Scoping Summary for the ECODS N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Building 690-N, Process Heat Exchanger Repair Facility (Ford Building) Operable Unit (U)

(Problem ID/FS Scoping)

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 Project Phase and Status

This scoping summary supports Core Team discussion for the development of the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) Report with Baseline Risk Assessment (BRA) and Corrective Measures Study (CMS)/Feasibility Study (FS) for the Early Construction and Operational Disposal Site (ECODS) N-1 (South of N Area), No Building Number (NBN), Central Shops Scrap Lumber Pile (631-2G) (CSSLP), and Building 690-N, Process Heat Exchanger Repair Facility (aka Ford Building) Operable Unit (OU). These three OU subunits will be referred to as the ECODS N-1, CSSLP, and Ford Building (690-N) subunits for the remainder of the document (Figure 1). The OU is currently listed in Appendix C of the Federal Facility Agreement (FFA).

A significant amount of characterization data exists for the three OU subunits. Data to be discussed at this scoping meeting include Site Evaluation data collected in 2001 for the ECODS N-1 subunit; deactivation and decommissioning (D&D) data collected in 2014 for the Ford Building (690-N); and both pre-Work Plan characterization data collected in 2019 and RFI/RI Work Plan characterization data collected in 2020 for the ECODS N-1, CSSLP, and the Ford Building (690-N) subunits. The objectives of the scoping meeting are to reach Core Team agreement on the problems warranting action, remedial action objectives, scope of problems, likely response actions, and preliminary screening of the remedial alternatives. Core Team agreements will support the development of an RFI/RI Report with BRA and CMS/FS combined document scheduled for submittal on October 28, 2021.

2.0 Land Use

The ECODS N-1, CSSLP, and Ford Building (690-N) are located in an area designated for industrial use as defined by the Savannah River Site (SRS) Land Use Control Assurance Plan (LUCAP). No current or projected future development of the OU is planned. Land use controls (LUCs) will be part of any remedial action to ensure prevention of unrestricted use (e.g., residential), unless unrestricted

use is supported by the RFI/RI Report with BRA and CMS/FS results. Groundwater is not part of the OU and will be addressed as the Central Shops Groundwater OU. There is no current or projected future use of the groundwater as a drinking water source.

3.0 ECODS N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Ford Building (690-N) Operable Unit

This OU is comprised of three subunits: ECODS N-1, CSSLP and Ford Building (690-N) (Figure 1). Data collected in 2001, 2019 and 2020 has been subjected to the RI /BRA protocols to support problems warranting action determinations. For the human health risk assessment (HHRA) and principal threat source material (PTSM) evaluation, the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) (November 2020) or the Preliminary Remediation Goals (PRGs) for radionuclides (October 2020) were used for sediment and soil media. Surface water was compared to the USEPA Maximum Contaminant Levels (MCLs) or the RSLs for tap water in the absence of an MCL. MCLs (and RSLs) were also used as the threshold levels for the contaminant migration analysis and groundwater evaluation. For the ecological risk assessment, the no-observed-adverse-effect level and lowest-observed-adverse-effect level based screening levels from the USEPA Region 4 Ecological Risk Assessment Supplemental Guidance (2018) and the Los Alamos National Laboratory EcoRisk Database Tool (LANL 2017) were used as the primary sources of toxicity information. For surface water, an additional source of threshold values is the South Carolina Department of Health and Environmental Control (SCDHEC) water quality standards (freshwater aquatic life chronic values). The human health and ecological risk assessments, the PTSM evaluation, and the contaminant migration analysis have been completed per SRS protocols. A supplemental package that summarizes the risk assessments, PTSM, and contaminant migration evaluations is submitted with this scoping summary (SRNS 2021).

A summary of the risk assessment results for each subunit is provided in Appendix A. The CMS/FS alternative screening is provided in Appendix B.

3.1 *ECODS N-1 (NBN) Subunit*

ECODS N-1 is located south of N Area (i.e., Central Shops) within the Pen Branch Watershed (Figure 1). The subunit is approximately 107 meters (m) long by 15 m wide (350 feet [ft] long by 50 ft wide). ECODS N-1 is one of twenty-five ECODS at SRS which were identified during a review of early 1950s aerial photographs. These sites were used during the construction and early operation of SRS for disposal of construction debris and other non-radioactive waste materials. Waste disposed of in ECODS N-1 was buried in two trenches each about 46 m (150 ft) long and located end-to-end. ECODS N-1 was used to dispose of trash and construction debris, potentially containing asbestos, associated with the construction and operation of N Area. A portion of one pit may have been used as burn pit for disposal of combustible waste.

As reported in the Site Evaluation Report for Early Construction and Operational Disposal Site (ECODS) N-1 (NBN) (WSRC 2001a), ECODS N-1 is located in a relatively flat area that slopes gradually to the south. Ground surface elevation at ECODS N-1 is approximately 88 m (290 ft) above mean sea level (msl). Runoff from the subunit runs overland to the south and is collected by an unnamed tributary of Pen Branch which is 366 m (1,200 ft) to the south. From this point, the unnamed tributary flows south for 1.9 km (1.2 mi) before discharging into Pen Branch, which then flows southwest for an additional 16.9 km (10.5 mi) before entering the Savannah River. Surface soils in much of the subunit consist of Dothan Sand, which is a well-drained sandy loam, strongly acidic, with moderately low permeability and moderate water capacity. The subsoil consists of sandy loam and sandy clay loam (SCS 1990). As observed in soil data collected in 2019, a very stiff silty-clay to sandy-silty-clay layer, approximately 6 m (20 ft) thick, is present at a depth of 2.44 m to 3.66 m (8 ft to 12 ft). A lithology cone penetrometer technology log from the nearby G-Area Oil Seepage Basin also indicates this clay layer as relatively continuous in N Area.

Historical aerial photographs revealed that the area where ECODS N-1 is located was farmland prior to construction of the SRS (WSRC 2001a). ECODS N-1 was in use from approximately August 1952 to June 1954 (WSRC 2001a). ECODS N-1 was logged and replanted by the USDA Forest Service in 2000 and is currently a wooded area containing mature pine trees providing a moderate habitat

quality for ecological receptors. A Site Evaluation characterization effort in 2001 collected 90 samples from three depth intervals at 27 locations for Target Analyte List (TAL) and Target Compound List (TCL) analyses (Figure 2). Benzo(a)pyrene, antimony, arsenic, cadmium, iron, and lead exceeded their respective PRGs and background levels (WSRC 2001a). The Site Evaluation report concluded that further investigation was warranted and ECODS N-1 was moved to the Federal Facility Agreement (FFA) Appendix C. The verified and validated data from the 2001 Site Evaluation report are being used to support the BRA evaluation of the ECODS N-1 subunit.

In 2019, a pre-Work Plan characterization effort collected soil samples at the surface (0 to 0.3 m [0 to 1 ft]), shallow subsurface (0.3 to 1.2 m [1 to 4 ft]), and deep subsurface (2.4 to 3 m [8 to 10 ft] and 3 to 3.7 m [10 to 12 ft]) soils at fourteen locations for TAL analysis (Figure 2). Sample locations were biased to locations that exceeded the screening criteria in the 2001 Site Evaluation report and to vertically and horizontally bound 2001 Site Evaluation locations that had elevated metal results (Figure 2). Because of the site history of burning activities at ECODS N-1, hexavalent chromium (Cr[VI]) analyses were performed on the 2019 samples collected adjacent to the 2001 samples that showed elevated total chromium (Cr) levels at depth (2.4 to 3.0 m [8 to 10 ft]).

The 2020 RFI/RI Work Plan characterization was a biased sampling effort focusing on elevated metals sample locations from the 2019 pre-Work Plan characterization effort and the need for subunit-specific background samples. Twenty-four soil samples were collected from ECODS N-1 subunit including surface (0 to 0.3 m [0 to 1ft]), shallow subsurface (0.3 to 1.2 m [1 to 4 ft]), and deep subsurface samples (2.4 to 3.0 m [8 to 10 ft] and 3.0 to 3.6 m [10 to 12 ft]) from three locations inside the subunit and three background locations outside of the unit boundary (Figure 2). Samples were analyzed for TAL metals (including Cr[VI]).

Suspected asbestos-containing material (ACM) (fragments of cementitious paneling) was encountered at the ECODS N-1 subunit during the 2020 characterization effort. The material was recovered by hand auger at a depth of about 1 m [4 ft] along with other construction debris. Three samples were collected, two samples were verified positive for asbestos, indicating the presence of ACM within the subunit. No human health (HH), ecological (Eco), contaminant migration (CM) or PTSM refined contaminants of concern (RCOCs) were identified for this unit. Figures 3 and 4 support the uncertainty evaluation for the threshold exceedances of Cr(VI) in soil. Figures

5 and 6 show the lead concentrations in the 0 to 1 ft and 1 to 4 ft intervals respectively. Based on the low frequency of detect and given that the 95% UCL in surface soil of 202.1 mg/kg is less than the RSL of 400 mg/kg, the project team does not recommend retaining lead as an ARAR COC.

In support of the CMS/FS, the likely response actions identified below were further evaluated in an alternative as shown in Appendix B.

Problem(s) Warranting Action	Remedial Action Objectives	Scope of Problem(s)	Likely Response Actions
• No HH, Eco, CM, PTSM RCOCs were identified for the ECODS N-1.	• None	• None	• No Action • LUCs • Excavation and Disposal
• Asbestos containing material (ACM) is present in subsurface soil that may pose a risk to human receptors if exposed.	• Prevent residential and industrial exposure to friable asbestos that is present in the subsurface.	• Total surface area of the ECODS N-1 subunit is 1,821 m^2. The ECODS N-1 is 1.83-2.44 m (6-8 ft) deep, which yields a maximum volume of 4,441 m^3.	
Uncertainties			
• None			

3.2 *Central Shops Scrap Lumber Pile (631-2G) Subunit*

The CSSLP is located in the Fourmile Branch watershed in N-Area (Figure 1). The area was cleared in 1951 and used for equipment laydown and rubble storage in addition to an area for burning construction-related material. Prior to 1951, the area was farmland (WSRC 2003). Starting in 1975, operating procedures called for the CSSLP to receive inert, nonhazardous materials including such as nails, hinges, scrap lumber, poles, crates, pallets, and unsalvageable wood products (WSRC 1998). Historically, the CSSLP was used to burn various unknown types and quantities of wood. These wood types may have included treated lumber and creosote-treated wood. Historical burning at the CSSLP resulted in ash that was placed directly into Central Shops Burning/Rubble Pits (631-1G and 631-3G), which were closed under a Record of Decision (ROD) in 2002 (WSRC 2002). Several debris piles within the CSSLP were located in the wooded areas near an intermittent stream. The debris piles were approximately 6 m (20 ft) in diameter at the base and 3 m (10 ft) high. Metal shavings and other debris were clearly evident in some piles under a thin cover of leaves. All the debris (including construction debris, plastics, and metal shavings) was disposed of in a landfill or recycled. Active burning at the CSSLP ended in the mid-2000s. The CSSLP is currently sporadically covered by immature volunteer pine trees and provides marginal habitat quality for ecological receptors.

Prior to 1996, a surface water impoundment area was created to capture surface water runoff from the CSSLP. Sediment and surface water samples were collected at four locations (CSBRP-45, CSBRP-46, CSBRP-47, and CSBRP-48) in the surface water impoundment area as part of the Central Shops Burning/Rubble Pit (631-1G and 631-1G) OU investigations in 1997 and re-sampled for metals in 1999. The ROD for the Central Shops Burning/Rubble Pit (631-1G and 631-3G) identified one RCOC (arsenic) in surface water and sediment associated with the surface water impoundment area. However, the Core Team agreed to address the surface water impoundment area with the CSSLP when the characterization efforts were initiated for the CSSLP.

In 2019, a pre-Work Plan characterization effort collected soil samples at the CSSLP subunit at the surface (0 to 0.3 m [0 to 1 ft]), shallow subsurface (0.3 to 1.2 m [1 to 4 ft]), and within deep subsurface (2.4 to 3 m [8 to 10 ft] soils at nineteen locations. Sample

locations were arranged in a 30.5 m (100 ft) grid pattern to cover the area of the CSSLP subunit (Figure 7). The soil samples were analyzed for the complete list of TAL and TCL constituents as well as radiological indicators.

In 2020, the RFI/RI Work Plan characterization better defined the nature and extent of contamination at some locations and identified whether elevated metal (including Cr[VI]) results were due to native soil conditions or related to unit operations. Thirty soil samples were collected from the CSSLP (Figure 7). Sample locations within the CSSLP focused on three background locations outside the unit boundary and previously identified locations of elevated metal concentrations at six locations inside the CSSLP. The following soil intervals were sampled: surface (0 to 0.3 m [0 to 1 ft]), shallow subsurface (0.3 to 1.2 m [1 to 4 ft]), and deep subsurface (2.4 to 3.0 m [8 to 10 ft] and 3.0 to 3.6 m [10 to 12 ft]). All soil samples were analyzed for TAL metals analyses including Cr(VI). Sediment and surface water data (unfiltered and filtered) were also collected from the CSSLP surface water impoundment area and analyzed for TAL metals including Cr(VI).

Data supporting the evaluation of the CSSLP subunit include 19 sample locations from the 2019 pre-Work Plan characterization, 16 locations from the 2020 work plan characterization efforts for soil, four sampling locations for sediment and surface water; three background locations for soil and three background locations for sediment and surface water were also collected (Figure 7).

No Eco, CM, or PTSM RCOCs were identified for this subunit. For human receptors, arsenic is identified as a problem warranting action for the residential and industrial worker scenarios in the upland portion (soil) and the surface water impoundment area (sediment) (Figure 8). No RCOCs are identified for the ponded area surface water. Figures 9 and 10 support the uncertainty evaluation for the threshold exceedances of Cr(VI) in soil.

In support of the CMS/FS, the likely response actions identified below were further evaluated in an alternative screening as shown in Appendix B.

Problem(s) Warranting Action	Remedial Action Objectives	Scope of Problem(s)	Likely Response Actions
• Arsenic is present in surface soil (0 to 0.3 m [0 to 1 ft]) (exposure point concentration [EPC] = 16.4 mg/kg) exceeding 1E-06 risk level for the resident (risk = 2.4E-05) and industrial worker (risk = 5.5E-06) scenarios.	• Prevent residential and industrial exposure to arsenic in surface soils at levels exceeding 1E-06 risk and/or SRS background concentration.	• The total surface area of the upland portion of the CSSLP is 13,517 m^2. The total volume of contaminated surface soil (based on a 0 to 0.3 m [0 to 1 ft] depth) is estimated to be 4,055 m^3.	• No Action • LUCs • Soil Cover/LUCs • Excavation and Disposal
• Arsenic is present in surface sediment (0 to 0.3 m [0 to 1 ft]) (EPC = 8.27 mg/kg) exceeding 1E-06 risk level for the resident (risk = 1.2E-05) and industrial worker (risk = 2.8E-06) scenarios.	• Prevent residential and industrial exposure to arsenic in sediment at levels exceeding 1E-06 risk and/or SRS background concentration.	• Total surface area of the surface water impoundment area of CSSLP is 4,128 m^2. Total volume of contaminated sediment (based on a 0 to 0.3 m [0 to 1 ft] depth) is estimated to be 1,238 m^3.	
• No Eco, CM, or PTSM RCOCs were identified at the CSSLP for soil and sediment.	• None	• None	
• No Eco RCOCs were identified at the CSSLP for surface water media.	• None	• None	
Uncertainties			
• None			

3.3 *Ford Building Subunit*

The Ford Building (690-N) is located within the N Area facility boundary in the Pen Branch watershed (Figure 1). The Ford Building (690-N) was a one-story metal frame structure on a concrete pad, covering 900 m^2 (9,700 ft^2). The building was constructed in the 1950s for testing of Ford Company-manufactured motor control packages for control rod drive mechanisms prior to their installation in the SRS reactors. The primary area of the building consisted of a machine shop with offices, storage rooms, restrooms, and a service area. During the early 1960s, the SRS reactors were operating at higher power levels and failure of heat exchangers prompted conversion of this facility from a testing facility to heat exchanger repair/rework. A sealed shell was installed inside the original building frame with a ventilation and High Efficiency Particulate Air filter system to serve as a repair shop for leaking contaminated process water heat

exchangers from SRS reactors. This mission continued until the early 1970s with the procurement of new heat exchangers for the SRS reactors. In the 1980s, the Ford Building (690-N) housed construction crews that performed minor repairs and to store miscellaneous equipment and supplies. During the early 1990s, the K-Reactor had a minor leak in a heat exchanger that resulted in reactivating the Ford Building (690-N) for repair work. The facility operated for about six months and was closed. The Ford Building (690-N) was then utilized to store excess equipment (in waste containers [e.g., Sealand containers] and/or bagged/wrapped in plastic) that was chemically and/or radiologically contaminated. Services and utilities to the facility included domestic water, fire water, electrical power, sanitary sewer and process sewer (SRNS 2019a).

The repair work that occurred in the Ford Building (690-N) generated wastewater contaminated with low levels of radioactivity and trace quantities of non-radioactive organic and inorganic compounds. Workers sent the wastewater to a 22,712.5 liter (6,000 gallon) underground retention tank adjacent to the Ford Building (690-N) where the wastewater was analyzed for radionuclides. Depending on the results, the wastewater was either released to the Ford Building Seepage Basin (904-91G) through an underground process sewer pipeline or transferred to other SRS operations for proper disposal (SRNS 2019a). The process sewer pipeline and underground retention tank were removed in 1998 (WSRC 2001b).

In 2014, concrete samples were collected inside the Ford Building (690-N) at 21 locations at two intervals (0 to 15.2 cm [0 to 6 in] and 15.2 to 30.5 cm [6 to 12 in]). Soil samples were collected at the same 21 locations beneath the concreate slab at two soil intervals (0 to 15.2 cm [0 to 6 in] and 15.2 to 30.5 cm [6 to 12 in]). All concrete and soil samples were analyzed for the following constituents: Toxicity Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals, volatile organic compounds (VOCs), semi-VOCs (SVOCs), polychlorinated biphenyls (PCBs), gross alpha, nonvolatile beta, tritium, and inorganic anions (bromide, chloride, fluoride, nitrate, nitrites, orthophosphate and sulfate). Additionally, some samples were analyzed for alpha spectroscopy radionuclides (americium, curium, neptunium, plutonium, and uranium), gamma spectroscopy radionuclides, and beta-emitting specific radionuclides (carbon-14, nickel-59, nickel-63, plutonium-241, selenium-79, strontium-90, technetium-99). These data were analyzed

at approved labs using standard methods, though the data were not validated. The concrete and soils data were used to evaluate contaminant migration risk and conduct a HH risk screening evaluation for the Ford Building (690-N) concrete slab and underlying soils in support of the D&D strategy for the facility (SRNS 2019b).

The HH screening evaluation for the Ford Building (690-N) concrete slab and underlying soils in support of the D&D strategy identified concrete with PCBs (Aroclor 1254 max in concrete = 15 mg/kg) and cesium-137 (max in concrete = 1.75 pCi/g) at levels that warrant concern with respect to human health (SRNS 2019b). No HH COCs were identified for underlying soils. No CM COCs were identified as part of the evaluation for the Ford Building (690-N) concrete slab and underlying soils in support of the D&D strategy.

In 2021, the D&D phase of the Ford Building (690-N) was completed and documented in the *Decommissioning Project Final Report Building 690-N, Process Heat Exchanger Repair Facility* (SRNS 2020). The facility structure was demolished to its slab and an engineered concrete cap was installed over the entire concrete slab area extending out 0.3 m (1 ft) from the building edge (SRNS 2019c).

As part of the 2019 pre-Work Plan characterization effort, soil samples were taken at the surface (0 to 0.3 m [0 to 1 ft]), shallow subsurface (0.3 to 1.2 m [1 to 4 ft]), and deeper subsurface locations (2.4 to 3 m [8 to 10 ft], 5.5 to 6.1 m [18 - 20 ft], and 8.5 to 9.0 m [28 to 30 ft]) around the Ford Building (690-N) subunit (Figure 11):

- At the Excess Equipment Yard (745-N), eleven locations in a 10 to 15 m (30 to 50 ft) grid pattern to cover the area and at one deeper subsurface location (2.4 to 3 m [8 to 10 ft], 5.5 to 6.1 m [18 to 20 ft], and 8.5 to 9.0 m [28 to 30 ft]) soil samples;
- At the Ford Building (690-N), sixteen locations around the perimeter of the Ford Building (690-N), the 13.8 kV Substation, and the Fuel Oil Tank Containment Dike using a biased sampling plan for areas of suspected contamination. Surface (0 to 0.3 m [0 to 1 ft]) soil and shallow subsurface (0.3 to 1.2 m [1 to 4 ft]) soil samples were collected at all sixteen locations. Three of the sixteen locations soil samples were also collected at 2.4 to 3 m [8 to 10 ft], 5.5 to 6.1 m [18 to 20 ft], and 8.5 to 9.0 m [28 to 30 ft] depth intervals;

- Eleven sample locations around the shielding remnant area using a biased sampling plan for areas of suspected contamination; a deeper subsurface at one location (2.4 to 3 m [8 to10 ft], 5.5 to 6.1 m [18 to 20 ft], and 8.5 to 9.0 m [28 to 30 ft]) soil samples were collected.

All samples collected as part of the 2019 pre-Work Plan characterization effort were analyzed for the complete list of TAL constituents, TCL organic compounds, PCBs, and the radiological indicator parameters (gross alpha and nonvolatile beta).

No ecological, contaminant migration or PTSM RCOCs were identified for this subunit. For human receptors, cobalt-60 (half-life 5.3 years) in soil is identified as a problem warranting action for the residential and industrial worker scenarios (Figure 12). Figure 13 supports the uncertainty evaluation for the threshold exceedances of thallium in soil. Figures 14 and 15 support the uncertainty evaluation for the threshold exceedances of thorium-232 in soil.

In support of the CMS/FS, the likely response actions identified below were further evaluated in an alternative screening as shown in Appendix B.

Problem(s) Warranting Action	Remedial Action Objectives	Scope of Problem(s)	Likely Response Actions
• Ford Building (690-N) slab – Prior to placement of a concrete cap with minimum 0.46 m (18 in) gravel underlay in 2021, PCBs (Aroclor 1254 and 1260) and cesium-137 (+D) were present at the Ford Building (690-N) remnant that exceeds the 1E-06 risk level of concern for the resident and industrial worker scenarios.	• Prevent residential and industrial exposure to PCBs and cesium-137 at the Ford Building (690-N) remnant that exceed 1E-06 risk and PCB ARAR of 1 mg/kg for free release.	• Ford Building (690-N) remnant.	• No Action • LUCs • Excavation (soil hot spot) and Disposal/ LUCs
• Cobalt-60 is present in surface soil (0 to 1 ft) (EPC = 0.545 pCi/g) exceeding the 1E-06 level of concern for the resident scenario (risk = 5.5E-05) and industrial worker (risk = 1.1E-05).	• Prevent residential and industrial exposure to cobalt-60 in surface soils at levels that exceed 1E-06 risk.	• Total surface area of the soils surrounding the Ford Building (690-N) subunit is 9,466 m^2. Total volume of contaminated surface soil (based on a 0 to 0.3 m [0 to 1 ft] depth) is estimated to be 2,760 m^3.	
Uncertainties			
• None			

4.0 Operable Unit Strategy

The RFI/RI Report with BRA and CMS/FS for the ECODS N-1, CSSLP, and the Ford Building (690-N) OU will be submitted by October 28, 2021.

Table 1. Record of Core Team Agreements[1]

RECORD OF CORE TEAM AGREEMENTS	
Date	**Description of Agreement**
12/18/2019	*Core Team agrees six additional soil sample locations with four sample intervals are needed at the ECODS N-1 subunit, and these samples will receive total metals and Cr^{+6} analyses.*
12/18/2019	*If no other problem warranting action is found at the ECODS N-1 subunit, the Core Team agrees that an asbestos investigation is necessary to determine whether asbestos is present that poses a problem warranting action.*
12/18/2019	*Core Team agrees that Castor Bay (or equivalent unimpacted bay) will be sampled for three sediment/surface water background locations for the surface water impoundment area within the Scrap Lumber Pile (631-2G) subunit.*
12/18/2019	*Core Team agrees to take additional soil samples at four locations and at four sample intervals within the Scrap Lumber Pile for total metals and Cr^{+6} analyses. Three background soil locations will also be sampled at four intervals for total metals and Cr^{+6} analyses.*
12/18/2019	*Core Team agrees to use the 2014 concrete data during the contaminant migration evaluation for the Ford Building (690-N) subunit.*
12/18/2019	*Core Team agrees to the additional contingent surface (0-1 ft) samples (pending radiological survey) around the Ford Building (690-N) concrete pad prior to installation of the concrete cap.*
08/11/2021	*Core Team agrees* Cr(VI) *should not be retained as a human health RCOC and lead should not be retained as a ARAR RCOC for the ECODS N-1 subunit.*
08/11/2021	*Core Team agrees* Cr(VI) *should not be retained as a human health RCOC for the CSSLP subunit Upland Area soil and Surface Water Impoundment Area sediment.*
08/11/2021	*Core Team agrees* Cr(VI) *should not be retained as a human health RCOC for the CSSLP subunit Surface Water Impoundment Area surface water.*
08/11/2021	*Core Team agrees that arsenic in CSSLP Surface Water Impoundment Area will be eliminated as an RCOC in the risk uncertainty discussion.*
08/11/2021	*The Core Team agrees that the Excavation and Disposal remedy for CSSLP would include sufficient excavation to require no LUCs.*
08/11/2021	*Core Team agrees thallium should not be retained as a human health RCOC for the Ford Building subunit.*

[1] Core team agreements should be documented at each phase and should be retained for each successive phase in order to maintain a comprehensive list for the life of the project.

Table 1. Record of Core Team Agreements[1] (continued)

RECORD OF CORE TEAM AGREEMENTS	
Date	**Description of Agreement**
08/11/2021	*Core Team agrees chromium (total) should not be retained as a human health RCOC for the Ford Building subunit.*
08/11/2021	*Core Team agrees thorium-232 should not be retained as a PTSM RCOC for the Ford Building subunit.*

[1] Core team agreements should be documented at each phase and should be retained for each successive phase in order to maintain a comprehensive list for the life of the project.

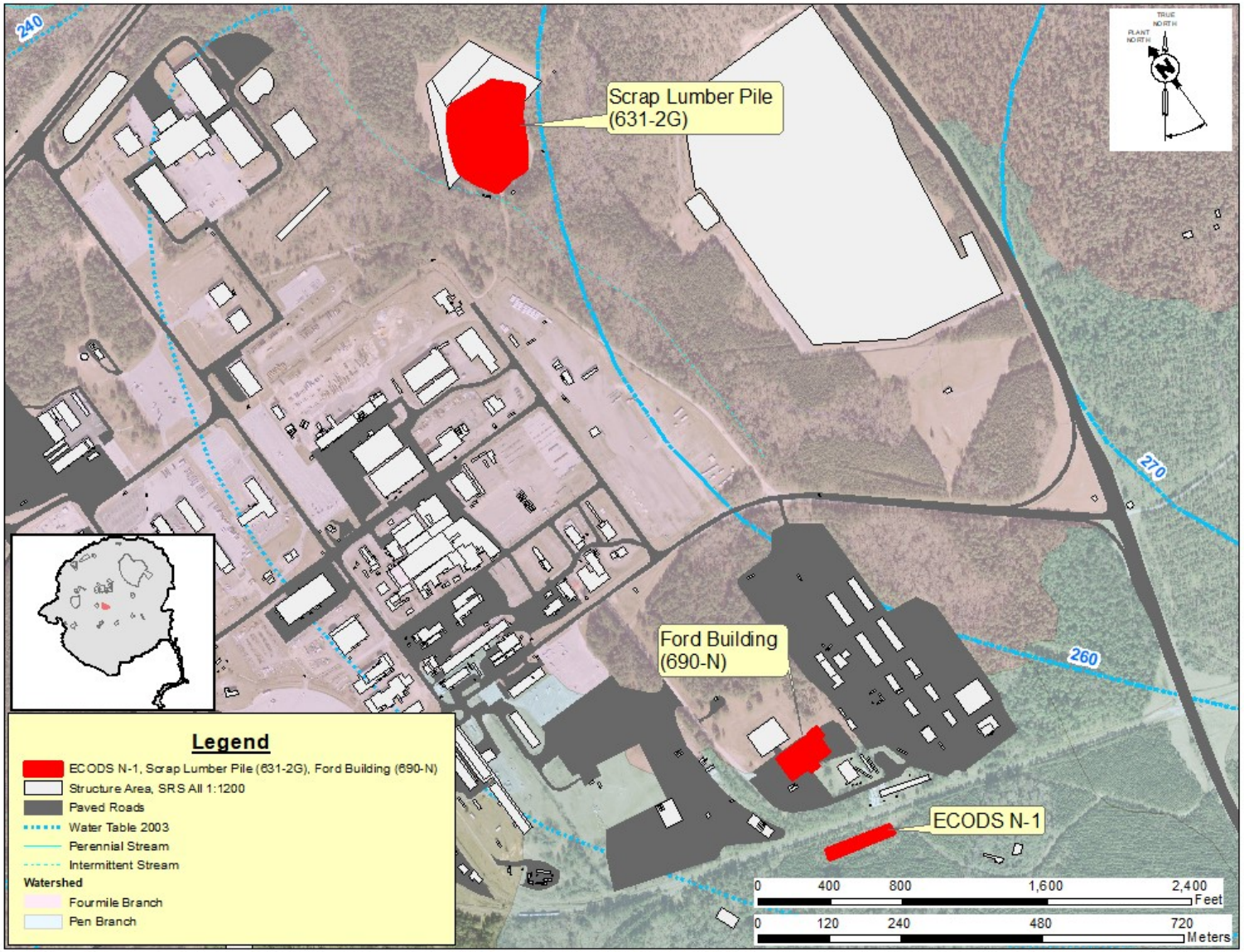

Figure 1. Location of the ECODS N-1, Scrap Lumber Pile (631-2G) and the Ford Building (690-N)

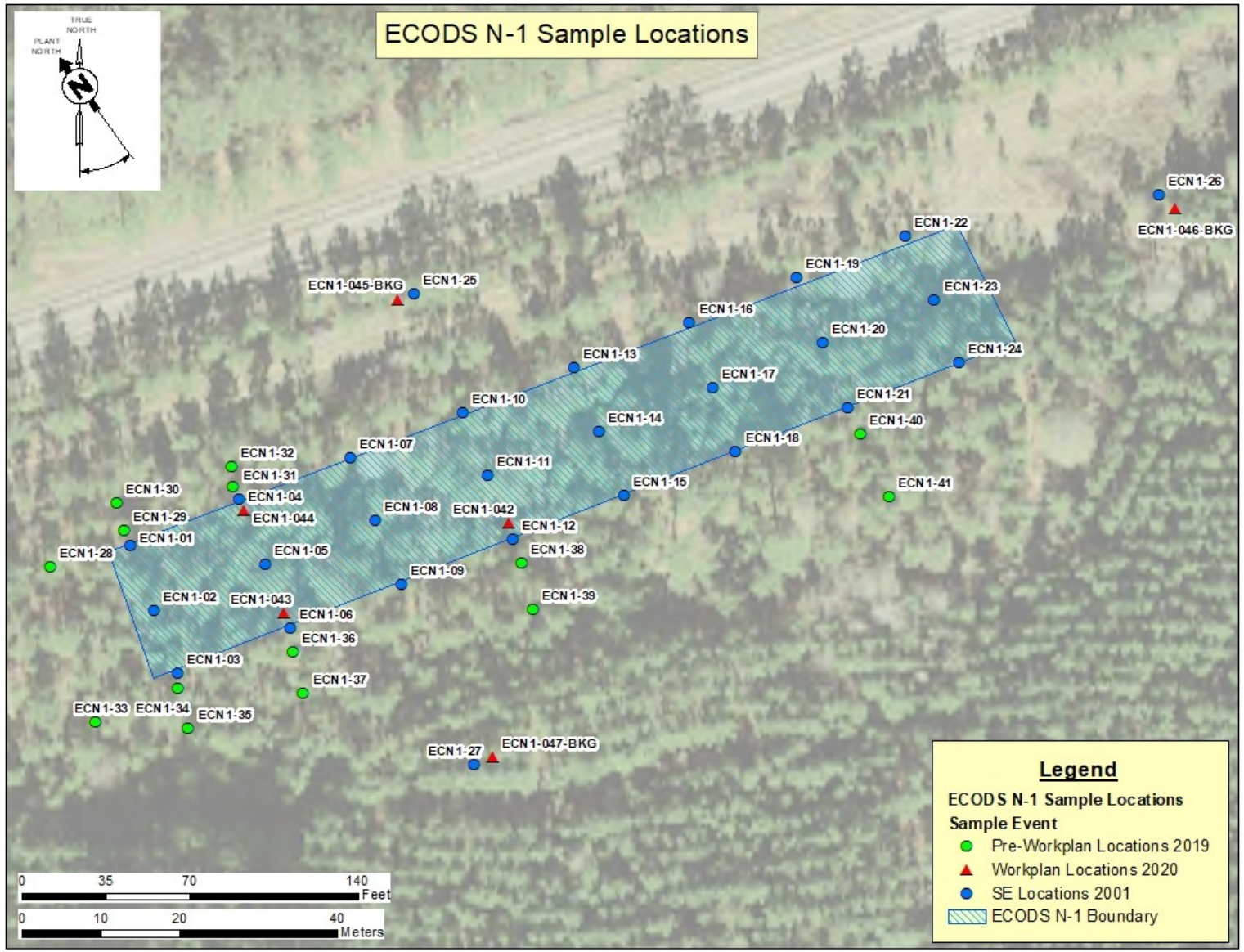

Figure 2. ECODS N-1 2001, 2019 and 2020 Sample Locations

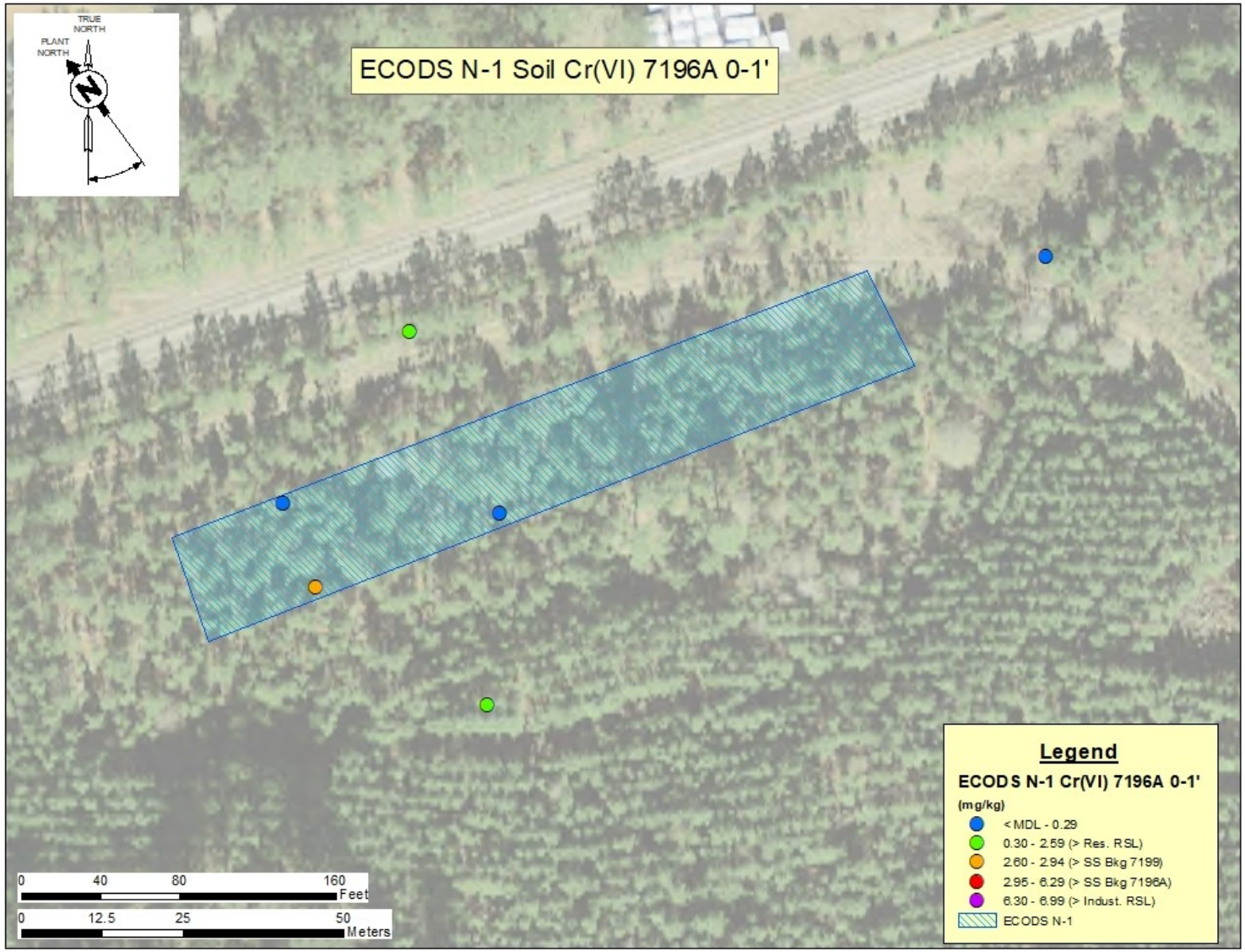

Figure 3. ECODS N-1 Cr(VI) EPA7196A Data (0-1 ft)

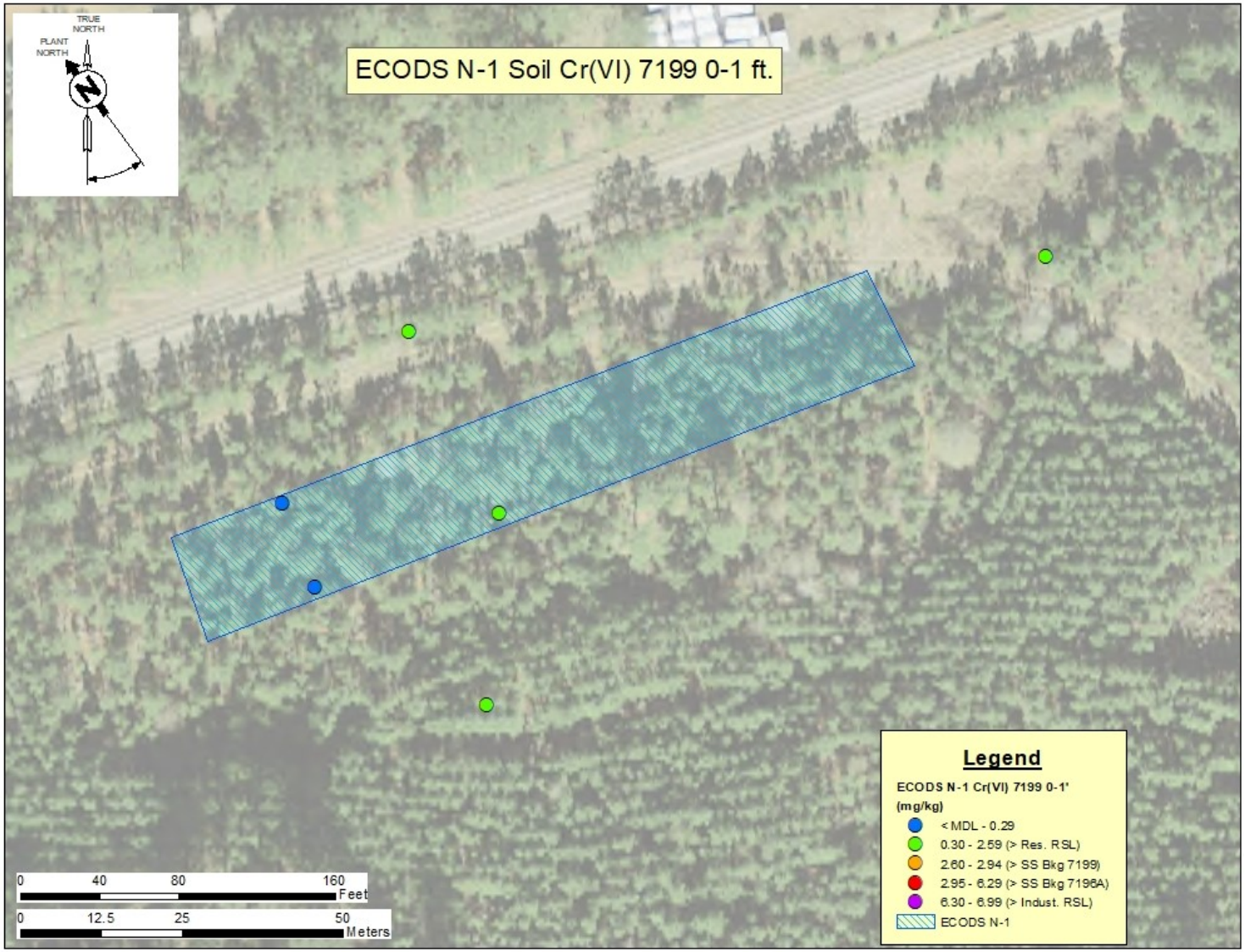

Figure 4. ECODS N-1 Cr(VI) EPA7199 Data (0-1 ft)

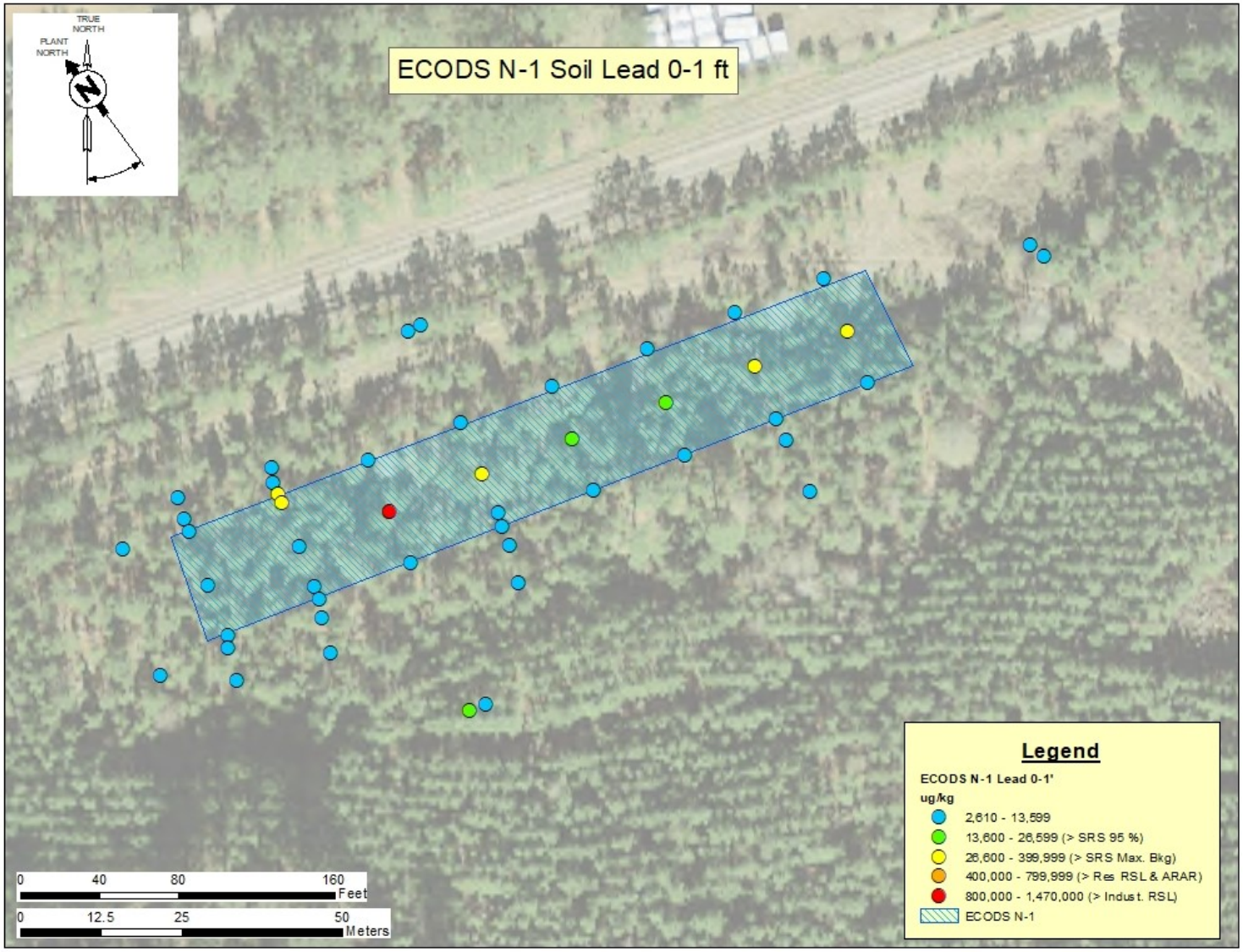

Figure 5. ECODS N-1 Lead Data (0-1 ft)

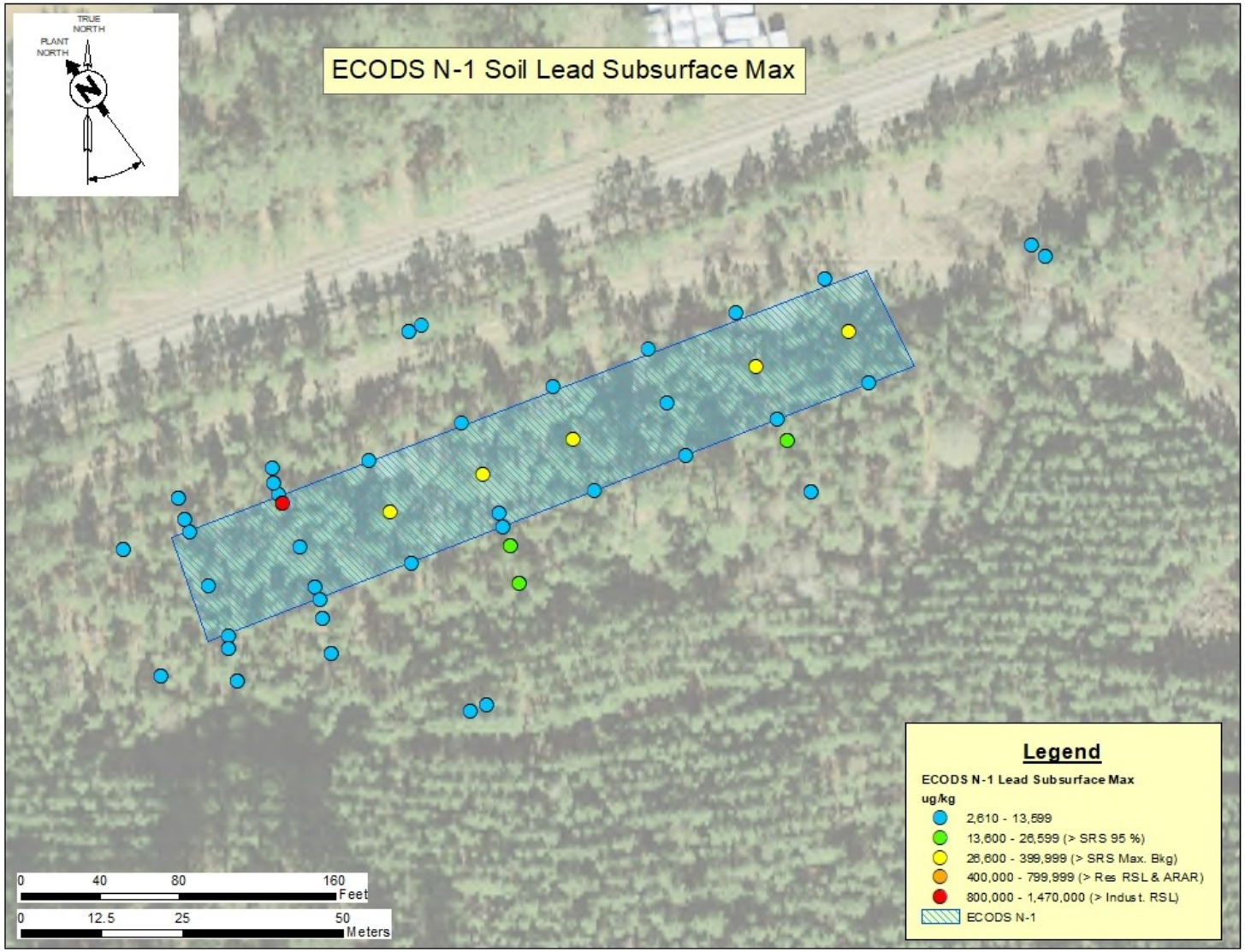

Figure 6. ECODS N-1 Lead Maximum Subsurface (1-4 ft)

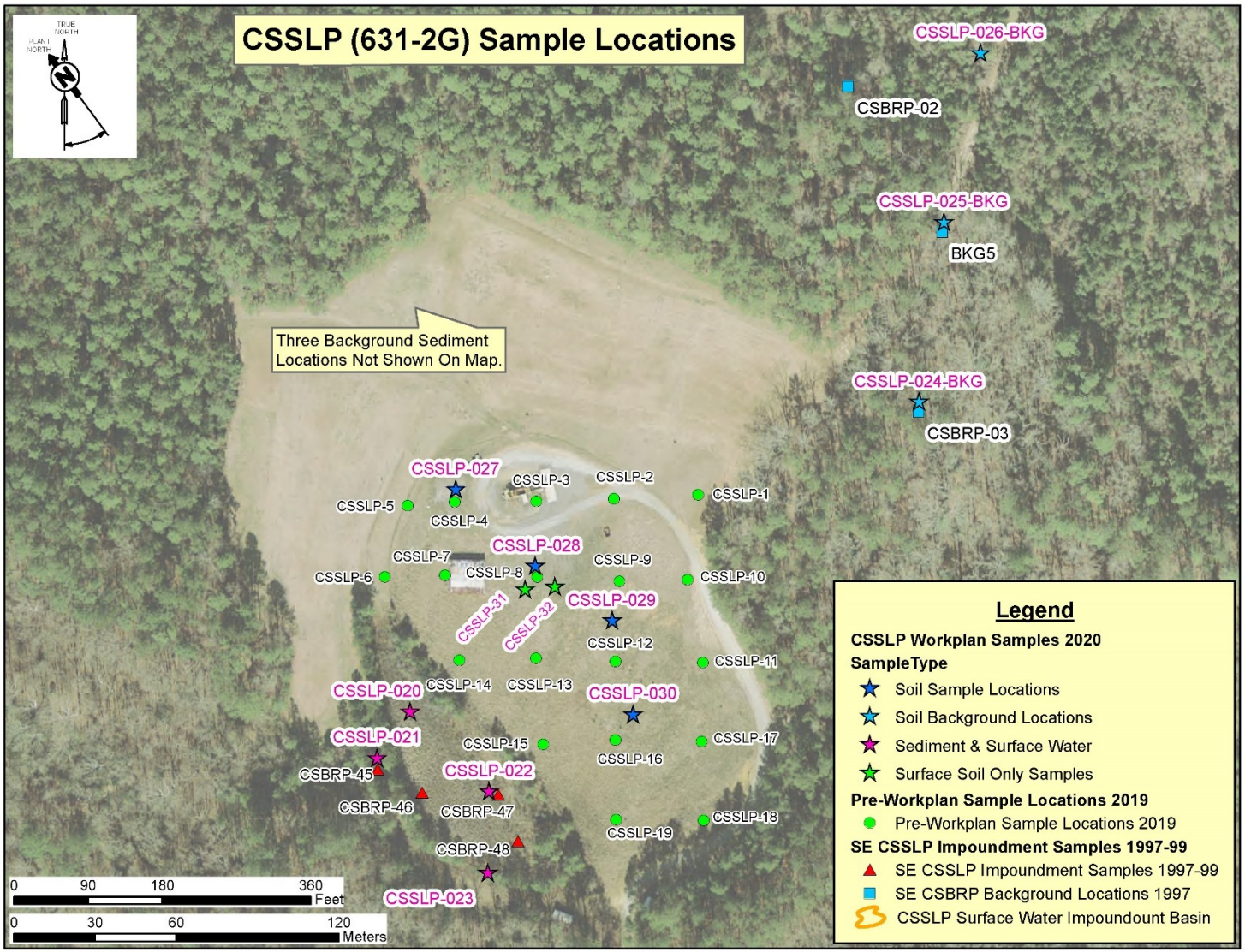

Figure 7. CSSLP Sample Locations

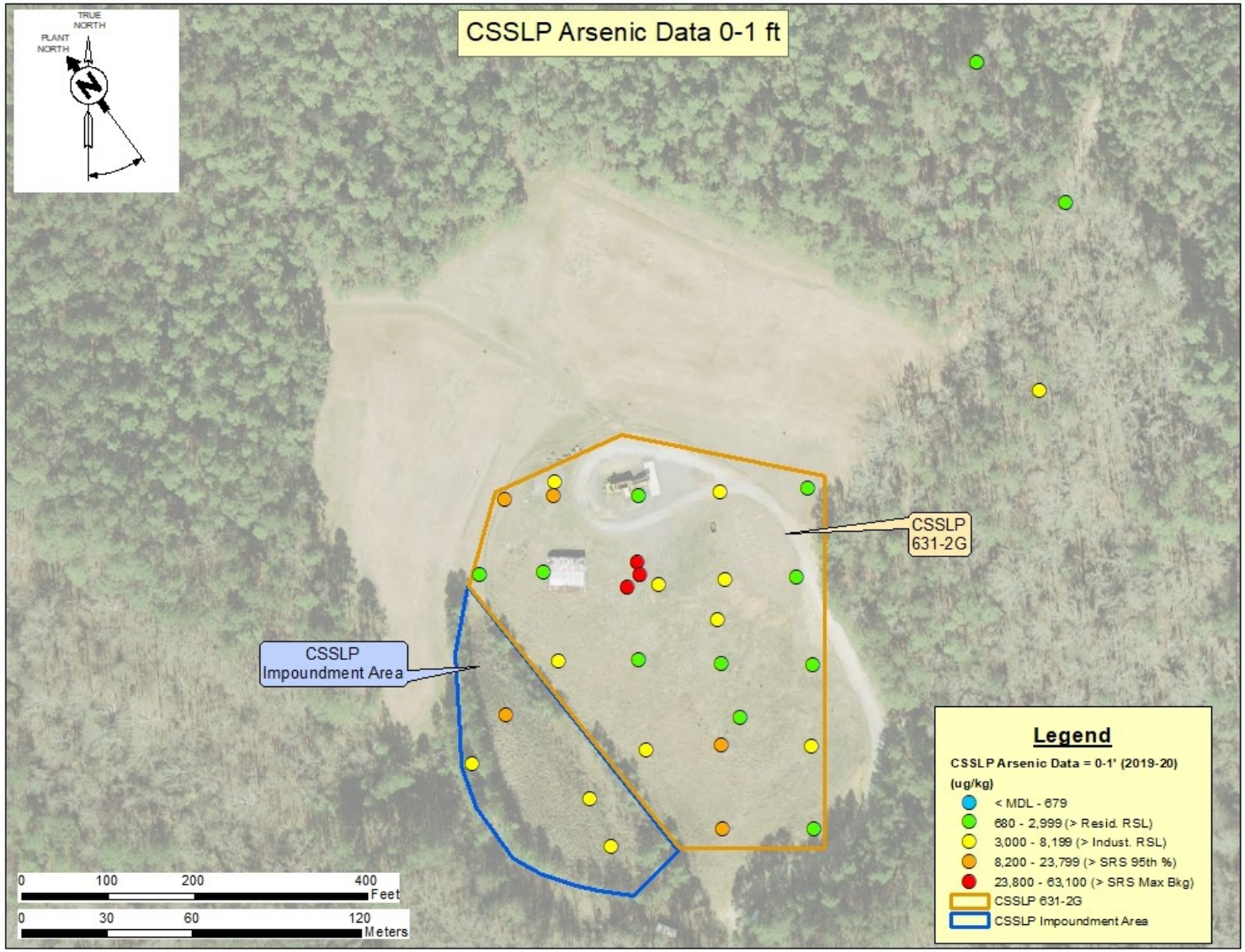

Figure 8. CSSLP Arsenic Data (0-1 ft)

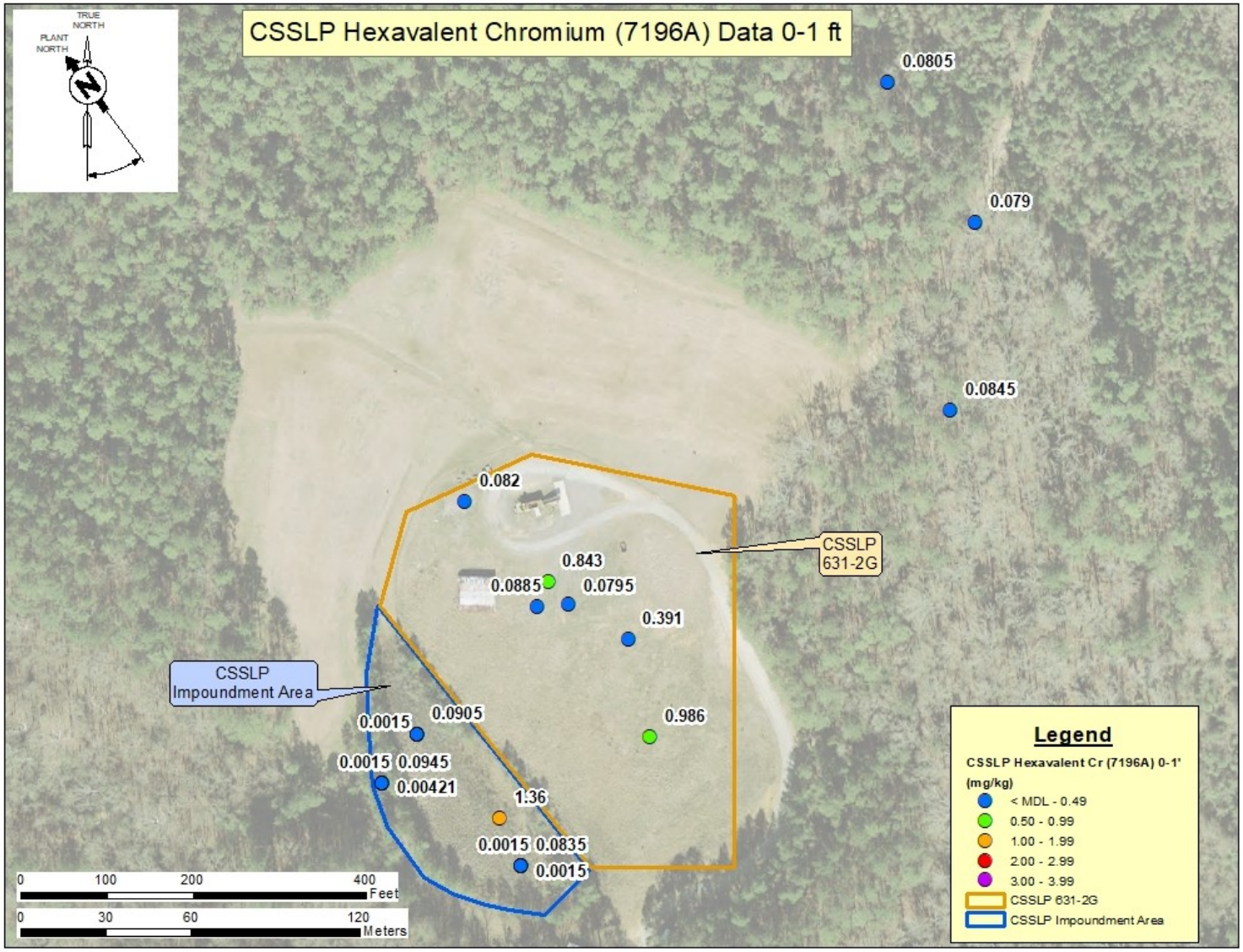

Figure 9. CSSLP Cr(VI) EPA7196A Data (0-1 ft)

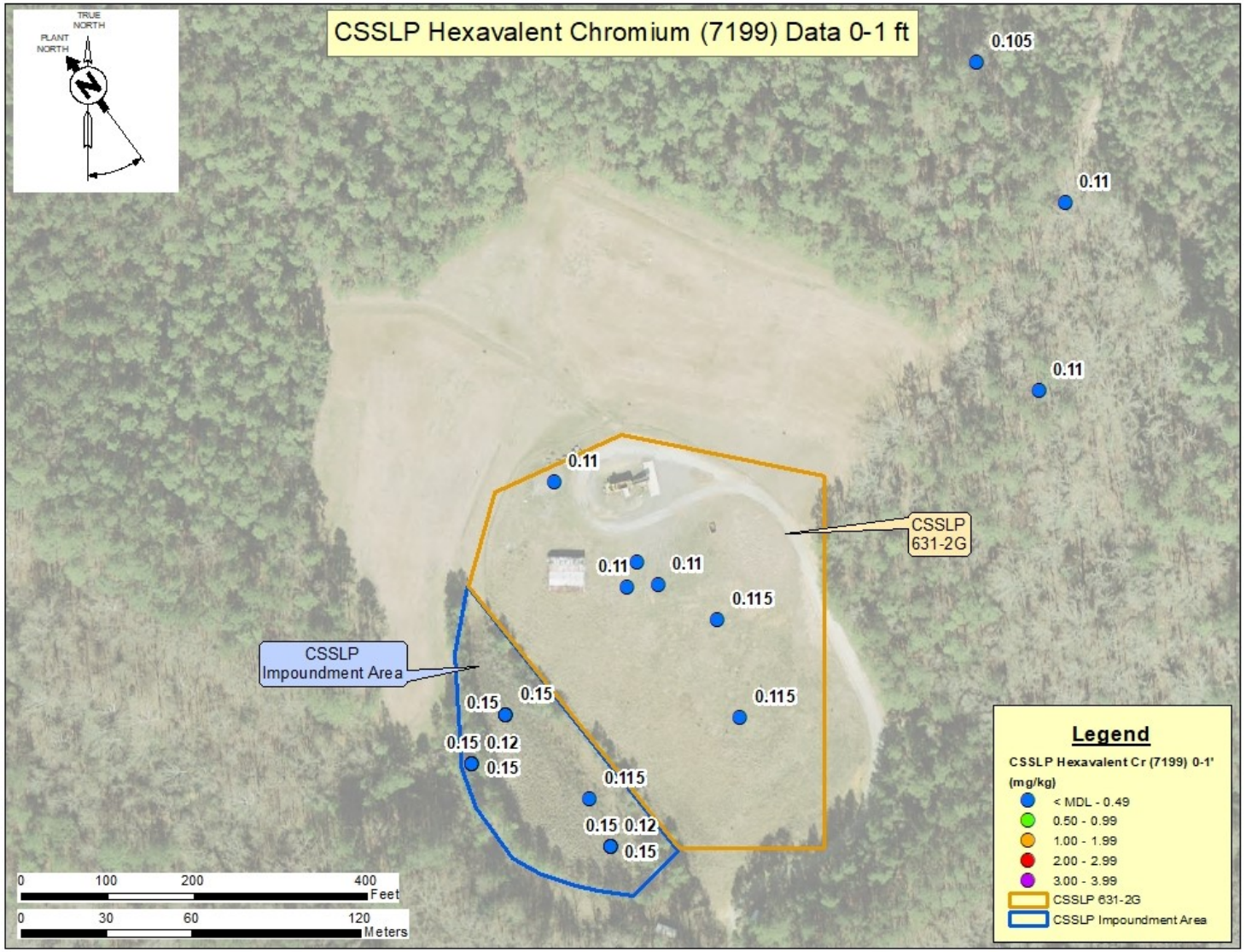

Figure 10. CSSLP Cr(VI) EPA7199 Data (0-1 ft)

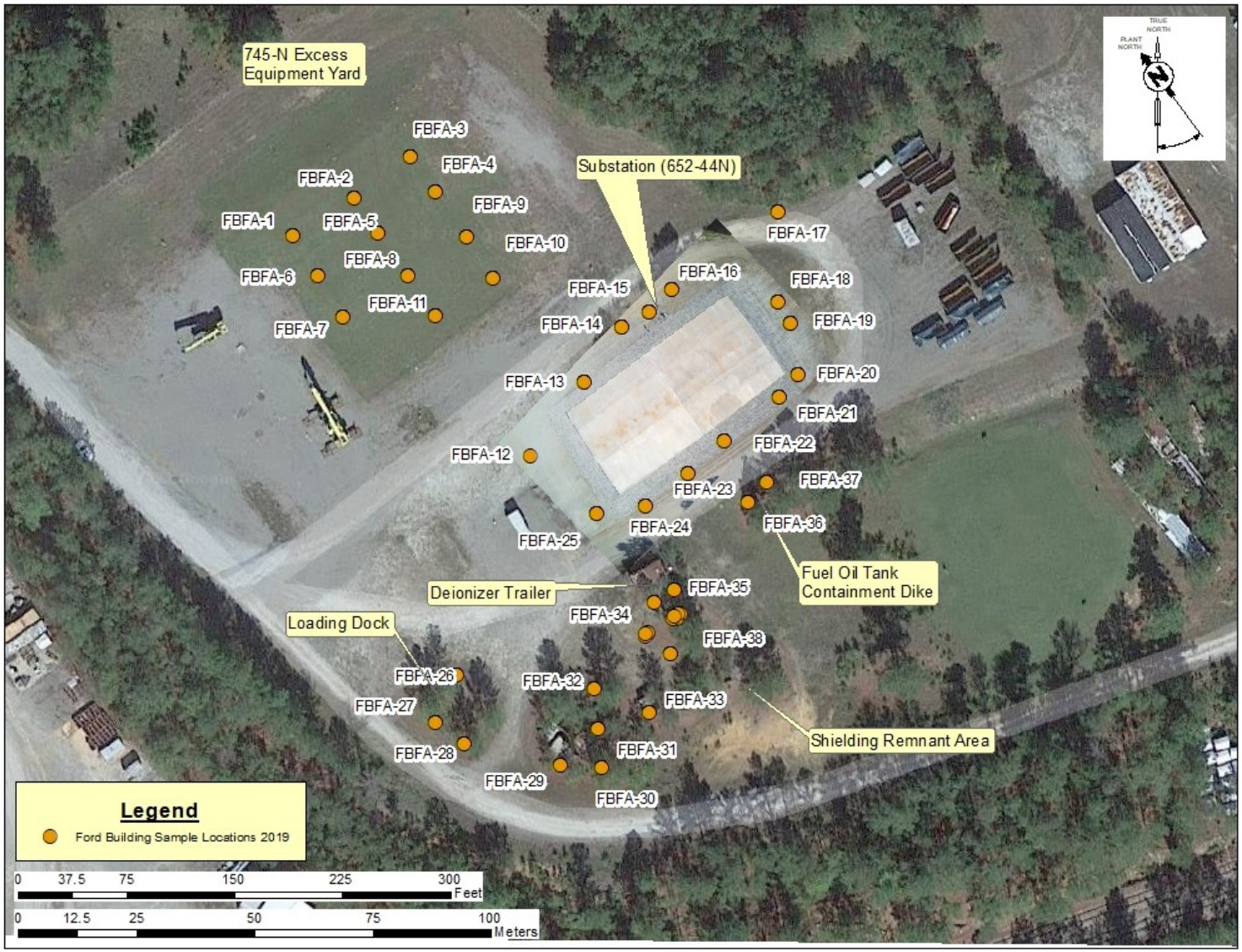

Figure 11. Ford Building 2019 Sample Locations

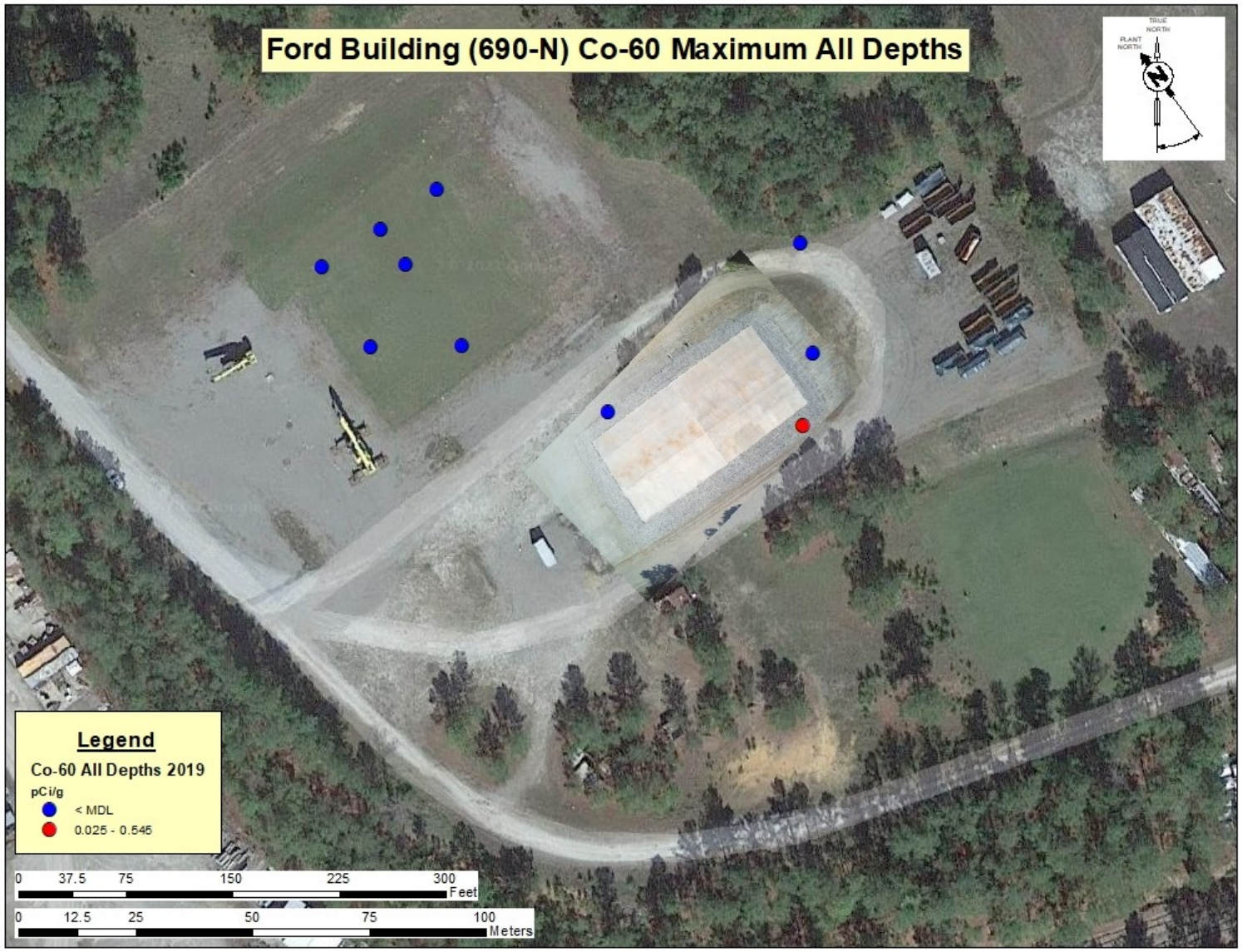

Figure 12. Ford Building Total Cobalt-60 Data All Depths

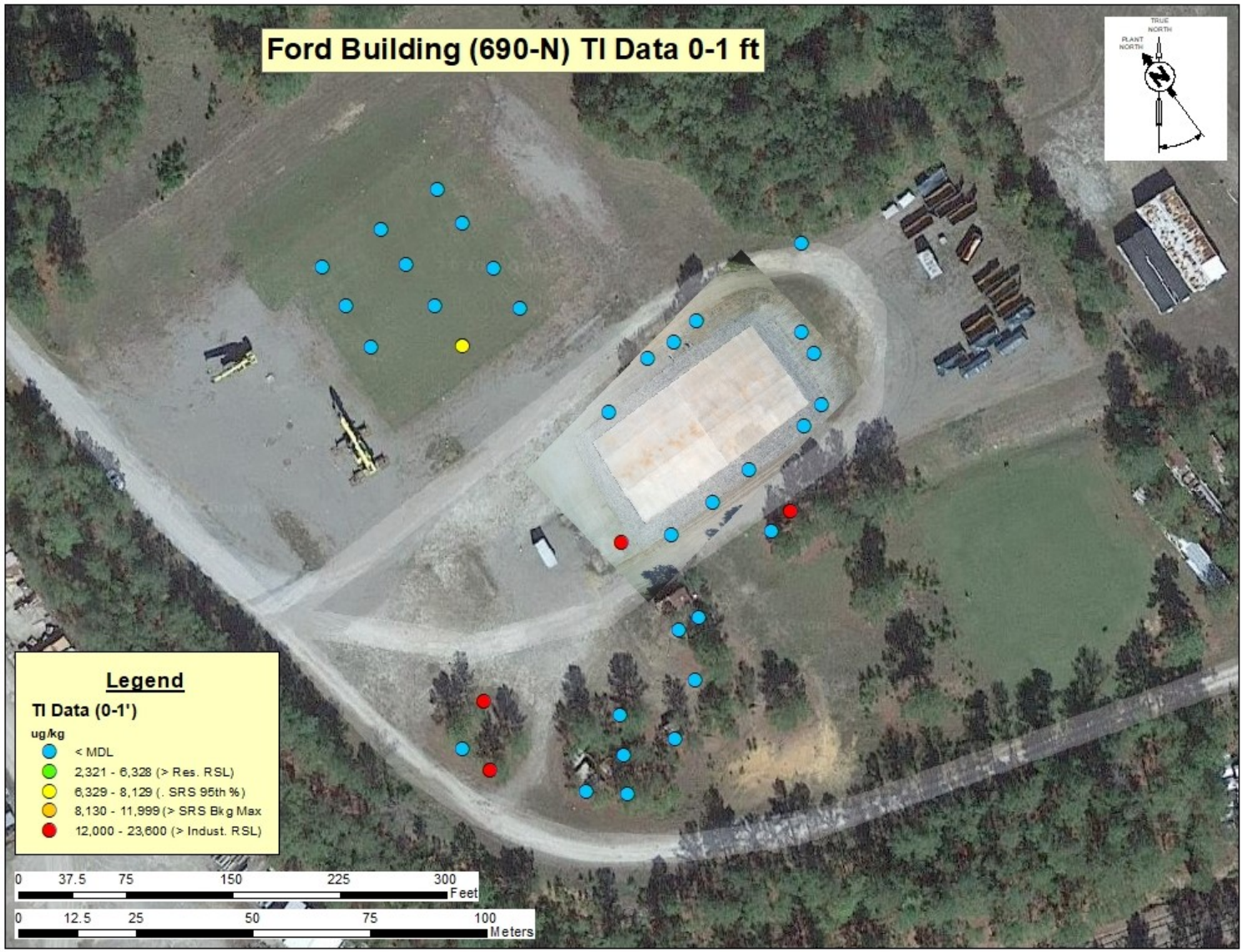

Figure 13. Ford Building Total Thallium Data (0-1 ft)

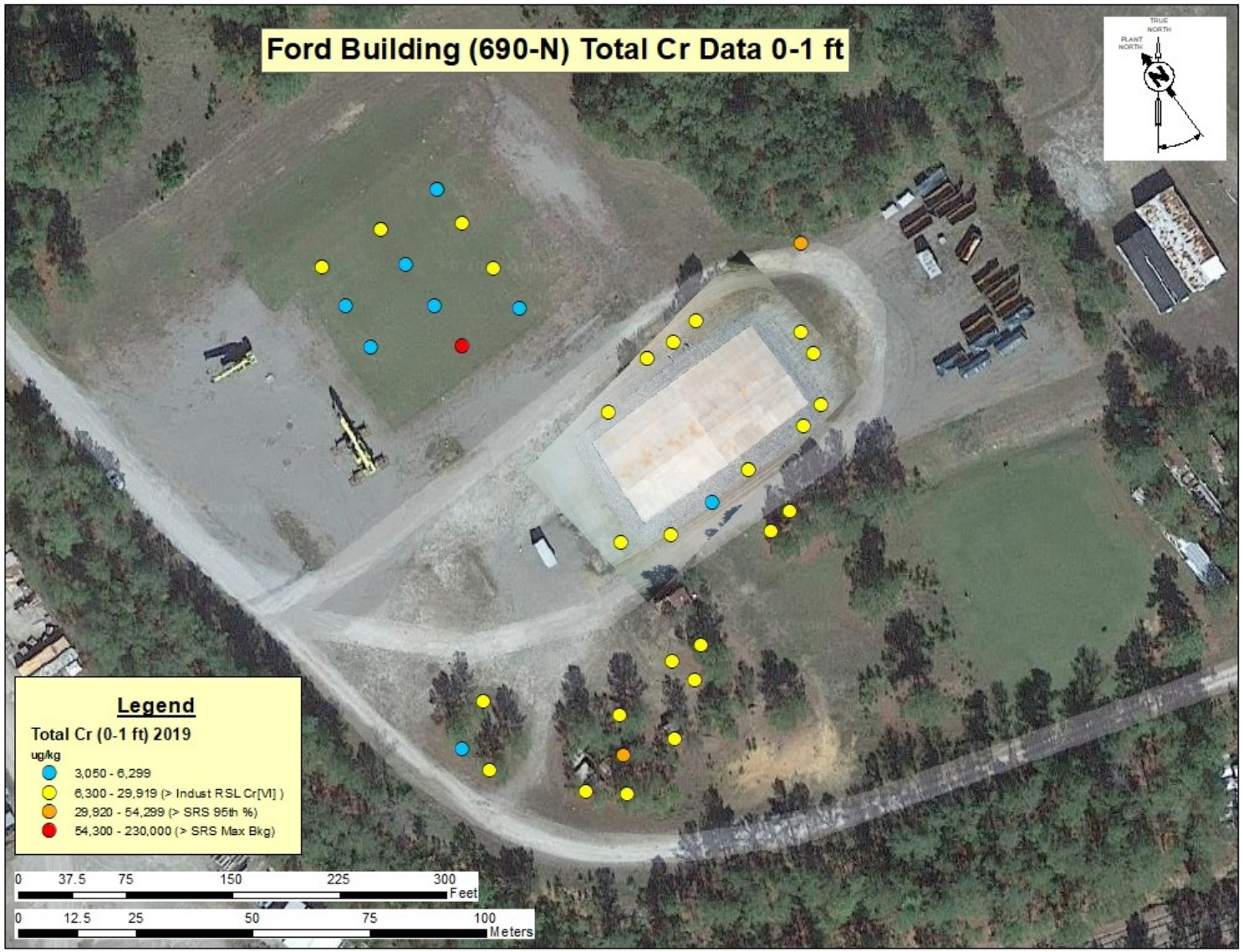

Figure 14. Ford Building Total Chromium Data (0-1 ft)

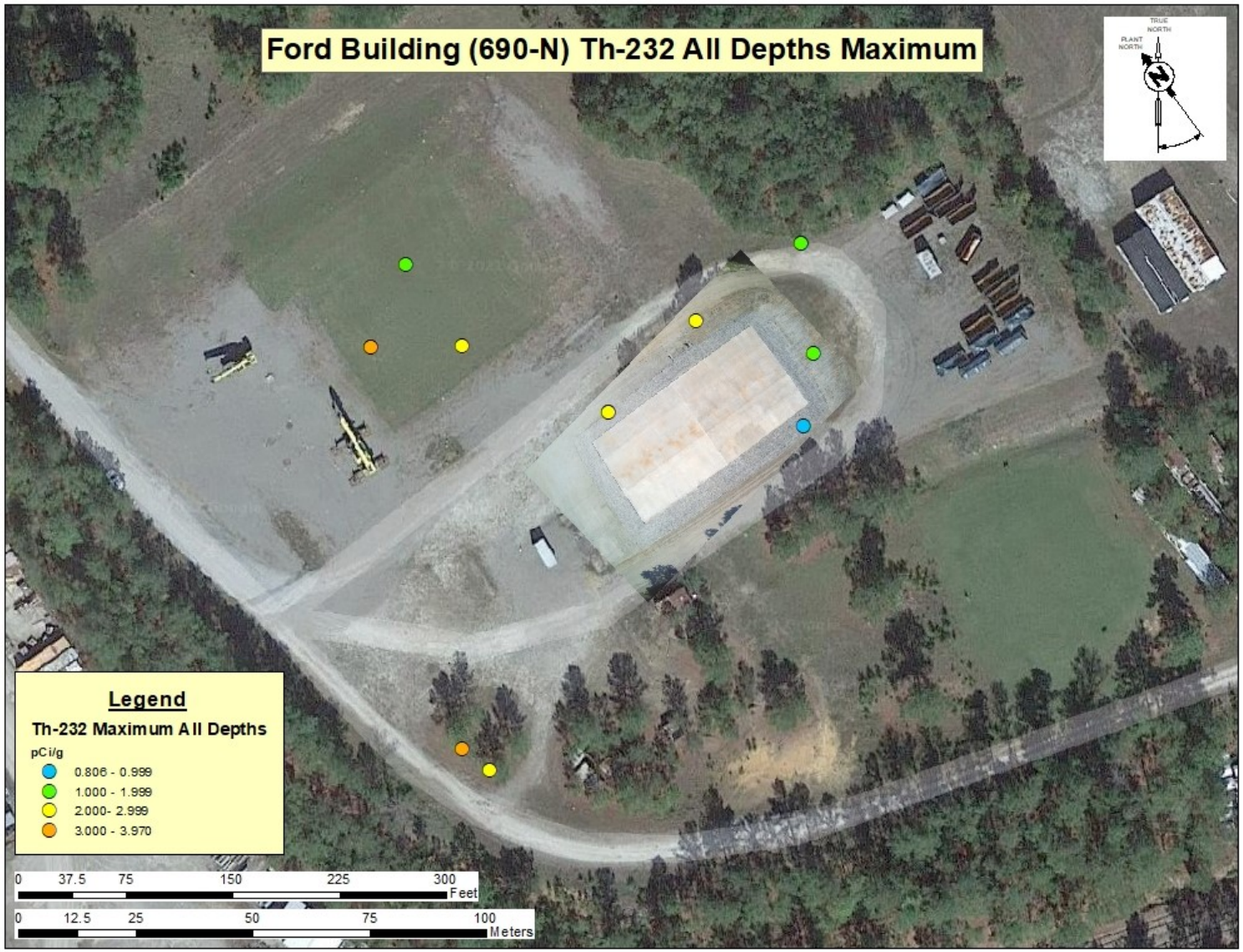

Figure 15. Ford Building Thorium-232 All Depths Maximum

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APPENDIX A

PRELIMINARY RISK ASSESSMENT RESULTS

Subunit	RCOCs				
		HHRA			
	PTSM	Residential	Industrial	ERA	CM
ECODS N-1*	Soil All depths None	Soil (0 to 0.3 m [0 to 1 ft]) None	Soil (0 to 0.3 m [0 to 1 ft]) None	Soil (0.3 m [0 to 1 ft] & 0.3 to 1.2 m [1 to 4 ft]) None	Soil All depths None
CSSLP-2G (upland soil)	Soil All depths None	Soil (0 to 0.3 m [0 to 1 ft]) Arsenic Res risk = 2.4E-05	Soil (0.3 m [0 - 1 ft]) Arsenic IW risk = 5.5E-06	Soil (0.3 m [0 to 1 ft] & 0.3 to 1.2 m [1 to 4 ft]) None	Soil All depths None
CSSLP-2G (surface water impoundment area)	Sediment All depths None	Sediment (0.3 m [0 - 1 ft]) Arsenic Res risk = 1.2E-05 Surface Water None	Sediment (0.3 m [0 - 1 ft]) Arsenic IW risk = 2.8E-06 Surface Water Not Applicable	Sediment (0.3 m [0 to 1 ft] & 0.3 to 1.2 m [1 to 4 ft]) None Surface Water None	Sediment All depths None
Ford Building	Soil All depths None	Soil (0.3 m [0 - 1 ft]) Cobalt-60 Res risk = 1.7E-05	Soil (0.3 m [0 - 1 ft]) Cobalt-60 IW risk = 1.1E-05	Soil (0.3 m [0 to 1 ft] & 0.3 to 1.2 m [1 to 4 ft]) None	Soil All depths None

* Asbestos Containing Material (ACM) buried in ECODS N-1 (no surface exposure).

APPENDIX B

Table B-1. Alternative Screening for ECODS N-1 Subunit (Soil)

Alternative	Effectiveness	Implementability	Cost	Status	Comments
A-1. No Action	Not effective in reducing exposure of asbestos to human receptors. Alternative does not treat or remove waste.	Not Applicable	None	Required	Alternative is required by National Contingency Plan. Influenced by risk management decision to consider impact of removal/backfill alternatives on ecosystem.
A-2. Land Use Controls	Effective in reducing exposure from asbestos to human receptors. Land disturbance of the soils would not be allowed. Alternative leaves asbestos in place.	Installation of warning signs and site inspections.	Low	Retained	Action would allow for asbestos to remain in place. Requires five-year remedy reviews.
A-3. Excavation and Disposal	Effective in eliminating exposure from asbestos to human receptors after completion of implementation.	Involves excavation of asbestos and disposal at offsite facility. Creates an exposure to asbestos to human receptors during implementation.	High	Not retained	Does not require five-year remedy reviews.

Table B-2. Alternative Screening for CSSLP Subunit (Soil and Sediment)

Alternative	Effectiveness	Implementability	Cost	Status	Comments
A-1. No Action	Not effective in reducing exposure of contaminated media to human receptors. Alternative does not treat or remove waste.	Not Applicable	None	Required	Alternative is required by National Contingency Plan. Influenced by risk management decision to consider impact of removal/backfill alternatives on ecosystem.
A-2. Land Use Controls	Effective in reducing exposure from contaminated media to human receptors. Alternative leaves contaminated media in place.	Installation of warning signs and site inspections.	Low	Retained	Requires five-year remedy reviews.
A-3. Soil Cover/LUCs	Effective in reducing exposure from contaminated media to human receptors. Alternative leaves contaminated media in place.	Involves clearing and grubbing of vegetation, management of surface water, and backfilling to break exposure pathway from contaminated media using standard earth-moving equipment. Installation of warning signs and site inspections.	High	Retained	Requires five-year remedy reviews. Requires LUCs to ensure the integrity of a soil cover.
A-4. Excavation and Disposal	Effective in eliminating exposure from contaminated media to human receptors after implementation.	Involves clearing and grubbing of vegetation, management of surface water, disposal of contaminated media at an offsite disposal facility, confirmatory sampling to confirm the absence of contaminated media, and backfilling for site restoration using standard earth-moving equipment.	High	Retained	Does not require five-year remedy reviews. Does not require LUCs.

Table B-3. Alternative Screening for Ford Building (690-N) Subunit

Alternative	Effectiveness	Implementability	Cost	Status	Comments
A-1. No Action	Not effective in reducing exposure of contaminated media to human receptors. Alternative does not treat or remove waste.	Not Applicable	None	Required	Alternative is required by National Contingency Plan. Influenced by risk management decision to consider impact of removal/backfill alternatives on ecosystem.
A-2. Land Use Controls	Effective in reducing exposure from contaminated media to human receptors. Alternative leaves contaminated media in place.	Installation of warning signs and site inspections.	Low	Retained	Requires five-year remedy reviews. Includes O&M for Ford Building Cover System.
A-3. Excavation (soil hot spots) and Disposal/LUCs	Effective in eliminating exposure from contaminated media to human receptors.	Involves clearing and grubbing of vegetation, disposal of contaminated media at an offsite disposal facility, confirmatory sampling to confirm the absence of contaminated media, and backfilling for site restoration using standard earth-moving equipment. Installation of warning signs and site inspections.	Med	Retained	Requires five-year remedy reviews. Residual contamination beneath Ford Building concrete cap system would require LUCs.