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JUN 2 4 2024

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Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: 2023 K-Area Burning/Rubble Pit and Rubble Pile (131-K and 631-20G) (KBRP) and P-Area Burning/Rubble Pit (131-P) (PBRP) Operable Units Combined Groundwater Monitoring Report (Sampling Summary), SEMS Numbers: 40 and 59

Reference: *Submittal of the Proposal to Standardize Sampling and Reporting Requirements of Groundwater Data for P, L, and K Area Burning/Rubble Pit Operable Units, CERCLIS Numbers 59, 56, 40* (ACP-08-133, dated January 15, 2008)

In accordance with the terms of the Federal Facility Agreement (FFA), the U. S. Department of Energy (DOE) is submitting the combined groundwater monitoring report (sampling summary) for your review. Per the referenced letter, combined sampling summaries are submitted annually via letter, with detailed groundwater reports submitted every five (5) years. The combined sampling summary reporting began in June 2008 and the first detailed groundwater report was submitted in June 2012. The last detailed groundwater report was submitted in June 2022. This letter is transmitting the 2023 annual sampling summary, *2023 K-Area and P-Area Burning/Rubble Pits Annual Groundwater Data Summary Report*.

The combined groundwater monitoring report (sampling summary) formerly included the L-Area Burning/Rubble Pit and Rubble Pile (131-L, 131-3L, and 131-2L) (LBRP) Operable Unit (OU). In October 2017, the South Carolina Department of Health and Environmental Control (SCDHEC) and the U. S. Environmental Protection Agency (EPA) agreed to discontinue groundwater monitoring and reporting for the LBRP OU. Therefore, LBRP OU is not included in this report.

Please review the information and provide your response within one hundred twenty (120) days of receipt. The effort and time that the SCDHEC and the EPA have given on the subject operable units are greatly appreciated.

2023 K-AREA AND P-AREA BURNING/RUBBLE PITS ANNUAL GROUNDWATER DATA SUMMARY REPORT

K-Area Burning/Rubble Pit (KBRP) Operable Unit (OU)

Sampling optimizations that were developed and approved by U. S. Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) as presented in the *K-Area Burning/Rubble Pit and Rubble Pile (131-K and 631-20G) (KBRP), L-Area Burning/Rubble Pit and Rubble Pile (131-L, 131-3L, and 131-2L) (LBRP), and P-Area Burning/Rubble Pit (131-P) (PBRP) Operable Units (OUs) Detailed Combined Groundwater Monitoring Report (U)* (SRNS-RP-2012-00200, Revision 1, December 2012) continued at KBRP in 2023. Due to the limited plume distribution, sampling wells in the AA aquifer (portion of the upper aquifer zone) and a subset of wells in the transmissive zone (TZ) on an annual basis is sufficient to monitor the groundwater contaminants at the KBRP OU. An increase in sampling frequency from annual to semi-annual at well KRP 9 was initiated beginning in the second quarter of 2021 based on exceeding the maximum contaminant levels (MCLs) for tetrachlorethylene (PCE) and trichloroethylene (TCE) in 2018. Well KRP 9 is the only well within the KBRP monitoring network that has exceeded an MCL since 2008.

In 2023, samples were collected from six AA aquifer wells (i.e., KRP 4 through KRP 9) and two TZ aquifer wells (i.e., KRP 10D and KRP 11D) in accordance with the revised sampling schedule (Table 1). Well KRP 9 was resampled during the third quarter of the year after a sampling/analysis mishap during the second quarter event, results from both sampling events are shown in Table 2. The trip blank and regular sample appeared to have been inadvertently swapped as the concentrations in the trip blank were more consistent with concentrations typically seen in the regular sample. The second quarter results for well KRP 9, used to generate the table and time-series plots below, are the reported concentrations in the trip blank.

Based on the 2023 sampling events, all wells were below their respective trigger levels (mixing zone concentration limit [MZCL] or MCL) as shown in Table 2. PCE concentrations increased above the MCL of 5 micrograms per liter (µg/L) in well KRP 9 but remained below the MZCL of 43 µg/L. TCE concentrations in well KRP 9 increased from 2022 values but remained below the MCL of 5 µg/L. All other associated degradation products were non-detect or estimated values, well below MCLs. Figure 1 shows the monitoring well network, the PCE and TCE concentrations, and water elevation measurements for the fourth quarter of 2023 (4Q23). Figures 2 and 3 display the time-series plots for PCE and TCE concentrations at plume well KRP 9, respectively.

Water elevation measurements were collected from all eleven wells during the 4Q23 sampling event within both the AA and TZ aquifers. Water table elevations increased from 2022 values by an average of 2.10 feet (ft) (0.64 meters [m]) in the AA aquifer and 1.92 (0.59 m) in the TZ aquifer. All wells yielded adequate sampling volumes. In all currently monitored aquifers, groundwater flow is to the southwest (Figure 1).

No additional sampling was triggered based on the 2023 results (Table 2). Only well KRP 9 showed an increase in PCE and TCE concentrations as shown in Figures 2 and 3. respectively. Further groundwater monitoring will be necessary to determine if the concentrations in well KRP 9 will continue to increase or if concentrations will diminish below the MCL.

Based on the 2013 EPA guidance, *Guidance for Evaluating Completion of Groundwater Restoration Remedial Actions* (Office of Solid Waste and Emergency Response [OSWER] 9355.0-129, dated November 25, 2013) and the 2014 EPA guidance, *Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at a Groundwater Monitoring Well* (OSWER 9283.1-44, dated August 2014) the remediation monitoring phase at the KBRP OU was documented as being complete in the *2022 K-Area Burning/Rubble Pit and Rubble Pile (131-K and 631-20G) (KBRP) and P Area Burning/Rubble Pit (131-P) (PBRP) Operable Units Combined Groundwater Monitoring Report (Sampling Summary), SEMS Numbers: 40 and 59* (RDDD-23-017, dated June 19, 2023) after a non-statistical/visual analysis of the data displayed at least four data points in all wells below the cleanup levels set forth in the approved *Record of Decision Remedial Alternative Selection for the K-Area Burning/Rubble Pit (131-K) and Rubble Pile (631-20G) Operable Unit* (WSRC-RP-97-862, Revision 1, July 2000). Due to the increased concentrations above the MCL in well KRP 9, it is assumed that the KBRP OU should be considered in the remediation monitoring phase again until the concentrations remain below the cleanup levels for four additional sampling events. SRS recommends continued semi-annual sampling of this well.

Table 1. KBRP OU Sampling Schedule and Trigger Levels

Station ID	Aquifer Zone	Data Collected	Sampling Frequency	Sampling Quarter	PCE Trigger Level (µg/L)	TCE Trigger Level (µg/L)
KRP 4	AA UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	43[a]	61[a]
KRP 5	AA UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	43[a]	61[a]
KRP 6	AA UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	43[a]	61[a]
KRP 7	AA UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	5[b]	5[b]
KRP 8	AA UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	43[a]	61[a]
KRP 9	AA UAZ UTRAU	Analytical, Field and Water Elevation	Semiannual	2Q and 4Q	43[a]	61[a]
KRP 10C	LAZ UTRAU	Suspended	Suspended	NA	5[b]	5[b]
KRP 10D	TZ UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	5[b]	5[b]
KRP 11C	LAZ UTRAU	Suspended	Suspended	NA	5[b]	5[b]
KRP 11D	TZ UAZ UTRAU	Analytical, Field and Water Elevation	Annual	4Q	5[b]	5[b]
KRP 12C	LAZ UTRAU	Suspended	Suspended	NA	5[b]	5[b]
KRP 12D	TZ UAZ UTRAU	Water Elevation Only	Annual	4Q	5[b]	5[b]
KRP 13D	TZ UAZ UTRAU	Water Elevation Only	Annual	4Q	5[b]	5[b]
KRP 15C	LAZ UTRAU	Suspended	Suspended	NA	5[b]	5[b]
KRP 15D	LAZ UTRAU	Water Elevation Only	Annual	4Q	5[b]	5[b]

2Q = Second Quarter of Calendar Year
4Q = Fourth Quarter of Calendar Year
AA = Upper portion of the Upper Aquifer Zone
NA = Not Applicable
UAZ = Upper Aquifer Zone
UTRAU = Upper Three Runs Aquifer Unit
TZ = Transmissive Zone of the Upper Aquifer Zone
[a] = MZCL
[b] = MCL

Table 2. KBRP OU Monitoring Well Data for 2023

2023 KBRP OU Monitoring Well Data			Field Data																KBRP Constituents of Concern						
																			VOCs						
			SAMPLE COLLECTION DATE	WATER TEMPERATURE	AIR TEMPERATURE	OXIDATION/REDUCTION POTENTIAL	OXYGEN	FLOW RATE	PHENOLPHTHALEIN ALKALINITY (AS CACO3)	TOTAL ALKALINITY (AS CACO3)	PH	SPECIFIC CONDUCTANCE	TURBIDITY	VOLUME PURGED	DEPTH TO WATER	SAMPLING EVENT WATER ELEVATION	SYNCHRONOUS MEASUREMENT DATE	SYNCHRONOUS WATER ELEVATION	FIELD CONDITIONS	Constituent	1,1-DICHLOROETHYLENE	CHLOROETHENE (VINYL CHLORIDE)	CIS-1,2-DICHLOROETHYLENE	TETRACHLOROETHYLENE (PCE)	TRANS-1,2-DICHLOROETHYLENE	TRICHLOROETHYLENE (TCE)
			day-month-year	degC	degC	mV	mg/L	gal/min	mg/L	mg/L	pH	uS/cm	NTU	gal	ft	ft	day-month-year	ft		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Station	Well Use	Aquifer Zone											15							MCL (MZCL)	7	2	70	5 (43)	100	5 (61)
KRP 4	Plume Definition Well	AA_UAZ_UTRAU	18-Oct-2023	19.5	10	261	NS	1	0	NS	4.9	5.1	1.1	25	48.33	214.51	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	[0.519]	<EQL (1)	<EQL (1)
KRP 5	Plume Definition Well	AA_UAZ_UTRAU	18-Oct-2023	19.9	11	195	NS	0.1	0	NS	6	106	0.9	1	55.8	212.3	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1.2)	<EQL (1)	<EQL (1)
KRP 6	Plume Definition Well	AA_UAZ_UTRAU	18-Oct-2023	17.8	14	265	5.58	0	NS	NS	4.8	80	11.2	0	57.42	212.88	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1.2)	<EQL (1)	<EQL (1)
KRP 7	Boundary Compliance	AA_UAZ_UTRAU	18-Oct-2023	20.5	16	293	6.45	0.1	NS	NS	4.9	33	1.4	1	58.97	211.59	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	[0.312]	<EQL (1)	<EQL (1)
																			Field Duplicate		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1.2)	<EQL (1)	<EQL (1)
KRP 8	Plume Definition Well	AA_UAZ_UTRAU	18-Oct-2023	17.6	7	305	3.23	0.1	0	0	4.5	29	1.8	1	54.43	213.14	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	1.34	<EQL (1)	[0.276]
KRP 9	Plume Definition Well	AA_UAZ_UTRAU	02-May-2023	18.9	29	NS	NS	0.1	NS	NS	5.3	67	2.5	1	55.05	213.32	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	4.73	<EQL (1)	2.78
			11-Sept-2023*	18.9	29	NS	NS	0.1	NS	NS	5.3	67	2.5	1	55.05	213.32	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	6.75	<EQL (1)	2.95
			18-Oct-2023	17.7	8	279	3.98	0.1	0	4	5.5	56	0.9	1	53.08	215.29	NS	NS	No Comments		<EQL (1)	<EQL (1)	[0.147]	7.14	<EQL (1)	2.86
KRP 10C	Intermediate	LAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS
KRP 10D	Intermediate	TZ_UAZ_UTRAU	18-Oct-2023	19.2	7	284	4.71	0.5	0	1	5.2	20	2.3	14	57.35	211.05	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1.2)	<EQL (1)	<EQL (1)
KRP 11C	Intermediate	LAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS
KRP 11D	Intermediate	TZ_UAZ_UTRAU	18-Oct-2023	18.4	8	288	4.41	0.5	0	1	5.3	21	0.7	16	58.49	211.91	NS	NS	No Comments		<EQL (1)	<EQL (1)	<EQL (1)	<EQL (1.2)	<EQL (1)	<EQL (1)
KRP 12C	Boundary Compliance	LAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS
KRP 12D	Boundary Compliance	TZ_UAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18-Oct-2023	210.09	No Comments		NS	NS	NS	NS	NS	NS
KRP 13D	Boundary Compliance	TZ_UAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18-Oct-2023	210.7	No Comments		NS	NS	NS	NS	NS	NS
KRP 15C	Boundary Compliance	LAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS
KRP 15D	Boundary Compliance	TZ_UAZ_UTRAU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18-Oct-2023	210.3	No Comments		NS	NS	NS	NS	NS	NS

Concentration

Explanation

[##]	EPA Functional Guideline Code of 'J' was applied to the result, indicating an estimated quanity.
<EQL(##)	Constituent was below detection. The sample-specific Estimated Quantitation Limit is in parentheses.
	Result exceeds applicable limit.
	Result exceeds MCL but not MZCL.
REJ	Result Rejected.
	Result is less than the applicable limit and without EPA Functional Guidline qualifiers.
NS	Requested to be sampled but was not. See comments as to why not.
Blue Text	Not a required sample analysis.
*	Resample event

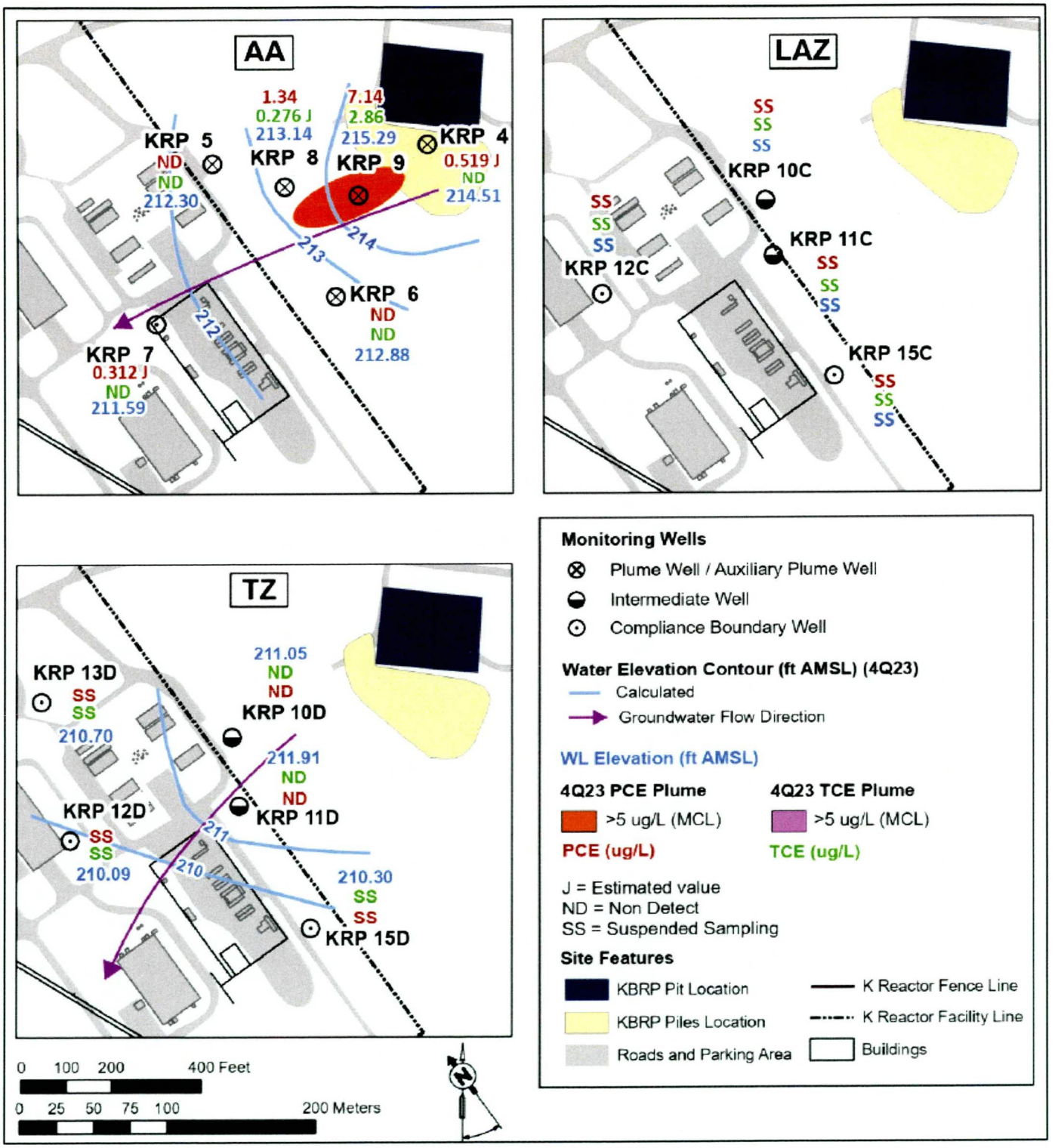

Figure 1. KBRP OU Monitoring Well Network, PCE and TCE Concentrations, and Water Elevation Measurements during 4Q23

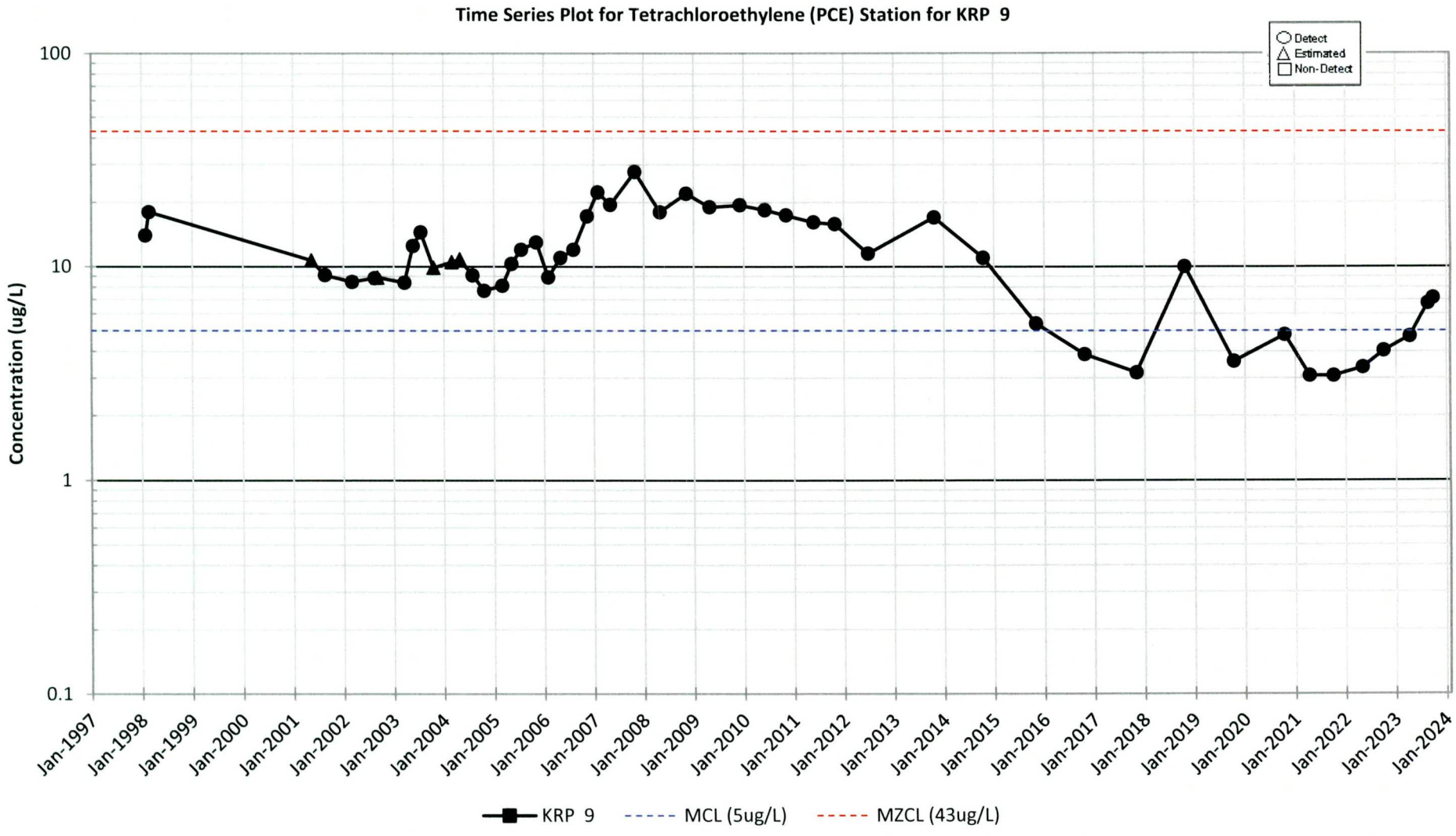

Figure 2. Time-Series Plot for PCE at KRP 9

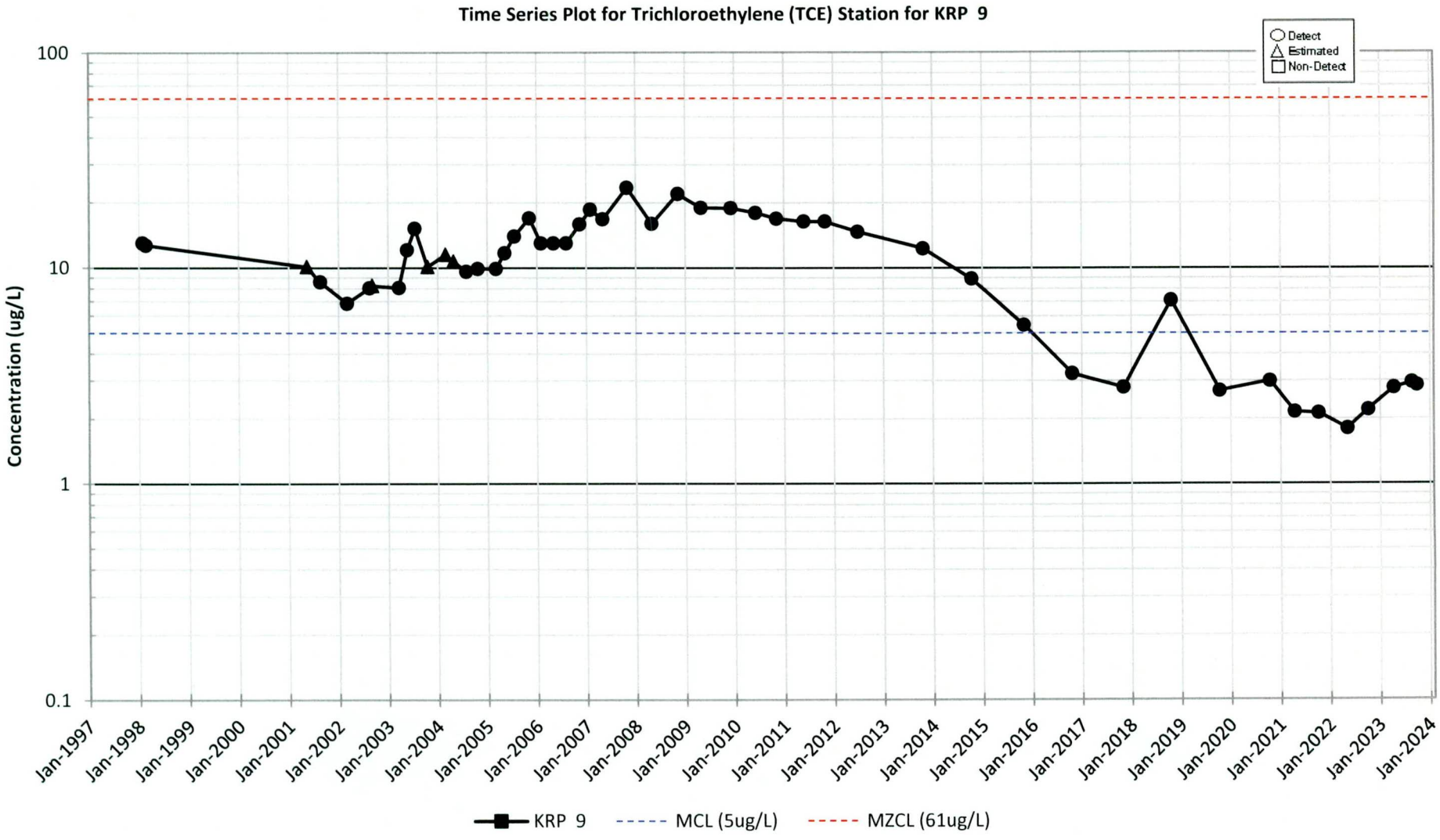

Figure 3. Time-Series Plot for TCE at KRP 9

P-Area Burning/Rubble Pit (PBRP) OU

Sampling optimizations that were developed and approved by EPA and SCDHEC as presented in the *Standardizing Sampling and Reporting Requirements P, L and K Area Burning Rubble Pits* (see ACP-08-133, dated January 15, 2008) continued at PBRP in 2024. 1,4-Dioxane was added to the list of monitored constituents at the PBRP OU based on a recommendation in the *Fourth Five-Year Remedy Review Report for the Savannah River Site* (SRS) (SRNS-RP-2012-00011, Revision 1.1, November 2013). A synchronous water level event was conducted beginning in the third quarter of 2022 as part of the P-Area Groundwater (PAGW) OU which also included wells from PRBP OU. The outcome is a more accurate depiction of the potentiometric surface at P Area, including at PBRP OU. Beginning in 2023 surface-water sampling for 1,1-dichloroethylene (1,1-DCE), 1,4-dioxane and trichloroethylene (TCE) were conducted at Steel Creek surface-water stations SC-02, SC-03, and SC-04 as outlined in the *Savannah River Site's Responses to the Regulatory Comments on the K-Area Burning/Rubble Pit and Rubble Pile (131-K and 631-20G) (KBRP) and P-Area Burning/Rubble Pit (131-P) (PBRP) Operable Units Combined Groundwater Monitoring Report (SRNS-RP-2022-00253, Revision 0, June 2022) SEMS Numbers: 40 and 59* (IACD-23-121, dated January 19, 2023). Beginning in 2024 sampling of all wells and surface water stations was moved to the first quarter as outlined in the *2022 K-Area Burning/Rubble Pit and Rubble Pile (131-K and 631-20G) (KBRP) and P Area Burning/Rubble Pit (131-P) (PBRP) Operable Units Combined Groundwater Monitoring Report (Sampling Summary), SEMS Numbers: 40 and 59* (RDDD-23-017, dated June 19, 2023). Table 3 and Figure 4 outline the currently approved PBRP monitoring wells, the additional PAGW supplemental monitoring wells, surface water stations and the sampling schedule.

On February 11, 2020, the EPA documented that the remedial action is complete (monitoring systems are installed and operational) for the selected Monitored Natural Attenuation remedy at the PBRP and noted the progress of the remedy towards meeting the remedial goals as documented in the *K-Area Burning/Rubble Pit and Rubble Pile (131-K and 631-20G) (KBRP), L-Area Burning/Rubble Pit and Rubble Pile (131-L, 131-3L, and 131-2L) (LBRP), and P-Area Burning/Rubble Pit (131-P) (PBRP) Operable Units (OUs) Detailed Combined Groundwater Monitoring Report* (SRNS-RP-2017-00356, Revision 0, June 2017) (Letter, H. G. Adams (EPA) to B. Hennessey (DOE), dated February 11, 2020 [SRNS-OS-2020-00105]).

The three PBRP wells (PRP 5, PRP 6, and PRP 7) were sampled during the first quarter of 2024 (1Q24). The 1Q24 sampling results for wells PRP 5, PRP 6, and PRP 7 are presented in Table 4. Figures 5 through 7 depict the contaminant distribution of the data. Time series plots for regularly detected contaminants at select wells are provided in Figures 8 through 13.

1,1-DCE was detected below the MCL (7 µg/L) in well PRP 6 at a concentration of 5.37 µg/L, a decrease from the 2022 concentration of 8.51 µg/L. TCE was detected slightly above the MCL (5 µg/L) in well PRP 6 at a concentration of 5.1 µg/L, a decrease from the 2022 value of 8.68 µg/L. A field duplicate that was collected at well PRP 6 confirms the concentrations in this well are accurate. The recent increase in 1,1-DCE and TCE concentrations in well PRP 6 are believed to be associated with an increase in water elevations that possibly resolubilized contaminants that were entrained in sediments below the unit (Figure 14).

1,4-Dioxane does not have an MCL; therefore, the EPA tap water regional screening level (RSL) of 0.46 µg/L has been applied. However, the estimated quantitation limits (EQLs) are currently unable to meet the RSL under the certified EPA8260SIM method; therefore, SRS chose to additionally analyze by method EPA522, which can achieve a quantitation limit below the RSL, both results are shown on Table 4. 1,4-Dioxane samples that were analyzed by the certified EPA8260SIM method were detected in wells PRP 6 and PRP 7 at 4.22 µg/L and an estimated value of 2.34 µg/L, respectively. 1,4-Dioxane samples that were analyzed by the EPA522 method were detected at a concentration of 4.7 µg/L in well PRP 6 and 3.1 µg/L in well PRP 7.

All other analytical concentrations were non-detect or significantly below the respective MCLs.

Three PAGW OU surface water stations in Steel Creek (SC-02, SC-03 and SC-04) were sampled during the first quarter of 2024 (1Q24). The sampling results for the surface water stations are presented in Table 4. TCE is the main volatile contaminant of concern within the PAGW OU and is the driver for the elevated concentrations in the creek. The 2022 TCE plume associated with the PAGW OU is depicted on Figure 7. 1,1-DCE and 1,4-dioxane values were non-detect during the 1Q24 sampling event. 1Q24 surface water sampling confirms that PBRP OU is not currently affecting Steel Creek. Surface water sampling will continue at these locations to confirm that the recent elevated concentrations of volatile organic compounds have no impact within Steel Creek. Figures 5 through 7 show the contaminant distribution from the data collected during the 1Q24 sampling event.

The recently added synchronous water level event occurred during the 1Q24 sampling event and was used to generate the water elevations as shown on Figure 15. Water table elevations increased from the previous year by an average of 1.81 ft (0.55 m). Groundwater flow beneath the PBRP OU is to the southwest.

SRS will continue to monitor groundwater annually for the constituents of concern identified in Table 4. Monitoring will continue until it is agreed that the remedial goals have been met and monitoring is no longer necessary.

Table 3. PBRP OU Well Network and Sampling Schedule

Station	Aquifer Zone	Station Type	Operable Unit	Well Use	Sampling Frequency	Analytical and Field Sampling Event	Synchronous Water Level Event	Easting (UTM NAD 27)	Northing (UTM NAD 27)
PGW014DU	AA UAZ UTRAU	Monitoring Well	PAGW	Synchronous Water Elevation	Annual	NA	1Q	445264.8	3676551.7
PRP 1A	AA UAZ UTRAU	Monitoring Well	PBRP	Synchronous Water Elevation	Annual	NA	1Q	445122.9	3676625.5
PRP 2	AA UAZ UTRAU	Monitoring Well	PBRP	Synchronous Water Elevation	Annual	NA	1Q	445164.1	3676670.5
PRP 5	AA UAZ UTRAU	Monitoring Well	PBRP	Analytical, Field, and Water Elevation	Semi-Annual	1Q	1Q	445281.4	3676683.9
PRP 6	AA UAZ UTRAU	Monitoring Well	PBRP	Analytical, Field, and Water Elevation	Semi-Annual	1Q	1Q	445186.9	3676616.7
PRP 7	AA UAZ UTRAU	Monitoring Well	PBRP	Analytical, Field, and Water Elevation	Semi-Annual	1Q	1Q	445156.2	3676605.5
PSC002D1	AA UAZ UTRAU	Monitoring Well	PAGW	Synchronous Water Elevation	Semi-Annual	NA	1Q	445157.9	3676510.7
SC-02	NA	Surface Water Station	PAGW	Analytical and Field	Annual	1Q	NA	445190.9	3676552.3
SC-03	NA	Surface Water Station	PAGW	Analytical and Field	Annual	1Q	NA	445100.3	3676454.7
SC-04	NA	Surface Water Station	PAGW	Analytical and Field	Annual	1Q	NA	444728.5	3676234.9

1Q = First Quarter of Calendar Year
AA = Upper portion of the Upper Aquifer Zone
NA = Not applicable
UAZ = Upper Aquifer Zone
UTRAU = Upper Three Runs Aquifer Unit

Table 4. PBRP OU Groundwater Data for 2024

2024 PBRP OU Groundwater Monitoring Data			Field Data																	PBRP Constituents of Concern						
																				VOCs						
			SAMPLE COLLECTION DATE	DEPTH TO WATER	SAMPLING EVENT WATER ELEVATION	SYNCHRONOUS MEASUREMENT DATE	SYNCHRONOUS WATER ELEVATION	AIR TEMPERATURE	WATER TEMPERATURE	FLOW RATE	OXYGEN	OXIDATION/REDUCTION POTENTIAL	PH	PHENOLPHTHALEIN ALKALINITY (AS CACO3)	SPECIFIC CONDUCTANCE	TOTAL ALKALINITY (AS CACO3)	TURBIDITY	VOLUME PURGED	FIELD CONDITIONS	Constituent	1,1,1-TRICHLOROETHANE	1,1-DICHLOROETHYLENE	1,4-DIOXANE*	CHLOROETHENE (VINYL CHLORIDE)	CIS-1,2-DICHLOROETHYLENE	TETRACHLOROETHYLENE (PCE)	TRICHLOROETHYLENE (TCE)
			day-month-year	ft	ft	day-month-year	ft	degC	degC	gal/min	mg/L	mV	pH	mg/L	uS/cm	mg/L	NTU	gal		Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Station	Well Use	Aquifer Zone																		GWPS	200	7	0.46	2	70	5	5
PRP 5	Background Well	AA_UAZ_UTRAU	31-Jan-2024	30.65	257.16	03-Jan-2024	257.11	5	18.6	0.5	NS	NS	5.4	0	28	6	0.6	20	No Comments		<EQL (1)	<EQL (1)	<EQL (3)	<EQL (1)	[0.437]	<EQL (1.2)	<EQL (1)
																							<EQL (0.2)				
PRP 6	Plume Definition Well	AA_UAZ_UTRAU	31-Jan-2024	31.2	250.47	03-Jan-2024	250.67	7	19.5	0.5	NS	NS	5.2	0	50	0	0.8	6	No Comments		[0.238]	5.37	4.22	<EQL (1)	1.05	[0.586]	5.1
																							4.7				
																			Field Duplicate		[0.271]	5.79	4.26	<EQL (1)	1.02	[0.571]	5.4
																							4.61				
PRP 7	Plume Definition Well	AA_UAZ_UTRAU	31-Jan-2024	41.04	240.49	03-Jan-2024	240.95	12	19.6	0.5	NS	NS	5.1	0	36	0	2.3	8	No Comments		<EQL (1)	1.43	[2.34]	<EQL (1)	[0.808]	1.32	1.33
																							3.1				
PGW014DU	Plume Definition Well	AA_UAZ_UTRAU	NS	NS	NS	03-Jan-2024	242.64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS
PRP 1A	Plume Definition Well	AA_UAZ_UTRAU	NS	NS	NS	03-Jan-2024	248.27	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS
PRP 2	Plume Definition Well	AA_UAZ_UTRAU	NS	NS	NS	03-Jan-2024	254.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS
PSC002D1	Plume Definition Well	AA_UAZ_UTRAU	NS	NS	NS	03-Jan-2024	235.46	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No Comments		NS	NS	NS	NS	NS	NS	NS
SC-02	Surface Water		07-Feb-2024	NS	NS	NS	NS	1	5.9	0.0488	NS	NS	4.7	0	54	0	NS	NS	No Comments		NS	<EQL (1)	<EQL (3)	NS	NS	NS	<EQL (1)
																							<EQL (0.2)				
SC-03	Surface Water		07-Feb-2024	NS	NS	NS	NS	1	9.4	0.1107	NS	NS	4.9	0	38	0	NS	NS	No Comments		NS	<EQL (1)	<EQL (3)	NS	NS	NS	18.6
								1	9.4	0.1107			4.9	0	38	0							<EQL (0.2)				
SC-04	Surface Water		07-Feb-2024	NS	NS	NS	NS	3	7.7	0.3954	NS	NS	5.8	0	30	3	NS	NS	No Comments		NS	<EQL (1)	<EQL (3)	NS	NS	NS	1.25
																							<EQL (0.2)				

Concentration

Explanation

[##]	EPA Functional Guideline Code of 'J' was applied to the result, indicating an estimated quanity.
<EQL(##)	Constituent was below detection. The sample-specific Estimated Quantitation Limit is in parentheses.
	Result exceeds applicable limit.
REJ	Result Rejected.
	Result is less than the applicable limit and without EPA Functional Guidline qualifiers.
NS	Requested to be sampled but was not. See comments as to why not.
Blue Text	Not a required sample analysis.

* 1,4-Dioxane does not have an MCL. The current groundwater protection standard used is the EPA RSL, which is 0.46 µg/L; however, EQLs are not able to accurately meet the RSL under the certified EPA8260SIM method, therefore SRS also chose to analyze by method EPA522. The first values displayed in the table were analyzed by the approved EPA8260SIM, the second values were analyzed by the EPA522 method.

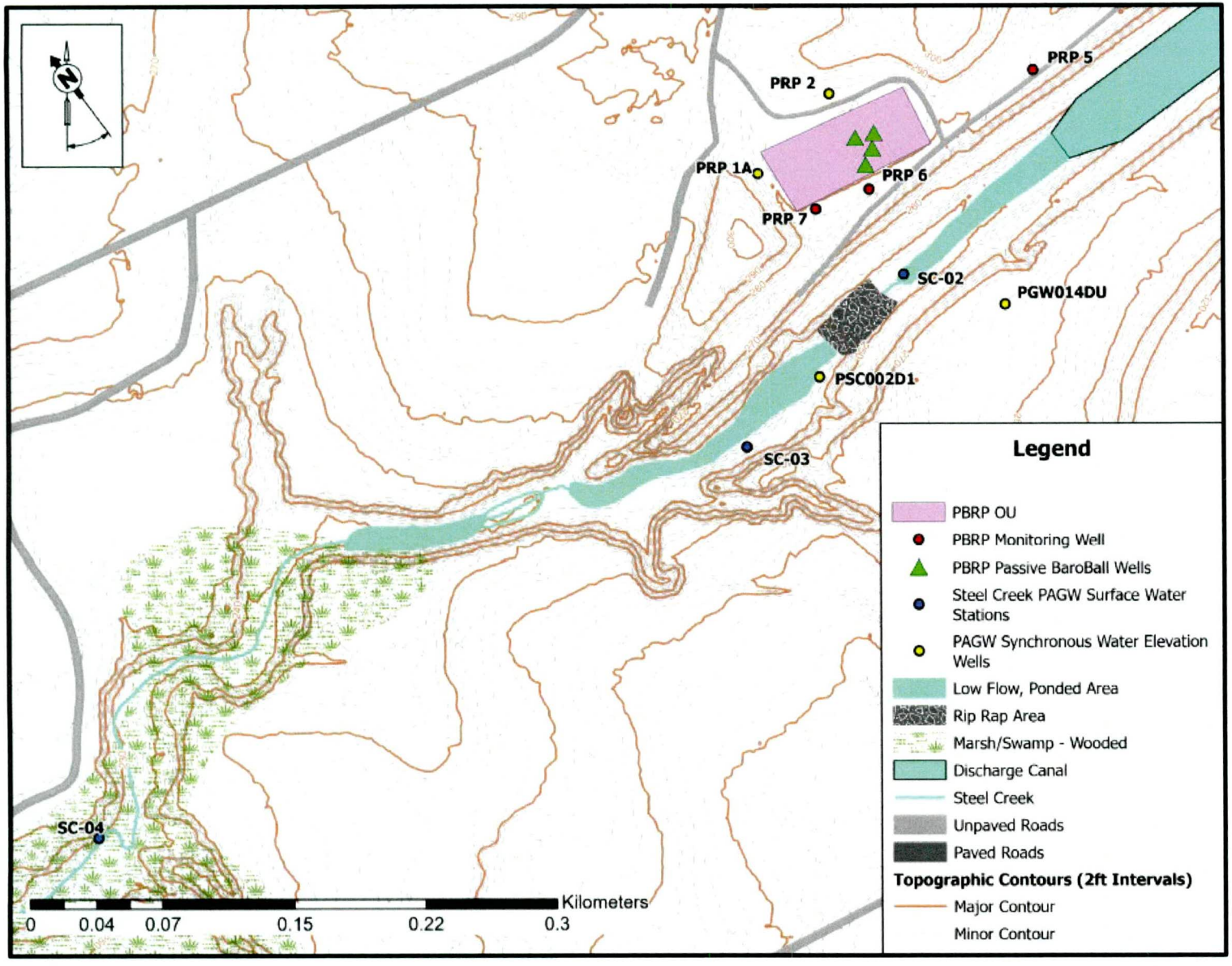

Figure 4. PBRP OU Well Network

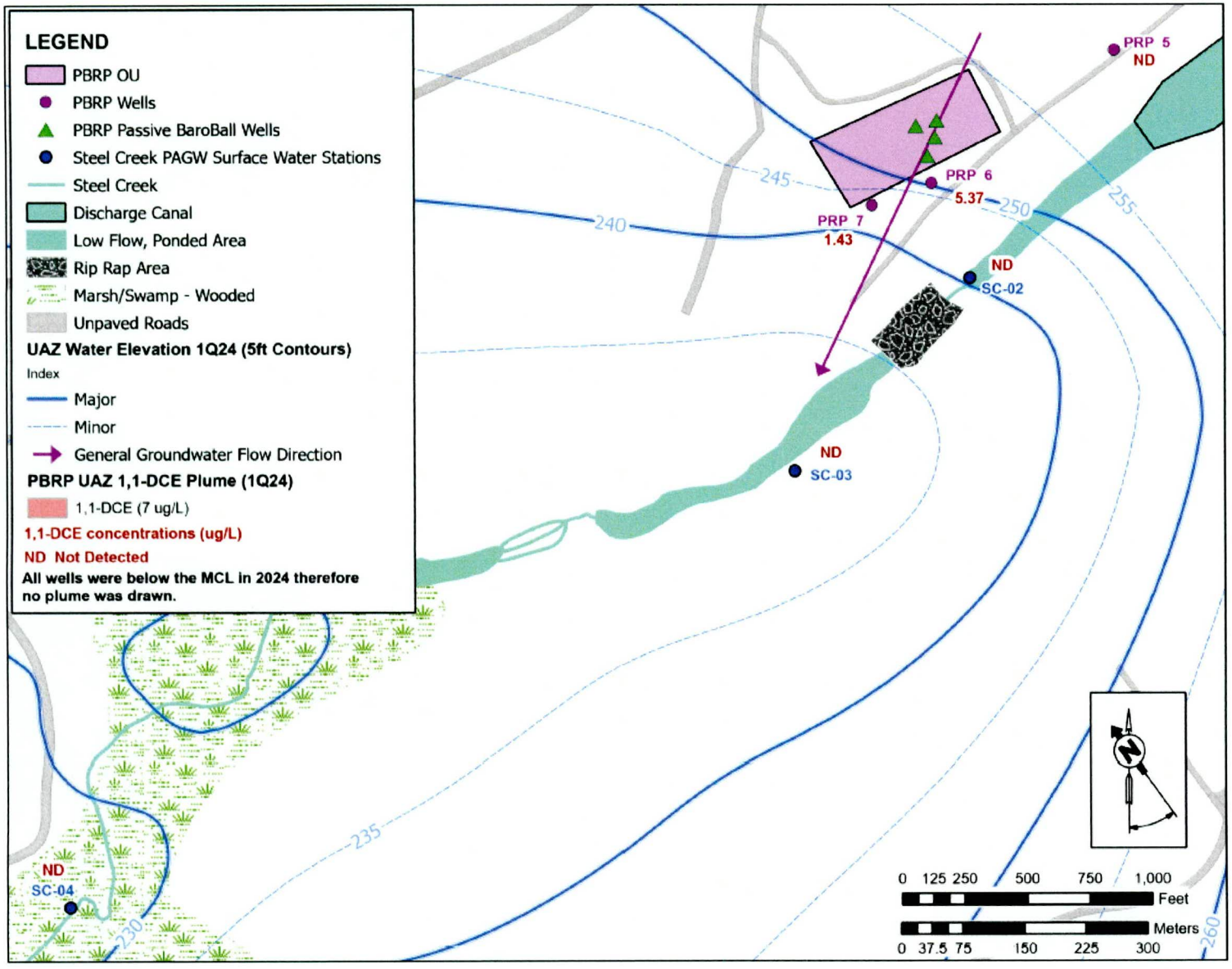

Figure 5. 1,1-DCE Contaminant Distribution

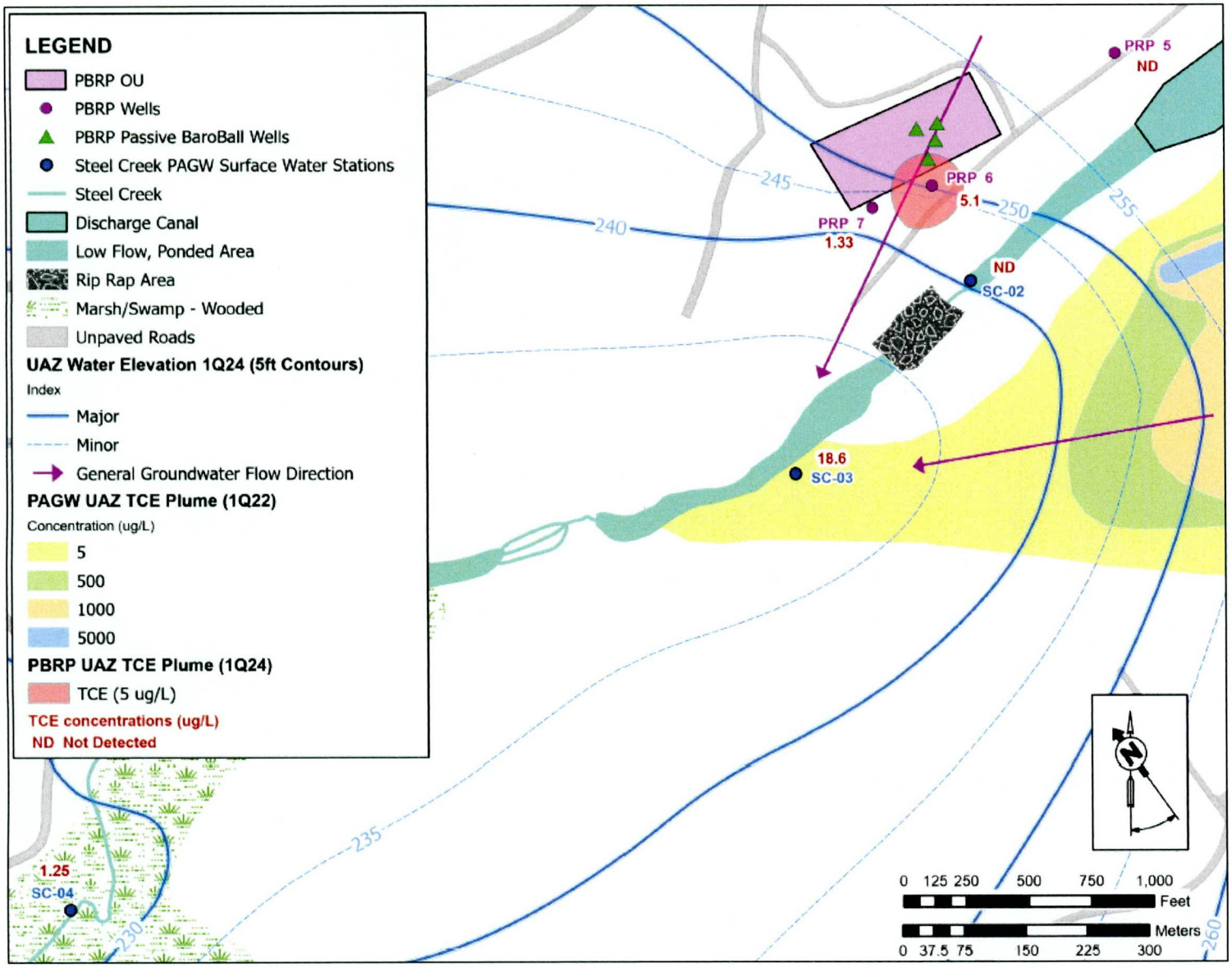

Figure 6. TCE Contaminant Distribution

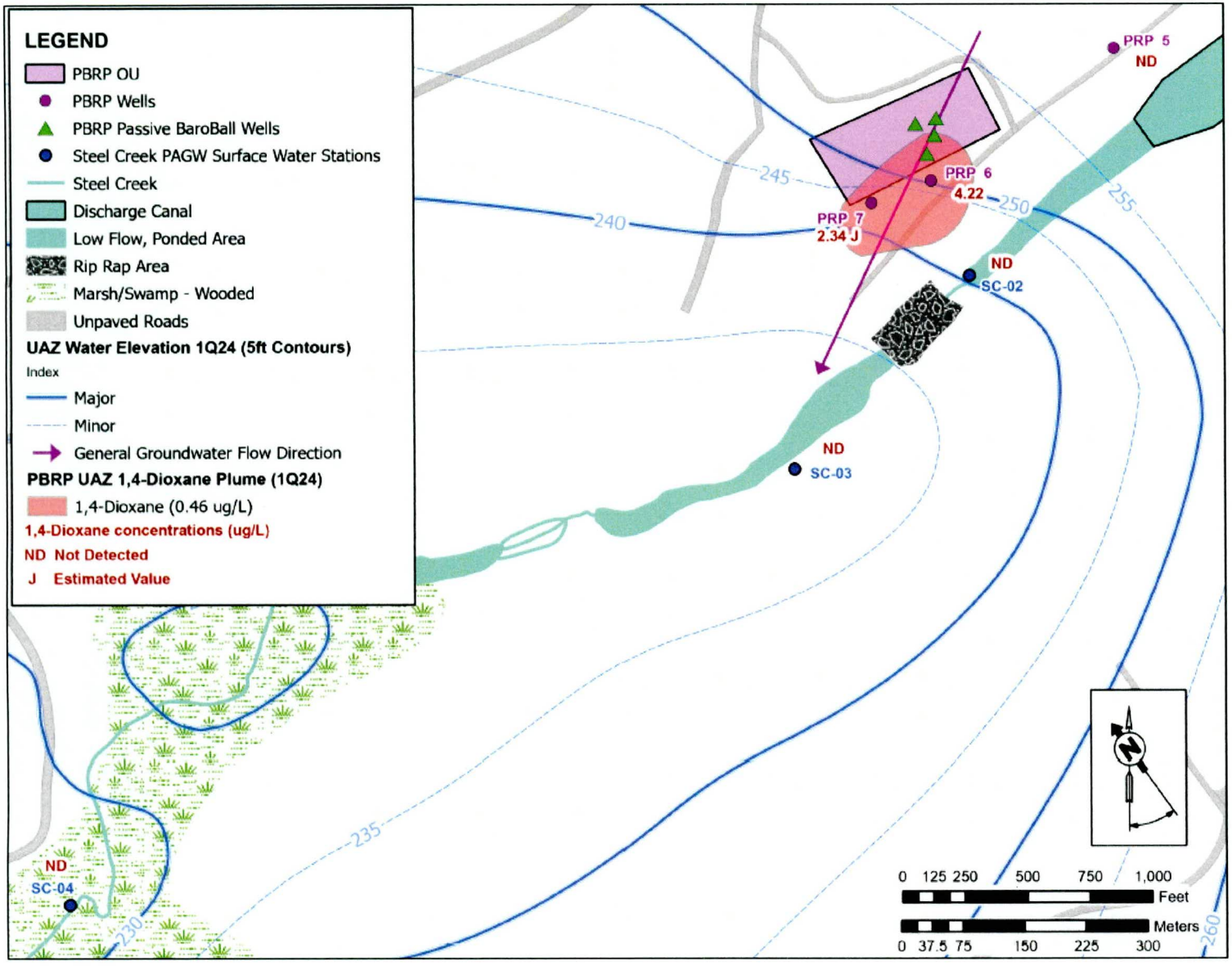

Figure 7. 1,4-Dioxane Contaminant Distribution

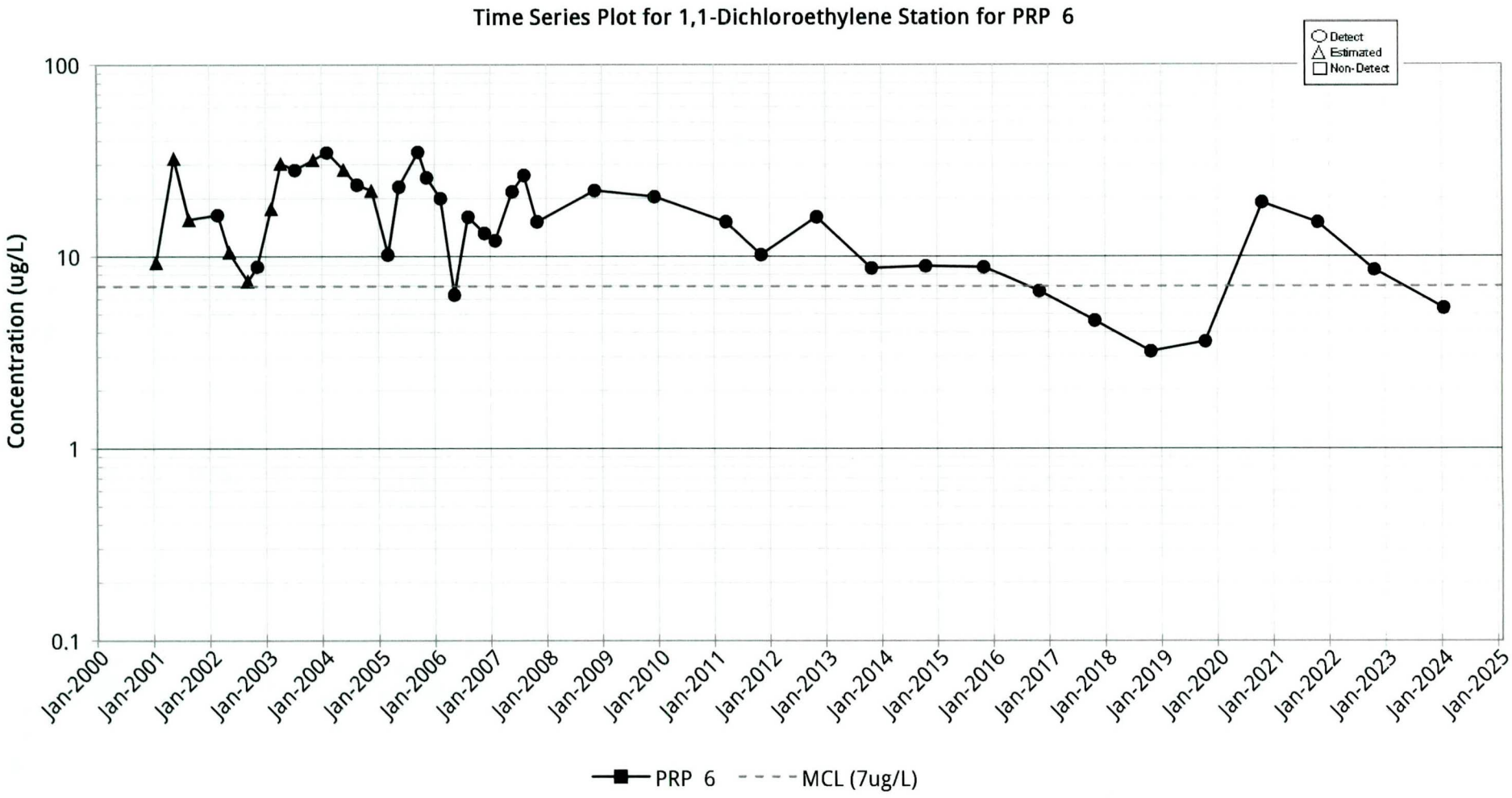

Figure 8. Time-Series Plot for 1,1-DCE at PRP 6

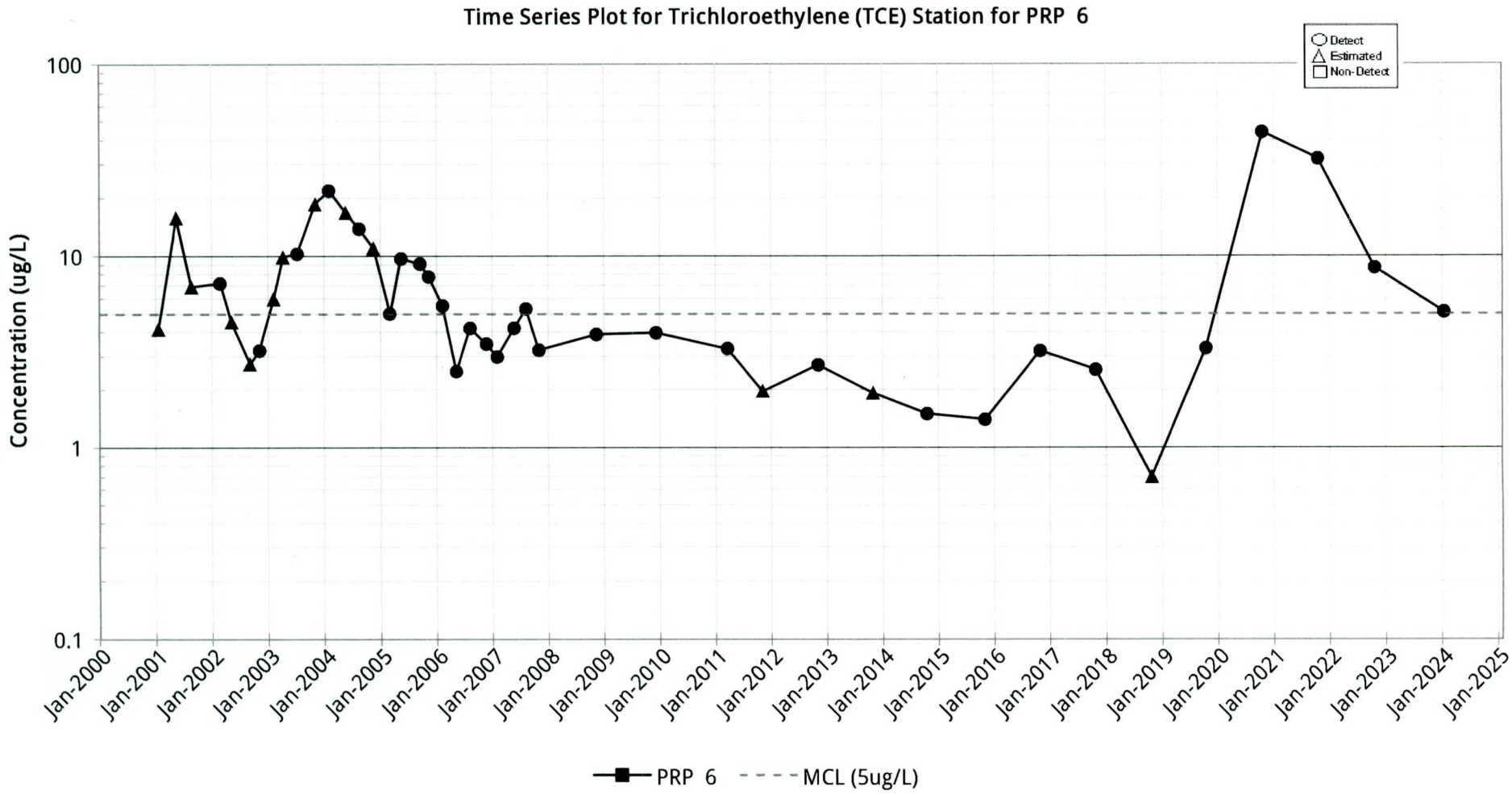

Figure 9. Time-Series Plot for TCE at PRP 6

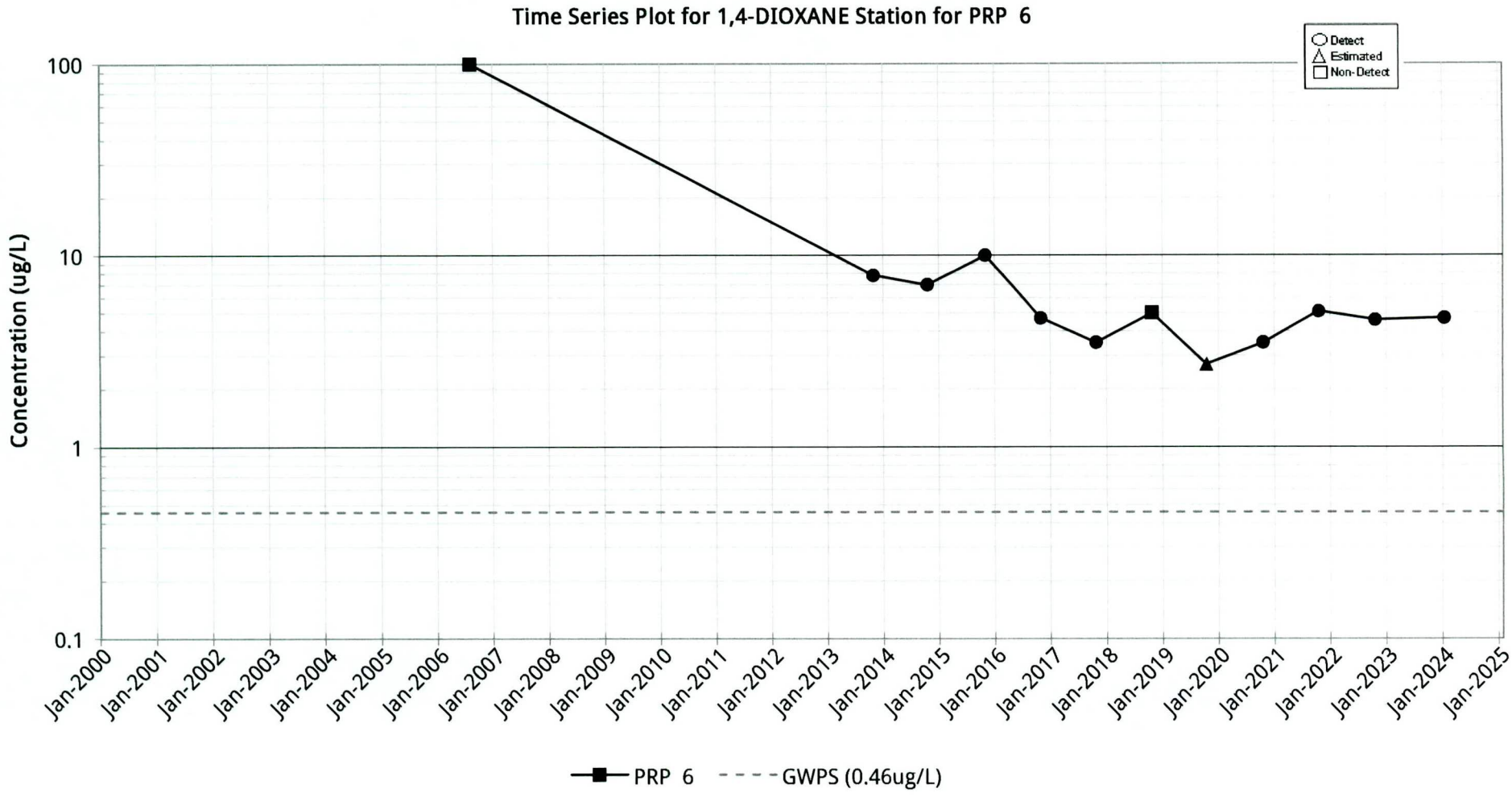

Figure 10. Time-Series Plot for 1,4-Dioxane at PRP 6

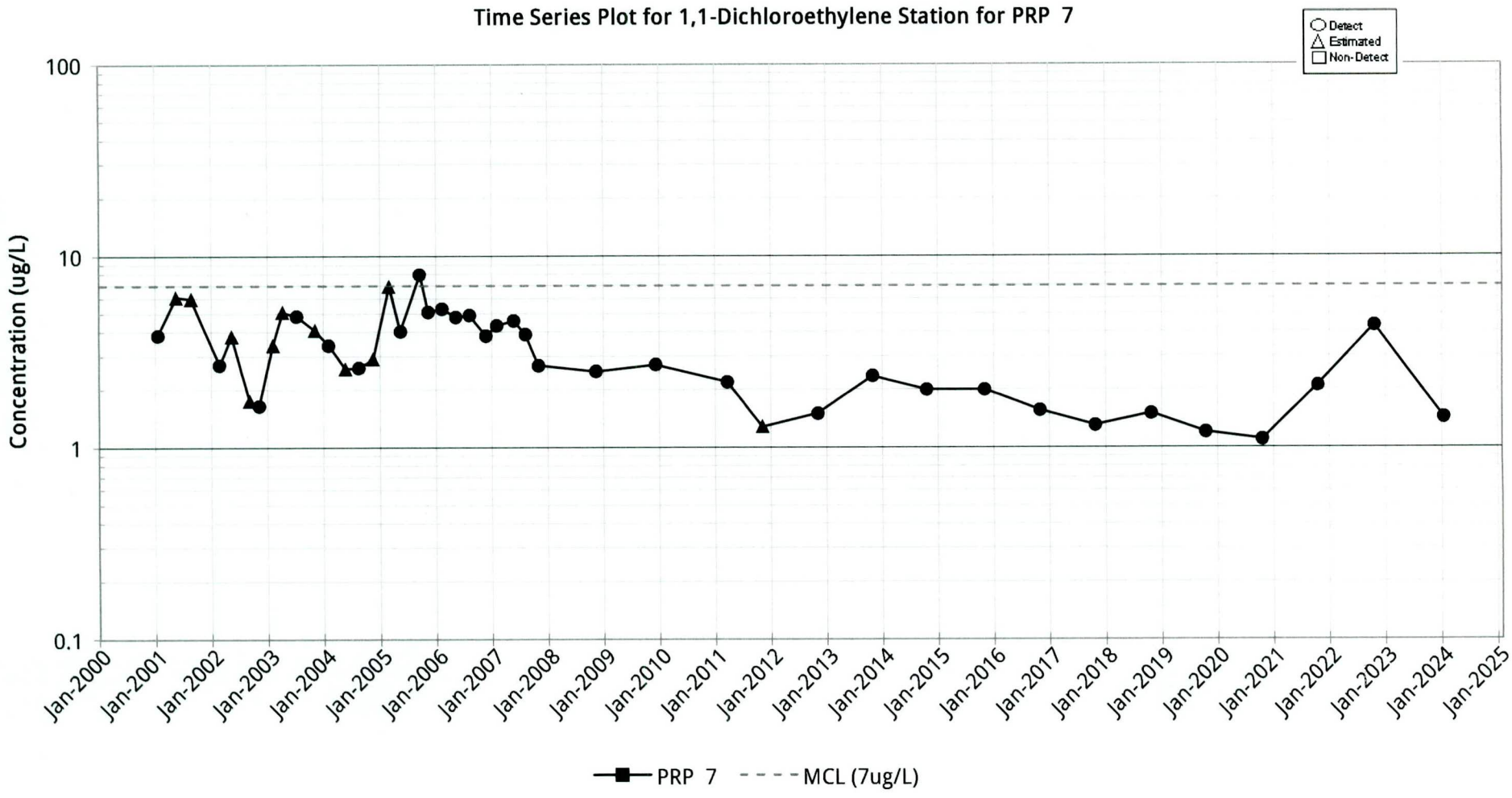

Figure 11. Time-Series Plot for 1,1-DCE at PRP 7

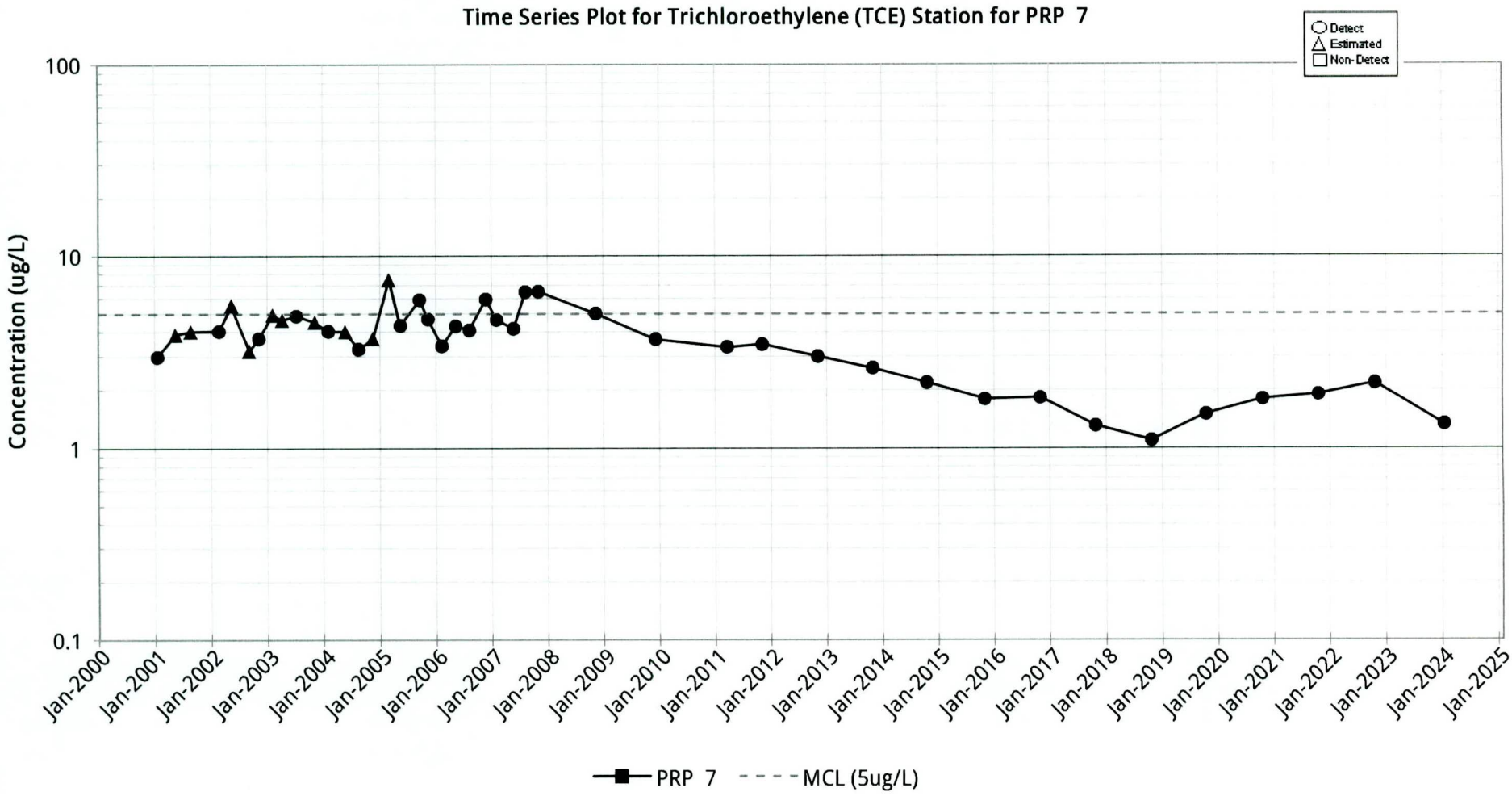

Figure 12. Time-Series Plot for TCE at PRP 7

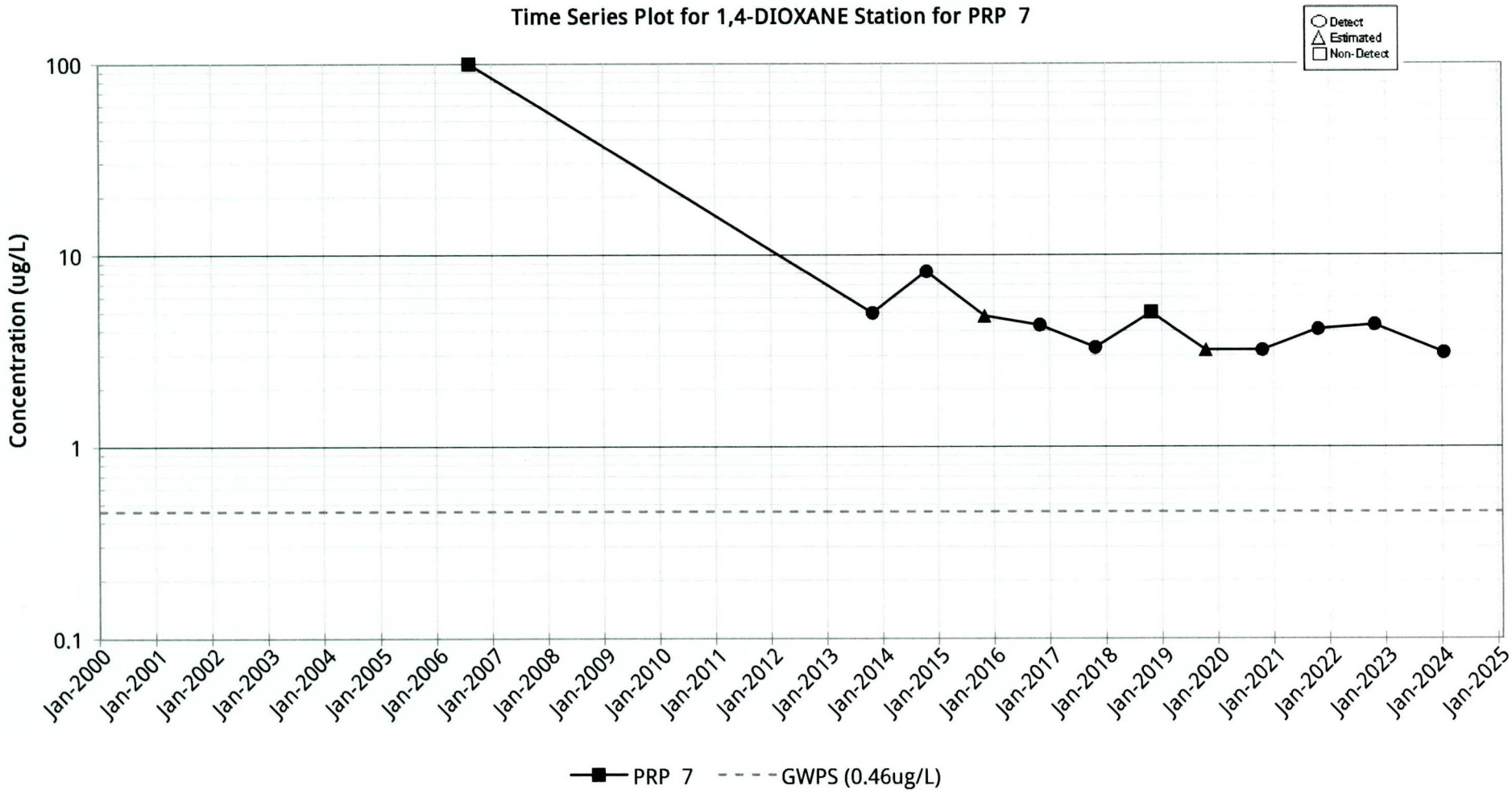

Figure 13. Time-Series Plot for 1,4-Dioxane at PRP 7

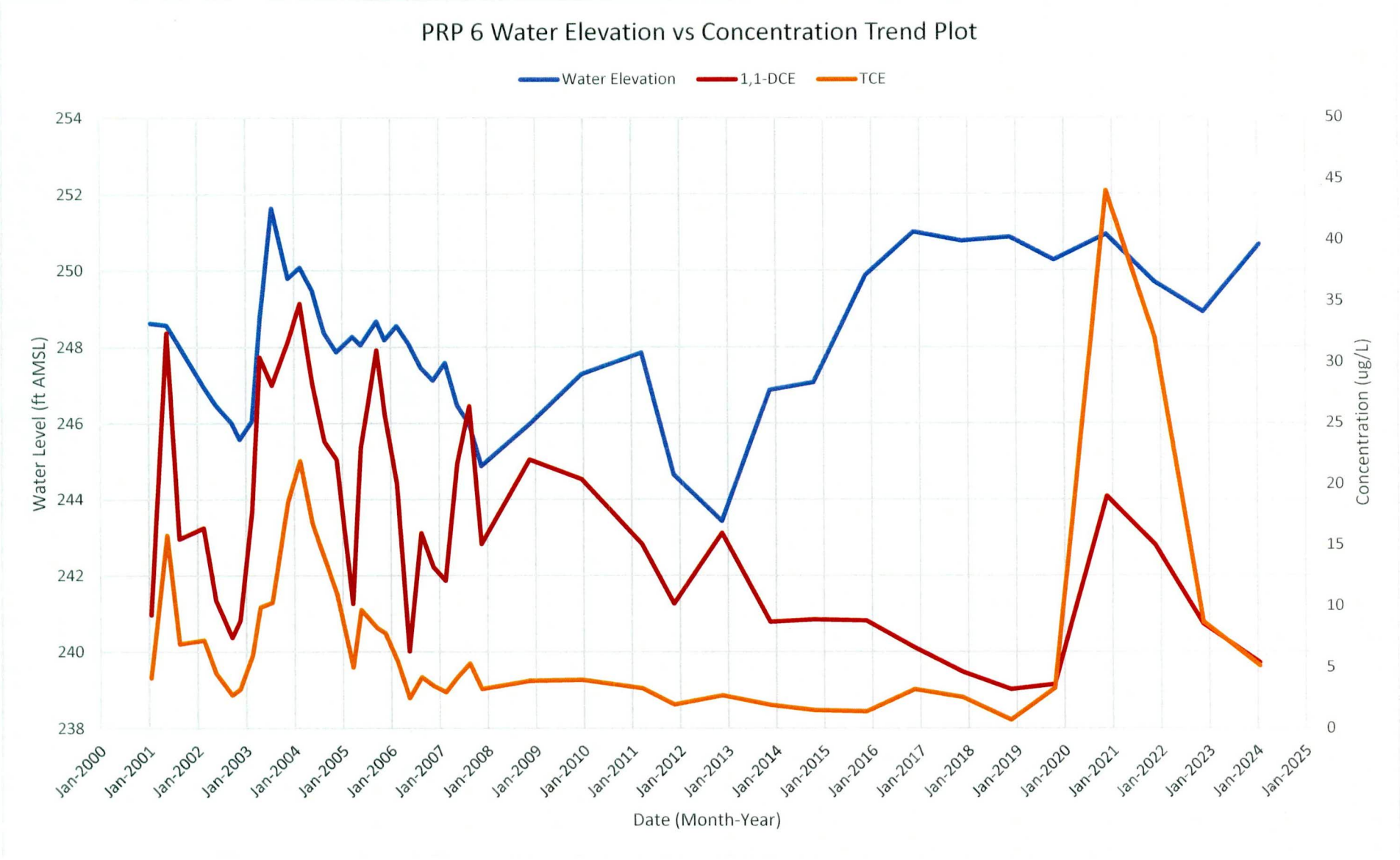

Figure 14. PRP 6 Water Elevation vs Concentration Trend Plot

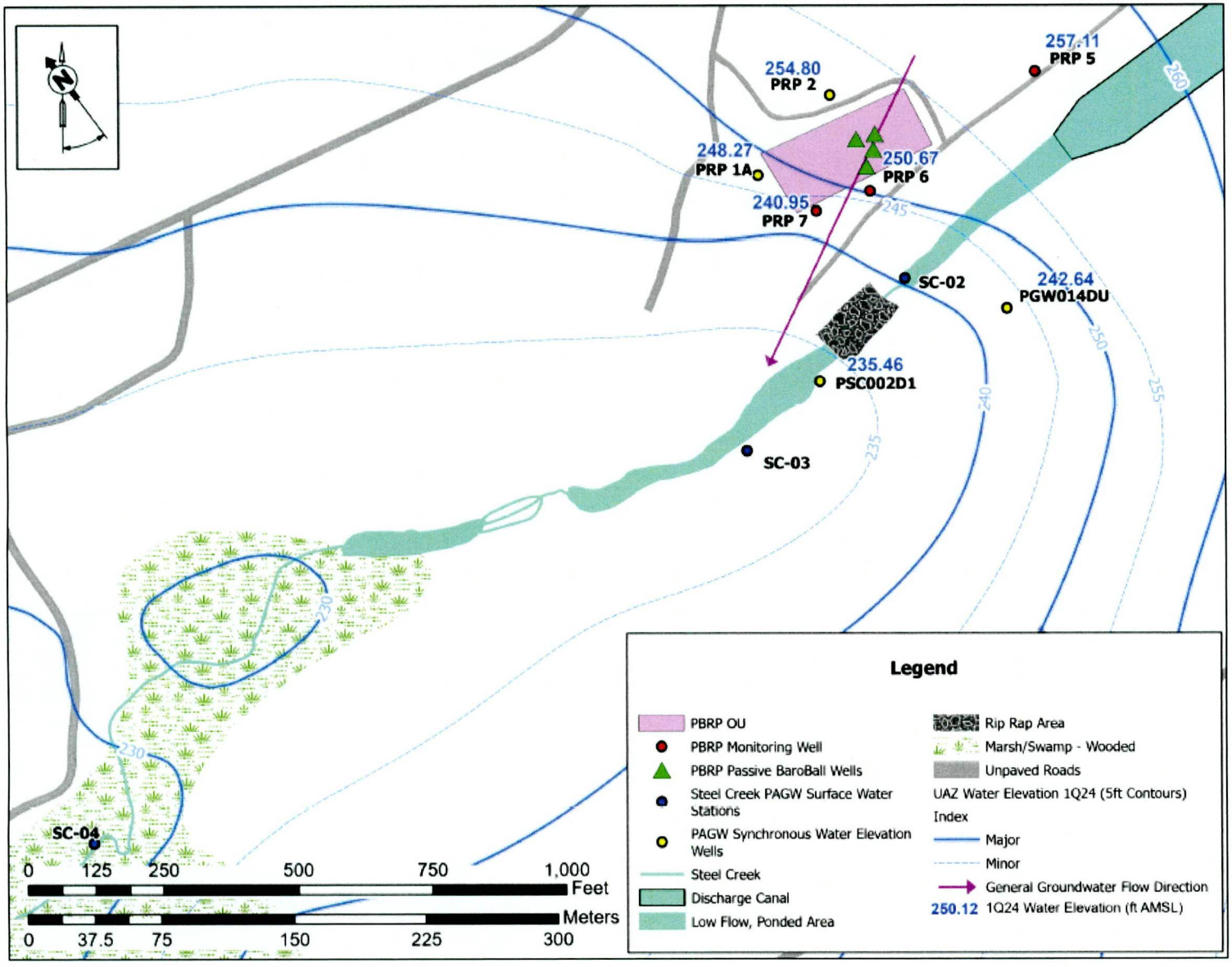

Figure 15. PBRP Synchronous Water Elevation Event (1Q24)

Questions from you or your staff may be directed to me at (803) 952-7805, or DOE Operable Unit Manager, Mr. Philip Prater, at (803) 952-9333.

Sincerely,

AVERY HAMMETT

Digitally signed by AVERY HAMMETT
Date: 2024.06.21 08:37:20 -04'00'

Avery G. Hammett
FFA Project Manager, DOE-Savannah River
Remediation and Deactivation & Decommissioning Division

RDDD-24-142

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