CONF19	1736056-06	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

Page 5

NORTHWIND INCORPORATED

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.006 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field samples 4881D-WE-CONF18 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries were acceptable for the total chromium analyses. No total chromium data have been qualified.
    - The MS/MSD recoveries for hexavalent chromium were acceptable, and do data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%). No data have been qualified on this basis.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 20% for total chromium and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. The lab duplicate RPD for the hexavalent chromium analysis was 83%. The sample was heterogeneous, so this high RPD was only applied to sample 4881D-WE-CONF18. **Therefore the Cr^{+6} result reported for this sample is considered estimated and qualified (J)** on the associated Excel data summary for this work order. Good duplicate precision was obtained for total chromium and total solids.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

One hexavalent chromium result was qualified as estimated (J) because the value reported was less than the method reporting limit (MRL). This occurred in sample 4881D-ST1-4CONF.

Page 6

NORTHWIND INCORPORATED

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported*** **except two:** (1) the hexavalent chromium result was qualified as estimated in sample 4881D-WE-CONF18 due to sample inhomogeneity for this analyte. (2) The hexavalent chromium result was qualified as estimated in sample 4881D-ST1-4CONF because it is below the lab MRL. Other than the foregoing results, the instrument performance, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD analyses, further adding to the confidence of the reported results for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

Other than the result that is less than the MRL, no other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results except two hexavalent chromium results are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No other data are considered quantitatively compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: November 3, 2017

Project Chemist, North Wind.

Page 7

ATTACHMENT A

CHROMIUM DATA - PROJECT 10797.016.02; Sept. 6, 2017 sampling event Lab Work order 1736056

sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
4881D-ST1-1CONF	9/6/2017	1736056-1	SOLIDS	88.34	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-1CONF	9/6/2017	1736056-1	TOT CR	11.5	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-1CONF	9/6/2017	1736056-1	CR+6	0.237	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-ST1-2CONF	9/6/2017	1736056-2	SOLIDS	88.57	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-2CONF	9/6/2017	1736056-2	TOT CR	9.47	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-2CONF	9/6/2017	1736056-2	CR+6	0.216	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-ST1-3CONF	9/6/2017	1736056-3	SOLIDS	79.12	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-3CONF	9/6/2017	1736056-3	TOT CR	10.4	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-3CONF	9/6/2017	1736056-3	CR+6	0.090	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-ST1-4CONF	9/6/2017	1736056-4	SOLIDS	88.19	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-4CONF	9/6/2017	1736056-4	TOT CR	10.20	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-4CONF	9/6/2017	1736056-4	CR+6	0.022	mg/kg	J	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-WE-CONF18	9/6/2017	1736056-5	SOLIDS	92.32	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-WE-CONF18	9/6/2017	1736056-5	TOT CR	12.7	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-WE-CONF18	9/6/2017	1736056-5	CR+6	0.087	mg/kg	J	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-WE-CONF19	9/6/2017	1736056-6	SOLIDS	93.66	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-WE-CONF19	9/6/2017	1736056-6	TOT CR	9.45	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-WE-CONF19	9/6/2017	1736056-6	CR+6	0.303	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336

KEY: = means result is confident as reported
J means result is estimated

DATA VALIDATION REPORT

For

Project 10894.004

Hexavalent Chromium

Total Chromium

Lab Project Report ID: 1745034

November 8 and 16, 2017 samplings

Prepared by North Wind, Inc. – Greenville, SC

January 3, 2018

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 5

Tables 1 and 2 - Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 6

QC indicators

QC results summary

Qualified results based on QC results 7

Statement of Data Usability 7

ATTACHMENT A: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on December 20, 2017, and consists of analytical data from two sampling events- November 8 and 16, 2017. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of a total of seven (7) soil samples (from two sampling events) from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the nine (9) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole-Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "O" were generated in this manner.

Brooks Applied Method BAL-4300: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma-Collision Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and a modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.007 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 374 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: **(Sample date: November 8, 2017)**

4881D-WE-CONF01 4881D-WE-CONF02 4881D-WE-CONF03 4881D-WE-CONF04

NORTHWIND INCORPORATED

(Sample date: November 16, 2017)

4881D-WE-CONF05 4881D-WE-CONF06 4881D-WE-CONF17

Sample Collection and Receipt

The samples were collected on November 8 and 16, 2017. All samples were received and documented by the laboratory on November 9 and 17, 2017 in good condition.

TABLE 1 Sample Preparation and Analysis Dates for 11/08/2017 sampling

Client ID	Lab ID	Batch B173119	Batch B173118	Batch B173191
4881D-	Received 11/09/17	Method 2540G- % moisture	EPA Method 200.8 Total Chromium ICP-QQQ-MS	modified EPA 200.8 Chromium (VI) IC-ICP-CRC-MS
WE-CONF01	1745034-01	Prep: 11/20/17 Anal.:11/22/17	Prep: 11/20/17 Anal.:11/29/17 and 12/06/17	Prep: 11/27/17 Anal.:11/27/17
WE-CONF02	1745034-02	Prep: 11/20/17 Anal.:11/22/17	Prep: 11/20/17 Anal.:11/29/17 and 12/06/17	Prep: 11/27/17 Anal.:11/27/17
WE-CONF03	1745034-03	Prep: 11/20/17 Anal.:11/22/17	Prep: 11/20/17 Anal.:11/29/17 and 12/06/17	Prep: 11/27/17 Anal.:11/27/17
WE-CONF04	1745034-04	Prep: 11/20/17 Anal.:11/22/17	Prep: 11/20/17 Anal.:11/29/17 and 12/06/17	Prep: 11/27/17 Anal.:11/27/17

TABLE 2 Sample Preparation and Analysis Dates for 11/16/2017 sampling

Client ID	Lab ID	Batch B173290	Batch B173211	Batch B173191
4881D-	Received 11/17/17	Method 2540G- % moisture	EPA Method 200.8 Total Chromium ICP-QQQ-MS	modified EPA 200.8 Chromium (VI) IC-ICP-CRC-MS
WE-CONF05	1745034-05	Prep: 12/07/17 Anal.:12/11/17	Prep: 11/30/17 Anal.:12/06/17	Prep: 11/27/17 Anal.:11/27/17
WE-CONF06	1745034-06	Prep: 12/07/17 Anal.:12/11/17	Prep: 11/30/17 Anal.:12/06/17	Prep: 11/27/17 Anal.:11/27/17
WE-CONF17	1745034-07	Prep: 12/07/17 Anal.:12/11/17	Prep: 11/30/17 Anal.:12/06/17	Prep: 11/27/17 Anal.:11/27/17

Page 5

NORTHWIND INCORPORATED

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.007 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field sample 4881D-WE-CONF05 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries based on the spiking of hexavalent chromium compound $PbCrO_4$ were acceptable for the hexavalent chromium analyses. No total chromium data have been qualified on this basis.
    - Slightly low MS/MSD recoveries were noted for the spiking of an aqueous solution of hexavalent chromium in sample 4881D-WE-CONF05 (61% and 73%). These data suggest that in this particular sample matrix, the native hexavalent chromium was reduced to Chromium (III) to a slight extent. Therefore, as a worst-case approach, the result for hexavalent chromium in **this one sample** may be considered to be biased slightly low, and is **qualified as estimated (J).**

Page 6

- The MS/MSD recoveries for total chromium were acceptable, and no data have been qualified.

- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%). No data have been qualified on this basis.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 20% for total chromium, hexavalent chromium, and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. Since good duplicate precision was obtained for all analyses, no data have been qualified on this basis.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported*** **except one**: (1) the hexavalent chromium result was qualified as estimated in sample 488-1D-WE-CONF05 due to slightly low MS/MSD recoveries for this analyte. Other than the foregoing result, the instrument performance, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD analyses except as noted above, further adding to the confidence of nearly all of the reported results for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

Other than the result that is qualified due to MS/MSD performance, no other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results except one hexavalent chromium result are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No other data are considered quantitatively compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: January 3, 2018

Project Chemist, North Wind.

Page 7

Attachment A

Electronic Data Deliverable- Excel spreadsheet with summary of all results

CHROMIUM DATA - PROJECT 10894.004; Nov. 8 and 16, 2017 sampling events

Lab Work order 1745034

PROJECT ID	sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
10894.004	4881D-WE-CONF01	11/8/2017	1745034-01	SOLIDS	82.35	%	=	SM2540G	11/20/2017	11/22/2017	B173119
10894.004	4881D-WE-CONF01	11/8/2017	1745034-01	TOT CR	28.1	mg/kg	=	EPA200.8	11/20/2017	11/29/2017	B173118
10894.004	4881D-WE-CONF01	11/8/2017	1745034-01	CR+6	0.837	mg/kg	=	IC-ICP-CRC-MS	11/27/2017	11/27/2017	B173191
10894.004	4881D-WE-CONF02	11/8/2017	1745034-02	SOLIDS	85.81	%	=	SM2540G	11/20/2017	11/22/2017	B173119
10894.004	4881D-WE-CONF02	11/8/2017	1745034-02	TOT CR	16.00	mg/kg	=	EPA200.8	11/20/2017	11/29/2017	B173118
10894.004	4881D-WE-CONF02	11/8/2017	1745034-02	CR+6	1.240	mg/kg	=	IC-ICP-CRC-MS	11/27/2017	11/27/2017	B173191
10894.004	4881D-WE-CONF03	11/8/2017	1745034-03	SOLIDS	80.39	%	=	SM2540G	11/20/2017	11/22/2017	B173119
10894.004	4881D-WE-CONF03	11/8/2017	1745034-03	TOT CR	27.1	mg/kg	=	EPA200.8	11/20/2017	11/29/2017	B173118
10894.004	4881D-WE-CONF03	11/8/2017	1745034-03	CR+6	0.899	mg/kg	=	IC-ICP-CRC-MS	11/27/2017	11/27/2017	B173191
10894.004	488D1-WE-CONF04	11/8/2017	1745034-04	SOLIDS	82.79	%	=	SM2540G	11/20/2017	11/22/2017	B173119
10894.004	488D1-WE-CONF04	11/8/2017	1745034-04	TOT CR	20.70	mg/kg	=	EPA200.8	11/20/2017	11/29/2017	B173118
10894.004	488D1-WE-CONF04	11/8/2017	1745034-04	CR+6	1.100	mg/kg	=	IC-ICP-CRC-MS	11/27/2017	11/27/2017	B173191
10894.004	4881D-WE-CONF05	11/16/2017	1745034-05	SOLIDS	83.39	%	=	SM2540G	12/7/2017	12/11/2017	B173290
10894.004	4881D-WE-CONF05	11/16/2017	1745034-05	TOT CR	22.4	mg/kg	=	EPA200.8	11/30/2017	12/6/2017	B173211
10894.004	4881D-WE-CONF05	11/16/2017	1745034-05	CR+6	1.000	mg/kg	J	IC-ICP-DRC-MS	11/27/2017	11/27/2017	B173191
10894.004	4881D-WE-CONF06	11/16/2017	1745034-06	SOILDS	81.420	%	=	SM2540G	12/7/2017	12/11/2017	B173290
10894.004	4881D-WE-CONF06	11/16/2017	1745034-06	TOT CR	22.700	mg/kg	=	EPA200.8	11/30/2017	12/6/2017	B173211
10894.004	4881D-WE-CONF06	11/16/2017	1745034-06	CR+6	1.010	mg/kg	=	IC-ICP-CRC-MS	11/27/2017	11/27/2017	B173191
10894.004	4881D-WE-CONF17	11/16/2017	1745034-07	SOLIDS	87.44	%	=	SM2540G	12/7/2017	12/11/2017	B173290
10894.004	4881D-WE-CONF17	11/16/2017	1745034-07	TOT CR	11.20	mg/kg	=	EPA200.8	11/30/2017	12/6/2017	B173211
10894.004	4881D-WE-CONF17	11/16/2017	1745034-07	CR+6	0.223	mg/kg	=	IC-ICP-CRC-MS	11/27/2017	11/27/2017	B173191

KEY: = means result is confident as reported
J means result is estimated

DATA VALIDATION REPORT

For

Lab Project ID: 1-00000702

Client Project ID: 10894.004

Hexavalent Chromium

Total Chromium

Percent Solids

Lab Project Report ID: 1748071

November 30, 2017 sampling

Prepared by North Wind, Inc. – Greenville, SC

January 19, 2018

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 5

Table 1 - Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results 6

Statement of Data Usability 7

ATTACHMENT A: Electronic Data Deliverable - Excel spreadsheet with summary of all results

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on January 12, 2018, and consists of analytical data from one sampling event- November 30, 2017. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of a total of four (4) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the nine (9) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole-Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

Brooks Applied Method BAL-4300: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma-Collision Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and a modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system. The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is

then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.007 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 324 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: **(Sample date: November 30, 2017)**

4881D-WE-CONF13 4881D-WE-CONF14 4881D-WE-CONF15 4881D-WE-CONF16

Sample Collection and Receipt

The samples were collected on November 30 2017. All samples were received and documented by the laboratory on December 1, 2017 in good condition.

TABLE 1 Sample Preparation and Analysis Dates for 11/08/2017 sampling

Client ID	Lab ID	Batch B173290	Batch B173518	Batch B173292
4881D-	Received 12/01/17	Method 2540G-% moisture	EPA Method 200.8 & Total Chromium ICP-QQQ-MS	modified EPA 200.8 & Chromium (VI): IC-ICP-CRC-MS
WE-CONF13	1748071-01	Prep: 12/07/17 Anal.:12/11/17	Prep: 01/04/18 Anal.:01/05/18	Prep: 12/05/17 Anal.:12/06/17
WE-CONF14	1748071-02	Prep: 12/07/17 Anal.:12/11/17	Prep: 01/04/18 Anal.:01/05/18	Prep: 12/05/17 Anal.:12/06/17
WE-CONF15	1748071-03	Prep: 12/07/17 Anal.:12/11/17	Prep: 01/04/18 Anal.:01/05/18	Prep: 12/05/17 Anal.:12/06/17
WE-CONF16	1748071-04	Prep: 12/07/17 Anal.:12/11/17	Prep: 01/04/18 Anal.:01/05/18	Prep: 12/05/17 Anal.:12/06/17

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

Page 5

NORTHWIND INCORPORATED

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.009 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field sample 4881D-WE-CONF15 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries based on the spiking of hexavalent chromium compound $PbCrO_4$ into water were acceptable for the hexavalent chromium analyses. No total chromium data have been qualified on this basis.
    - **Very low** MS/MSD recoveries were noted for the spiking of a low-level aqueous solution of hexavalent chromium level (similar to the expected native concentrations) in sample 4881D-WE-CONF15 (7% and 4%). These data suggest that in this particular sample matrix, the native hexavalent chromium was reduced to Chromium (III) to a large extent which suggests that the result for this analyte in the sample is biased low.. Therefore, as a worst-case approach, the results for hexavalent chromium in **all four samples** may be considered to **be biased considerably low**, and are **qualified as estimated (J)**.
    - The MS/MSD recoveries for total chromium were acceptable, and no data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for total solids and total chromium (all RPD values less than 20%). No data have been qualified on this basis. A high RPD was noted for the hexavalent chromium MS/MSD analyses, mainly attributable to the very low recoveries that were obtained.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 25% for total chromium, hexavalent chromium, and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. Since good duplicate precision was obtained for all analyses, no data have been qualified on this basis.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered estimated as reported*** for the hexavalent chromium results in all four samples. These results were so qualified as estimated (J) due to very low MS/MSD recoveries for this analyte. Other than the foregoing results, the instrument performance, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD

Page 6

analyses except as noted above, further adding to the confidence of the reported results for total chromium and total solids for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

Other than the results that are qualified due to poor MS/MSD performance, no other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results except the hexavalent chromium results discussed above are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No other data are considered quantitatively compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: January 19, 2018

Project Chemist, North Wind.

Page 7

Attachment A

Electronic Data Deliverable-Excel spreadsheet with summary of all results

CHROMIUM DATA - 100000702 Nov. 30, 2017 sampling event

Lab Work order 1748071

LAB PROJECT ID	CLIENT PROJECT ID	CLIENT SAMPLE ID	SAMPLING DATE	LAB SAMPLE ID	ANALYTE	RESULT	UNITS	LAB QUAL	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
100000702	010797.016.02	4881D-WE-CONF13	11/30/2017	1748071-01	SOLIDS	79.31	%		=	SM2540G	12/7/2017	12/11/2017	B173290
100000702	010797.016.02	4881D-WE-CONF13	11/30/2017	1748071-01	TOT CR	13.2	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173518
100000702	010797.016.02	4881D-WE-CONF13	11/30/2017	1748071-01	CR+6	1.240	mg/kg		J	IC-ICP-CRC-MS	12/5/2017	12/6/2017	B173292
100000702	010797.016.02	4881D-WE-CONF14	11/30/2017	1748071-02	SOLIDS	87.66	%		=	SM2540G	12/7/2017	12/11/2017	B173290
100000702	010797.016.02	4881D-WE-CONF14	11/30/2017	1748071-02	TOT CR	11.10	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173518
100000702	010797.016.02	4881D-WE-CONF14	11/30/2017	1748071-02	CR+6	0.484	mg/kg		J	IC-ICP-CRC-MS	12/5/2017	12/6/2017	B173292
100000702	010797.016.02	4881D-WE-CONF15	11/30/2017	1748071-03	SOLIDS	81.81	%		=	SM2540G	12/7/2017	12/11/2017	B173290
100000702	010797.016.02	4881D-WE-CONF15	11/30/2017	1748071-03	TOT CR	14.3	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173518
100000702	010797.016.02	4881D-WE-CONF15	11/30/2017	1748071-03	CR+6	0.651	mg/kg		J	IC-ICP-CRC-MS	12/5/2017	12/6/2017	B173292
100000702	010797.016.02	488D1-WE-CONF16	11/30/2017	1748071-04	SOLIDS	82.88	%		=	SM2540G	12/7/2017	12/11/2017	B173290
100000702	010797.016.02	488D1-WE-CONF16	11/30/2017	1748071-04	TOT CR	17.20	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173518
100000702	010797.016.02	488D1-WE-CONF16	11/30/2017	1748071-04	CR+6	1.600	mg/kg		J	IC-ICP-CRC-MS	12/5/2017	12/6/2017	B173292

KEY: = means result is confident as reported
J means result is estimated

DATA VALIDATION REPORT

For

Lab Project ID: 1-00000702

Client Project ID: 10894.004

Hexavalent Chromium

Total Chromium

Percent Solids

Lab Project Report ID: 1749064

December 7 and 14, 2017 sampling

Prepared by North Wind, Inc. – Greenville, SC

January 26, 2018

Page 1

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 5

Tables 1 and 2 - Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results 7

Statement of Data Usability 7

ATTACHMENT A: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INC.

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on January 16, 2018, and consists of analytical data from two sampling events- December 7 and December 14, 2017. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of a total of six (6) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the six (6) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

Brooks Applied Method BAL-4300: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma-Collision Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and a modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.007 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 358 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: **(Sample date: December 7, 2017)**

4881D-WE-CONF11 4881D-WE-CONF12 4881D-WE-CONF08 4881D-WE-CONF10

Page 4

Sample Date: December 14, 2017:

4881D-WE-007 4881D-WE-0010

Sample Collection and Receipt

The samples were collected on December 7, 2017. All samples were received and documented by the laboratory on December 8, 2017 in good condition.

TABLE 1 Sample Preparation and Analysis Dates for 12/07/2017 sampling

Client ID	Lab ID	Batch B173442	Batch B173348	Batch B180036
4881D-	Received 12/08/17	Method 2540G- % moisture	EPA Method 200.8- Total Chromium ICP-QQQ-MS	modified EPA 200.8: Chromium (VI): IC-ICP-CRC-MS
WE-CONF11	1749064-01	Prep: 01/04/18 Anal.:01/12/18	Prep: 01/04/18 Anal.:01/05/18	Prep: 01/05/18 Anal.:01/05/18
WE-CONF12	1749064-02	Prep: 01/04/18 Anal.:01/12/18	Prep: 01/04/18 Anal.:01/05/18	Prep: 01/05/18 Anal.:01/05/18
WE-CONF08	1749064-03	Prep: 01/04/18 Anal.:01/12/18	Prep: 01/04/18 Anal.:01/05/18	Prep: 01/05/18 Anal.:01/05/18
WE-CONF10	1749064-04	Prep: 01/04/18 Anal.:01/12/18	Prep: 01/04/18 Anal.:01/05/18	Prep: 01/05/18 Anal.:01/05/18

TABLE 2 Sample Preparation and Analysis Dates for 12/14/2017 sampling

Client ID	Lab ID	Batch B173442	Batch B173348	Batch B180036
4881D-	Received 12/15/17	Method 2540G- % moisture	EPA Method 200.8- Total Chromium ICP-QQQ-MS	modified EPA 200.8: Chromium (VI): IC-ICP-CRC-MS
WE-0007	1749064-01	Prep: 01/04/18 Anal.:01/12/18	Prep: 01/04/18 Anal.:01/05/18	Prep: 01/05/18 Anal.:01/05/18
WE-0010	1749064-02	Prep: 01/04/18 Anal.:01/12/18	Prep: 01/04/18 Anal.:01/05/18	Prep: 01/05/18 Anal.:01/05/18

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)

Page 5

- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.006 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field sample 4881D-WE-CONF15 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries based on the spiking of hexavalent chromium compound $PbCrO_4$ into water were acceptable for the hexavalent chromium analyses. No total chromium data have been qualified on this basis.
    - **Low** MS/MSD recoveries were noted for the spiking of a low- level aqueous solution of hexavalent chromium level (similar to the expected native concentrations) in sample 4881D-WE-0010 (39% and 48%). These data suggest that in this particular sample matrix, the native hexavalent chromium was reduced to Chromium (III) to a significant extent during analysis, which suggests that the result for this analyte in the sample is biased low. Therefore, as a worst-case approach, the results for hexavalent chromium in **all six samples** may be considered to **be biased low,** and are **qualified as estimated (J).**
    - The MS/MSD recoveries for total chromium were acceptable, and no data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for total solids and total chromium (all RPD values less than 20%). No data have been qualified on this basis. A high RPD

was noted for the hexavalent chromium MS/MSD analyses, mainly attributable to the very low recoveries that were obtained.

- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 25% for total chromium, hexavalent chromium, and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. Since good duplicate precision was obtained for all analyses, no data have been qualified on this basis.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered estimated as reported*** for the hexavalent chromium results in all six samples. These results were so qualified as estimated (J) due to low MS/MSD recoveries for this analyte. Other than the foregoing results, the instrument performance, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD analyses except as noted above, further adding to the confidence of the reported results for total chromium and total solids for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

Other than the results that are qualified due to unsatisfactory MS/MSD performance, no other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results except the hexavalent chromium results discussed above are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No other data are considered quantitatively compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: January 26, 2018

Project Chemist, North Wind

Page 7

ATTACHMENT A: Electronic Data Deliverable- Excel spreadsheet with summary of all results

CHROMIUM DATA - 100000702 Dec. 7 & 14, 2017 sampling events 10894.004 Lab Work order 1749064

LAB PROJECT ID	CLIENT PROJECT ID	CLIENT SAMPLE ID	SAMPLING DATE	LAB SAMPLE ID	ANALYTE	RESULT	UNITS	LAB QUAL	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
100000702	10894.004	4881D-WE-CONF11	12/7/2017	1749064-01	SOLIDS	77.46	%		=	SM2540G	1/4/2018	1/12/2018	B173442
100000702	10894.004	4881D-WE-CONF11	12/7/2017	1749064-01	TOT CR	20.0	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173438
100000702	10894.004	4881D-WE-CONF11	12/7/2017	1749064-01	CR+6	1.540	mg/kg		J	IC-ICP-CRC-MS	1/5/2018	1/6/2018	B180036
100000702	10894.004	4881D-WE-CONF12	12/7/2017	1749064-02	SOLIDS	86.86	%		=	SM2540G	1/4/2018	1/12/2018	B173442
100000702	10894.004	4881D-WE-CONF12	12/7/2017	1749064-02	TOT CR	16.00	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173438
100000702	10894.004	4881D-WE-CONF12	12/7/2017	1749064-02	CR+6	0.630	mg/kg		J	IC-ICP-CRC-MS	1/5/2018	1/6/2018	B180036
100000702	10894.004	4881D-WE-CONF08	12/7/2017	1749064-03	SOLIDS	88.13	%		=	SM2540G	1/4/2018	1/12/2018	B173442
100000702	10894.004	4881D-WE-CONF08	12/7/2017	1749064-03	TOT CR	15.1	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173438
100000702	10894.004	4881D-WE-CONF08	12/7/2017	1749064-03	CR+6	0.695	mg/kg		J	IC-ICP-CRC-MS	1/5/2018	1/6/2018	B180036
100000702	10894.004	488D1-WE-CONF10	12/7/2017	1749064-04	SOLIDS	85.93	%		=	SM2540G	1/4/2018	1/12/2018	B173442
100000702	10894.004	488D1-WE-CONF10	12/7/2017	1749064-04	TOT CR	13.10	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173438
100000702	10894.004	488D1-WE-CONF10	12/7/2017	1749064-04	CR+6	0.997	mg/kg		J	IC-ICP-CRC-MS	1/5/2018	1/6/2018	B180036
	10894.004	488D1-WE-0007	12/14/2017	1749064-05	SOLIDS	76.56	%		=	SM2540G	1/4/2018	1/12/2018	B173442
	10894.004	488D1-WE-0007	12/14/2017	1749064-05	TOT CR	31.10	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173438
	10894.004	488D1-WE-0007	12/14/2017	1749064-05	CR+6	1.630	mg/kg		J	IC-ICP-CRC-MS	1/5/2018	1/6/2018	B180036
	10894.004	488D1-WE-0010	12/14/2017	1749064-06	SOLIDS	75.66	%		=	SM2540G	1/4/2018	1/12/2018	B173442
	10894.004	488D1-WE-0010	12/14/2017	1749064-06	TOT CR	28.90	mg/kg		=	EPA200.8	1/4/2018	1/5/2018	B173438
	10894.004	488D1-WE-0010	12/14/2017	1749064-06	CR+6	1.370	mg/kg		J	IC-ICP-CRC-MS	1/5/2018	1/6/2018	B180036

KEY: = means result is confident as reported
J means result is estimated

DATA VALIDATION REPORT

For

Lab Project ID: 1-00000702

Client Project ID: 10894.004

Hexavalent Chromium

Total Chromium

Percent Solids

Lab Project Report ID: 1803031

January 17, 2018 sampling

Prepared by North Wind, Inc. – Greenville, SC

February 28, 2018

Page 1

NORTHWIND INC.

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 5

Tables 1 and 2 - Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results 7

Statement of Data Usability 7

ATTACHMENT: Electronic Data Deliverable- Excel spreadsheet with summary of all results

NORTHWIND INC

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on February 22, 2018, and consists of analytical data from one sampling event- January 17, 2018. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of a total of One (1) soil sample from the Savannah River Project for the analysis of Chromium. In particular, the sample was analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the one (1) sample submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole-Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "C" were generated in this manner.

Brooks Applied Method BAL-4300: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma-Collision Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and a modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system. The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is

Page 3

then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.007 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 345 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following sample was submitted for analysis: **(Sample date: January 17, 2018)**

4881D-WE-0022

Sample Collection and Receipt

Page 4

The sample was collected on January 17, 2018. The sample was received and documented by the laboratory on January 18, 2018 in good condition.

TABLE 1 Sample Preparation and Analysis Dates for 01/17/2018 sampling

Client ID	Lab ID	Batch B180184	Batch B180183	Batch B180247
488D-	Received 01/17/18	Method 2540G- % moisture	EPA Method 200.8 & Total Chromium ICP-QQQ-MS	modified EPA 200.8 & Chromium (VI): IC-ICP-CRC-MS
WE-0022	1803031-01	Prep: 01/30/18 Anal.:02/07/18	Prep: 01/25/18 Anal.:02/11/18	Prep: 02/12/18 Anal.:02/12/18

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.009 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.

Page 5

- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field sample 488D-WE-0022 for both total chromium and hexavalent chromium.
  - All MS/MSD recoveries based on the spiking of hexavalent chromium compound $PbCrO_4$ into water were acceptable for the hexavalent chromium analyses.
  - All Hexavalent Chromium aqueous Cr^{+6} MS/MSD recoveries were acceptable. No hexavalent chromium data have been qualified on this basis.
  - The MS/MSD recoveries for total chromium were acceptable, and no data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for total solids and total chromium (all RPD values less than 20%). No data have been qualified on this basis. A high RPD was noted for the hexavalent chromium MS/MSD analyses, mainly attributable to the very low recoveries that were obtained.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 25% for total chromium, hexavalent chromium, and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. Since good duplicate precision was obtained for all analyses, no data have been qualified on this basis.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported in the sample.*** Acceptable instrument performance as demonstrated by all QC criteria that were in control, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD analyses, further adding to the confidence of the reported results for total and hexavalent chromium and total solids for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

Page 6

NORTHWIND INC

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this sampling event, all reported results are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No data are considered quantitatively compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: February 28, 2018

Project Chemist, North Wind

Page 7

ATTACHMENT

Electronic Data Deliverable- Excel spreadsheet with summary of all results

Page 8

CHROMIUM DATA - 100000702 Jan. 17, 2018 sampling event 10894.004 Lab Work order 1803031

LAB PROJECT ID	CLIENT PROJECT ID	CLIENT SAMPLE ID	SAMPLING DATE	LAB SAMPLE ID	ANALYTE	RESULT	UNITS	LAB QUAL	VAL QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
100000702	10894.004	4881D-WE-0022	1/17/2018	1803031-01	SOLIDS	84.59	%		=	SM2540G	1/30/2018	2/7/2018	B180184
100000702	10894.004	4881D-WE-0022	1/17/2018	1803031-01	TOT CR	11.1	mg/kg		=	EPA200.8	1/25/2018	2/11/2018	B180186
100000702	10894.004	4881D-WE-0022	1/17/2018	1803031-01	CR+6	0.489	mg/kg		=	IC-ICP-CRC-MS	2/12/2018	2/12/2018	B180247

KEY: = means result is confident as reported
J means result is estimated

RJC 02/28/2018

APPENDIX S3

DUR for Confirmation Sampling at the Inlet Basins

This page intentionally left blank.

TABLE OF CONTENTS

Section **Page**

LIST OF TABLES **S3-4**

I. CONFIRMATION SAMPLES **S3-5**

1.0 PROJECT SUMMARY **S3-5**

2.0 ASSESSMENT OF PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, AND COMPLETENESS DATA QUALITY INDICATORS AND MEASUREMENT PERFORMANCE CRITERIA **S3-7**
2.1 Precision **S3-7**
2.2 Accuracy **S3-8**
2.3 Representativeness **S3-8**
2.4 Comparability **S3-9**
2.5 Completeness **S3-9**

3.0 VALIDATION FINDINGS **S3-10**
3.1 Holding Times **S3-10**
3.2 Preservation **S3-10**
3.3 Calibration, Identification, and Quantitation **S3-11**
3.4 Trip Blanks and Rinsate Blanks **S3-11**
3.5 Method Blanks **S3-12**
3.6 Laboratory Duplicate Relative Percent Difference **S3-13**
3.7 Field Duplicate Relative Percent Difference **S3-13**
3.8 Matrix Spike Recovery **S3-14**
3.9 Laboratory Control Samples Recovery **S3-16**
3.10 Surrogate/Tracer Recovery **S3-17**
3.11 Split Samples Comparability **S3-17**

4.0 DATA USABILITY **S3-18**

5.0 REFERENCES **S3-18**

II. HEXAVALENT CHROMIUM STUDY SAMPLES **S3-19**

LIST OF TABLES

Table		Page
Table S3-1.	Sample Identification Summary	S3-5
Table S3-2.	Total Number of Records	S3-5
Table S3-3.	Environmental Record Review Qualifier Summary	S3-6
Table S3-4.	Holding Time Review Qualifier Summary	S3-10
Table S3-5.	Preservation Review Qualifier Summary	S3-11
Table S3-6.	Calibration, Identification, and Quantitation Review Summary	S3-11
Table S3-7A.	Trip Blank Review Qualifier Summary	S3-11
Table S3-7B.	Rinsate Blank Review Qualifier Summary	S3-12
Table S3-8.	Method Blank Review Qualifier Summary	S3-13
Table S3-9.	Laboratory Duplicate Qualifier Summary	S3-13
Table S3-10.	Field Duplicate Qualifier Summary	S3-14
Table S3-11.	Matrix Spike Recovery Qualifier Summary	S3-16
Table S3-12.	Laboratory Control Samples Qualifier Summary	S3-17
Table S3-13.	Surrogate/Tracer Recovery Qualifier Summary	S3-17
Table S3-14.	Split Samples	S3-17

I. CONFIRMATION SAMPLES

1.0 PROJECT SUMMARY

This report presents analytical data verification, validation and usability assessment results for the soil confirmation sampling that was conducted in accordance with the *Field Sampling Plan for the D-Area 488-1D Inlet Basins (U)* (FSP) (SRNS 2014a) and presented in the *Human Health and Ecological Evaluation for Confirmation Sampling at the 488-1D Ash Basin and Inlet Basins (U)* (SRNS 2018). The project generated eight regular (REG) field samples, two field duplicate (FD) samples, and one split (SPL) sample (SPL sample ID 488-1DSTHCF05 was sent to the General Engineering Lab instead of Test America Lab and analyzed) and two rinsate blanks (RBs). The samples, along with the requested analytical analyses, are listed in Table S3-1.

Table S3-1. Sample Identification Summary

Station ID	Sample ID	Sample Type	Sample Date	Sample Time	Matrix	Interval *(ft)*	Analysis Requested
4881D-STI-1CONF	488-1DSTHCF01	REG	9/06/17	0915	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-2CONF	488-1DSTHCF02	FD	9/06/17	0815	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-2CONF	488-1DSTHCF03	REG	9/06/17	0815	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-3CONF	488-1DSTHCF04	REG	9/06/17	0925	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-3CONF	*488-1DSTHCF05*	*SPL*	*9/06/17*	*0925*	*SOIL*	*0-1*	*1, 2, 3, 4, 5*
4881D-STI-4CONF	488-1DSTHCF06	REG	9/06/17	0830	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-5CONF	4881DSTHCNF21	REG	7/26/18	0900	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-6CONF	4881DSTHCNF22	FD	7/26/18	0845	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-6CONF	4881DSTHCNF23	REG	7/26/18	0845	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-7CONF	4881DSTHCNF24	REG	7/26/18	0910	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-8CONF	4881DSTHCNF25	REG	7/26/18	0915	SOIL	0-1	1, 2, 3, 4, 5
4881D-STI-8CONF	4881DSTHCNF27	SPL	7/26/18	0915	SOIL	0-1	1, 2, 3, 4, 5
RINSATE BLANK	488-1DSTHCF09	RB	9/06/17	1015	WATER	-	1, 2, 3, 4, 5
RINSATE BLANK	4881DSTHCNF29	RB	7/26/18	0930	WATER	-	1, 2, 3, 4, 5

ID = identification

Analyses Requested:

1. Chromium, Hexavalent
2. inductively coupled plasma ICP Metals
3. Mercury, Total Recoverable
4. Gamma Spectroscopy
5. Uranium, Alpha Spectroscopy

A total of 475 analytical records were produced consisting of REG records and Quality Control (QC) records. See Table S3-2.

Table S3-2. Total Number of Records

Number of Records	Chemical	Radiochemical	Totals
Analytical	288	84	372
Field QC	56	47	103
Totals	344	131	475

The verification process was conducted to review completeness of the sampling and analytical requirements. Validation has been performed to assess compliance with methods, procedures, and contracts, and to assess a comparison with measurement performance criteria in the ER-SOP-033, *Analytical Data Qualification* (SRNS 2015). A usability assessment will provide the data user with an assessment of whether the process execution and resulting data meet project quality objectives in the Quality Assurance Project Plan (QAPP) (SRNS 2012) and the *Confirmation Sampling and Analysis Plan for Coal and/or Ash Removal at the Savannah River Site* (SAP) (SRNS 2014b). These processes involve examination of the FSP (SRNS 2014a) and SAP (SRNS 2014b), electronic data files, the field data, analytical data, and laboratory records. Computer programs are used to verify that samples were properly preserved and were analyzed within the required holding time (HT), that QC results were within specified acceptable ranges, and that the appropriate detection limits were employed by the laboratories. Additionally, manual reviews of field data and laboratory records are conducted to ensure the quality of these items. Validation summaries for HT, preservation, calibration (CAL), analyte identification, and analyte quantitation can be found in Subsections 3.1, *Holding Times*; 3.2, *Preservation*; and 3.3, *Calibration, Identification, and Quantitation*.

The data were validated to determine if the records conform to the technical criteria associated with definitive data per ER-SOP-033 (SRNS 2015). Table S3-3 provides a brief validation summary for the project. Review qualifiers are assigned by a data validator internal to Savannah River Nuclear Solutions and external to the analytical laboratory. Environmental records include REG sample, SPL and FD records.

Table S3-3. Environmental Record Review Qualifier Summary

	Detects		Non-detects		Rejected	
Method Code	**# NULL Qualifiers**	**# J Qualifiers**	**# U Qualifiers**	**# UJ Qualifiers**	**# R Qualifiers**	**Total**
A-01-RMOD	2	0	1	0	0	3
EPA6010C/D	0	3	19	1	0	23
EPA6020A/B	109	104	18	10	0	241
EPA7196A	0	6	6	0	0	12
EPA7471B	6	5	1	0	0	12
GA-01-RMOD	2	1	1	0	0	4
RADA-011	17	11	5	0	0	33
RADA-013	38	5	0	0	1	44
Total	**174**	**135**	**51**	**11**	**1**	**372**
% of Total	**46.8**	**36.3**	**13.7**	**2.9**	**0.3**	**100%**

2.0 ASSESSMENT OF PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, and COMPLETENESS DATA QUALITY INDICATORS AND MEASUREMENT PERFORMANCE CRITERIA

This section discusses the analytical data in terms of the following indicators of data quality: precision, accuracy, representativeness, comparability, and completeness. Precision is determined from the field and laboratory duplicate analyses and indicates the consistency of field and laboratory techniques. Accuracy is determined from the laboratory control samples (LCS), matrix spikes (MS) and the results of the results of the method blanks (MBs), field, trip and RBs; it indicates the ability of the laboratory to generate correct results. Representativeness measures how well the data represents the sample population. Comparability expresses the confidence with which data from different laboratories are considered equivalent. Representative completeness measures the amount of data resulting from the data collection activity.

2.1 Precision

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. FDs measure the repeatability of the sampling and analytical techniques, and laboratory duplicates measure the ability of the laboratory to reproduce a result. Low precision can be caused by poor instrument performance, poor operator technique, inconsistent application of method protocols, laboratory environment, time between analyses, or by a difficult, heterogeneous sample matrix. Precision is especially important when the action limit approaches the quantification limit. At least 5% of the samples were collected in duplicate for this project in accordance with the SAP. The laboratory performs duplicate analyses on at least 5% of the samples received.

Precision is expressed in terms of the relative percent differences (RPD) as follows:

$$\mathrm{RPD} = \frac{|x - y|}{\left(\frac{x + y}{2}\right)} \times 100$$

where

x is the original sample result, and
y is the duplicate sample result.

When one result of a duplicate pair is below the MDL, the sample specific estimated quantification limit (ssEQL) is used for that result in the calculation. When both results are below the MDL, the RPD is not calculated.

The RPD should be less than 20% for water samples and less than 35% for solid samples when results are greater than the ssEQL. In the case where results are between the ssEQL and the MDL, the RPD should be less than 100% for water samples and less than 200% for soil samples. In the event analytical precision goals are not met, a determination of the usability of that information is made through the environmental data assessment process.

No records were rejected due to precision issues. Details for this project can be found in Subsections 3.6*, Laboratory Duplicate RPD*; and 3.7, *Field Duplicate RPD*.

2.2 Accuracy

Accuracy is defined as the closeness of agreement between an observed value and an accepted reference value. Accuracy is especially important when the concentration of concern approaches the detection limit and/or the action limit. When the concentration is underestimated near the detection limit, the analyte may be present but reported as not detected. When the concentration is underestimated near the action limit, the analyte may be at a concentration that would require remediation, but the remediation would not be performed. When the concentration is overestimated near the detection limit, the analyte may not be present but reported as detected. When the concentration is overestimated near the action limit, the analyte may not be at a concentration that would require remediation, but the remediation would be performed. The sample types used to evaluate accuracy are performance evaluation studies LCSs, surrogate spikes, MSs, MBs, trip blanks (TBs), and RBs.

LCSs monitor the performance of all steps in the analytical process, including sample preparation, and are used to identify problems with the analytical procedure. LCSs are deionized water that is spiked with the target analyte, digested, and analyzed with the REG samples. The LCS spiking solution is obtained from a third-party supplier or is prepared in the laboratory using chemicals from a different source than the CAL standards.

The LCS percent recovery is calculated as follows:

$$\%\ \text{Recovery} = \frac{\text{Blank spike concentration}}{\text{Spike concentration}} \times 100$$

One hundred percent recovery is equivalent to 100% accuracy. Values less than 100% or greater than 100% may indicate a sample matrix effect and a false reading. A periodic program of sample spiking is required (e.g., one MS and one MS duplicate per 20 samples). In the event that analytical accuracy goals are not met, a determination is made through the environmental data assessment process relative to the usability of that information.

No environmental records were rejected because the MS was outside of limits. Details for this project can be found in Subsections 3.4*, Trip Blanks*; 3.5, *Method Blanks*; 3.8, *Matrix Spike Recovery*; 3.9, *LCS Recovery*; and 3.10, *Surrogate/Tracer Recovery*.

2.3 Representativeness

The representativeness of samples collected is controlled by adhering to the detailed descriptions of sampling procedures. Representativeness expresses the relative degree to which the data depict the characteristics of a population, parameter, sampling point, process condition, or environmental condition. The objective of this study is to accurately represent the concentrations of target analytes or compounds. Representative samples for this investigation will be required by implementing approved sampling and analytical procedures that will generate data representative

of the sampling point location and will be maintained. Analytical methods are selected that will most accurately represent the true concentration of the parameter of interest. The accumulation of QC procedures and information (i.e., RPD values, blank QC concentrations, MS percent recoveries, etc.) employed for a given analysis combine to exhibit the representativeness of the data generated.

The goal for representative sample data will therefore be met by properly documenting field and analytical protocols. In the event these procedures and methods are not able to be implemented, the appropriate corrective action documentation should encompass the impact on the representativeness of the information. When review of the data and documentation determines the data to be non-representative, the information is qualified in its use or is not used by the project.

All samples were collected and analyzed per established procedures.

2.4 Comparability

Comparability is the degree to which different methods, data sets, and decisions agree or can be represented as similar. The comparability of the data from the laboratories is based on the results of the SPL samples and on confirmation that the laboratories used the same standardized procedures for sample analysis, the same reporting unit, and obtained similar quantitation limits. Comparability of the data produced for this investigation may be obtained by implementing the identified protocols for sampling and analysis of samples. Implementation of traceable reference materials such as laboratory standards, expression of results in standard concentration units, and successful participation by the laboratories in external performance evaluation programs will enable the information produced through this investigation to be compared with future data sets, if required. For this project, one SPL sample was collected and sent to the designated QC laboratory.

2.5 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under correct, normal circumstances. The Quality Assurance (QA) completeness objective for Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation projects is to obtain valid field and laboratory analytical results for at least 90% of the samples collected during the project. This implies that completeness of sample collection (i.e., the number of samples collected compared to the number of samples planned) must be virtually 100% to allow for some loss of data during the laboratory analytical process. Accountability of samples collected, from field to final disposal, must be 100%.

Completeness is a measure of the amount of data obtained from a measurement process that achieves the project goals as compared to the amount of data planned to be obtained by the project. Completeness is affected by unexpected conditions during the data collection process that reduce the usable data achieved relative to the data planned.

When review of the data and documentation determines the data to be incomplete, the impact relative to the project objective will be assessed and documented.

The following are measures of completeness:

$$\text{Completeness} = \frac{\text{Number of Sample Points Sampled}}{\text{Number of Sample Points Planned}} \times 100 \quad (\textit{Sample Collection:})$$

$$\text{Completeness} = \frac{\text{Number of Valid Measurements Made}}{\text{Number of Measurements Planned}} \times 100 \quad (\textit{Field Measurement:})$$

$$\text{Completeness} = \frac{\text{Number of Valid Data Points}}{\text{Number of Data Points Planned}} \times 100 \quad (\textit{Laboratory Analysis:})$$

The completeness numbers for this project are listed below:

- Sample Collection Completeness 100%
- Field Measurement Completeness 100%
- Laboratory Analysis Completeness 100%

3.0 VALIDATION FINDINGS

3.1 Holding Times

HTs for the reported analyses were within the recommended limits, as shown in Table S3-4. No qualification was required.

Table S3-4. Holding Time Review Qualifier Summary

Method Code	Total # of Records	# of Records Qualified for HT	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
EPA6010C/D	23	0	Not Required
EPA6020A/B	241	0	Not Required
EPA7196A	12	0	Not Required
EPA7471B	12	0	Not Required
GA-01-RMOD	4	0	Not Required
RADA-011	33	0	Not Required
RADA-013	44	0	Not Required

3.2 Preservation

All chemical and physical preservation for the reported analyses were properly applied. No qualification was required as shown in Table S3-5.

Table S3-5. Preservation Review Qualifier Summary

Method Code	Total # of Records	# of Records Qualified for Preservation	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
EPA6010C/D	23	0	Not Required
EPA6020A/B	241	0	Not Required
EPA7196A	12	0	Not Required
EPA7471B	12	0	Not Required
GA-01-RMOD	4	0	Not Required
RADA-011	33	0	Not Required
RADA-013	44	0	Not Required

3.3 Calibration, Identification, and Quantitation

CAL, ID, and Quantitation for the reported analyses results as shown in Table S3-6.

Table S3-6. Calibration, Identification, and Quantitation Review Summary

Method Code	Total # of Records	# of Records Qualified for CAL, ID and Quantitation	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
EPA6010C/D	49	0	Not Required
EPA6020A/B	501	0	Not Required
EPA7196A	25	0	Not Required
EPA7471B	25	0	Not Required
GA-01-RMOD	4	0	Not Required
RADA-011	72	0	Not Required
RADA-013	96	0	Not Required

CAL = calibration ID = identification

3.4 Trip Blanks and Rinsate Blanks

No TBs were taken as reflected in Table S3-7A.

Table S3-7A. Trip Blank Review Qualifier Summary

Method Code	Total # of Records	# of TB Records Qualified	Associated Samples Qualified

RB for the reported analyses results as shown in Table S3-7B.

EPA6020B, ICP-MS Metals

One vanadium record was qualified as estimated due to the detection of the analyte in the MB, J/V.

RADA-013, Gamma Spectroscopy

One actinium-228 record was rejected due to compound identification (ID) criteria not being met, R/1.

One lead-214 was rejected due to compound ID criteria not being met, R/1.

Table S3-7B. Rinsate Blank Review Qualifier Summary

Method Code	Total # of RB Records	# of RB Records Qualified	Associated Samples Qualified
EPA6020B	52	1	488-1DSTHCF09
EPA7196A	2	0	Not Required
EPA7470A	2	0	Not Required
RADA-011	6	0	Not Required
RADA-013	41	2	488-1DSTHCF09

3.5 Method Blanks

MB for the reported analyses results as shown in Table S3-8.

EPA6010C/D, ICP-ES Metals

One antimony record was qualified as estimated due to the detection of the analyte in the method blank, J/V.

EPA6020A/B, ICP-MS Metals

One molybdenum record was qualified as estimated due to the detection of the analyte in the method blank, J/V.

RADA-011, Uranium Series

Five uranium-233/234 records were qualified as estimated due to the detection of the analyte in the method blank, J/V.

Four uranium-235 records were qualified as estimated due to the detection of the analyte in the method blank, J/V.

Two uranium-235 records were qualified as non-detect due to the detection of the analyte in the method blank, U/V.

Table S3-8. Method Blank Review Qualifier Summary

Method Code	Total # of MB Records	# of MB Records Qualified	Associated Samples Qualified
EPA6010C/D	5	1	4881DSTHCNF23
EPA6020A/B	113	1	4881DSTHCNF27
EPA7196A	12	0	Not Required
EPA7471B	5	0	Not Required
A-01-MOD	4	0	Not Required
GA-01-MOD	7	0	Not Required
RADA-011	16	11	488-1DSTHCF01, 488-1DSTHCF02, 488-1DSTHCF03, 488-1DSTHCF04, 488-1DSTHCF05, 488-1DSTHCF06
RADA-013	48	0	Not Required

3.6 Laboratory Duplicate Relative Percent Differences

Lab duplicate RPD for the reported analyses were within the recommended limits, as shown in Table S3-9. No qualification was required.

Table S3-9. Laboratory Duplicate Qualifier Summary

Method Code	Total # of Duplicate Records	# of Duplicate Records Qualified	Associated Samples Qualified
A-01-RMOD	3	0	Not Required
GA-01-RMOD	7	0	Not Required
EPA6010C/D	9	0	Not Required
EPA6020A/B	101	0	Not Required
EPA7471B	4	0	Not Required
EPA7196A	3	0	Not Required
RADA-011	6	0	Not Required
RADA-013	8	0	Not Required

3.7 Field Duplicate Relative Percent Differences

FD RPD for the reported analyses results as shown in Table S3-10.

EPA6020A/B, ICP-MS Metals

Four molybdenum records were qualified as estimated due to the FD RPD was not within control limits, J/9.

Two manganese records were qualified as estimated due to the FD RPD was not within control limits, J/9.

Two strontium records were qualified as estimated due to the FD RPD was not within control limits, J/9.

Table S3-10. Field Duplicate Qualifier Summary

Method Code	Total # of Duplicate Records	# of Duplicate Records Qualified	Associated Samples Qualified
EPA6010C/D	4	0	Not Required
EPA6020A/B	40	8	488-1DSTHCF02, 488-1DSTHCF03, 4881DSTHCNF22, 4881DSTHCNF23
EPA7196A	2	0	Not Required
EPA7471B	2	0	Not Required
RADA-011	6	0	Not Required
RADA-013	8	0	Not Required

3.8 Matrix Spike Recovery

MS Recovery results for the reported analyses are shown in Table S3-11.

EPA6010C/D, ICP-ES Metals

One boron record was qualified as approximate due to the MS/Matrix Spike Duplicate (MSD) recovery was outside the established control limits, UJ/11.

EPA6020A/B, ICP-MS Metals

Four aluminum record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six arsenic records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four barium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five beryllium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five boron records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four cadmium records were qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

One cadmium record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four cobalt records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five copper records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six chromium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five iron records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five lead records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five manganese records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six magnesium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

One molybdenum record was qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

Five molybdenum records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Four nickel records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Two selenium records were qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

Four selenium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six strontium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Three thallium records were qualified as approximate due to the MS/MSD recovery was outside the established control limits, UJ/11.

One thallium record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Five vanadium records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Six zinc records were qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

EPA7196, Hexavalent Chromium

One hexavalent chromium record was qualified as estimated due to the MS/MSD recovery was outside the established control limits, J/11.

Table S3-11. Matrix Spike Recovery Qualifier Summary

Method Code	Total # of MS/MSD Records	# of MS/MSD Records Qualified	Associated Samples Qualified
EPA6010C/D	10	1	4881DSTHCNF27
EPA6020A/B	143	102	488-1DSTHCF06, 4881DSTHCNF21, 4881DSTHCNF22, 4881DSTHCNF23, 4881DSTHCNF24, 4881DSTHCNF25, 4881DSTHCNF27
EPA7196A	3	1	4881DSTHCNF21
EPA7471B	4	0	Not Required

MS = matrix spike MSD = matrix spike duplicate

3.9 Laboratory Control Samples Recovery

LCS Recovery results for the reported analyses are shown in Table S3-12.

EPA7196, Hexavalent Chromium

One hexavalent chromium record was qualified as estimated due to the LCS recovery was outside the established control limits, J/2.

Table S3-12. Laboratory Control Samples Qualifier Summary

Method Code	Total # of LCS Records	# of LCS Records Qualified	Associated Samples Qualified
A-01-RMOD	4	0	Not Required
GA-01-RMOD	3	0	Not Required
EPA6010C/D	5	0	Not Required
EPA6020A/B	165	0	Not Required
EPA7470A	1	0	Not Required
EPA7471B	8	0	Not Required
EPA7196A	7	1	4881DSTHCNF27
RADA-011	12	0	Not Required
RADA-013	15	0	Not Required

3.10 Surrogate/Tracer Recovery

All Surrogate/Tracer recovery criteria for the reported analyses were within the recommended limits. No qualification was required as shown in Table S3-13.

Table S3-13. Surrogate/Tracer Recovery Qualifier Summary

Method Code	Total # of Surrogate/Tracer Records	# of Surrogate Records Qualified	Associated Samples Qualified
A-01-RMOD	1	0	Not Required
RADA-011	11	0	Not Required

3.11 Split Samples Comparability

Table S3-14. Split Samples

Station ID	Sample ID	Interval *(ft.)*	Date/Time	Sample Type	Matrix	Lab
4881D-STI-8CONF	4881DSTHCNF25	0-1	07/26/18/0915	REG	SOIL	GEL
4881D-STI-8CONF	4881DSTHCNF27	0-1	07/26/18/0915	SPL	SOIL	TAL

SPL soil samples were taken from one location (4881D-STI-8CONF) at the 0- to 1-foot interval and were analyzed by similar methods at different laboratories (General Engineering Labs (GEL), and Test America Labs (TAL).

GEL	TAL
EPA6010D	EPA6010C
EPA6020B	EPA6020A
EPA7196A	EPA7196A

GEL	TAL
EPA7471B	EPA7471B
RADA-011	A-01-RMOD
RADA-013	GA-01-RMOD

Iron was detected at 3,510 mg/kg at the GEL and 1,700 mg/kg at the Test America Lab; however, both results were estimated due to MS/MSD recoveries were below control limits and were qualified, J/11. Magnesium was detected at 222 mg/kg at the GEL and 110 mg/kg at the Test America Lab, however the GEL result was estimated due to the MSD recovery was below the control limit and was qualified, J/11.

4.0 DATA USABILITY

The analytical data from this project are considered usable for purposes outlined in the *Field Sampling Plan for the D-Area 488-1D Inlet Basins (U)* (SRNS 2014a) and the *Human Health and Ecological Evaluation for Confirmation Sampling at the 488-1D Ash Basin and Inlet Basins (U)* (SRNS 2018). One environmental sample record was rejected due to compound ID criteria not being met. Rejected data should not be used. Qualification details are found in Section 3.0, *Validation Findings*.

5.0 REFERENCES

SRNS, 2012. *Area Completion Projects Programmatic Quality Assurance Project Plan for Environmental Data Collection and Management*, ERD-AG-2005-00001, Revision 5, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2014a. *Field Sampling Plan for the D-Area 488-1D Inlet Basins (U),* Revision 1, SRNS-RP-2013-00342, Savannah River Nuclear Solutions, LLS, Savannah River Site, Aiken SC

SRNS, 2014b. *Confirmation Sampling and Analysis Plan for Coal and/or Ash Removal at the Savannah River Site (U),* Revision 1.1, SRNS-RP-2013-00332, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2015. *Analytical Data Qualification*, ER-SOP-033, Revision 6, Environmental Compliance and Area Completion Projects (EC&ACP) Geochemical Monitoring Procedures Manual C-3, Volume 10, Savannah River Nuclear Solutions, Savannah River Site, Aiken SC

SRNS, 2018. *Human Health and Ecological Evaluation for Confirmation Sampling at the 488-1D Ash Basin and Inlet Basins (U),* Revision 0, ERD-EN-2018-0007, Savannah River Nuclear Solutions, LLS, Savannah River Site, Aiken SC

II. HEXAVALENT CHROMIUM STUDY SAMPLES

BAL Report 1736056

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 10797.016.02
Samples Collected: September 8, 2017
Report Date: October 30, 2017

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1736056

1 of 365

Table of Contents

Case Narrative 3
Report Information 5
Sample Information 6
Batch Summary 6
Sample Results 7
Accuracy & Precision Summary 8
Method Blanks & Reporting Limits 12
Instrument Calibration 15
Sample Containers 17
Shipping Containers 18
Chain-of-Custody Forms and Waybills 19
Hexavalent Chromium - Sequence 1701153, Batch B172336 21
Total Cr - Sequence 1701298, Batch B172668 117
Total Solids - Batch B172333 364

Chain of Custody forms (pages 19 and 20) and Analytical Instrument Outputs (pages 21 thru 364) from the BAL Report are not included in this appendix.

Case Narrative

Sample Reception

Six (6) soil samples were received by Brooks Applied Labs (BAL) on September 8, 2017. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

All samples were extracted using EPA Method 3060A. In summary, a known mass of each sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1701153 / Batch B172336

The relative percent difference (RPD) for the matrix duplicate B172336-DUP1 performed on sample *4881D-WE-CONF18* (1736056-02) was greater than the control limit of 25%. Reanalysis confirmed the original results. Visual inspection identified that this sample is heterogenous in nature, containing granules of various colors. The hexavalent chromium result for sample *4881D-WE-CONF18* has therefore been qualified **M** to denote the elevated variability and should be considered an estimate.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been *method blank corrected* (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Sequence 1701298 / Batch B172668
Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP, and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Solids Determination

A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without further qualification (aside from concentration qualifiers) and all other associated quality control sample results met acceptance criteria.

I certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report.

Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Ben Wozniak
Project Manager
ben@brooksapplied.com

Jacki Aitken
Project Coordinator
jacki@brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Result is estimated.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
J-M	Duplicate precision (RPD) for associated QC sample was not within acceptance criteria. Result is estimated.
J-N	Spike recovery for associated QC sample was not within acceptance criteria. Result is estimated.
M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
N	Spike recovery was not within acceptance criteria. Result is estimated.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19103 Mariners Creek Parkway, Suite 100, Bothell, WA 98011 | P (206) 632-6206 F (206) 632-6017 | info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881D-ST1-1CONF	1736056-01	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-ST1-2CONF	1736056-02	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-ST1-3CONF	1736056-03	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-ST1-4CONF	1736056-04	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-WE-CONF18	1736056-05	Soil/Sediment	Sample	09/06/2017	09/08/2017
4881D-WE-CONF19	1736056-06	Soil/Sediment	Sample	09/06/2017	09/08/2017

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	09/18/2017	09/20/2017	B172333	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	10/12/2017	10/18/2017	B172668	1701298
Cr(VI)	Soil/Sediment	SOP BAL-4300	09/21/2017	09/21/2017	B172336	1701153

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881D-ST1-1CONF										
1736056-01	%TS	Soil/Sediment	NA	88.34		0.004	0.01	%	B172333	N/A
1736056-01	Cr	Soil/Sediment	dry	11.5		0.203	0.628	mg/kg	B172668	1701298
1736056-01	Cr(VI)	Soil/Sediment	dry	0.237		0.003	0.024	mg/kg	B172336	1701153
4881D-ST1-2CONF										
1736056-02	%TS	Soil/Sediment	NA	88.57		0.004	0.01	%	B172333	N/A
1736056-02	Cr	Soil/Sediment	dry	9.47		0.230	0.711	mg/kg	B172668	1701298
1736056-02	Cr(VI)	Soil/Sediment	dry	0.216		0.003	0.023	mg/kg	B172336	1701153
4881D-ST1-3CONF										
1736056-03	%TS	Soil/Sediment	NA	79.12		0.004	0.01	%	B172333	N/A
1736056-03	Cr	Soil/Sediment	dry	10.4		0.233	0.721	mg/kg	B172668	1701298
1736056-03	Cr(VI)	Soil/Sediment	dry	0.090		0.004	0.026	mg/kg	B172336	1701153
4881D-ST1-4CONF										
1736056-04	%TS	Soil/Sediment	NA	88.19		0.004	0.01	%	B172333	N/A
1736056-04	Cr	Soil/Sediment	dry	10.2		0.234	0.724	mg/kg	B172668	1701298
1736056-04	Cr(VI)	Soil/Sediment	dry	0.022	J	0.003	0.023	mg/kg	B172336	1701153
4881D-WE-CONF18										
1736056-05	%TS	Soil/Sediment	NA	92.32		0.004	0.01	%	B172333	N/A
1736056-05	Cr	Soil/Sediment	dry	12.7		0.253	0.784	mg/kg	B172668	1701298
1736056-05	Cr(VI)	Soil/Sediment	dry	0.087	M	0.003	0.022	mg/kg	B172336	1701153
4881D-WE-CONF19										
1736056-06	%TS	Soil/Sediment	NA	93.66		0.004	0.01	%	B172333	N/A
1736056-06	Cr	Soil/Sediment	dry	9.45		0.219	0.678	mg/kg	B172668	1701298
1736056-06	Cr(VI)	Soil/Sediment	dry	0.303		0.003	0.022	mg/kg	B172336	1701153

19804 North Creek Parkway Suite 100 Bothell, WA 98011 | P(206) 632-6206 | F(206) 632-6017 | info@brooksapplied.com | www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B172333
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B172333-DUP2	**Duplicate, (1736056-05)**						
	%TS	92.32		92.78	%		0.5% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B172336
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B172336-BS1	**Blank Spike, Cr(III) (1637021)**						
	Cr(VI)		20.00	ND	mg/kg	NR 0-1%	N/C
B172336-BS2	**Blank Spike, Cr(VI) (1737045)**						
	Cr(VI)		20.00	19.50	mg/kg	97% 75-125	
B172336-BS3	**Blank Spike, PbCrO4 (NC00442)**						
	Cr(VI)		656.5	644.3	mg/kg	98% 75-125	
B172336-SRM1	**Standard Reference Material (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	483.2	mg/kg	88% 75-125	
B172336-DUP1	**Duplicate, (1736056-05)**						
	Cr(VI)	0.087		0.210	mg/kg		*83%* 25
B172336-DUP4	**Duplicate, Analytical (1736056-05)**						
	Cr(VI)	0.087		0.087	mg/kg		0.4% 25
B172336-MS1	**Matrix Spike, Cr(III) (1736056-05)**						
	Cr(VI)	0.087	22.05	0.527	mg/kg	2% 0-15%	
B172336-MS2	**Matrix Spike, Cr(VI) (1736056-05)**						
	Cr(VI)	0.087	21.50	21.98	mg/kg	102% 75-125	
B172336-MS3	**Matrix Spike, PbCrO4 (1736056-05)**						
	Cr(VI)	ND	725.3	713.4	mg/kg	98% 75-125	
B172336-MSD1	**Matrix Spike Duplicate, Cr(III) (1736056-05)**						
	Cr(VI)	0.087	21.52	0.361	mg/kg	1% 0-15%	44% N/A
B172336-MSD2	**Matrix Spike Duplicate, Cr(VI) (1736056-05)**						
	Cr(VI)	0.087	21.58	21.74	mg/kg	100% 75-125	1% 25
B172336-MSD3	**Matrix Spike Duplicate, PbCrO4 (1736056-05)**						
	Cr(VI)	ND	740.0	752.5	mg/kg	102% 75-125	3% 25

18804 North Creek Parkway Suite 100 Bothell WA 98011 P(206) 632-8206 F(206) 832-8017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B172336
Lab Matrix: Soil/Sediment
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B172336-PS1	**Post Spike, (1736056-05)**						
	Cr(VI)	0.087	2.130	2.328	mg/kg	105% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B172668
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B172668-BS1	**Blank Spike, (1732083)**						
	Cr		40.00	38.51	mg/kg	96% 75-125	
B172668-SRM1	**Standard Reference Material (NC00378, CRM052-50G Loamy Clay 1 - 3050B)**						
	Cr		334.0	324.7	mg/kg	97% 75-125	
B172668-DUP1	**Duplicate, (1736056-02)**						
	Cr	9.467		8.597	mg/kg		10% 30
B172668-MS1	**Matrix Spike, (1736056-02)**						
	Cr	9.467	39.48	47.27	mg/kg	96% 70-130	
B172668-MSD1	**Matrix Spike Duplicate, (1736056-02)**						
	Cr	9.467	45.07	53.08	mg/kg	97% 70-130	1% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B172333
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B172333-BLK1	-0.004	%
B172333-BLK2	0.00	%

Average: 0.00
Limit: 0.01

MDL: 0.004
MRL: 0.01

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B172336
Matrix: Soil/Sediment
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B172336-BLK1	0.006	mg/kg
B172336-BLK2	0.005	mg/kg
B172336-BLK3	0.006	mg/kg
B172336-BLK4	0.008	mg/kg

Average: 0.006
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B172668
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B172668-BLK1	-0.018	mg/kg
B172668-BLK2	-0.029	mg/kg
B172668-BLK3	-0.022	mg/kg
B172668-BLK4	-0.011	mg/kg

Average: -0.020
Limit: 0.650

MDL: 0.210
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701153
Instrument: ICPMS7
Date: 09/21/2017
Analyte: Cr(VI)

Total Chromium and Chromium Speciation

Lab ID	True Value	Result	Units	REC & Limits	
1701153-ICB1		0.000	µg/L		
1701153-CAL1	0.01000	0.009	µg/L	93%	
1701153-CAL2	0.01000	0.009	µg/L	90%	
1701153-CAL3	0.01000	0.009	µg/L	93%	
1701153-CAL4	0.01000	0.010	µg/L	97%	
1701153-CAL5	0.05000	0.047	µg/L	95%	
1701153-CAL6	0.1000	0.096	µg/L	96%	
1701153-CAL7	0.5000	0.485	µg/L	97%	
1701153-CAL8	1.000	0.985	µg/L	98%	
1701153-CAL9	5.000	4.975	µg/L	99%	
1701153-CALA	10.00	10.02	µg/L	100%	
1701153-IBL1		0.000	µg/L		
1701153-ICV1	2.000	0.000	µg/L	0%	0-1
1701153-ICV2	2.000	1.962	µg/L	98%	80-120
1701153-ICB2		0.000	µg/L		
1701153-CCV1	1.000	0.970	µg/L	97%	75-125
1701153-CCB1		0.00	µg/L		
1701153-CCV2	1.000	0.988	µg/L	99%	75-125
1701153-CCB2		0.00	µg/L		
1701153-CCV3	1.000	1.026	µg/L	103%	75-125
1701153-CCB3		0.00	µg/L		
1701153-CCV4	1.000	0.998	µg/L	100%	75-125
1701153-CCB4		0.00	µg/L		
1701153-CCV5	1.000	1.018	µg/L	102%	75-125
1701153-CCB5		0.00	µg/L		
1701153-CCV6	1.000	1.001	µg/L	100%	75-125
1701153-CCB6		0.00	µg/L		
1701153-CCV7	1.000	1.042	µg/L	104%	75-125
1701153-CCB7		0.00	µg/L		
1701153-CCV8	1.000	1.011	µg/L	101%	75-125
1701153-CCB8		0.00	µg/L		
1701153-CCV9	1.000	0.997	µg/L	100%	75-125
1701153-CCB9		0.00	µg/L		
1701153-CCVA	1.000	1.002	µg/L	100%	75-125
1701153-CCBA		0.00	µg/L		
1701153-CCVB	1.000	0.984	µg/L	98%	75-125
1701153-CCBB		0.00	µg/L		

19804 North Creek Parkway, Suite 100, Bothell, WA 98011 | P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1701298
Instrument: ICPMS8
Date: 10/18/2017
Analyte: Cr 68 [O2]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1701298-ICB1		0.000	µg/L		
1701298-CAL1	0.04000	0.033	µg/L	82%	
1701298-CAL2	0.1000	0.108	µg/L	108%	
1701298-CAL3	0.4000	0.353	µg/L	88%	
1701298-CAL4	1.000	1.050	µg/L	105%	
1701298-CAL5	4.000	4.093	µg/L	102%	
1701298-CAL6	10.00	10.11	µg/L	101%	
1701298-CAL7	40.00	35.42	µg/L	89%	
1701298-CAL8	100.0	101.8	µg/L	102%	
1701298-ICB2		-0.002	µg/L		
1701298-ICV1	15.00	15.24	µg/L	102%	85-115
1701298-ICB3		-0.010	µg/L		
1701298-ICB4		-0.012	µg/L		
1701298-SCV1	1.710	1.728	µg/L	101%	75-125
1701298-ICB5		-0.001	µg/L		
1701298-ICB6		0.005	µg/L		
1701298-SCV2	40.54	40.03	µg/L	99%	75-125
1701298-ICB7		-0.002	µg/L		
1701298-ICB8		-0.0009	µg/L		
1701298-IBL1		0.000	µg/L		
1701298-IBL2		0.000	µg/L		
1701298-IBL3		0.000	µg/L		
1701298-IBL4		0.000	µg/L		
1701298-HCV1	200.0	198.6	µg/L	99%	90-110
1701298-ICB9		0.001	µg/L		
1701298-ICBA		-0.00003	µg/L		
1701298-ICBB		0.004	µg/L		
1701298-ICBC		-0.0002	µg/L		
1701298-ICBD		-0.0005	µg/L		
1701298-ICBE		-0.006	µg/L		
1701298-ICBF		-0.005	µg/L		
1701298-ICBG		0.001	µg/L		
1701298-CCV1	10.00	9.782	µg/L	98%	75-125
1701298-CCB1		-0.004	µg/L		
1701298-CCV2	10.00	10.22	µg/L	102%	75-125
1701298-CCB2		-0.006	µg/L		
1701298-CCV3	10.00	10.23	µg/L	102%	75-125
1701298-CCB3		-0.009	µg/L		

18804 North Creek Parkway Suite 100 Bothell, WA 98011 | P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1736056-01 **Report Matrix:** Soil/Sediment **Collected:** 09/06/2017
Sample: 4881D-ST1-1CONF **Sample Type:** Sample **Received:** 09/08/2017

Des	Container	Size	Lot	Preservation	Pres-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	none	n/a		Cooler

Lab ID: 1736056-02 **Report Matrix:** Soil/Sediment **Collected:** 09/06/2017
Sample: 4881D-ST1-2CONF **Sample Type:** Sample **Received:** 09/08/2017

Des	Container	Size	Lot	Preservation	Pres-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	none	n/a		Cooler

Lab ID: 1736056-03 **Report Matrix:** Soil/Sediment **Collected:** 09/06/2017
Sample: 4881D-ST1-3CONF **Sample Type:** Sample **Received:** 09/08/2017

Des	Container	Size	Lot	Preservation	Pres-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	none	n/a		Cooler

Lab ID: 1736056-04 **Report Matrix:** Soil/Sediment **Collected:** 09/06/2017
Sample: 4881D-ST1-4CONF **Sample Type:** Sample **Received:** 09/08/2017

Des	Container	Size	Lot	Preservation	Pres-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	none	n/a		Cooler

Lab ID: 1736056-05 **Report Matrix:** Soil/Sediment **Collected:** 09/06/2017
Sample: 4881D-WE-CONF18 **Sample Type:** Sample **Received:** 09/08/2017

Des	Container	Size	Lot	Preservation	Pres-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	none	n/a		Cooler

Lab ID: 1736056-06 **Report Matrix:** Soil/Sediment **Collected:** 09/06/2017
Sample: 4881D-WE-CONF19 **Sample Type:** Sample **Received:** 09/08/2017

Des	Container	Size	Lot	Preservation	Pres-Lot	pH	Ship. Cont.
A	Jar HDPE	8oz	16-0074	none	n/a		Cooler

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Ben Wozniak

BAL Report 1736056
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Shipping Containers

Cooler

Received: September 8, 2017 9:30
Tracking No: 787636964059 via FedEx
Coolant Type: Blue Ice
Temperature: 5.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR #8

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

BAL Report 1830035

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

Report of Hexavalent Chromium in Soils

Project: 1-00000702
Samples Collected: July 26, 2018
Report Date: August 28, 2018

Prepared for:
Allison Walker
North Wind, Inc. - Greenville
535 N. Pleasantburg Drive, Suite 136
Greenville SC 29607

Brooks Applied Labs
Project ID: 1830035

1 of 348

Table of Contents

Case Narrative....3
Report Information....5
Sample Information....6
Batch Summary....6
Sample Results....7
Accuracy & Precision Summary....8
Method Blanks & Reporting Limits....12
Instrument Calibration....15
Sample Containers....19
Shipping Containers....20
Chain-of-Custody Forms and Waybills....21
Hexavalent Chromium - Sequence 1801121, Batch B182177....23
Total Cr - Sequence 1801059, Batch B181920....165
Total Solids - Batch B182119....347

Chain of Custody forms (pages 21 thru 22) and Analytical Instrument Outputs (pages 23 thru 347) from the BAL Report are not included in this appendix.

Case Narrative

Sample Reception

Four (4) soil samples were received by Brooks Applied Labs (BAL) on July 27, 2018. The samples were logged-in for the analyses of hexavalent chromium and total recoverable chromium (Cr), in accordance with the contract associated with this project. All samples were received in acceptable condition and stored per BAL SOPs and EPA methodology.

Hexavalent Chromium Quantitation

The sample was extracted using EPA Method 3060A. In summary, a known mass of the sample was weighed into a polypropylene centrifuge tube and $MgCl_2$, a phosphate buffer solution, and a buffered alkaline extraction solution were added to each vial. All vials were then heated, with continuous stirring, at 90-95°C in a hotblock apparatus for a minimum of one (1) hour. The resulting extracts were cooled, filtered (0.45µm), and injected directly into sealed autosampler vials prior to analysis for hexavalent chromium.

All sample extracts for hexavalent chromium quantitation were analyzed via ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Aliquots of each sample are injected onto an anion exchange column and mobilized by an alkaline (pH > 7) gradient. The eluting chromium species are then introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through a pressurized chamber (CRC) containing a specific reactive gas which preferentially reacts with interfering ions of the same target mass to charge (m/z) ratios. A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system. The retention time for hexavalent chromium is compared to known standards for species identification.

Sequence 1801121 / Batch B182177

The recovery of hexavalent chromium for the matrix spike B182177-MS2 (59%) and its associated matrix spike duplicate B182177-MSD2 (67%), which were prepared with an aqueous hexavalent chromium solution, were both below the control limit of 75%. Reanalysis confirmed the original results. All other batch quality control samples spiked with either soluble (i.e., B182177-BS2) or insoluble (i.e., B182177-BS3, B182177-MS3, B182177-MSD3) forms of hexavalent chromium were within acceptance limits, demonstrating the accuracy and precision of the applied methods. The low recoveries observed for B182177-MS2 and B182177-MSD2 are therefore attributed to matrix-induced reduction of hexavalent chromium. The hexavalent chromium result for the source sample *4881DSTHCNF25* was qualified N as a result. The obtained result for the source sample was deemed representative of the submitted sample matrix; however, the observed reduction of hexavalent chromium in this matrix should be taken into consideration when evaluating the reported results.

In accordance with the BAL SOP, all results for hexavalent chromium in solids have been method blank corrected (using the mean of the method blanks prepared with the samples) to account for the known background of the extraction solution.

Results were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of submitted samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Recoverable Chromium Quantitation

A known mass of each sample was weighed into a polypropylene vial. All samples were then digested with a mix of concentrated nitric acid, hydrochloric acid, and hydrogen peroxide via a modified EPA Method 3050B. The resulting digests were analyzed for total chromium.

All sample digests for total chromium quantitation were analyzed via a modified EPA Method 200.8, employing inductively coupled plasma triple quadrupole mass spectrometry (ICP-QQQ-MS). Aliquots of each sample digest are introduced into a radio frequency (RF) plasma where energy-transfer processes cause desolvation, atomization, and ionization. The ions are extracted from the plasma through a differentially-pumped vacuum interface and travel through an initial quadrupole (Q1), which filters the target masses prior to their entrance into a second chamber. The second chamber contains specific gasses that preferentially react either with interfering ions of the same target mass to charge ratios (m/z) or with the target analyte, producing an entirely different mass to charge ratio (m/z) which can then be differentiated from the initial interferences. The ions then exit the collision/reaction chamber into the mass analyzer (Q2). A solid-state detector detects ions transmitted through the mass analyzer, on the basis of their mass-to-charge ratio (m/z), and the resulting current is processed by a data handling system.

Results for total recoverable chromium were *not* method blank corrected, as described in the calculations section of the relevant BAL SOP and were evaluated using reporting limits adjusted to account for sample aliquot size. The method detection limit (MDL) for this batch of samples has been determined via an MDL study performed in accordance with 40 CFR 136, Appendix B. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

Total Solids Determination

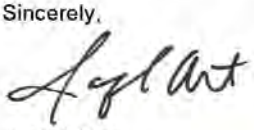
A known mass of each sample was placed into a pre-weighed pan, and the combined mass of the sample and pan was recorded. All samples were then placed into a convection oven maintained at a temperature of 105°C. After drying for a minimum of sixteen (16) hours, all samples were briefly cooled and reweighed. The total solids percentage of each sample was calculated by dividing the weight of the dried sample by the weight of the original sample.

All sample results for hexavalent chromium and total chromium have been dry weight corrected in accordance with the measured total solids concentrations.

All data was reported without further qualification and all other associated quality control sample results met acceptance criteria.

We certify that this data package is compliant with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more details, please see the Report Information page in your report. Please feel free to contact us if you have any questions regarding this report.

Sincerely,



Jacki Aitken
Project Manager
Jacki@brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/>. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received	**MS**	matrix spike
BAL	Brooks Applied Labs	**MSD**	matrix spike duplicate
BLK	method blank	**ND**	non-detect
BS	blank spike	**NR**	non-reportable
CAL	calibration standard	**N/C**	not calculated
CCB	continuing calibration blank	**PS**	post preparation spike
CCV	continuing calibration verification	**REC**	percent recovery
COC	chain of custody record	**RPD**	relative percent difference
D	dissolved fraction	**SCV**	secondary calibration verification
DUP	duplicate	**SOP**	standard operating procedure
IBL	instrument blank	**SRM**	standard reference material
ICV	initial calibration verification	**T**	total fraction
MDL	method detection limit	**TR**	total recoverable fraction
MRL	method reporting limit		

Definition of Data Qualifiers

(Effective 9/23/09)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

19017 North Creek Parkway Suite 106 Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Information

Sample	Lab ID	Report Matrix	Type	Sampled	Received
4881DSTHCNF25	1830035-01	Soil	Sample	07/26/2018	07/27/2018
4881DSTHCNF24	1830035-02	Soil	Sample	07/26/2018	07/27/2018
4881DSTHCNF23	1830035-03	Soil	Sample	07/26/2018	07/27/2018
4881DSTHCNF21	1830035-04	Soil	Sample	07/26/2018	07/27/2018

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
%TS	Soil/Sediment	SM 2540G	08/06/2018	08/09/2018	B181921	N/A
Cr	Soil/Sediment	EPA 200.8 Mod	08/06/2018	08/09/2018	B181920	1801059
Cr(VI)	Biota	SOP BAL-4300	08/22/2018	08/23/2018	B182177	1801121

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
4881DSTHCNF25										
1830035-01	%TS	Soil	NA	77.62		0.12	0.41	%	B181921	N/A
1830035-01	Cr	Soil	dry	12.3		0.268	0.831	mg/kg	B181920	1801059
1830035-01	Cr(VI)	Soil	dry	0.188	N	0.004	0.027	mg/kg	B182177	1801121
4881DSTHCNF24										
1830035-02	%TS	Soil	NA	90.00		0.12	0.41	%	B181921	N/A
1830035-02	Cr	Soil	dry	4.29		0.238	0.737	mg/kg	B181920	1801059
1830035-02	Cr(VI)	Soil	dry	0.197		0.003	0.024	mg/kg	B182177	1801121
4881DSTHCNF23										
1830035-03	%TS	Soil	NA	74.68		0.12	0.41	%	B181921	N/A
1830035-03	Cr	Soil	dry	17.7		0.287	0.888	mg/kg	B181920	1801059
1830035-03	Cr(VI)	Soil	dry	1.09		0.004	0.029	mg/kg	B182177	1801121
4881DSTHCNF21										
1830035-04	%TS	Soil	NA	84.84		0.12	0.41	%	B181921	N/A
1830035-04	Cr	Soil	dry	12.6		0.247	0.763	mg/kg	B181920	1801059
1830035-04	Cr(VI)	Soil	dry	0.580		0.004	0.025	mg/kg	B182177	1801121

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B181920
Lab Matrix: Soil/Sediment
Method: EPA 200.8 Mod

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B181920-BS1	**Blank Spike, (1806052)**						
	Cr		40.00	38.20	mg/kg	95% 75-125	
B181920-SRM1	**Standard Reference Material (1805088, CRM052-50G Loamy Clay 1)**						
	Cr		107.0	105.6	mg/kg	99% 75-125	
B181920-DUP1	**Duplicate, (1830035-03)**						
	Cr	17.65		18.56	mg/kg		5% 30
B181920-MS1	**Matrix Spike, (1830035-03)**						
	Cr	17.65	53.13	69.99	mg/kg	99% 70-130	
B181920-MSD1	**Matrix Spike Duplicate, (1830035-03)**						
	Cr	17.65	53.45	69.58	mg/kg	97% 70-130	1% 30

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B181921
Lab Matrix: Soil/Sediment
Method: SM 2540G

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B181921-DUP1	**Duplicate, (1830035-01)**						
	%TS	77.62		76.30	%		2% 15

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B182177
Lab Matrix: Biota
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B182177-BS1	**Blank Spike, Cr(III) (1734031)**						
	Cr(VI)		19.98	ND	mg/kg	NR ≤ 1%	N/C
B182177-BS2	**Blank Spike, Cr(VI) (1742024)**						
	Cr(VI)		20.04	19.62	mg/kg	98% 75-125	
B182177-BS3	**Blank Spike, PbCrO4 (NC00442)**						
	Cr(VI)		637.2	619.9	mg/kg	97% 75-125	
B182177-SRM1	**Standard Reference Material (NC00366, NIST 2701-Hexavalent Chromium in Soil)**						
	Cr(VI)		551.2	500.5	mg/kg	91% 75-125	
B182177-DUP1	**Duplicate, (1830035-01)**						
	Cr(VI)	0.188		0.164	mg/kg		14% 25
B182177-DUP3	**Duplicate, (1830035-01)**						
	Cr(VI)	0.188		0.184	mg/kg		2% 25
B182177-MS1	**Matrix Spike, Cr(III) (1830035-01)**						
	Cr(VI)	0.188	25.42	0.360	mg/kg	0.7% ≤ 15%	
B182177-MS2	**Matrix Spike, Cr(VI) (1830035-01)**						
	Cr(VI)	0.188	26.17	15.59	mg/kg	*59%* 75-125	
B182177-MS3	**Matrix Spike, PbCrO4 (1830035-01)**						
	Cr(VI)	ND	774.0	605.5	mg/kg	78% 75-125	
B182177-MSD1	**Matrix Spike Duplicate, Cr(III) (1830035-01)**						
	Cr(VI)	0.188	25.63	0.381	mg/kg	0.8% ≤ 15%	11% N/A
B182177-MSD2	**Matrix Spike Duplicate, Cr(VI) (1830035-01)**						
	Cr(VI)	0.188	25.71	17.45	mg/kg	*67%* 75-125	13% 25
B182177-MSD3	**Matrix Spike Duplicate, PbCrO4 (1830035-01)**						
	Cr(VI)	ND	907.8	833.8	mg/kg	92% 75-125	16% 25

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Accuracy & Precision Summary

Batch: B182177
Lab Matrix: Biota
Method: SOP BAL-4300

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B182177-PS1	**Post Spike, Cr(VI) (1830035-01)**						
	Cr(VI)	0.188	2.554	2.755	mg/kg	101% 75-125	

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B181920
Matrix: Soil/Sediment
Method: EPA 200.8 Mod
Analyte: Cr

Sample	Result	Units
B181920-BLK1	0.030	mg/kg
B181920-BLK2	0.027	mg/kg
B181920-BLK3	0.016	mg/kg
B181920-BLK4	0.028	mg/kg

Average: 0.025
Limit: 0.650

MDL: 0.210
MRL: 0.650

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B181921
Matrix: Soil/Sediment
Method: SM 2540G
Analyte: %TS

Sample	Result	Units
B181921-BLK1	0.00	%
B181921-BLK2	0.00	%

Average: 0.00
Limit: 0.41

MDL: 0.12
MRL: 0.41

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Method Blanks & Reporting Limits

Batch: B182177
Matrix: Biota
Method: SOP BAL-4300
Analyte: Cr(VI)

Sample	Result	Units
B182177-BLK1	0.003	mg/kg
B182177-BLK2	0.006	mg/kg
B182177-BLK3	0.003	mg/kg
B182177-BLK4	0.003	mg/kg

Average: 0.004
Limit: 0.021

MDL: 0.003
MRL: 0.021

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1801059
Instrument: ICPMS8
Date: 08/09/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1801059-ICB1		0.000	µg/L		
1801059-CAL1	0.04000	0.024	µg/L	61%	
1801059-CAL2	0.1000	0.101	µg/L	101%	
1801059-CAL3	0.4000	0.433	µg/L	108%	
1801059-CAL4	1.000	1.011	µg/L	101%	
1801059-CAL5	4.000	3.991	µg/L	100%	
1801059-CAL6	10.00	9.977	µg/L	100%	
1801059-CAL7	40.00	39.76	µg/L	99%	
1801059-CAL8	100.0	100.1	µg/L	100%	
1801059-ICB2		-0.004	µg/L		
1801059-ICV1	10.00	10.21	µg/L	102%	85-115
1801059-ICB3		0.004	µg/L		
1801059-ICB4		0.005	µg/L		
1801059-IBL1		-0.002	µg/L		
1801059-IBL2		0.003	µg/L		
1801059-IBL3		-0.003	µg/L		
1801059-IBL4		0.0004	µg/L		
1801059-SCV1	1.710	1.810	µg/L	106%	75-125
1801059-ICB5		0.001	µg/L		
1801059-ICB6		0.002	µg/L		
1801059-SCV2	18.50	19.15	µg/L	104%	75-125
1801059-ICB7		0.0004	µg/L		
1801059-ICB8		0.002	µg/L		
1801059-HCV1	200.0	199.4	µg/L	100%	90-110
1801059-ICB9		0.019	µg/L		
1801059-ICBA		0.012	µg/L		
1801059-ICBB		0.002	µg/L		
1801059-ICBC		0.002	µg/L		
1801059-ICBD		0.007	µg/L		
1801059-ICBE		0.006	µg/L		
1801059-ICBF		0.006	µg/L		
1801059-ICBG		0.006	µg/L		
1801059-CCV1	10.00	10.03	µg/L	100%	75-125
1801059-CCB1		0.003	µg/L		
1801059-CCV2	10.00	10.09	µg/L	101%	75-125
1801059-CCB2		0.009	µg/L		
1801059-CCV3	10.00	10.29	µg/L	103%	75-125
1801059-CCB3		0.011	µg/L		
1801059-CCV4	10.00	10.16	µg/L	102%	75-125
1801059-CCB4		-0.001	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1801059
Instrument: ICPMS8
Date: 08/09/2018
Analyte: Cr 52 [HEHe]

Trace Metals by ICP-MS

Lab ID	True Value	Result	Units	REC & Limits	
1801059-CCV5	10.00	10.21	µg/L	102%	75-125
1801059-CCB5		0.011	µg/L		
1801059-CCV6	10.00	10.02	µg/L	100%	75-125
1801059-CCB6		0.007	µg/L		
1801059-CCV7	10.00	10.08	µg/L	101%	75-125
1801059-CCB7		0.009	µg/L		
1801059-CCV8	10.00	10.05	µg/L	100%	75-125
1801059-CCB8		0.009	µg/L		
1801059-CCV9	10.00	10.00	µg/L	100%	75-125
1801059-CCB9		0.013	µg/L		
1801059-CCVA	10.00	9.968	µg/L	100%	75-125
1801059-CCBA		0.012	µg/L		
1801059-CCVB	10.00	10.02	µg/L	100%	75-125
1801059-CCBB		-0.0002	µg/L		
1801059-CCVC	10.00	10.11	µg/L	101%	75-125
1801059-CCBC		0.007	µg/L		
1801059-CCVD	10.00	10.18	µg/L	102%	75-125
1801059-CCBD		0.011	µg/L		
1801059-CCVE	10.00	10.12	µg/L	101%	75-125
1801059-CCBE		0.006	µg/L		
1801059-CCVF	10.00	10.01	µg/L	100%	75-125
1801059-CCBF		0.003	µg/L		
1801059-CCVG	10.00	10.11	µg/L	101%	75-125
1801059-CCBG		0.009	µg/L		
1801059-CCVH	10.00	10.08	µg/L	101%	75-125
1801059-CCBH		0.012	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1801121
Instrument: ICPMS7
Date: 08/23/2018
Analyte: Cr(VI)

Chromium Speciation IC-ICPMS

Lab ID	True Value	Result	Units	REC & Limits	
1801121-ICB1		0.00000007	µg/L		
1801121-CAL1	0.01002	0.01	µg/L	98%	
1801121-CAL2	0.01002	0.009	µg/L	90%	
1801121-CAL3	0.01002	0.01	µg/L	98%	
1801121-CAL4	0.01002	0.009	µg/L	93%	
1801121-CAL5	0.05010	0.05	µg/L	99%	
1801121-CAL6	0.1002	0.10	µg/L	100%	
1801121-CAL7	0.5010	0.51	µg/L	101%	
1801121-CAL8	1.002	1.00	µg/L	100%	
1801121-CAL9	5.010	5.01	µg/L	100%	
1801121-CALA	10.02	10.0	µg/L	100%	
1801121-IBL1		0.0002	µg/L		
1801121-ICV1	1.998	-0.0002	µg/L	*ND*	0-1
1801121-ICV2	2.000	2.05	µg/L	103%	80-120
1801121-ICB2		-0.0002	µg/L		
1801121-CCV1	1.002	1.02	µg/L	102%	75-125
1801121-CCB1		-0.001	µg/L		
1801121-CCV2	1.002	1.00	µg/L	100%	75-125
1801121-CCB2		-0.0007	µg/L		
1801121-IBL2		-0.001	µg/L		
1801121-IBL3		-0.0009	µg/L		
1801121-IBL4		-0.0008	µg/L		
1801121-IBL5		-0.0004	µg/L		
1801121-HCV1	2.000	2.01	µg/L	100%	90-110
1801121-HCV2	2.000	2.04	µg/L	102%	90-110
1801121-HCV3	2.000	2.01	µg/L	101%	90-110
1801121-HCV4	2.000	2.04	µg/L	102%	90-110
1801121-CCV3	1.002	1.00	µg/L	99%	75-125
1801121-CCB3		-0.001	µg/L		
1801121-CCV4	1.002	1.02	µg/L	102%	75-125
1801121-CCB4		-0.001	µg/L		
1801121-CCV5	1.002	1.02	µg/L	102%	75-125
1801121-CCB5		-0.0006	µg/L		
1801121-CCV6	1.002	1.02	µg/L	102%	75-125
1801121-CCB6		-0.0006	µg/L		
1801121-CCV7	1.002	1.01	µg/L	100%	75-125
1801121-CCB7		-0.0009	µg/L		
1801121-CCV8	1.002	1.04	µg/L	103%	75-125
1801121-CCB8		-0.0002	µg/L		
1801121-CCV9	1.002	1.00	µg/L	100%	75-125

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Instrument Calibration

Sequence: 1801121
Instrument: ICPMS7
Date: 08/23/2018
Analyte: Cr(VI)

Chromium Speciation IC-ICPMS

Lab ID	True Value	Result	Units	REC & Limits	
1801121-CCB9		-0.001	µg/L		
1801121-CCVA	1.002	1.03	µg/L	103%	75-125
1801121-CCBA		-0.001	µg/L		
1801121-CCVB	1.002	1.02	µg/L	101%	75-125
1801121-CCBB		-0.0009	µg/L		
1801121-CCVC	1.002	1.03	µg/L	102%	75-125
1801121-CCBC		-0.0007	µg/L		
1801121-CCVD	1.002	1.04	µg/L	104%	75-125
1801121-CCBD		-0.0008	µg/L		

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Sample Containers

Lab ID: 1830035-01
Sample: 4881DSTHCNF25
Report Matrix: Soil
Sample Type: Sample
Collected: 07/26/2018
Received: 07/27/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a		Cooler - 1830035

Lab ID: 1830035-02
Sample: 4881DSTHCNF24
Report Matrix: Soil
Sample Type: Sample
Collected: 07/26/2018
Received: 07/27/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a		Cooler - 1830035

Lab ID: 1830035-03
Sample: 4881DSTHCNF23
Report Matrix: Soil
Sample Type: Sample
Collected: 07/26/2018
Received: 07/27/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a		Cooler - 1830035

Lab ID: 1830035-04
Sample: 4881DSTHCNF21
Report Matrix: Soil
Sample Type: Sample
Collected: 07/26/2018
Received: 07/27/2018

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Client-Provided	4oz	n/a	none	n/a		Cooler - 1830035

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

Project ID: NTW-GR1601
PM: Jacki Aitken

BAL Report 1830035
Client PM: Allison Walker
Client Project: Savannah River Nuclear Solutions

Shipping Containers

Cooler - 1830035

Received: July 27, 2018 9:30
Tracking No: 782011750618 via FedEx
Coolant Type: Ice
Temperature: 2.0 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR#15

Custody seals present? No
Custody seals intact? No
COC present? Yes

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 P(206) 632-6206 F(206) 632-6017 info@brooksapplied.com www.brooksapplied.com

DATA VALIDATION REPORT

For

Hexavalent Chromium

Total Chromium

Lab Project Report ID: 1736056

September 6, 2017 sampling

Prepared by North Wind, Inc. – Greenville, SC
Project 10797.016.02

November 7, 2017

NORTHWIND INCORPORATED

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

Modified EPA 200.8: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 4

Table 1 - Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results 7

Statement of Data Usability 7

ATTACHMENT A. Electronic Data Deliverable- Excel spreadsheet with summary of all results

ATTACHMENT B. Brooks Applied Lab Data Package

NORTHWIND INCORPORATED

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on October 30, 2017, and consists of analytical data from one event- September 6, 2016. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of six (6) soil samples from the Savannah River Site D-Area for the analysis of Chromium. In particular, the samples were analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the nine (9) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested and then introduced into a radio frequency plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

EPA Method: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma- Dynamic Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of ion chromatography and a modified form of method 200.8, with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.006 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 365 pages in length and is included as Attachment B. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: (Sample date: September 6, 2017)

4881D-ST1-1CONF
4881D-ST1-2CONF

Page 4

4881D-ST1-3CONF
4881D-ST1-4CONF
4881D-WE-CONF18
4881D-WE-CONF19

Sample Collection and Receipt

The samples were all collected on September 6, 2017. All samples were received and documented by the laboratory on September 8, 2017 in good condition.

TABLE 1 Sample Preparation and Analysis Dates

Client ID	Lab ID	Batch B172333	Batch B172668	Batch B172336
4881D-	Received 09/08/17	Method 2540G- % moisture	EPA Method 200.8- Total Chromium ICP-QQQ-MS	modified EPA 200.8: Chromium (VI): IC-ICP-DRC-MS
ST1_1CONF	1736056-01	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
ST1_2CONF	1736056-02	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
ST1_3CONF	1736056-03	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
ST1_4CONF	1736056-04	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
WE-CONF18	1736056-05	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17
WE_CONF19	1736056-06	Prep: 09/18/17 Anal.:09/20/17	Prep: 10/12/17 Anal.:10/18/17	Prep: 09/21/17 Anal.:09/21/17

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

Page 5

NORTHWIND INCORPORATED

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.006 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field samples 4881D-WE-CONF18 for both total chromium and hexavalent chromium.
    - All MS/MSD recoveries were acceptable for the total chromium analyses. No total chromium data have been qualified.
    - The MS/MSD recoveries for hexavalent chromium were acceptable, and do data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for all three methods (all RPD values less than 20%). No data have been qualified on this basis.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 20% for total chromium and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. The lab duplicate RPD for the hexavalent chromium analysis was 83%. The sample was heterogeneous, so this high RPD was only applied to sample 4881D-WE-CONF18. **Therefore the Cr^{+6} result reported for this sample is considered estimated and qualified (J)** on the associated Excel data summary for this work order. Good duplicate precision was obtained for total chromium and total solids.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

One hexavalent chromium result was qualified as estimated (J) because the value reported was less than the method reporting limit (MRL). This occurred in sample 4881D-ST1-4CONF.

Page 6

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported*** **except two:** (1) the hexavalent chromium result was qualified as estimated in sample 4881D-WE-CONF18 due to sample inhomogeneity for this analyte. (2) The hexavalent chromium result was qualified as estimated in sample 4881D-ST1-4CONF because it is below the lab MRL. Other than the foregoing results, the instrument performance, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD analyses, further adding to the confidence of the reported results for the samples.

In addition to the examination of all QC indicators, the project chemist also verified all of the results by recalculation of values for methods 2540G, and both modified 200.8 analyses (Total solids, total and hexavalent chromium).

Other than the result that is less than the MRL, no other data have been qualified in any way.

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this project, all results except two hexavalent chromium results are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data. No other data are considered quantitatively compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: November 3, 2017

Project Chemist, North Wind.

Page 7

ATTACHMENT A

CHROMIUM DATA - PROJECT 10797.016.02; Sept. 6, 2017 sampling event Lab Work order 1736056

sample ID	SPL DATE	LAB ID	ANALYTE	RESULT	UNITS	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
4881D-ST1-1CONF	9/6/2017	1736056-1	SOLIDS	88.34	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-1CONF	9/6/2017	1736056-1	TOT CR	11.5	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-1CONF	9/6/2017	1736056-1	CR+6	0.237	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-ST1-2CONF	9/6/2017	1736056-2	SOLIDS	88.57	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-2CONF	9/6/2017	1736056-2	TOT CR	9.47	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-2CONF	9/6/2017	1736056-2	CR+6	0.216	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-ST1-3CONF	9/6/2017	1736056-3	SOLIDS	79.12	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-3CONF	9/6/2017	1736056-3	TOT CR	10.4	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-3CONF	9/6/2017	1736056-3	CR+6	0.090	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-ST1-4CONF	9/6/2017	1736056-4	SOLIDS	88.19	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-ST1-4CONF	9/6/2017	1736056-4	TOT CR	10.20	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-ST1-4CONF	9/6/2017	1736056-4	CR+6	0.022	mg/kg	J	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-WE-CONF18	9/6/2017	1736056-5	SOLIDS	92.32	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-WE-CONF18	9/6/2017	1736056-5	TOT CR	12.7	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-WE-CONF18	9/6/2017	1736056-5	CR+6	0.087	mg/kg	J	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336
4881D-WE-CONF19	9/6/2017	1736056-6	SOLIDS	93.66	%	=	SM2540G	9/18/2017	9/20/2017	B172333
4881D-WE-CONF19	9/6/2017	1736056-6	TOT CR	9.45	mg/kg	=	EPA200.8	10/12/2017	10/18/2007	B172668
4881D-WE-CONF19	9/6/2017	1736056-6	CR+6	0.303	mg/kg	=	IC-ICP-DRC-MS	9/21/2017	9/21/2017	B172336

KEY: = means result is confident as reported
J means result is estimated

DATA VALIDATION REPORT

For

Lab Project ID: 1-00000702

Client Project ID: 10894.004

Hexavalent Chromium

Total Chromium

Percent Solids

Lab Project Report ID: 1830035

July 26, 2018 sampling *Prepared*

by North Wind, Inc. – Greenville, SC

September 4, 2018

CONTENTS

SECTION Page Number

Introduction 3

Summary of Project 3

Summary of Methods 3

EPA 200.8: ICP-QQQ-MS – total chromium

BAL-4300: IC-ICP-DRC-MS – hexavalent chromium

SM 2540G (Total solids)

Specific Data package information 4

Sample IDs 4

Table 1 – Sample and batch information 5

Sample receipt dates

Sample preparation dates

Sample analysis dates

QC Summary 5

QC indicators

QC results summary

Qualified results based on QC results 6

Statement of Data Usability 7

ATTACHMENT: Electronic Data Deliverable- Excel spreadsheet with summary of all results

INTRODUCTION

This report discusses the data validation of a Level IV data package that was generated by Brooks Applied Labs located at 18804 North Creek Parkway, Suite 100, Bothell, Washington 98011. The data package was received on August 29, 2018, and consists of analytical data from one sampling event- July 26, 2018. The data validator performed a Level IV data validation examination, as per EPA and DoD-DOE QSM requirements. The type of validation process involves a comprehensive examination of every facet of the analyses represented by and documented in the data package. This report will provide details of this process and will discuss the quality of the data and any effects the data quality have on the reported results. An Excel data summary spreadsheet will also be provided to enable the user to easily view all the data and data qualifiers applied as a result of the data validation process.

SUMMARY OF PROJECT

This project entailed the sampling of a total of four (4) soil samples from the Savannah River Project for the analysis of Chromium. In particular, the sample was analyzed for Total Chromium, Hexavalent Chromium (Cr VI), and Total Solids (in order to provide a correction factor so that results could be reported on a "dry weight" basis). Several methods for sample analysis were utilized by the laboratory, which are discussed in the next section.

SUMMARY OF METHODS

Three methods were used to determine Chromium concentrations in the four (4) samples submitted for analysis. The following is a brief explanation of these methods and why three methods were utilized.

EPA method 200.8: ICP-MS (Inductively Coupled Plasma triple quadrupole- Mass Spectroscopy) analysis for Total Chromium

This method is used to determine the presence of and concentrations of over 60 metal elements in a wide variety of samples. In this method, samples are digested by EPA method 3050 and then introduced into a radio frequency induced plasma, where the analytes are desolved, atomized and ionized. The ions so produced are transferred from the plasma to a triple quadrupole (QQQ) filter and the ions of interest are then transferred to a triple quadrupole filter, which filters target masses, then these mass ions are transferred to a mass analyzer, which detects and quantifies the metal analytes of interest. The resulting signal is then converted to usable data via a data handling system. The results labeled "Cr" were generated in this manner.

Brooks Applied Method BAL-4300: IC-ICP-MS (Ion Chromatography- Inductively Coupled Plasma-Collision Reaction Cell-Mass Spectrometry) for Hexavalent Chromium (Cr VI)

This method involved all the capabilities of Ion chromatography and a modified form of method 200.8; with sample preparation performed according to Method 3060A (sample aliquots are buffered and then subjected to alkaline extraction step). The chromium is then speciated and separated by the IC system.

The specific mass/charge (m/z) ratio for the hexavalent chromium represented by atomic mass 52 is then detected via the MS system, and the signal is then collected and results for Cr (VI) are generated via the data handling system. Analytical results were blank-corrected per the Brooks Applied Labs most recent SOP for Cr^{+6} analyses (SOP BAL -4300). In the case of sample results generated from this work order, all instrument-derived Cr^{+6} results were corrected by a value of - 0.004 mg/Kg to determine the reported results.

The total chromium value is the sum of the Cr (III) and Cr (VI) results. Once one knows the Total Chromium (Cr (III) + Cr (VI)) value, and when the Cr (VI) concentration is determined, the Cr (III) can be calculated by difference. In most cases, Cr (III) makes up a large component of the total chromium result, as can be seen in the data presented for this project. Cr (VI) is environmentally and toxicologically important, which is the reason for the analysis.

Standard method 2540G: Total Solids

This is a simple method for determining percent solids of a solid sample per method SM 2540G. A known mass of sample is dried in an oven for a period of time, and the loss of mass is attributed to water that has been driven off. The dry mass divided by the original mass is calculated and a percent solids value is derived from that result. The initial ("wet") concentration result for an analyte is then divided by the percent solids value to obtain the "dry weight" result.

SPECIFIC DATA PACKAGE INFORMATION

The data package received by the project chemist is 348 pages in length. It is divided into several main sections:

- Introduction and overview
- Sample results and analytical batch information
- QC summary (accuracy and precision)
- Calibration information
- Chain of Custody and sample container summary
- Raw analytical data for three (3)sample analysis batches (one for each analytical procedure)

All necessary data were present and complied with the detail and completeness required for a Level IV data package. The Project chemist was able to utilize all the contents of the data package in order to perform the level IV data validation process. In addition, the thorough examination of the data deliverables also serves as the Data Verification activity (also known as Contract Compliance Screening, CCS, by some entities).

Sample IDs

The following samples were submitted for analysis: **(Sample date: July 26 2018)**

4881DSTHCNF25, 4881DSTHCNF24, 4881DSTHCNF23, 4881DSTHCNF21

Sample Collection and Receipt

The samples were collected on July 26, 2018. The samples were received and documented by the laboratory on July 27, 2018 in good condition.

TABLE 1 Sample Preparation and Analysis Dates for 07/26/2018 sampling

Client ID	Lab ID	Batch B181921	Batch B181920	Batch B182177
4881DSTHCNF	Received 07/27/2018	Method 2540G-% moisture	EPA Methods 3050B/ 200.8-Total Chromium ICP-QQQ-MS	EPA method 3060A & BAL-4300: Chromium (VI): IC-ICP-CRC-MS
-25	183005-01	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/23/18 Anal.:08/23/18
-24	183005-02	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/23/18 Anal.:08/23/18
-23	183005-03	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/23/18 Anal.:08/23/18
-21	183005-04	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/06/18 Anal.:08/09/18	Prep: 08/23/18 Anal.:08/23/18

QC SUMMARY

QC Indicators

The following QC indicators were employed and examined for these analyses:

- Method blank (MBLK)
- Instrument Calibration Blanks (ICB, CCB)
- Initial and continuing Calibration verification standards (ICV, CCV)
- Matrix spike analysis (MS)
- Matrix Spike Duplicate analyses (MSD)
- Laboratory control samples: Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks
- Laboratory duplicates (DUP)
- Field Replicate sample analyses (not submitted for this project)

QC results summary

Each of the above QC indicator results were examine to determine if (a) there were unacceptable results and (b) if so, what effects these unacceptable results would have on the results. "Unacceptable" means that the blank values, CCVs, MS/MSD % recoveries, laboratory duplicate precision (RPD), SRM and CRM % recoveries are outside of acceptable limits.

Page 5

The following is the summary of Laboratory QC indicator performance:

- Method blank (MBLK): The IC-ICP-MS Method blanks produced results for Cr^{+6} that are greater than the method detection limits (MDLs). An average value of 0.004 mg/kg was obtained. This blank value was subtracted from all hexavalent chromium results prior to reporting. No data are therefore impacted by the hexavalent chromium method blank values. All other blanks for the other methods were acceptable (<MDLs). No data have been qualified on this basis.
- Calibration verification standards (ICV, CCV): All ICV and CCV recoveries associated with the sample analytical batches were within acceptable ranges of 90-110% for total chromium and between 75-125% for hexavalent chromium.
- Matrix spike analysis/Matrix spike duplicate analyses (MS/MSD): The laboratory spiked field sample **4881DSTHCNF25** for both total chromium and hexavalent chromium.
  - All MS/MSD recoveries based on the spiking of hexavalent chromium compound $PbCrO_4$ into water were acceptable for the hexavalent chromium analyses.
  - The Hexavalent Chromium aqueous Cr^{+6} MS/MSD recoveries were below the acceptable lower limit (59%/67%; lower limit = 75%) for sample **4881DSTHCNF25**. The hexavalent chromium result has been qualified as estimated **(J)** in this one sample and may be biased low. These low recoveries have not been cross applied to other samples due to the unique matrix of this sample.
  - The MS/MSD recoveries for total chromium were acceptable, and no data have been qualified.
- MS/MSD precision: The MS/MSD results exhibited good precision for total solids and total chromium (all RPD values less than 20%). No data have been qualified on this basis.
- Laboratory control samples: (Certified reference materials (CRMs) and Standard Reference materials (SRMs), Laboratory fortified Blanks): All SRM, CRM and Lab fortified blank recoveries were within the acceptable range of 80-120%.
- Laboratory duplicates (DUP): Laboratory duplicate relative percent difference (RPD) values were less than or equal to 25% for total chromium, hexavalent chromium, and total solids analyses, which is considered acceptable for solid matrix result duplicate precision. Since good duplicate precision was obtained for all analyses, no data have been qualified on this basis.
- Field replicate samples: No field duplicate samples were collected for this sampling event.

Qualified results based on QC results

Based on the foregoing QC result summary, ***all quantitative results are considered confident as reported in the sample except for the Cr^{+6} result in sample*** **4881DSTHCNF25,** which is considered quantitatively **estimated (qualified "J").** Acceptable instrument performance as demonstrated by all QC criteria that were in control, and duplicate RPD calculations from the lab replicate affirm the reliability of the overall accuracy of the analyses. Good accuracy and precision were observed for all of the MS/MSD analyses (other than what has been discussed above), further adding to the confidence of the reported results for total and hexavalent chromium and total solids for the samples.

Page 6

In addition to the examination of all QC indicators, the project chemist also verified all of the results by the recalculation of values for methods 2540G, EPA 200.8, and BAL-4300 analyses (Total solids, total and hexavalent chromium).

STATEMENT OF DATA USABILITY

Based on the comprehensive data verification and data validation process of all the analytical data submitted for this sampling event, all reported results are considered quantitatively and qualitatively confident as reported and usable for the intended use of the data unless discussed previously. One data point is considered quantitatively compromised as discussed above. No other data are considered compromised for any reason.

Report prepared by: Roy J. Cohen, PhD on: September 4, 2018

Project Chemist, North Wind.

Page 7

ATTACHMENT

Electronic Data Deliverable- Excel spreadsheet with summary of all results

Page 8

CHROMIUM DATA - 100000702 July 26, 2018 sampling event

Lab Work order 1830035

LAB PROJECT ID	CLIENT PROJECT ID	CLIENT SAMPLE ID	SAMPLING DATE	LAB SAMPLE ID	ANALYTE	RESULT	UNITS	LAB QUAL	VAL_QUAL	METHOD	DATE PREP	ANALY DATE	BATCH
100000702	10797.016.02	4881DSTHCNF25	7/26/2018	1830035-01	SOLIDS	77.62	%		=	SM2540G	8/6/2018	8/9/2018	B181921
100000702	10797.016.02	4881DSTHCNF25	7/26/2018	1830035-01	TOT CR	12.3	mg/kg		=	EPA200.8	8/6/2018	8/9/2018	B181920
100000702	10797.016.02	4881DSTHCNF25	7/26/2018	1830035-01	CR+6	0.188	mg/kg	N	J	IC-ICP-CRC-MS	8/23/2018	8/23/2018	B182177
	10797.016.02	4881DSTHCNF24	7/26/2018	1830035-02	SOLIDS	90.00	%		=	SM2540G	8/6/2018	8/9/2018	B181921
	10797.016.02	4881DSTHCNF24	7/26/2018	1830035-02	TOT CR	4.3	mg/kg		=	EPA200.8	8/6/2018	8/9/2018	B181920
	10797.016.02	4881DSTHCNF24	7/26/2018	1830035-02	CR+6	0.137	mg/kg		=	IC-ICP-CRC-MS	8/23/2018	8/23/2018	B182177
	10797.016.02	4881DSTHCNF23	7/26/2018	1830035-03	SOLIDS	74.58	%		=	SM2540G	8/6/2018	8/9/2018	B181921
	10797.016.02	4881DSTHCNF23	7/26/2018	1830035-03	TOT CR	17.7	mg/kg		=	EPA200.8	8/6/2018	8/9/2018	B181920
	10797.016.02	4881DSTHCNF23	7/26/2018	1830035-03	CR+6	1.090	mg/kg		=	IC-ICP-CRC-MS	8/23/2018	8/23/2018	B182177
	10797.016.02	4881DSTHCNF21	7/26/2018	1830035-04	SOLIDS	84.84	%		=	SM2540G	8/6/2018	8/9/2018	B181921
	10797.016.02	4881DSTHCNF21	7/26/2018	1830035-04	TOT CR	12.6	mg/kg		=	EPA200.8	8/6/2018	8/9/2018	B181920
	10797.016.02	4881DSTHCNF21	7/26/2018	1830035-04	CR+6	0.580	mg/kg		=	IC-ICP-CRC-MS	8/23/2018	8/23/2018	B182177

KEY: "J" signifies that the result is considered quantitatively estimated due to a QC deficiency.

RC 9/4/2018

APPENDIX T

AS-BUILT DRAWINGS

(Actual Drawings Provided Under Separate Cover)

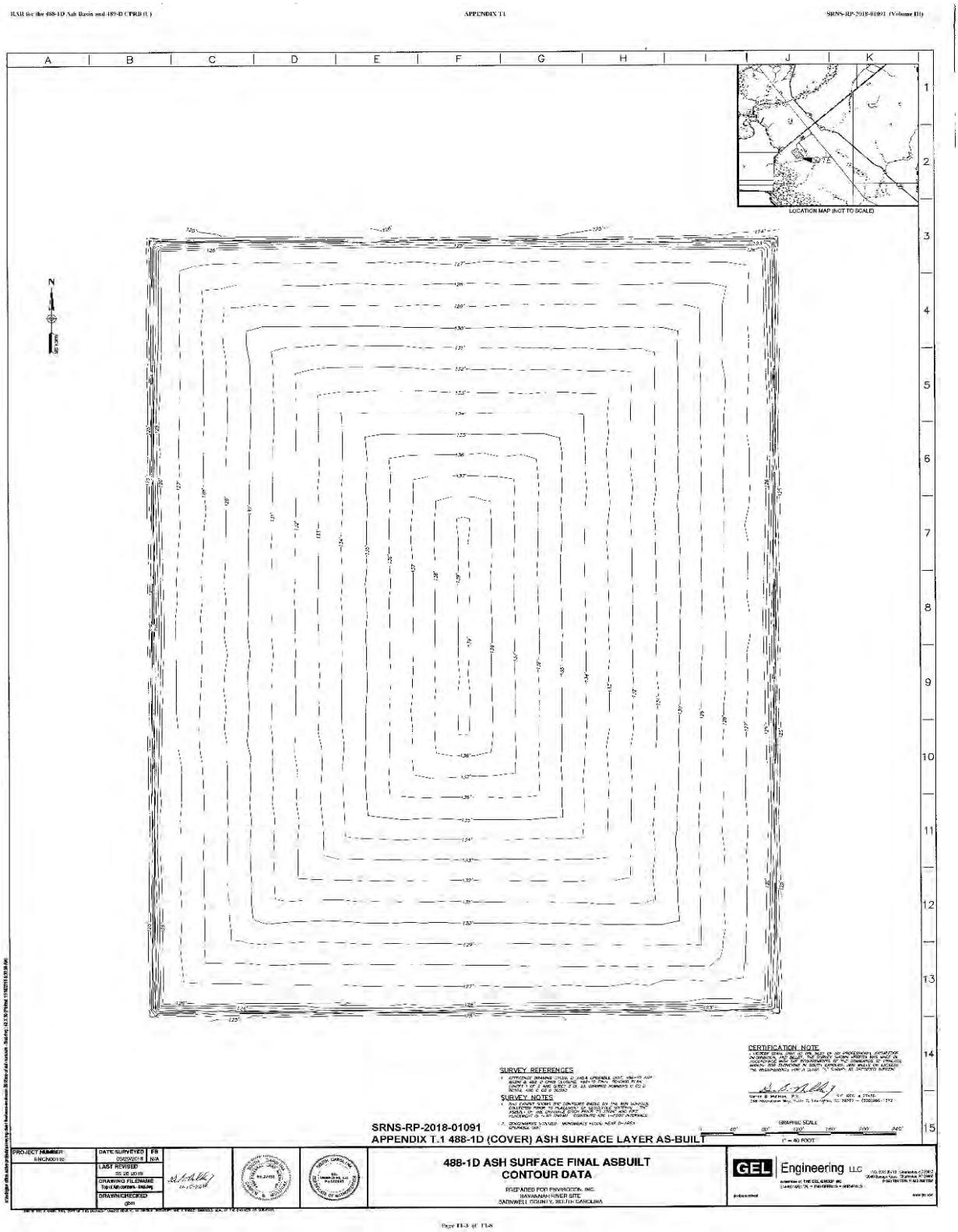
Appendix T1 488-1D (Cover) As-Built Drawings
Appendix T2 Other As-Built Drawings

This page intentionally left blank.

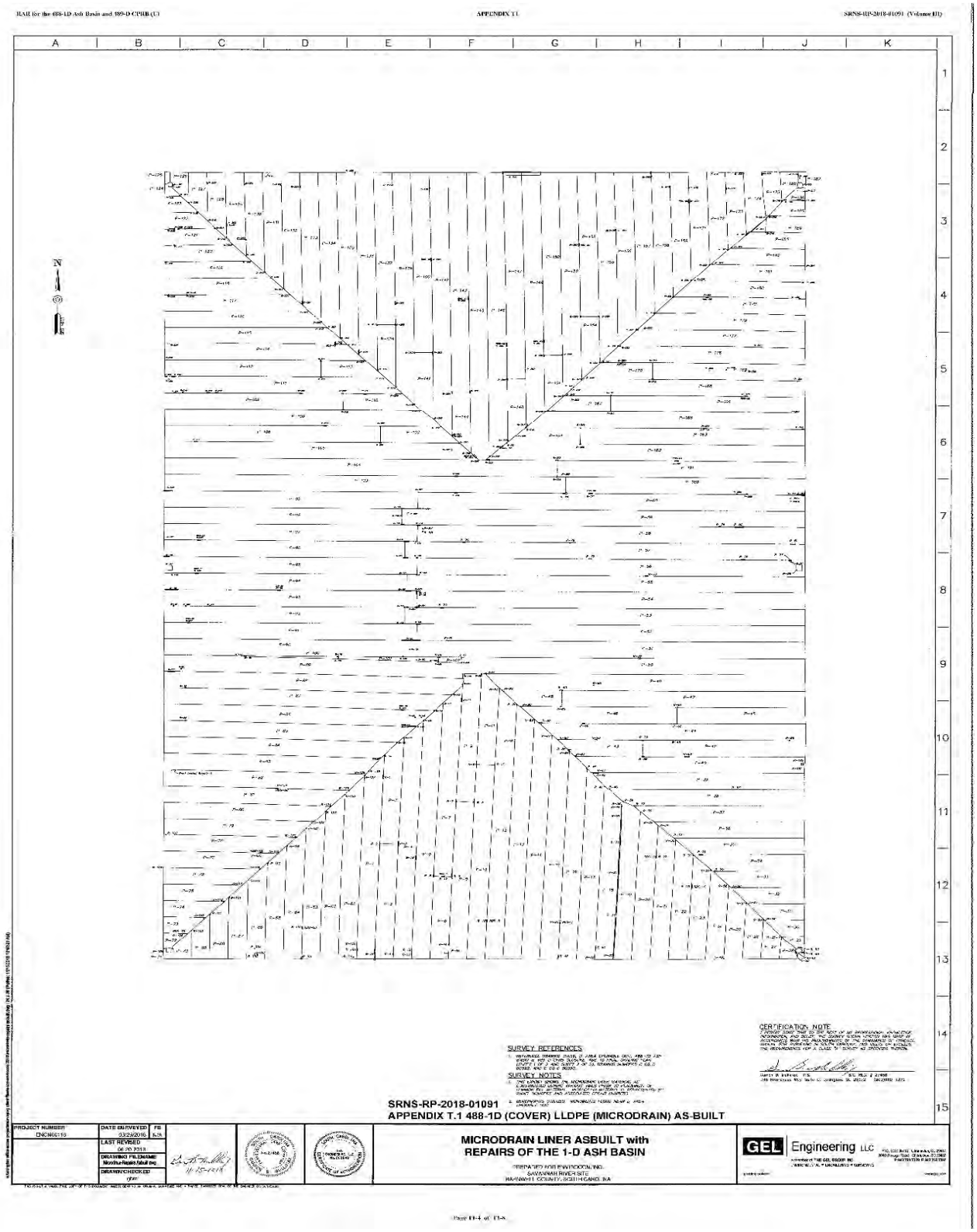
APPENDIX T1

488-1D (Cover) As-Built Drawings

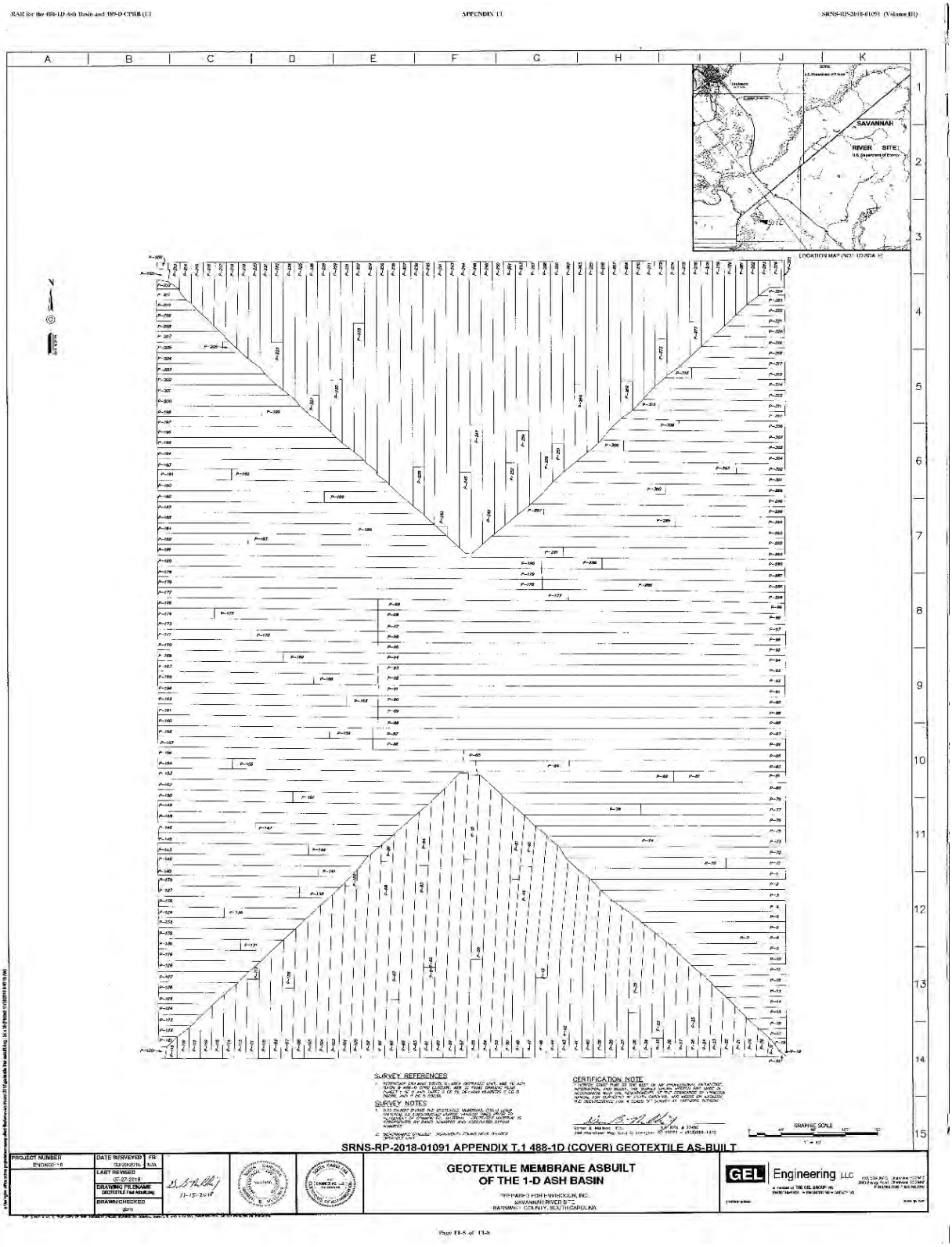
This page intentionally left blank.



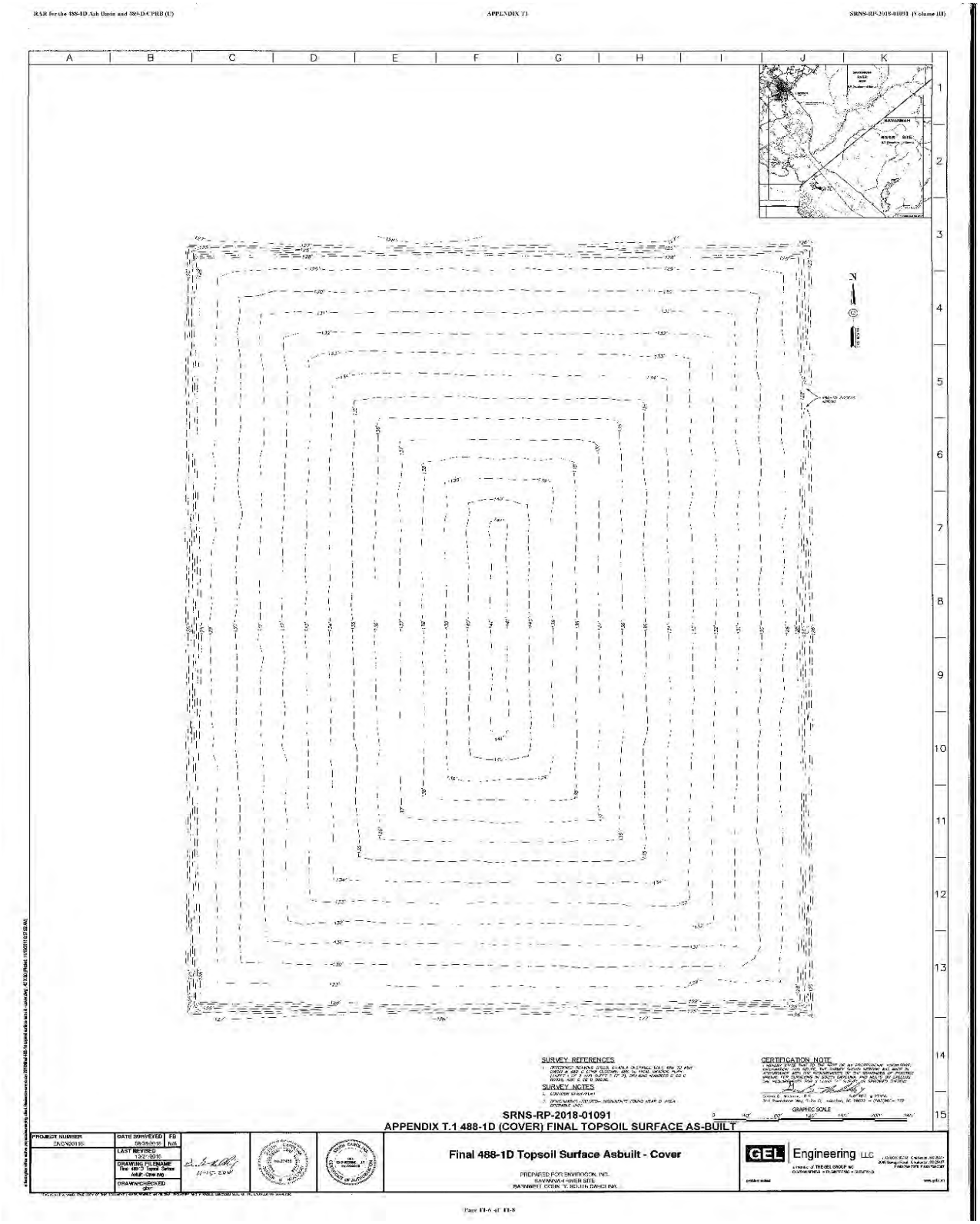
(Actual Drawing Provided Under Separate Cover)



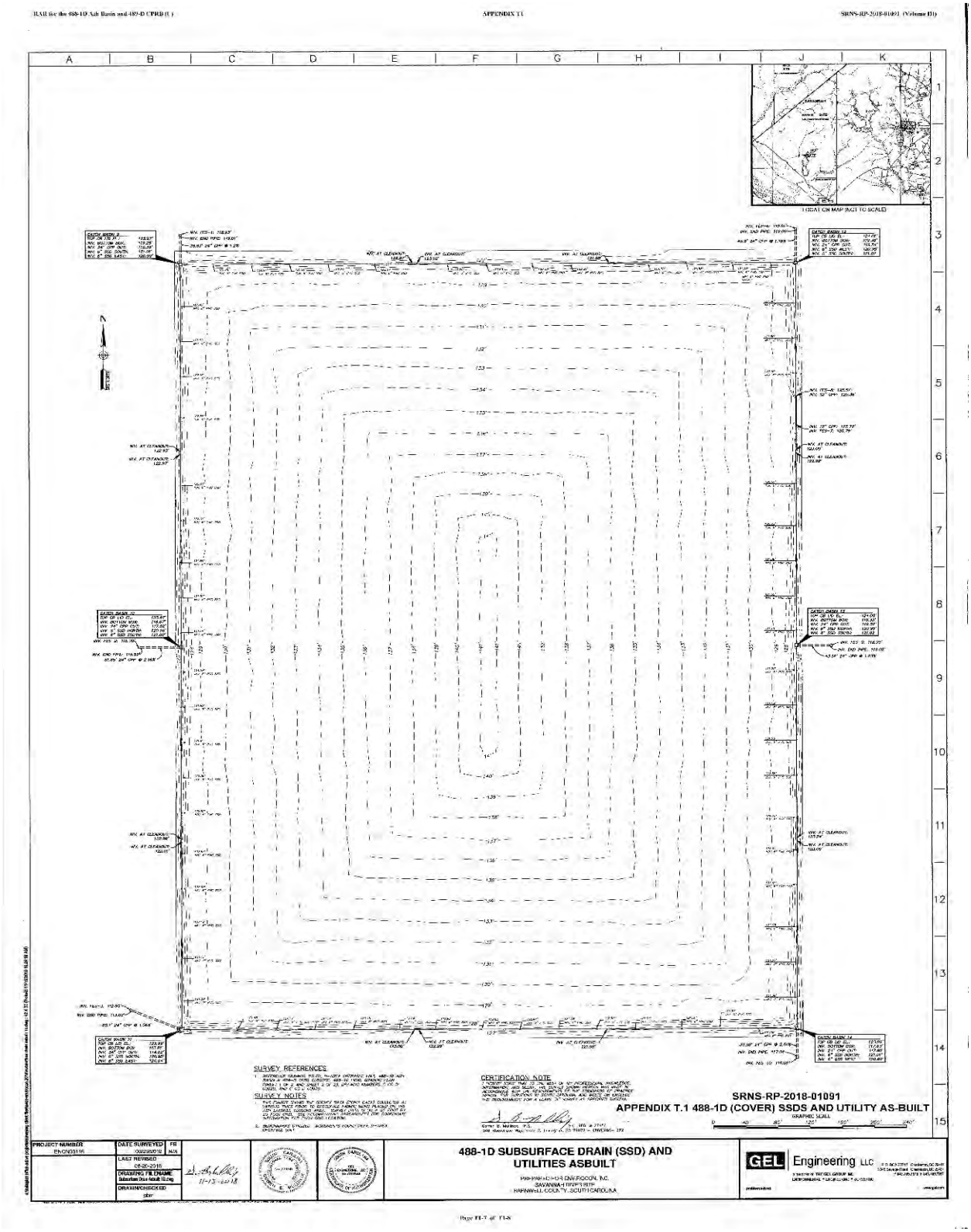
(Actual Drawing Provided Under Separate Cover)



(Actual Drawing Provided Under Separate Cover)



(Actual Drawing Provided Under Separate Cover)



(Actual Drawing Provided Under Separate Cover)

RAR for the 488-1D Ash Basin and 489-D CPRB (U) APPENDIX T1 SRNS-RP-2018-01091 (Volume III)

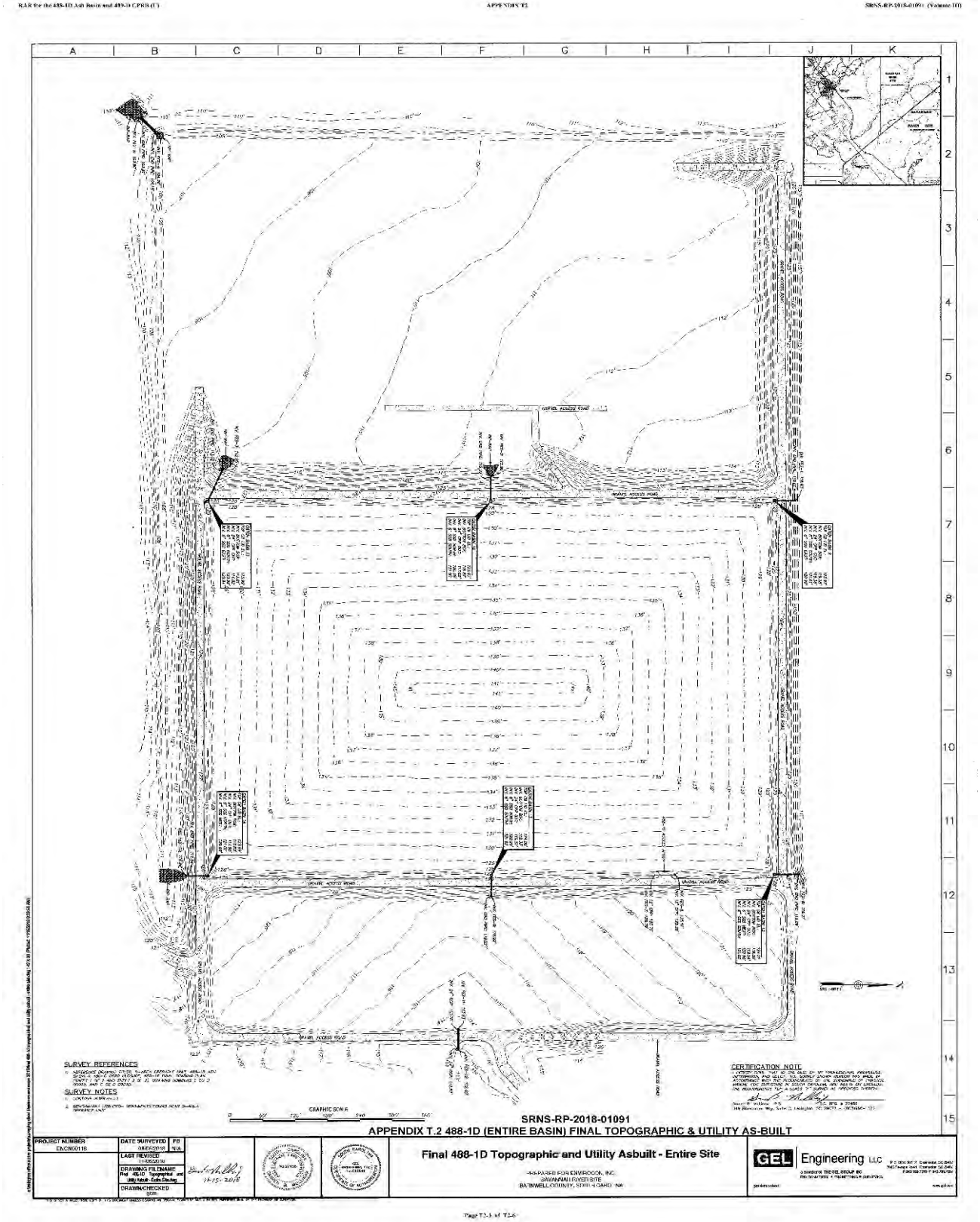
This page was intentionally left blank.

(Actual Drawing Provided Under Separate Cover)

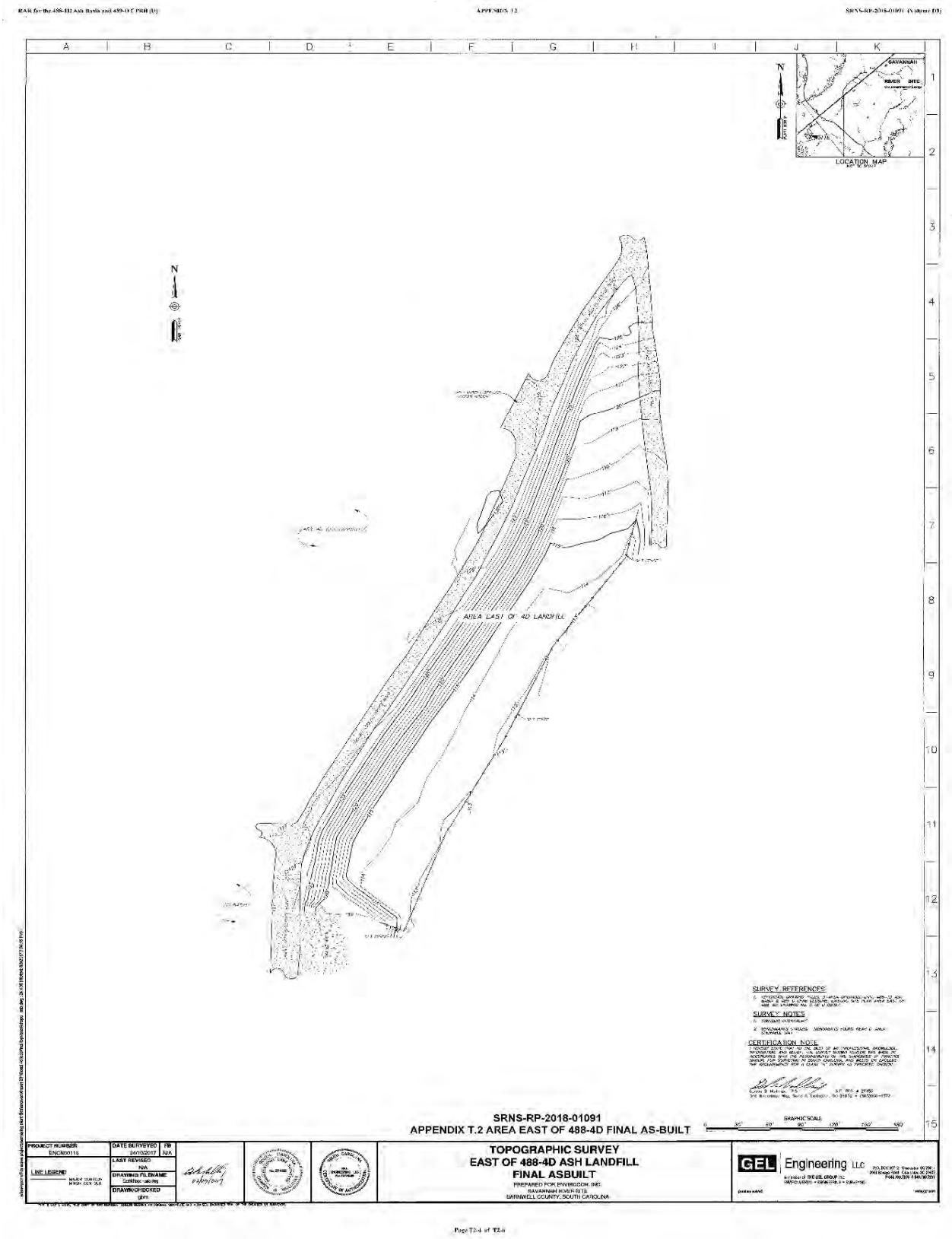
APPENDIX T2

Other As-Built Drawings

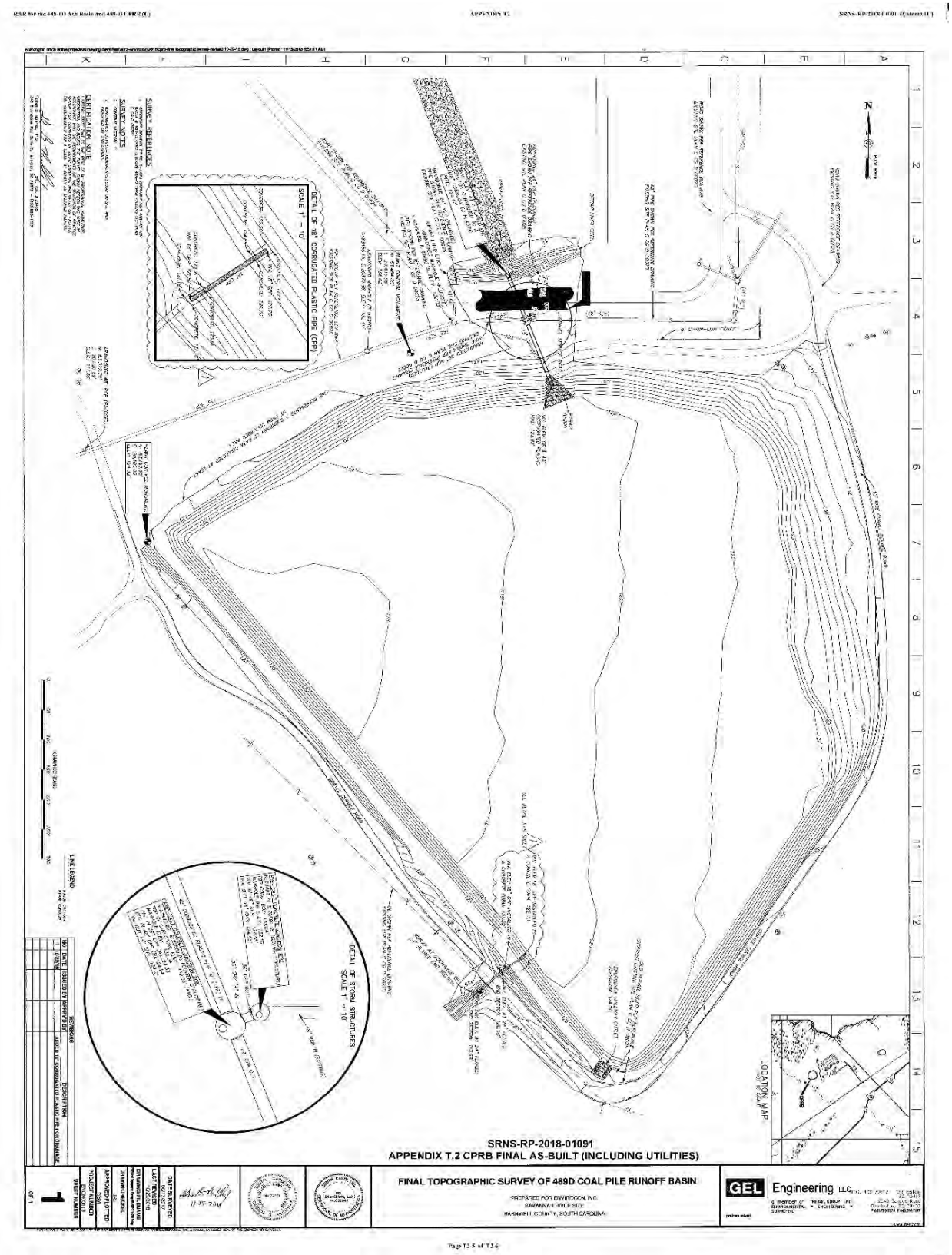
This page intentionally left blank.



(Actual Drawing Provided Under Separate Cover)



(Actual Drawing Provided Under Separate Cover)



(Actual Drawing Provided Under Separate Cover)

RAR for the 488-1D Ash Basin and 489-D CPRB (U) APPENDIX T2 SRNS-RP-2018-01091 (Volume III)

This page was intentionally left blank.

(Actual Drawing Provided Under Separate Cover)

APPENDIX U

WELLS

Appendix U1 SCDHEC Well Installation/Abandonment Approvals
Appendix U2 SRNS Well Installation Records
Appendix U3 SRNS Well Abandonment Records

This page intentionally left blank.

APPENDIX U1

SCDHEC Well Installation/Abandonment Approvals

This page intentionally left blank.

March 14, 2018

Mr. Benjamin C. Terry, Manager
Environmental Permitting
Environmental Compliance and Area Completion Projects
Savannah River Nuclear Solutions
Aiken, South Carolina 29808

Re: Savannah River Site (SRS)/FFA
D-Area Groundwater Operable Unit
SC1 890 008 989
Barnwell County

Request for the Approval of the Savannah River Site Hydrogeologic and Geotechnical Projects Program Plan for the installation of D-Area Ash Basin (488-1D) Monitoring Wells.

Dear Mr. Terry:

The above referenced request has been reviewed with regard to R.61-71 of the South Carolina Well Standards and Regulations. The request proposes the installation of two groundwater monitoring wells. In addition to the attached requirements, the Department will expect the following:

1) These groundwater monitoring wells shall not penetrate the Green Clay Confining Unit.

2) All well construction and sampling derived waste, including but not limited to, drill cuttings, drilling fluids, and development and purge water, be managed properly and in accordance with all applicable state and federal requirements. If containerized, each vessel shall be clearly labeled with regard to contents, source and date activity.

3) Field equipment (including sampling probes) must be decontaminated by steam cleaning (or another appropriate method) before use and between sampling locations. Well screens and casing must be decontaminated before installation.

4) That notice be given to the author of the approval and the Midlands EQC Region – Aiken office, Greg O'Quinn (803-642-1637), a minimum of forty-eight hours prior to initiation of drilling activities.

These monitoring wells shall be installed in accordance with the specifications of SRS Procedures Manual, 3Q1, Section 9000, "Hydrogeologic Data Collection Procedure and Specifications" and R.61-71, South Carolina Well Standards dated May 27, 2016.

S.C. Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201 (803) 898-3432 www.scdhec.gov

SRNS-OS-2018-00031

Healthy People. Healthy Communities.

Based on this review, approval is granted for the installation of the above mentioned monitoring wells and as a part of the D-Area Ash Basin (488-1D) Program Plan. If the date of construction extends seven to ten day past March 28, 2018, please notify the Department immediately. Should you have any questions, you may contact me at (803) 898-0905.

Sincerely,

Ben Jumper, Hydrogeologist
Federal Remediation Section
Division of Site Assessment, Remediation, and Revitalization
Bureau of Land and Waste Management

cc: Susan Fulmer, BLWM
Heather Cathcart, BLWM
Brian Hennessey, DOE-SR
Robert H. Pope, EPA Region IV
Jon Richards, EPA Region IV
Diedre Llyod, EPA Region IV
Travis Fuss, Aiken Environmental Affairs Office (via email)
Greg O'Quinn, SCDHEC Aiken

dhec
Healthy People. Healthy Communities

March 14, 2018

Monitoring Well Approval

Date of Issuance: **March 14, 2018** **Approval #:** **MW-11483**

Approval is hereby granted to: Mr. Benjamin C. Terry
Facility: Savannah River Site
SC1 890 008 989
Barnwell County

This approval is for the installation of two groundwater monitoring wells. The monitoring wells are to be installed in the locations as illustrated on the first figure and per the proposed construction details provided in the 3/7/2018 correspondence. The proposed drilling date is 3/28/2018. The monitoring wells are to be installed following all of the applicable requirements of R.61-71.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

3. All analytical data and water levels obtained from each monitoring well shall be submitted to the author of this approval within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

4. If any of the information provided to the Department changes, including the proposed drilling date, Ben Jumper (803-898-0905) shall be notified at least twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated May 27, 2016.

Ben Jumper, Hydrogeologist
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management

SRNS-OS-2018-00031

10410 1

SRNS-OS-2015-00101

D H E C
PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director
Promoting and protecting the health of the public and the environment

December 3, 2015

ENVIRONMENTAL COMPLIANCE &
DEC - 8 2015
AREA COMPLETION PROJECTS

Mr. Benjamin C. Terry, Manager
Environmental Permitting
Environmental Compliance and Area Completion Projects
Savannah River Nuclear Solutions
Savannah River Site
Aiken, South Carolina 29808

Re: Savannah River Site (SRS)/FFA
D-Area Operable Unit
SC1 890 008 989
Barnwell County

Request for Approval for the Savannah River Site Hydrogeologic/Geotechnical Well Abandonment Program Plan for the D-Area Ash Project (Wells around D-Area Ash Basin 488-1D) (ER-HGPP-2015-00018) (Terry to Fulmer), SRNS-J2000-2015-00730, dated December 1, 2015.

Dear Mr. Terry:

The above referenced request has been reviewed with regard to R.61-71 of the South Carolina Well Standards and Regulations. The request proposed the abandonment of ten (10) wells/piezometers (DA 4C, DB 5C, DB 6C, DA 7C, DB 10C, DA 11C, DA 12C, DB 13C, DA 14C, and 15C) that are located in the D-Area Ash Basin (488-1D) south and west berms, as the wells are no longer required due to closure of the basin. The monitoring wells/piezometers will be abandoned in accordance with SRS Procedures Manual 3Q1, Section 9010, "Well Abandonments" and R.61-71 South Carolina Well Standards dated April 26, 2002.

Based on this review, approval is granted for the abandonment of the above mentioned wells/piezometers **only if** the closure of the D-Area Ash Basin (488-1D) proceeds as scheduled. However, if the dewatering of the basin does not commence by March 2016, approval for the abandonment of these wells is not granted. Also, the Department acknowledges for accountability purposes the abandonment of vadose zone well, P-06. The above conditions apply to this vadose zone well as well. Should you have any questions regarding the above, please contact me at (803) 898-0916.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 Bull Street • Columbia, SC 29201 • Phone: (803) 898-3432 • www.scdhec.gov

SRNS-OS-2018-00031

SRNS-OS-2015-00101

Sincerely,

Heather H Cathcart

Heather H. Cathcart
Federal Remediation Coordinator
Federal Remediation Section
Division of Site Assessment, Remediation, and Revitalization
Bureau of Land and Waste Management

cc: Susan Fulmer, BLWM
Candice Freeman, DOE
Rob Pope, EPA Region IV
Jennifer Hughes, Midlands EQC Region - Aiken

SRNS-OS-2018-00031

This page was intentionally left blank.

APPENDIX U2

SRNS Well Installation Records

This page intentionally left blank.

Savannah River NUCLEAR SOLUTIONS
FLUOR • NEWPORT NEWS NUCLEAR • HONEYWELL

SRNS-J2000-2018-00721
RSM Track Number: 10666

NOV 29 2018

Ms. Susan B. Fulmer, P.G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation, and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Dear Ms. Fulmer:

SUBMITTAL OF THE MONITORING WELL INSTALLATION REPORTS AND WELL DEVELOPMENT DATA FIELD PARAMETERS AND FIELD GEOLOGIC LOGS FOR D-AREA ASH BASIN (488-1D) MONITORING WELLS DCB081 AND DCB082 (ER-HGPP-2018-00002) (SCDHEC MONITORING WELL APPROVAL #MW-11483)

Reference:
Letter, B. Jumper (SCDHEC) to B. C. Terry (SRNS), *Re: Savannah River Site (SRS)/FFA D-Area Groundwater Operable Unit SC1 890 008 989 Barnwell County Request for the Approval of the Savannah River Site Hydrogeologic and Geotechnical Projects Program Plan for the Installation of D-Area Ash Basin (488-1D) Monitoring Wells*, dated March 14, 2018 (SRNS-OS-2018-00031)

The South Carolina Department of Health and Environmental Control approved the installation of two monitoring wells (i.e., DCB081 and DCB082) in your referenced letter dated March 14, 2018. The wells were installed to monitor any ash influences on the groundwater downgradient of the covered ash pile in the northern section of the D-Area Ash Basin (488-1D). These monitoring wells are located southwest of the covered ash pile. The Monitoring Well Installation Reports and Well Development Data Field Parameters and Field Geologic Logs for the two wells are enclosed for your files. In addition, the Savannah River Site is submitting a figure to show the location of the wells.

If you have any questions or comments regarding this submittal, please contact Shelia McFalls at (803) 952-6819 or via email at shelia.mcfalls@srs.gov.

Sincerely,

Amy J. Meyer

Amy J. Meyer, Manager
Environmental Compliance
Environmental Compliance & Area Completion Projects

slm:tab

SAVANNAH RIVER SITE
AIKEN, SC 29808 • WWW.SRS.GOV

Ms. Susan B. Fulmer
SRNS-J2000-2018-00721
Page 2

NOV 29 2018

Enclosures:
1. Monitoring Well Installation Reports and Well Development Data Field Parameters for Monitoring Wells DCB081 and DCB082
2. Field Geologic Logs for Monitoring Wells DCB081 and DCB082
3. Figure 1. Location of Monitoring Wells DCB081 and DCB082 near the D-Area Ash Basin (488-1D)

cc:
D. Lloyd, EPA – Atlanta*
R. H. Pope, EPA – Atlanta
J. Richards, EPA – Atlanta*
H. H. Cathcart, SCDHEC – Columbia*
G. N. O'Quinn, SCDHEC – Aiken Environmental Affairs Office*
w/enclosure

OSR 30-11 (Rev. 06-27-2016)
Page 1 of 4

Monitoring Well Installation Report

Driller Name/Company	Driller Cert. No.	Tech Oversight Name/Company	Well Number
Ray Whitt	2223D	Ashley Shull / SRNS	DCB081

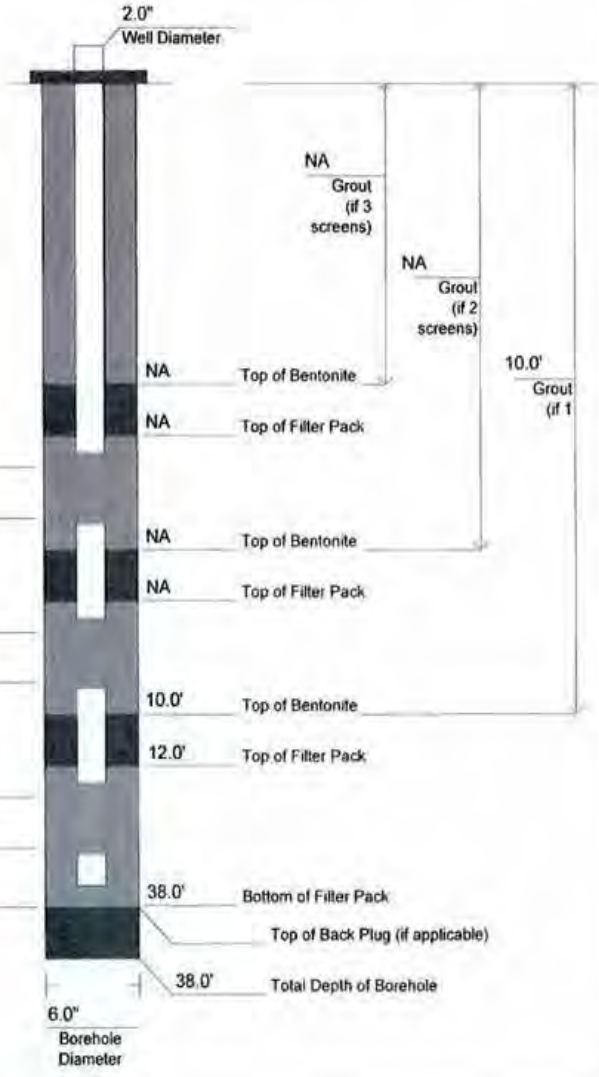
Well Installation Date	SC DHEC Well Approval Number	Drilling Method (Auger Mud Rotary, Rotosonic, etc)	
10/30/2018	MW-11483	Rotosonic	
SRS North Grid Coordinate (as built)	**SRS East Grid Coordinate (as built)**	**Latitude (deg/min/sec - as built) (NAD 27)**	**Longitude (deg/min/sec - as built) (NAD 27)**
63041.182516	18152.227140	33° 11' 41.26"	-81° 44' 28.96"
Top of Pad Elevation (as built)	**Water Level Reference Point Elevation (as built)**	**Survey Point**	
113.11	115.67	☐ Top of Casing ☒ Top of Stand Pipe ☐ Ground Surface	

Surface Casing (if installed) — Depths measured from ground surface to nearest 0.1 ft

Total Depth of Installed Casing: NA

Casing Material/Diameter: NA

Grout Quantity: NA



Screen Zone	Top of Screen	NA
NA	Bottom of Screen	NA
Screen Zone	Top of Screen	NA
NA	Bottom of Screen	NA
Screen Zone	Top of Screen	14.7'
UTRA	Bottom of Screen	34.7'
	Total Depth of Well	37.0'

OSR 30-11 (Rev. 06-16-2016)
Page 2 of 4

Monitoring Well Installation Report (Continued)

Well Number
DCB081

Program Plan Name	Location Description	Site ID	Project Manager
488-1D Monitoring Wells	488-1D Ash Basin	D-Area	George Sewell

Station Type (Monitoring Well, Piezometer, etc.)
Monitoring Well

Drilling and Sampling

Drilling Start Date	Drilling Completion Date	Total Drilled Depth
10/30/2018	10/30/2018	38 feet

Drilling Sampling Method	Top Depth	Bottom Depth	Diameter
4" x 10' core barrel	0 ' bgs	38.0' bgs	4.0"
6" x 10' temporary casing	0' bgs	38.0' bgs	6.0"

Drilling and Sampling Comments (lost circulation zones, drilling problems, etc.)
During boring operations, a 4" x 10' core sampler was driven in advance of the 6" temporary casing starting at 0' bgs, continuing until 38' bgs. Each ten foot soil core interval was described and recorded on a geologic log form (OSR 30-27).

Geophysical Logging

Date Logged	Logging Top Depth	Logging Bottom Depth	Logging Contractor	Logging Truck Operator

Geophysical Logs
☐ Caliper ☐ Natural Gamma ☐ Neutron Density ☐ Resistivity ☐ Single Pt. Resistivity ☐ L & S Normal Resistivity ☐ Spontaneous Potential
☐ Other (List)

Backfill Top Depth	Backfill Bottom Depth	Backfill Material (Include Type, Quantity)
37.0'	38.0'	Filter Media (sand) (0.2 cubic feet)

Depths measured from ground surface to nearest 0.1 ft.

OSR 30-11 (Rev. 06-16-2016)
Page 3 of 4

Monitoring Well Installation Report (Continued)

Well Number: DCB081

	Top Depth	Bottom Depth	Material/Schedule	Diameter	Slot Size	Slot Type
Casing	2.1' above ground	14.7	PVC Sch. 40	2" I.D.		
Screen	14.7'	34.7'	PVC Sch. 40	2" I.D.	0.010	
Sump	34.7'	36.7'	PVC Sch. 40	2" I.D.		
Sump Cap	36.7'	37.0'	PVC Sch. 40	2" I.D.		

	Top Depth	Bottom Depth	Amount (sacks and size)	Trade Name
Filter Pack	12.0'	38.0'	9 bags (50 lb bags)	Filter Media

	Top Depth	Bottom Depth	Amount/Size (sack, bucket, etc.)
Bentonite Seal	10.0'	12.0'	1 - 5 gallon bucket 3/8" Pell Plugs

	Top Depth	Bottom Depth	Amount (sacks and size)	Grout Date	Grout Weight
Grout	0.0'	10.0'	1.5 (50 lb bags)	10/30/2018	

☐ Neat Cement
☐ Bentonite Cement
☒ High Solids Bentonite

Well Installation Comments
Casing was later cut down from 3 ft above ground surface to 2.1 ft during pump installation.

Pump Installation Information: Variable Speed Pump ☐ Pump Not Installed

Installation Date	Installer/Company	Model/Manufacturer	Diameter
11/08/2018	Cascade Drilling	Grundfos MP1-2-A-B-G-TV Model A	2"

☐ Single Speed ☒ Variable Speed

Depth from Top of Casing to Top of Pump: 35.6 ft

Report Prepared By: Ashley Shull

Date: 11/13/2018

Depths measured from ground surface to nearest 0.1 ft.

OSR 30-11 (Rev. 06-16-2016)
Page 4 of 4

Well Development Data Field Parameters

Well Number
DCB081

Well Developed By	Development Oversight	Development Method	Final Yield (gpm)
Cascade Drilling	SRNS	Submersible Pump (with swab/surge)	2.0

Date	Time	pH	Conductivity	Turbidity	Temperature	Comments (additives, problems, etc.)
10/31/2018	4:40 PM	5.84	523.4	8.77	22.1 °C	After pumping for ~1 hour
11/01/2018	9:40 AM	5.83	587.9	27.2	20.9 °C	
11/01/2018	10:12 AM	5.83	579.5	5.46	21.2 °C	
11/01/2018	11:17 AM	5.84	587.5	70.9	21.5 °C	After stopping pump for ~30 minutes
11/01/2018	11:26 AM	5.78	588.0	66.9	21.2 °C	
11/01/2018	11:34 AM	5.79	584.2	5.07	21.1 °C	
11/01/2018	11:40 AM	5.80	590.3	2.33	21.2 °C	
11/01/2018	11:47 AM	5.84	587.3	1.68	21.1 °C	
11/01/2018	11:52 AM	5.85	588.9	1.86	21.2 °C	
11/01/2018	11:57 AM	5.78	588.2	1.95	21.1 °C	
11/01/2018	12:06 PM	5.9	590	0.7	21.1 °C	Final measurement taken by groundwater sampler. WAC sample collected.
						Total volume evacuated during well development activities ~470 gallons

OSR 30-11 (Rev. 06-27-2016)
Page 1 of 4

Monitoring Well Installation Report

Driller Name/Company	Driller Cert. No.	Tech Oversight Name/Company	Well Number
Ray Whitt	2223D	Ashley Shull / SRNS	DCB082

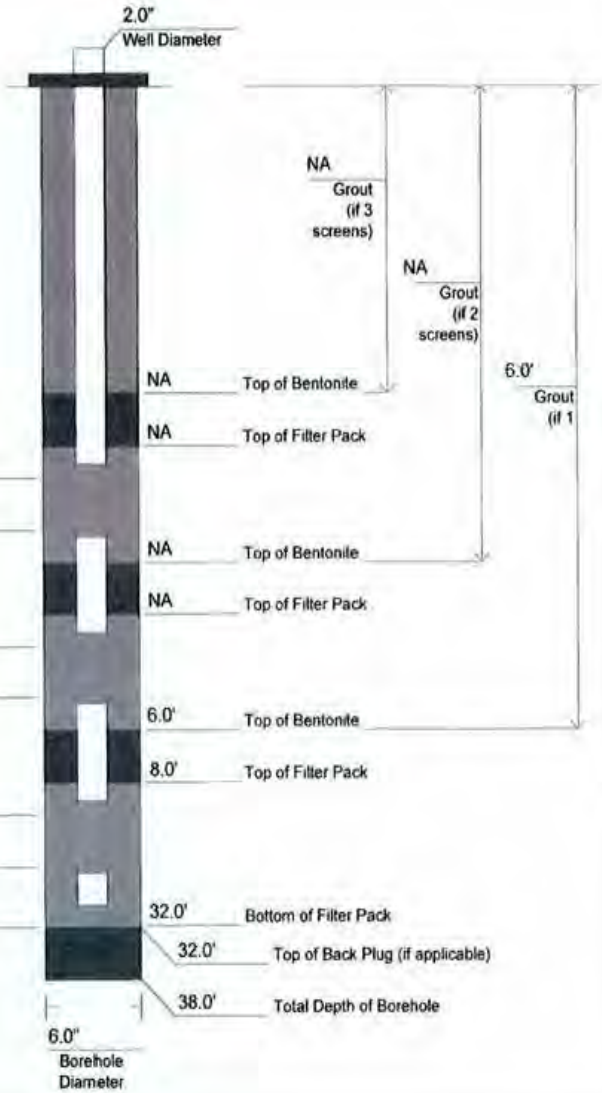
Well Installation Date	SC DHEC Well Approval Number	Drilling Method (Auger Mud Rotary, Rotosonic, etc)	
10/30/2018	MW-11483	Rotosonic	
SRS North Grid Coordinate (as built)	**SRS East Grid Coordinate (as built)**	**Latitude (deg/min/sec - as built) (NAD 27)**	**Longitude (deg/min/sec - as built) (NAD 27)**
62620.748278	18150.392734	33° 11' 37.90"	-81° 44' 26.04"
Top of Pad Elevation (as built)	**Water Level Reference Point Elevation (as built)**	**Survey Point**	
110.44	113.07	☐ Top of Casing ☒ Top of Stand Pipe ☐ Ground Surface	

Surface Casing (if installed) — Depths measured from ground surface to nearest 0.1 ft

Total Depth of Installed Casing: NA

Casing Material/Diameter: NA

Grout Quantity: NA



Screen Zone	Top of Screen	NA
NA	Bottom of Screen	NA
Screen Zone	Top of Screen	NA
NA	Bottom of Screen	NA
Screen Zone	Top of Screen	9.7'
UTRA	Bottom of Screen	29.7'
	Total Depth of Well	32.0'

OSR 30-11 (Rev. 06-16-2016)
Page 2 of 4

Monitoring Well Installation Report (Continued)

Well Number
DCB082

Program Plan Name	Location Description	Site ID	Project Manager
488-1D Monitoring Wells	488-1D Ash Basin	D-Area	George Sewell

Station Type (Monitoring Well, Piezometer, etc.)
Monitoring Well

Drilling and Sampling

Drilling Start Date	Drilling Completion Date	Total Drilled Depth
10/30/2018	10/30/2018	38 feet

Drilling Sampling Method	Top Depth	Bottom Depth	Diameter
4" x 10' core barrel	0 ' bgs	38.0' bgs	4.0"
6" x 10' temporary casing	0' bgs	38.0' bgs	6.0"

Drilling and Sampling Comments (lost circulation zones, drilling problems, etc.)
During boring operations, a 4" x 10' core sampler was driven in advance of the 6" temporary casing starting at 0' bgs, continuing until 38' bgs. Each ten foot soil core interval was described and recorded on a geologic log form (OSR 30-27).

Geophysical Logging

Date Logged	Logging Top Depth	Logging Bottom Depth	Logging Contractor	Logging Truck Operator

Geophysical Logs

☐ Caliper ☐ Natural Gamma ☐ Neutron Density ☐ Resistivity ☐ Single Pt. Resistivity ☐ L & S Normal Resistivity ☐ Spontaneous Potential

☐ Other (List)

Backfill Top Depth	Backfill Bottom Depth	Backfill Material (Include Type, Quantity)
32.0'	38.0'	Hole Plug (1 - 50 lb bag)

Depths measured from ground surface to nearest 0.1 ft

OSR 30-11 (Rev. 06-16-2016)
Page 3 of 4

Monitoring Well Installation Report (Continued)

Well Number: DCB082

	Top Depth	Bottom Depth	Material/Schedule	Diameter	Slot Size	Slot Type
Casing	2.2' above ground	9.7	PVC Sch. 40	2" I.D.		
Screen	9.7'	29.7'	PVC Sch. 40	2" I.D.	0.010	
Sump	29.7'	31.7'	PVC Sch. 40	2" I.D.		
Sump Cap	31.7'	32.0'	PVC Sch. 40	2" I.D.		

	Top Depth	Bottom Depth	Amount (sacks and size)	Trade Name
Filter Pack	8.0'	32.0'	6.25 bags (50lb/bag)	Filter Media

	Top Depth	Bottom Depth	Amount/Size (sack, bucket, etc.)
Bentonite Seal	6.0'	8.0'	1 - 5 gallon bucket 3/8" Pell Plugs

	Top Depth	Bottom Depth	Amount (sacks and size)	Grout Date	Grout Weight
Grout	0.0'	6.0'	1.5 (50 lb bags)	10/30/2018	

☐ Neat Cement
☐ Bentonite Cement
☒ High Solids Bentonite

Well Installation Comments
Casing was later cut down from 3 ft above ground surface to 2.2 ft during pump installation.

Pump Installation Information: Variable Speed Pump ☐ Pump Not Installed

Installation Date	Installer/Company	Model/Manufacturer	Diameter
11/08/2018	Cascade Drilling	Grundfos MP1-2-A-B-G-TV Model A	2"

☐ Single Speed ☒ Variable Speed

Depth from Top of Casing to Top of Pump: 30.2 ft

Report Prepared By: Ashley Shull

Date: 11/13/2018

Depths measured from ground surface to nearest 0.1 ft.

OSR 30-11 (Rev. 06-16-2016)
Page 4 of 4

Well Development Data Field Parameters

Well Number
DCB082

Well Developed By	Development Oversight	Development Method	Final Yield (gpm)
Cascade Drilling	SRNS	Submersible Pump (with swab/surge)	2.0

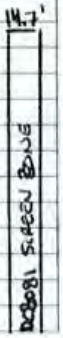
Date	Time	pH	Conductivity	Turbidity	Temperature	Comments (additives, problems, etc.)
10/31/2018	2:25 PM	6.14	335.4	overlimits	24.7 °C	
10/31/2018	3:58 PM	5.77	345.2	32.2	24.7 °C	After pumping ~1.5 hours and swab/surge 3 times
10/31/2018	4:36 PM	5.81	385.7	5.27	23.0 °C	Stopped pumping at 5 PM
11/01/2018	9:12 AM	5.90	357.7	4.82	20.9 °C	
11/01/2018	9:35 AM	5.89	392.5	929	21.2 °C	After swab/surge
11/01/2018	9:50 AM	5.83	364.0	39.7	21.4 °C	
11/01/2018	10:08 AM	5.86	362.6	7.66	21.8 °C	
11/01/2018	10:21 AM	5.84	362.9	3.65	21.2 °C	
11/01/2018	10:27 AM	5.83	359.6	2.80	21.6 °C	
11/01/2018	10:33 AM	5.83	360.4	2.24	21.4 °C	
11/01/2018	10:50 AM	5.7	361	1.9	21.1 °C	Final measurement taken by groundwater sampler. WAC sample collected.
						Total volume evacuated during well development activities ~575 gallons

OSR 30-27#12-12-97

Field Geologic Log

Project: 488-1D Well Installations		Date: 10/30/18	Sheet: 1 of 2
Well Number: DLB081	Location: 488-1D	Drilling Subcontractor: Cascade Drilling	
Logs Prepared By: Ashley Shull		Driller: Ray Whitt	
Company: SRNS		Drilling Method: Rotosonic	

Run Number	Depth Below Ground Surface (Feet)	Lithology	Percent Recovery	Sample Description	Drilling Comments/Remarks
1	0–8		100	-Topsoil - brown - Clay. Firm with some sandy clay in sections. Mottled - light gray with moderate brown and dark yellowish orange. - becomes more gray downward. -Clay - light gray with dark yellowish orange -Silty clay - very dry and crumbled - light gray and dark yellowish orange. -Clay - light gray with dark yellowish orange striations	
2	8–18		100	-Clay - light gray with mottling dark yellowish orange, moderate reddish brown, and grayish brown. minimal mica content. -Clay with some very fine grained sand, silt, and mica. Very dry. light gray and dark yellowish orange. Crumbly. -Clayey sand - very fine grained - light gray and dark yellowish orange. - coarsens downward - Fine to medium grained sand, subangular. very pale orange to grayish orange. Includes clay clods moderate red	11/12/18: water elev. in well 10.3' bgs Soil moist
3	18–20		100	-medium grained sand with some large grains and small pebbles light gray	

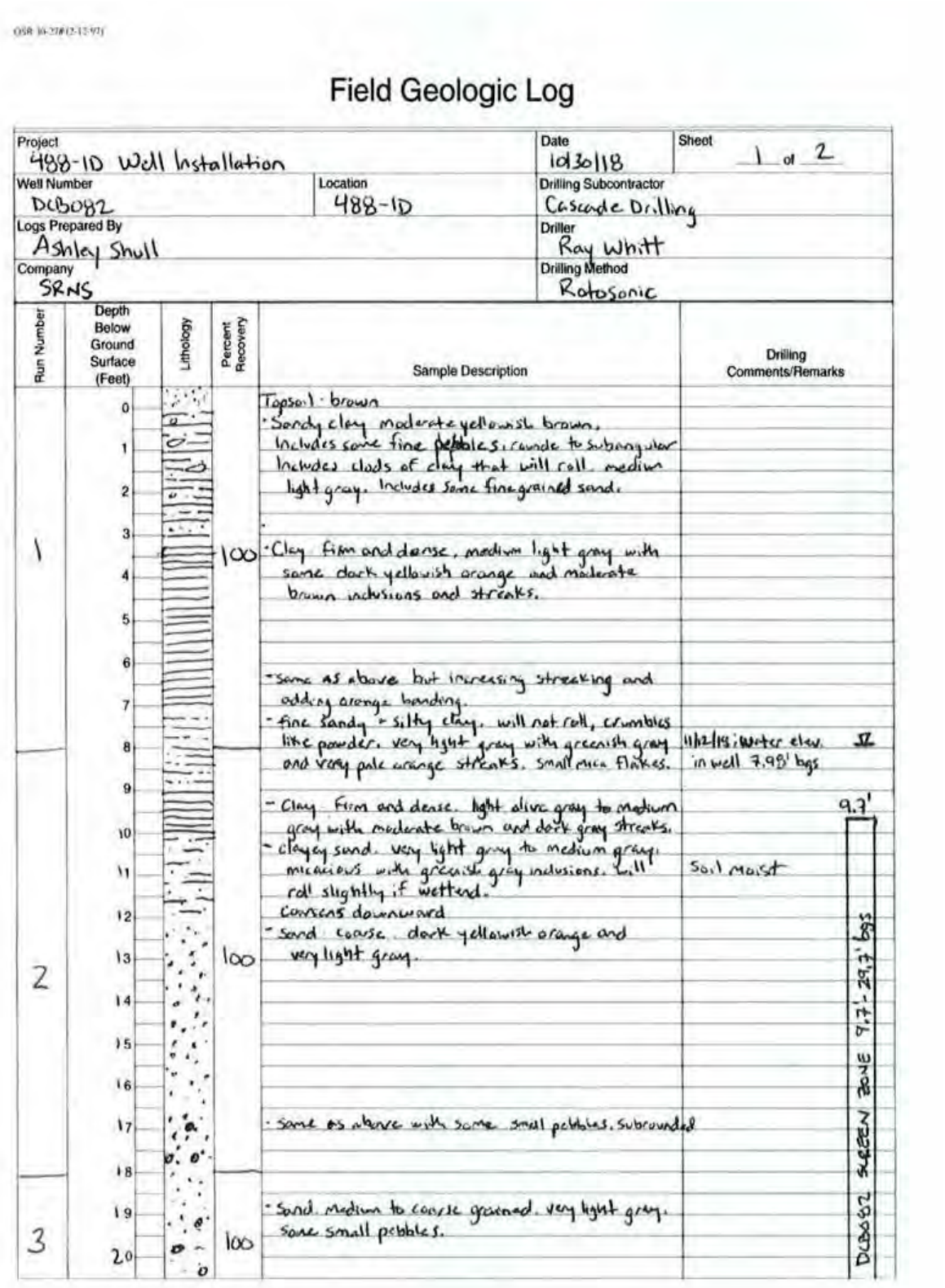


OSR 30-27# (2-12-97)

Field Geologic Log

Project: 488-1D Well Installations		Date: 10/30/18	Sheet: 2 of 2
Well Number: DCB081	Location: 488-1D	Drilling Subcontractor: Cascade Drilling	
Logs Prepared By: Ashley Shull		Driller: Ray Whitt	
Company: SRNS		Drilling Method: Rotosonic	

Run Number	Depth Below Ground Surface (Feet)	Lithology	Percent Recovery	Sample Description	Drilling Comments/Remarks
3	20–28		100	- Same as above with pebbles up to 2" in diameter. rounded to angular.	DCB081 SCREEN ZONE 14.7' - 34.7' bgs
	28			same as above, no large pebbles	
4	29–32			- Course grained sand with pebbles angular to subrounded. light grey to dark yellowish orange.	
	32			-Sandy clay, fine to course grained sand, angular very pale orange to dark yellowish orange.	
	33–37		100		well TD 37'
	38			- fine grained sand with some course grains. dark yellowish orange. layers of clay between. plastic yellowish grey to grayish orange. moisture.	TD 38' bgs
	39–40				



Field Geologic Log

Project: 488-1D Well Installation		Date: 10/30/18	Sheet: 1 of 2
Well Number: DCB082	Location: 488-1D	Drilling Subcontractor: Cascade Drilling	
Logs Prepared By: Ashley Shull		Driller: Ray Whitt	
Company: SRNS		Drilling Method: Rotosonic	

Run Number	Depth Below Ground Surface (Feet)	Lithology	Percent Recovery	Sample Description	Drilling Comments/Remarks
1	0–8		100	Topsoil - brown - Sandy clay moderate yellowish brown. Includes some fine pebbles, rounde to subangular Includes clods of clay that will roll. medium light gray. Includes some fine grained sand. - Clay firm and dense, medium light gray with some dark yellowish orange and moderate brown inclusions and streaks. - same as above but increasing streaking and adding orange banding. - fine sandy + silty clay. will not roll, crumbles like powder. very light gray with greenish gray and very pale orange streaks. small mica flakes.	11/2/18: Water elev. in well 7.98' bgs JZ
2	8–18		100	- Clay Firm and dense. light olive gray to medium gray with moderate brown and dark gray streaks. - clayey sand. very light gray to medium gray, micaceous with greenish grey inclusions. will roll slightly if wetted. Coarsens downward - Sand coarse dark yellowish orange and very light gray. - same as above with some small pebbles. subrounded	Soil moist 9.7' DCB082 SCREEN ZONE 9.7'-29.7' bgs
3	18–20		100	- Sand medium to coarse grained. very light gray. some small pebbles.	

OSR 30-27# (2-12-97)

Field Geologic Log

Project: 488-1D Well Installation		Date: 10/30/18	Sheet: 2 of 2
Well Number: DCB082	Location: 488-1D	Drilling Subcontractor: Cascade Drilling	
Logs Prepared By: Ashley Shull		Driller: Ray Whitt	
Company: SRNS		Drilling Method: Rotosonic	

Run Number	Depth Below Ground Surface (Feet)	Lithology	Percent Recovery	Sample Description	Drilling Comments/Remarks
3	20–28		100	- same as above with clay. will roll when wettened. - sand. very coarse with small to large quartz pebbles (up to 2"). very light gray to dark yellowish orange.	DCB082 SCREEN ZONE 9.7'-29.7' bgs 29.7'
4	28–38		100	- clay. Firm and dense. Dark greenish gray - same as above. Includes plant/grass fibers (brown) - silty and clayey sand. very fine grained and micaceous. dark greenish gray.	Green Clay well TD 32' TD-38'
	39–40				

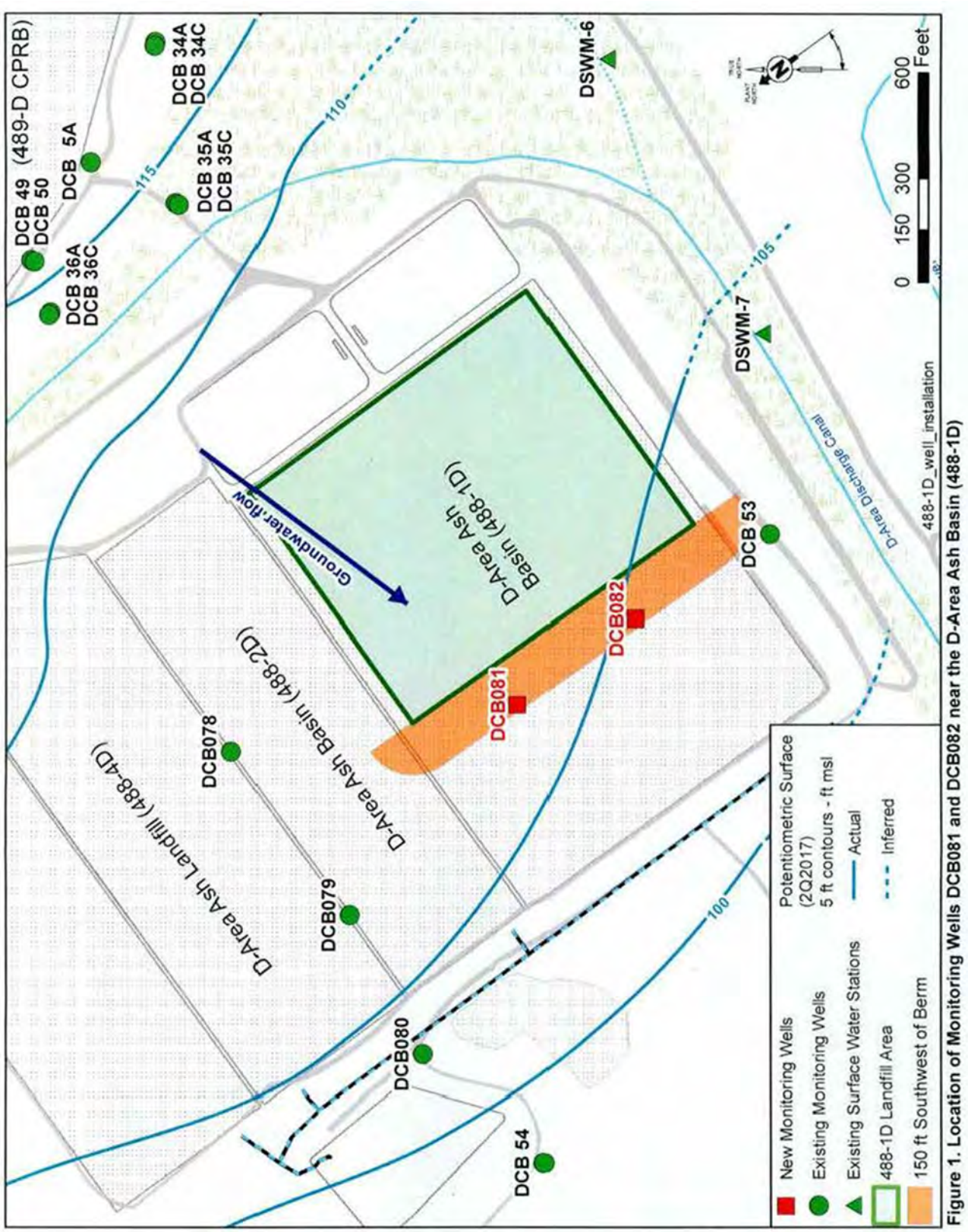


Figure 1. Location of Monitoring Wells DCB081 and DCB082 near the D-Area Ash Basin (488-1D)

This page was intentionally left blank.

APPENDIX U3

SRNS Well Abandonment Records

This page intentionally left blank.

Savannah River NUCLEAR SOLUTIONS™
FLUOR • NEWPORT NEWS NUCLEAR • HONEYWELL

SRNS-J2000-2019-00152
RSM Track Number: 10666

FEB 28 2019

Ms. Susan B. Fulmer, P.G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation, and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Dear Ms. Fulmer:

SUBMITTAL OF THE D-AREA ASH PROJECT (WELLS AROUND D-AREA ASH BASIN 488-1D) WELL ABANDONMENT REPORT FOR MONITORING WELL DB 6C (ER-HGPP-2015-00018)

Reference:
Letter, H. H. Cathcart (SCDHEC) to B. C. Terry (SRNS), *Re: Savannah River Site (SRS)/FFA D-Area Operable Unit SC1 890 008 989 Barnwell County Request for Approval for the Savannah River Site Hydrogeologic/Geotechnical Well Abandonment Program Plan for the D-Area Ash Project (Wells around D-Area Ash Basin 488-1D) (ER-HGPP-2015-00018) (Terry to Fulmer), SRNS-J2000-2015-00730, dated December 1, 2015*, dated December 3, 2015 (SRNS-OS-2015-00101)

In your referenced letter dated December 3, 2015, the South Carolina Department of Health and Environmental Control (SCDHEC) conditionally approved the abandonment of ten monitoring wells/piezometers (i.e., DA 4C, DB 5C, DB 6C, DA 7C, DB 10C, DA 11C, DA 12C, DB 13C, DA 14C, and DB 15C) located in the D-Area Ash Basin (488-1D) south and west berms, as they are no longer required due to closure of the basin. The Well Abandonment Reports for DA 4C, DB 5C, DA 7C, DB 10C, DA 11C, DA 12C, DB 13C, DA 14C, and DB 15C, were submitted to you for your files on October 5, 2016 (SRNS-J2000-2016-00568). DB 6C was abandoned during the construction activities related to the Phase 2 (488-1D Ash Basin and 489-D Coal Pile Runoff Basin) removal activities. The well abandonment report for DB 6C is attached for your files.

If you have any questions or comments regarding this submittal, please contact Shelia McFalls at (803) 952-6819.

Sincerely,

Amy J. Meyer, Manager
Environmental Compliance
Environmental Compliance & Area Completion Projects

slm:tab

Enclosure:
Well Abandonment Report for Monitoring Well DB 6C

Ms. Susan B. Fulmer
SRNS-J2000-2019-00152
Page 2

FEB 28 2019

cc w/encl:
R. H. Pope, EPA – Atlanta
D. Lloyd, EPA – Atlanta
H. H. Cathcart, SCDHEC - Columbia
G. O'Quinn, SCDHEC – Aiken Environmental Affairs Office

OSR 30-29 (Rev 2-9-2004)

Well Abandonment Report

AMP 9/13/16

Well Number: DCB6c DB 6C

Project Name: D Area Well Abandonments	Project Manager: Joe Santos	Location/Description: D Area Ash Basin
Driller Name/Company/Certification No: Richard Mooney / Cascade / B1435	Oversight Name/Company: BC VanPelt / SRNS	
Date Well Abandoned: 09/12/16	Reason for Abandonment: No longer Required	
Total Abandoned Footage: 23.7	Geophysical Logs (If applicable, dist.): NA	

Abandonment Method
☑ Pumping/Pouring Grout ☐ Pressure Grout ☐ Perforate Casing/Grout ☐ Over Ream ☐ Drill Out

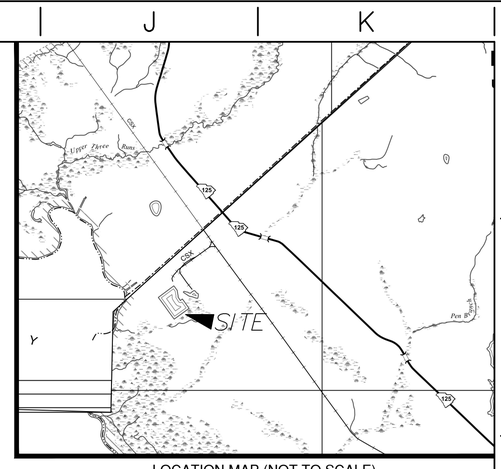
Other Method (Describe)

Grout	Date	Grout Type	Quantity (bags, yds, etc.)	Weight (If applicable)
	09/12/16	Portland cement	1/2 Bag ~30 lbs water	
	09/12/16	Bentonite chips	1/4 Bag (~12 lbs)	

Comments

Report Prepared By	Date	Site Inspected By	Date
B C VanPelt	9/12/16	B C VanPelt	9-13-16

This page was intentionally left blank.



LOCATION MAP (NOT TO SCALE)

SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D–AREA OPERABLE UNIT, 488–1D ASH BASIN & 489–D CPRB CLOSURE, 488–1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.

SURVEY NOTES

1. THIS EXHIBIT SHOWS THE CONTOURS BASED ON THE ASH SURFACE COLLECTED PRIOR TO PLACEMENT OF GEOTEXTILE MATERIAL. THE ASBUILT OF THE DRAINAGE DITCH PRIOR TO STONE AND PIPE PLACEMENT IS ALSO SHOWN. CONTOURS ARE 1–FOOT INTERVALS.
2. BENCHMARKS UTIILIZED– MONUMENTS FOUND NEAR D–AREA OPERABLE UNIT

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960–1372

GRAPHIC SCALE

0 40' 80' 120' 160' 200' 240'

1" = 40 FOOT

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	03/29/2018	N/A
	LAST REVISED: 06-20-2018	
	DRAWING FILENAME: Top of Ash contours - final.dwg	
	DRAWN/CHECKED: gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

GEL ENGINEERING, LLC No.C02649 SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

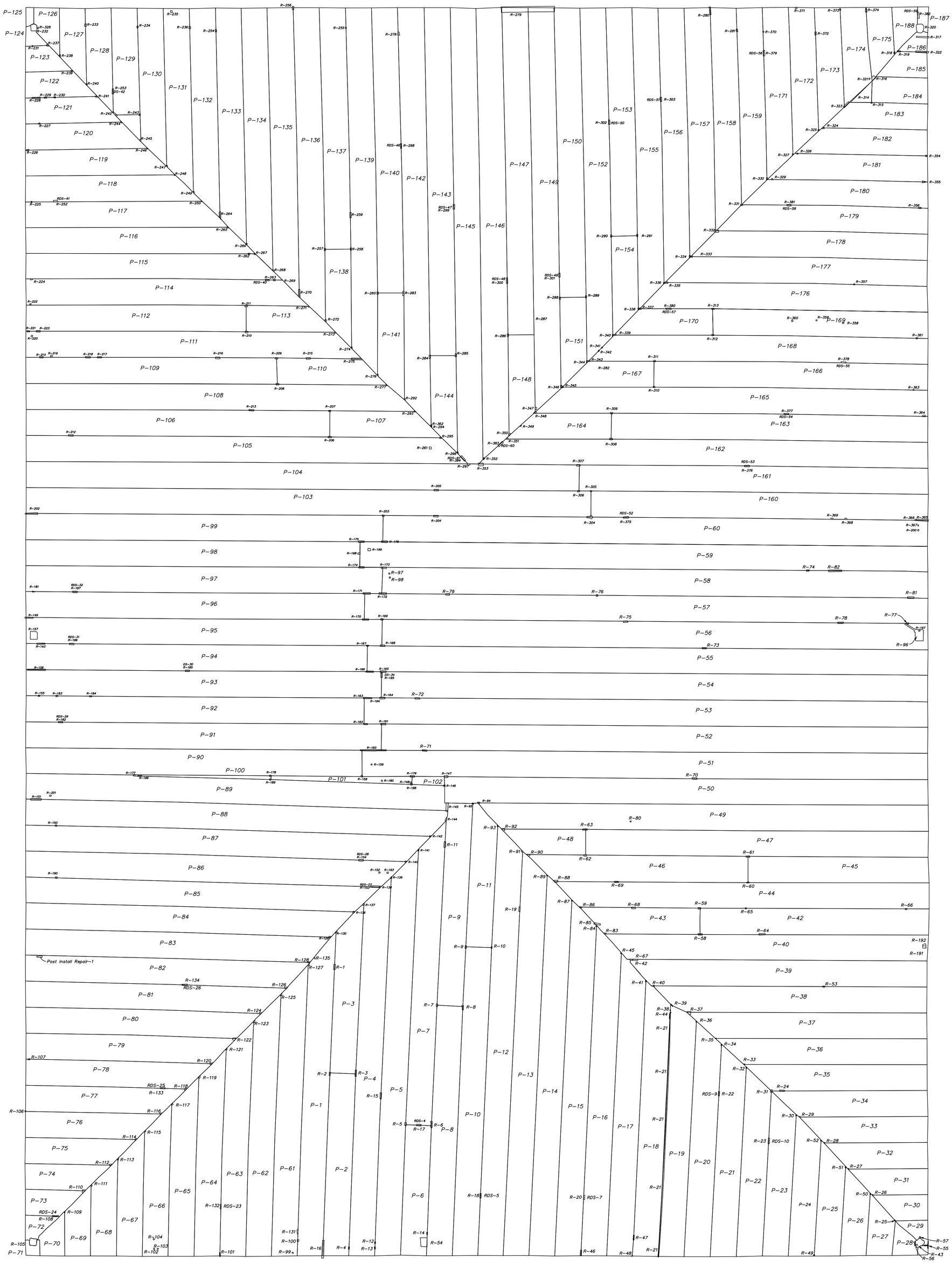
488-1D ASH SURFACE FINAL ASBUILT CONTOUR DATA

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
problem solved
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.

e:\lexington office active projects\surveying client files\encn-envirocon 2018\top of ash contours - final.dwg : 42 X 30 (Plotted: 7/23/2018 12:17:25 PM)



SURVEY REFERENCES

1. *REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.*

SURVEY NOTES

1. *THIS EXHIBIT SHOWS THE MICRODRAIN LINER MATERIAL AS CONSTRUCTED DURING VARIOUS TIMES PRIOR TO PLACEMENT OF COMMON FILL MATERIAL. MICRODRAIN MATERIAL IS REPRESENTED BY PANEL NUMBERS AND ASSOCIATED REPAIR NUMBERS.*
2. *BENCHMARKS UTILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT*

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	03/29/2018	N/A
	LAST REVISED 06-20-2018	
	DRAWING FILENAME Microdrain-Repairs Asbuilt.dwg	
	DRAWN/CHECKED gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

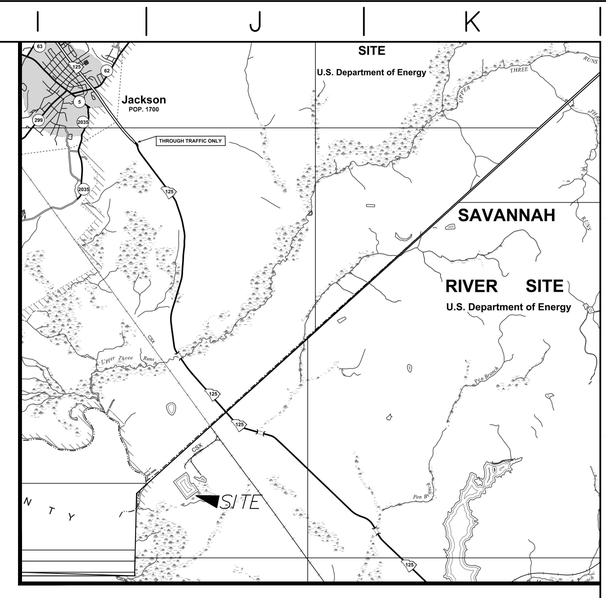
MICRODRAIN LINER ASBUILT with REPAIRS OF THE 1-D ASH BASIN

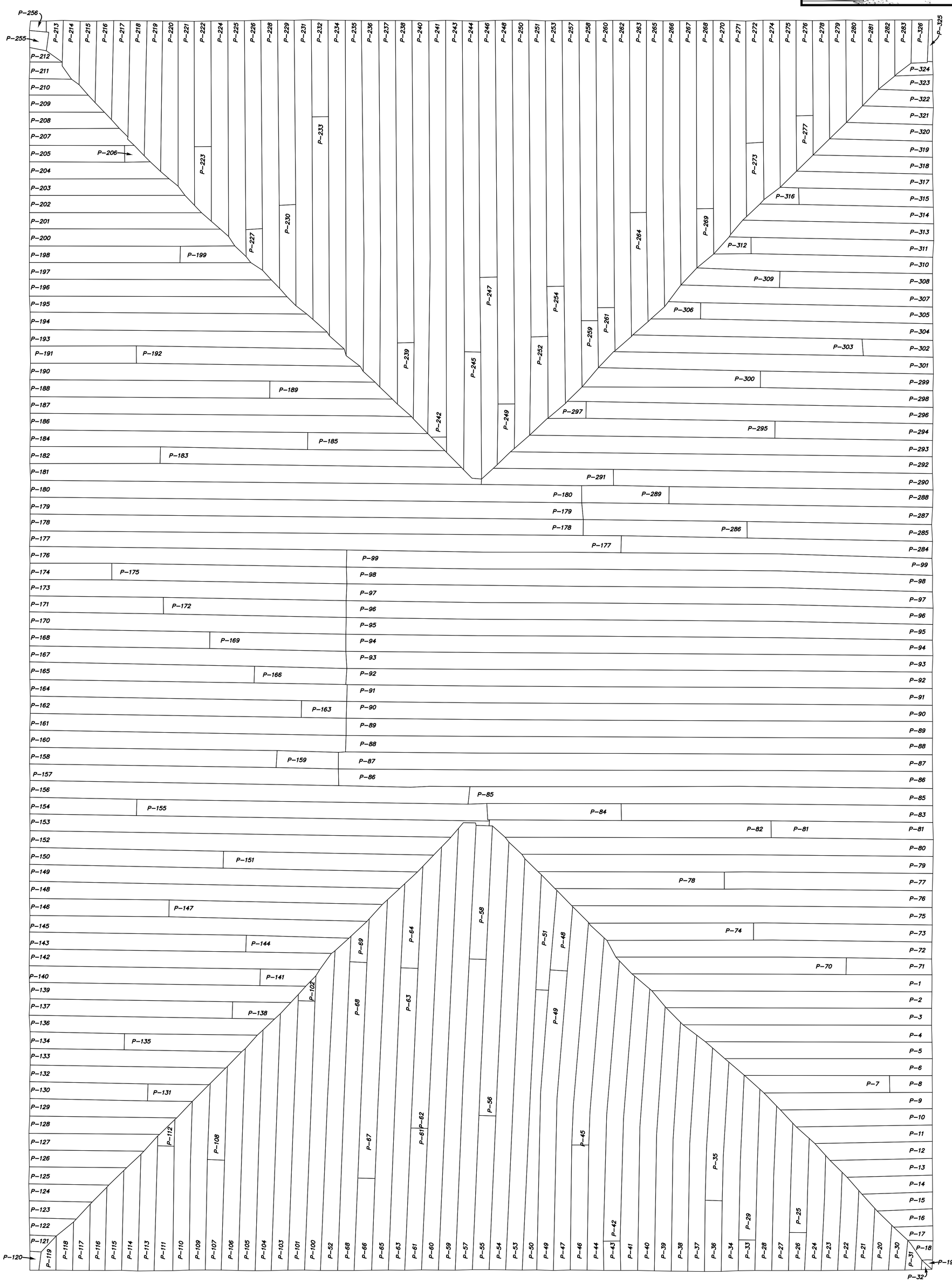
PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
problem solved
www.gel.com

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.

f:\encn-envirocon 2018\microdrain drawings\microdrain-repairs asbuilt.dwg : 24 x 36 (Plotted: 10/29/2018 8:56:33 PM)





SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.

SURVEY NOTES

1. THIS EXHIBIT SHOWS THE GEOTEXTILE MEMBRANE (FELT) LINER MATERIAL AS CONSTRUCTED DURING VARIOUS TIMES PRIOR TO PLACEMENT OF COMMON FILL MATERIAL. GEOTEXTILE MATERIAL IS REPRESENTED BY PANEL NUMBERS AND ASSOCIATED REPAIR NUMBERS.
2. BENCHMARKS UTIILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 - (803)960-1372

GRAPHIC SCALE
0 40' 80' 120' 160'
1" = 40'

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	03/29/2018	N/A
	LAST REVISED: 07-27-2018	
	DRAWING FILENAME: GEOTEXTILE Final Asbuilt.dwg	
	DRAWN/CHECKED: gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR GARREN B. MULLINAX No.27456

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

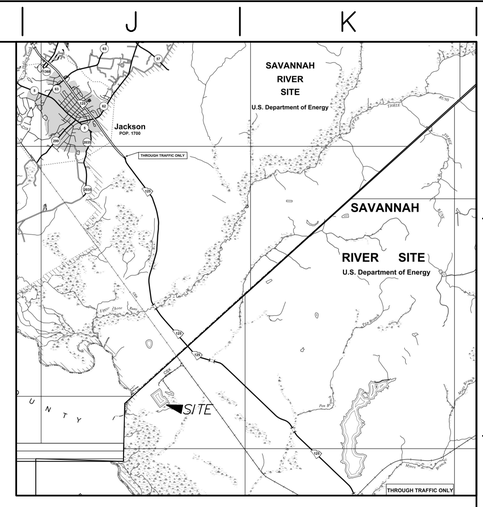
GEOTEXTILE MEMBRANE ASBUILT OF THE 1-D ASH BASIN

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
problem solved
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

e:\lexington office active projects\surveying client files\encn-envirocon 2018\drain-felt drawings\geotextile final asbuilt.dwg : 24 x 36 (Plotted: 11/9/2018 9:38:31 AM)

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.



SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.

SURVEY NOTES

1. CONTOUR INTERVAL=1'
2. BENCHMARKS UTIILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

GRAPHIC SCALE

0 40' 80' 120' 160' 200' 240'

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	08/06/2018	N/A
	LAST REVISED: 10/24/2018	
	DRAWING FILENAME: 1D Asbuilt Survey Final Contours.dwg	
	DRAWN/CHECKED: gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

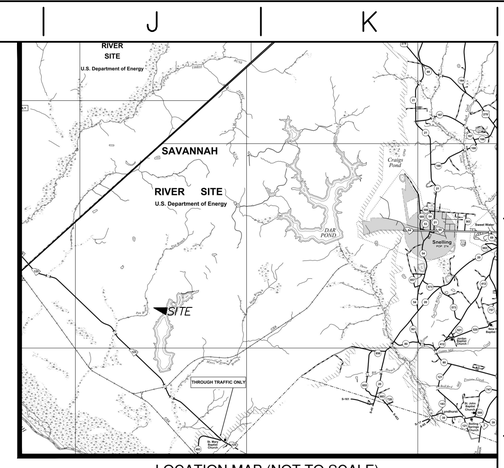
488-1D TOPSOIL SURFACE ASBUILT

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
problem solved
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.

e:\lexington office active projects\surveying client files\encn-envirocon 2018\topsoil asbuilt drawings\1d asbuilt survey final contours.dwg : 42 X 30 (Plotted: 11/7/2018 4:16 PM)



LOCATION MAP (NOT TO SCALE)

SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CG D 00029, AND C CG D 00030.

SURVEY NOTES

1. THIS EXHIBIT SHOWS THE SURVEY DATA (POINT DATA) COLLECTED AT VARIOUS TIMES PRIOR TO GEOTEXTILE FABRIC BEING PLACED ON THE ASH LANDFILL CLOSURE AREA. SURVEY DATA IS ON A 25 FOOT BY 25 FOOT GRID. SEE ACCOMPANYING SPREADSHEET FOR COORDINATE INFORMATION FOR EACH GRID LOCATION.
2. BENCHMARKS UTILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	03/29/2018	N/A
	LAST REVISED: 06-20-2018	
	DRAWING FILENAME: SUBSURFACE DRAIN 1D.dwg	
	DRAWN/CHECKED: gbm	

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

488-1D SUBSURFACE DRAIN (SSD) AND UTILITIES ASBUILT

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
problem solved
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

e:\lexington office active projects\surveying client files\ench-envirocon 2018\ssd drawings\subsurface drain 1d.dwg : 42 X 30 (Plotted: 11/7/2018 4:11:49 PM)
THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR.

PROJECT NUMBER	DATE SURVEYED	FB
ENCN00116	06/06/2018	N/A

LAST REVISED
11/05/2018

DRAWING FILENAME
Final 488-1D Topographic and Utility Asbuilt - Entire Site.dwg

DRAWN/CHECKED
gbm

Final 488-1D Topographic and Utility Asbuilt - Entire Site

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL
ENGINEERING, LLC
No. C.O.A. 2649
CERTIFICATE OF AUTHORIZATION
SOUTH CAROLINA

GEL
ENGINEERING, LLC
No. 27456
REGISTERED
PROFESSIONAL
SURVEYOR
SOUTH CAROLINA
B. MULLINAX

GEL | Engineering LLC
a member of THE GEL GROUP INC
ENVIRONMENTAL • ENGINEERING • SURVEYING
problem solved
P.O. BOX 3012 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
www.gel.com

THIS IS NOT A VALID COPY OF THIS DOCUMENT UNLESS SIGNATURE AND ORIGINAL SEAL ARE A RAISED EMBOSSED SEAL OF THE ENGINEER OR SURVEYOR

e:\kingston office active projects\surveying client files\encn-envirocon 2018\final 488-1d topographical and utility asbuilt - entire site.dwg, 42 X 30 (Plotted: 11/14/2018 3:40:42 PM)

SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 488-D CRPB CLOSURE, 488-1D FINAL GRADING PLAN (SHEET 1 OF 2 AND SHEET 2 OF 2), DRAWING NUMBERS C CC D 0002G, AND C CC D 0003C.
2. BENCHMARKS UTILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT

SURVEY NOTES

1. CONTOUR INTERVAL=1'.
2. BENCHMARKS UTILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT

GRAPHIC SCALE
0 60' 120' 180' 240' 300' 360'

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Darren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

N
SRS NORTH

GRAVEL ACCESS ROAD
488-1D ACCESS APRON
RIP-RAP
INV. END PIPE: 119.01'
INV. FES-6: 119.01'
INV. FES-6: 125.91'
INV. 12" CPP: 125.39'
INV. 12" CPP: 125.72'
INV. FES-7: 122.39'
INV. END PIPE: 119.02'
INV. FES-12: 112.40'
INV. 24" RCP: 112.57'
INV. FES-11: 113.63'
INV. 24" RCP: 113.78'
INV. FES-10: 116.98'
INV. END PIPE: 117.04'
INV. FES-1: 118.93'
INV. END PIPE: 119.01'
INV. FES-2: 116.90'
INV. END PIPE: 115.99'
INV. FES-3: 112.95'
INV. END PIPE: 113.02'
INV. FES-4: 104.26'
INV. END PIPE: 104.18'
INV. FES-5: 103.80'
INV. END PIPE: 103.81'

CATCH BASIN 12
TOP CB LID EL.: 124.01'
INV. BOTTOM BOX: 119.39'
INV. 24" CPP OUT: 119.64'
INV. 6" SSD WEST: 120.98'
INV. 6" SSD SOUTH: 121.02'

CATCH BASIN 13
TOP CB LID EL.: 125.00'
INV. BOTTOM BOX: 120.33'
INV. 24" CPP OUT: 119.52'
INV. 6" SSD NORTH: 121.02'
INV. 6" SSD SOUTH: 121.02'

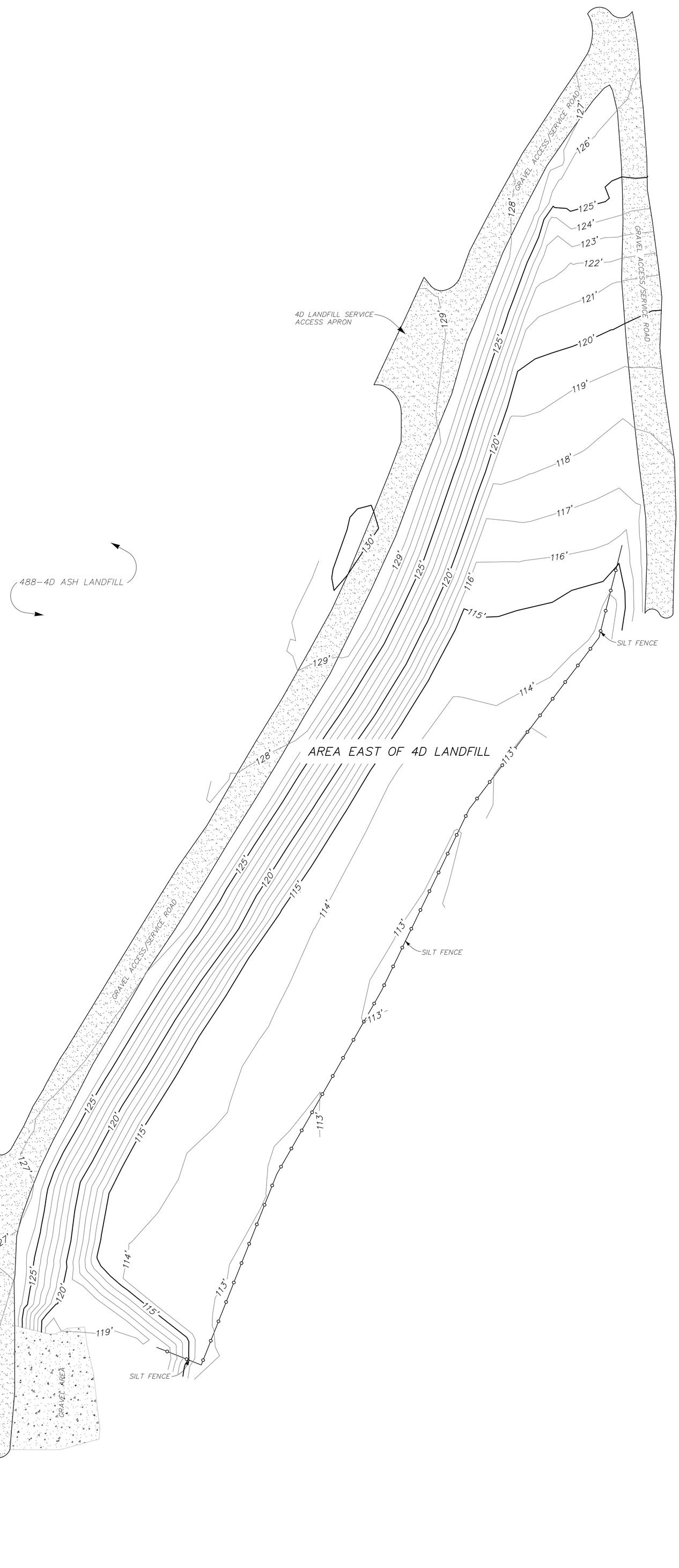
CATCH BASIN 14
TOP CB LID EL.: 123.99'
INV. BOTTOM BOX: 117.83'
INV. 24" CPP OUT: 117.08'
INV. 6" SSD NORTH: 121.01'
INV. 6" SSD WEST: 120.99'

CATCH BASIN 8
TOP CB LID EL.: 123.97'
INV. BOTTOM BOX: 118.28'
INV. 24" CPP OUT: 118.53'
INV. 6" SSD SOUTH: 121.01'
INV. 6" SSD EAST: 120.99'

CATCH BASIN 10
TOP CB LID EL.: 123.97'
INV. BOTTOM BOX: 116.87'
INV. 24" CPP OUT: 117.02'
INV. 6" SSD NORTH: 120.98'
INV. 6" SSD SOUTH: 121.00'

CATCH BASIN 11
TOP CB LID EL.: 123.99'
INV. BOTTOM BOX: 114.84'
INV. 24" CPP OUT: 114.02'
INV. 6" SSD NORTH: 120.98'
INV. 6" SSD EAST: 120.94'

SAVANNAH RIVER SITE
SITE
Charleston 100 mi
U.S. Department of Energy



SURVEY REFERENCES

1. *REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT, 488-1D ASH BASIN & 489-D CPRB CLOSURE, EXISTING SITE PLAN AREA EAST OF 488-4D, DRAWING No. C CG D 00067.*

SURVEY NOTES

1. *CONTOUR INTERVAL=1'*
2. *BENCHMARKS UTIILIZED- MONUMENTS FOUND NEAR D-AREA OPERABLE UNIT*

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

GRAPHIC SCALE
0 30' 60' 90' 120' 150' 180'

PROJECT NUMBER ENCN00116	**DATE SURVEYED** 04/10/2017	**FB** N/A	
LINE LEGEND MAJOR CONTOUR, MINOR CONTOUR	**LAST REVISED** N/A		
	DRAWING FILENAME East4dtopo - asb.dwg		
	DRAWN/CHECKED gbm		

SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR No.27456 GARREN B. MULLINAX

SOUTH CAROLINA GEL ENGINEERING, LLC No.C02649 CERTIFICATE OF AUTHORIZATION

TOPOGRAPHIC SURVEY
EAST OF 488-4D ASH LANDFILL
FINAL ASBUILT

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

GEL Engineering LLC
346 Riverchase Way Lexington, SC 29072
P 843.769.7378 F 843.769.7397
a member of THE GEL GROUP INC
ENVIRONMENTAL ▪ ENGINEERING ▪ SURVEYING
www.gel.com
problem solved

THIS IS NOT A VALID, TRUE COPY OF THIS DOCUMENT UNLESS BEARING AN ORIGINAL SIGNATURE AND A RAISED, EMBOSSED SEAL OF THE SURVEYOR.

e:\lexington office active projects\surveying client files\encn-envirocon 2016\east 4d topo\final topo\east4dtopo - asb.dwg : 24 x 36 (Plotted: 4/17/2017 11:02:57 AM)

PLANT NORTH

ROAD SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

10' WIDE GRAVEL SERVICE ROAD

GRAVEL SERVICE ROAD

8' CHAIN-LINK FENCE

48" PIPE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

(48" RCP)

RIPRAP LINED DITCH

SEE DETAIL

RIPRAP APRON

INV. ELEV. OF A 48" CORRUGATED PLASTIC PIPE: 123.92'

ABANDONED 24" RCP (PLUGGED) PIPE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

(24" RCP)

(18" CPP)

INV. ELEV. AT A FLARED END SECTION CONNECTED TO A 48" CORRUGATED PLASTIC PIPE: 124.47'

ABANDONED 24" RCP (PLUGGED) PIPE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

RIPRAP LINED DITCH

ABANDONED MANHOLE (PLUGGED) N: 63494.82, E: 20490.19, ELEV.: 132.03'

PIPE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

ABANDONED 36" RCP (PLUGGED) PIPE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

PLANT CONTROL MONUMENT: N: 63,454.00' E: 20,435.06' ELEV: 134.42'

ROAD SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

ABANDONED MANHOLE (PLUGGED) N: 63456.16, E: 20379.86, ELEV.: 132.49'

PIPE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

LINE REPRESENTS A BOUNDARY OF DATA COLLECTED AT LEAST 10' FROM DISTURBED AREA

PLANT CONTROL MONUMENT: N: 63,199.99' E: 20,100.99' ELEV: 124.32'

ABANDONED 48" RCP (PLUGGED) N: 63,322.70' E: 20,020.89' ELEV.: 117.66'

OLD SERVICE ROAD PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

EMERGENCY SPILLWAY OUTLET ELEVATION: 124.50

1 SEE DETAIL THIS SHEET

INV. ELEV 18" CPP INSTALLED IN A CONCRETE FORM: 122.73'

INV. ELEV 18" CPP INSTALLED IN A CONCRETE FORM: 121.52'

INV. ELEV. AT 24" FLARED END SECTON: 120.08'

INV. ELEV. AT 24" FLARED END SECTON: 119.68'

RIPRAP AT DISCHARGE OF 24" FLARED END SECTION

OE SHOWN PER REFERENCE DRAWING EXISTING SITE PLAN C CG D 00025

GRAVEL SERVICE ROAD

LOCATION MAP
NOT TO SCALE

CPRB

CSX

DETAIL OF 18" CORRUGATED PLASTIC PIPE (CPP)
SCALE 1" = 10'

CONCRETE: 122.47'
INV. 18" CPP: 122.73'
CONCRETE: 122.59'
CONCRETE: 124.70'
CONCRETE: 124.66'
18" CPP
CONCRETE: 123.91'
CONCRETE: 123.91'
INV. 18" CPP: 121.52'
CONCRETE: 121.18'
CONCRETE: 121.18'

DETAIL OF STORM STRUCTURES
SCALE 1" = 10'

48" RCP IN (EXISTING)

PRE-CAST CONCRETE JUNCTION BOX (CENTER STRUCTURE)
N: 63499.74 E: 20591.35
TOP CONC. BOX: 131.04'
MANHOLE RIM ELEV.: 132.16'
INV. IN 48" RCP: 124.55'
INV. OUT 36" CPP: 124.55'

36" CPP OUT

36" CPP "A" IN

48" CPP OUT

48" CORRUGATED PLASTIC PIPE "B" (CPP) IN

PRE-CAST CONCRETE JUNCTION BOX
N: 63495.20 E: 20582.08 (CENTER STRUCTURE)
TOP OF STRUCTURE ELEV.: 132.06' (AVG.)
MANHOLE ELEV.: 132.04
INV. IN 36" CPP (A): 124.33
INV. IN 48" CPP (B): 124.24
INV. OUT 48" CPP: 124.21

SURVEY REFERENCES

1. REFERENCE DRAWING TITLED, D-AREA OPERABLE UNIT 488-4D ASH BASIN & 489-D CPRB CLOSURE 489-D CPRB EXISTING SITE PLAN C CG D 00025

SURVEY NOTES

1. CONTOUR INTERVAL=1'
2. BENCHMARKS UTILIZED- MONUMENTS FOUND ON SITE AND INDICATED ON THIS EXHIBIT.

CERTIFICATION NOTE

I HEREBY STATE THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

Garren B. Mullinax, P.S. S.C. REG. # 27456
346 Riverchase Way, Suite C, Lexington, SC 29072 – (803)960-1372

LINE LEGEND
MAJOR CONTOUR
MINOR CONTOUR

GRAPHIC SCALE
0 50' 100' 150' 200' 250' 300'

REVISIONS				
NO.	DATE	ISSUED BY	APPRV'D BY	DESCRIPTION
1	10/29/18			ADDED 18" CORRUGATED PLASTIC PIPE FOR DRAINAGE

GEL Engineering LLC
P.O. BOX 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.769.7378 F 843.769.7397
a member of THE GEL GROUP INC
ENVIRONMENTAL • ENGINEERING • SURVEYING
problem solved
www.gel.com

FINAL TOPOGRAPHIC SURVEY OF 489D COAL PILE RUNOFF BASIN

PREPARED FOR ENVIROCON, INC.
SAVANNAH RIVER SITE
BARNWELL COUNTY, SOUTH CAROLINA

SOUTH CAROLINA NOT VALID UNTIL CERTIFICATE OF AUTHORIZATION GEL ENGINEERING, LLC No.C03549

CAROLINA No.27456 LAND SURVEYOR GARREN B. MULLINAX

DATE SURVEYED	06/17/2017
LAST REVISED	10/29/2018
DRAWING FILENAME	P:\B-Final Topographic Survey-REVISED 10-29-18.dwg
DRAWN/CHECKED	JBJ
APPROVED/PLOTTED	GBM
PROJECT NUMBER	ENCN00116
SHEET NUMBER	1
	OF 1

THIS IS NOT A VALID "AS-BUILT" SURVEY UNLESS CERTIFIED BY GARREN B. MULLINAX, SC REG. NO. 27456

e:\lexington office active projects\surveying client files\encon-envirocon 2018\cpcb-final topographic survey-revised 10-29-18.dwg, Layout1 (Plotted: 11/13/2018 3:43:36 PM)