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TECHNICAL MEMORANDUM ADDENDUM REPORT SOLID WASTE MANAGEMENT UNIT 3 (SWMU 3) SOIL DELINEATION SAMPLING DATA SUMMARY NSA CRANE IN
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Technical Memorandum Addendum Report

SWMU 3 Soil Delineation Sampling Data Summary

Naval Support Activity Crane, Indiana

Naval Facilities Engineering Command
NAVFAC MIDWEST

Naval Facilities Engineering Command Midwest
Contract Number N62472-03-D-0057
Contract Task Order C065

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TECHNICAL MEMORANDUM ADDENDUM

PITT-07-14-655

DATE: August 7, 2014

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SUBJECT: NSA Crane – Technical Memorandum Addendum Report - SWMU 3 Soil Delineation Sampling Data Summary

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1.0 BACKGROUND

A Resource Conservation and Recovery Act (RCRA) Facilities Investigation (RFI) was conducted for Solid Waste Management Unit (SWMU) 3 – Ammunition Burning Grounds (ABG)/Old Jeep Trail (OJT) at Naval Support Activity (NSA) Crane, located in Crane, Indiana under Contract Task Order (CTO) 159, Contract N62467-94-D-0008, Comprehensive Long-Term Environmental Action Navy (CLEAN) by Tetra Tech, Inc. (Tetra Tech) in 2001. An RFI Report was subsequently prepared and submitted to the Navy (Tetra Tech, 2005). The RFI Report identified the need for corrective measures at the OJT Treatment Area. The development of an Interim Measures Work Plan (IMWP) required additional soil delineation sampling to support a prescriptive soil removal action. The additional delineation sampling was subsequently conducted in 2011 under CTO F274, Contract N62470-08-D-1001. Based on the information obtained during the 2011 sampling event, data gaps still existed for the site and additional sampling was completed in May 2014 under CTO C065, Contract N62472-03-D-0057. This Technical Memorandum Addendum (i.e.: Field Report) presents all of the data collected from the OJT as well as the field techniques utilized during the May 2014 sampling event.

The OJT is a closed munitions demilitarization area located south-southeast of the SWMU 3 Main Treatment Area (MTA) in the eastern portion of NSA Crane adjacent to Little Sulphur Creek (Figure 1-1). Within the OJT is the OJT Treatment Area, which was used from the mid-1970s through 1983. Materials to be demilitarized were treated at two separate locations within the OJT Treatment Area, the Burn Area and the Burn Pit. The approximate locations of these areas are shown on Figure 1-1. The term "pit" may be a misnomer because the area is believed to be a natural topographic depression rather than an excavated pit. At the Burn Area, bomb casings from which the bulk explosives had been removed were filed with initiating powder, tilted on-end toward a hillside east of the OJT Treatment Area, and then flashed to complete the demilitarization process. Some munitions are thought to have been lashed to a horizontally positioned utility pole prior to flashing.

The Burn Pit was approximately 100 feet long, 30 feet wide, and 10 to 12 feet deep, located just south-southeast of the Burn Area (Figure 1-1). Powder was flashed and explosives-contaminated materials were burned in this pit. The contaminated material may have included cardboard, paper, wood, and metal packaging that may have come into contact with explosives, solvent-contaminated rags, and/or any other material that may have been contaminated with explosives. Small munitions items and components were also reportedly treated in the Burn Pit. The area has not been used for any operations since 1983 when it was filled with clean fill material and revegetated. The area is now overgrown with brush, trees, and grasses (Tetra Tech, 2005).

Five "hot spots" of contamination were identified within the OJT Treatment Area in the RFI Report (Tetra Tech, 2005). These "hot spots" were the focus of the soil delineation sampling conducted in December 2011 and May 2014. Four of the original "hot spots" (03SB018, 03SB019, 03SB022, and 03SB024) are located in the northern portion of the study area and one of the original "hot spots" (03SB048) is located in the southern portion of the study area (Figure 1-2). The "hot spots" are contaminated with one or more constituents, consisting of lead, 2,4,6-trinitrotoluene (TNT) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX).

Based on the findings presented in the RFI, the Navy determined that an interim measures action would be conducted to reduce the human health and ecological risks associated with lead and explosives. Efficient implementation of the interim measure required a more precise delineation of the extent of soil contamination in each area.

The May 2014 investigation strategy for SWMU 3 was to implement soil contamination delineation sampling (lead, RDX, and TNT) to provide information for a potential Interim Measures (IM) phase of the project at the five discrete "hot spot" contamination areas in order to calculate soil excavation design data. Information provided in the IMWP will include the volume of soil required for excavation in order to achieve the Media Cleanup Standards (MCSs). The excavation volumes will be based on the horizontal

and vertical extent of soil contamination. Based on this approach, it is assumed no confirmation sampling will be required during or after excavation activities.

1.1 Hot Spot Contamination Areas

Based on historical data, two soil populations were identified as areas of interest around the five original "hot spots" which have contaminant concentrations greater than their respective MCSs. One population includes soil contaminated as a result of past site operations. The second population is uncontaminated soil which will help delineate the extent of site-related contamination. The red and green dots shown on Figure 1-2 depict the known locations of contaminated (red dots) and uncontaminated (green dots) soil prior to the May 2014 sampling event.

Contamination identified at each of the five historic "hot spot" sample locations is as follows:

Northern Study Area

Boring 03SB018: Lead was detected to a depth of 4 feet below ground surface (bgs) at concentrations greater than the MCS. This area has been bounded laterally and vertically by clean sample points. Additionally, numerous samples have been collected in this area at the 4 to 6 foot depth interval and all results (x-ray fluorescence [XRF] and fixed-base laboratory [FBL]) are below the lead MCS indicating the lead contamination in this area is contained within the upper four feet of soil.

Boring 03SB019: Lead was detected to a depth of 4 feet bgs at concentrations greater than the MCS. This area has been bounded laterally and vertically by clean sample points. Additionally, numerous samples have been collected in this area at the 4 to 6 foot depth interval and all results (XRF and FBL) are below the lead MCS indicating the lead contamination in this area is contained within the upper four feet of soil.

Boring 03SB022: TNT and RDX were detected to a depth of 6 feet bgs at concentrations greater than their respective MCSs. Several samples collected from 6 to 8 feet bgs did not exceed their respective MCS. The northwest portion of this "hot spot" contamination area has not yet been completely bounded.

Boring 03SB024: Lead was detected to a depth of 2 feet bgs at a concentration greater than the MCS. The single lead exceedance in this area has been bounded both laterally and vertically. Several lead samples collected from 2 to 4 feet bgs did not exceed the lead MCS. TNT and RDX were detected to a depth of 6 feet bgs at concentrations greater than their respective MCSs. Several samples collected from 6 to 8 feet bgs did not exceed their respective MCSs. The southeast portion of this area has not yet been completely bounded for explosives contamination.

Southern Study Area

Boring 03SB048: Lead was detected to a depth of 10 feet bgs at concentrations greater than the MCS. The Project Team determined that the maximum depth for the excavation is 10 feet bgs; therefore, the vertical extent of contamination will not be further evaluated. The lateral extent of contamination is bounded by clean sample points and all additional samples collected around the single lead exceedance at 03SB048 indicate that lead contamination is contained within the upper two feet of soil.

2.0 FIELD ACTIVITIES

The SWMU 3 soil delineation sampling field activities conducted in May 2014 were implemented in accordance with the United States Environmental Protection Agency (USEPA)-approved Technical Memorandum (Tetra Tech, 2014). Table 2-1 lists the samples that were collected in December 2011 and May 2014, the analyses associated with each sample, and the sample rationale for the May 2014 samples. Figures 3-1 through 3-3 present all of the samples collected to date at the OJT Treatment Area and the associated analytical results for RDX, TNT, and lead. Appendix A of this report presents the field notes, sample logs, and chain of custodies (COCs) for the May 2014 sampling event. Appendix B presents site photographs.

2.1 Media Cleanup Standards

The MCSs for RDX and TNT are based on 10 times the USEPA Soil Screening Value for the protection of the human health residential receptor. The 10 times USEPA Soil Screening Value equates to a 1×10^{-5} carcinogenic risk criteria. The MCSs for RDX and TNT are 60 milligrams per kilogram (mg/kg) and 210 mg/kg, respectively. Explosives were not determined to be a risk concern for groundwater exposure in the RFI Report (Tetra Tech, 2005). In addition, historical data shows a declining trend for explosive concentrations in groundwater; therefore, the removal of explosive contaminated soil, as planned in the remedy, will only further decrease the concentrations of explosives in groundwater.

The MCS for lead was established at 400 mg/kg, which is the same as the human health screening criteria used in the RFI risk assessment.

The data collected in May 2014 was used in conjunction with the historical data to determine the extent of the excavation, which will be addressed in the IMWP.

2.2 XRF Field Screening Methodology

XRF measurements were used to guide the lead delineation soil sampling during the December 2011 and May 2014 sampling events. These field measurements were supported with laboratory confirmation data that lead concentrations are less than the 400 mg/kg MCS in samples considered to be uncontaminated based on field analysis. Table 2-2 presents the XRF analyses results for each sample collected during the December 2011 and May 2014 field events. All XRF lead samples collected during the May 2014 field event that will be utilized for proposed remediation purposes (i.e.; excavation nodes) were confirmed by FBL results.

2.3 Sample Location Screening

Prior to collection of samples, the surface area surrounding each proposed sample location was screened utilizing a magnetometer to determine if anomalies were present at the location. If the sample location was clear of interference, then the first two feet of the boring was advanced utilizing direct-push technology (DPT) and the boring was then cleared every two feet until the desired sample depth was reached. If interference was encountered at any time during the drilling process, the sample hole was terminated and the sample was either relocated or dismissed. In some cases, sample locations requiring relocation were not collected (dismissed) due to their eventual proximity to other sample locations. Field judgment was utilized as to whether a sample requiring relocation was collected or dismissed. For instance, if a particular sample required relocation, and the nearest available area free of magnetometer interference was already covered by another sample location, that particular sample was then dismissed. Table 2-1 presents the reasoning for any samples that were dismissed during the May 2014 sampling event.

3.0 DATA RESULTS

Soil delineation samples were collected in May 2014. Empirical Laboratories, LLC (Empirical) was the FBL which conducted the analyses. Table 3-1 presents the surface and subsurface soil sample data screened against the applicable RDX, TNT, and lead MCSs for samples collected in December 2011 and May 2014. The December 2011 sample data is included for completeness. Figures 3-1 through 3-3 present the December 2011 and May 2014 concentrations of lead, RDX, and TNT, as applicable, for the surface and subsurface soil. The figures depict the known locations of contaminated (red dots for concentrations greater than MCSs) and uncontaminated locations (green dots for concentrations less than MCSs). Appendix C presents the complete SWMU 3 data set including the RFI, December 2011, and May 2014 sampling events.

3.1 Boring 03SB018 Area Soil Delineation Data

Previous sampling events indicated that lead contamination existed within the area of "hot spot" 03SB018. Based on this information, 14 soil samples were collected from five former and three new soil borings with the use of a direct-push technology (DPT) drill rig within the area of location 03SB018 during the May 2014 sampling event (Table 2-1). Samples were collected at former locations to identify the vertical extent of lead contamination, while samples were collected at the new locations to fill data gaps that existed in the area. These data gaps consisted of either unbounded areas around the original "hot spots" or to lessen the distance between known clean samples for purposes of refining the potential excavation boundary. Samples were initially collected to a maximum depth of 6-feet bgs with each sample undergoing field XRF analysis for lead. Should any of the 4 to 6 foot samples exhibit an elevated XRF lead reading (i.e.: greater than 300 parts per million [ppm]), then additional step-out and/or step-down samples would have been collected. However, the majority of XRF lead concentrations were well below 200 ppm with the exception of one sample at 260 ppm; therefore, no step-out or step-down samples were warranted in this area. All soil samples were submitted to the FBL for lead confirmation analysis.

Figure 3-1 presents all of the lead samples collected to date in the area of location 03SB018. Sample locations exhibiting a lead concentration at any depth interval greater than the lead MCS of 400 mg/kg are represented by red dots while sample locations exhibiting lead concentrations at any depth interval less than 400 mg/kg are represented by green dots.

During the December 2011 delineation sampling event, sample 03SB018E2-0204 exhibited an FBL lead concentration of 547 mg/kg, and sample 03SB018N2 exhibited an XRF lead concentration of 1,400 ppm, both of which were greater than the MCS of 400 mg/kg. Based on this information, additional samples were collected at and around these two new "hot spot" areas during the May 2014 sampling event.

Due to magnetometer interference, not all of the proposed samples were collected during the May 2014 field effort as presented in the Technical Memorandum (Tetra Tech, 2014); however, enough samples were collected throughout the area to properly delineate the lead contamination.

A soil characterization sample was also collected for the purpose of determining whether the lead-contaminated soil designated for excavation under the IMWP would require management as a hazardous or non-hazardous material. The soil characterization sample was a composite sample consisting of 4 aliquots and was collected in the areas of 03SB018 and 03SB019 from the 2 to 4 foot interval where the lead concentrations were found to be the greatest and analyzed for toxicity characteristic leaching potential (TCLP) lead. The result was 0.35 micrograms per liter (mg/L) which is well below the 5.0 mg/L threshold.

3.2 Boring 03SB019 Area Soil Delineation Data

Previous sampling events indicated that lead contamination existed within the area of "hot spot" 03SB019. Based on this information, 11 soil samples were collected from four former and three new soil borings with the use of a DPT drill rig within the area of location 03SB019 during the May 2014 sampling event (Table 2-1). Samples were collected at former locations to identify the vertical extent of lead contamination, while samples were collected at the new locations to fill data gaps that existed in the area. These data gaps consisted of either unbounded areas around the original "hot spot" or to lessen the distance between known clean samples for purposes of refining the potential excavation boundary. As within the area of 03SB019, samples were initially collected to a maximum depth of 6-feet bgs with each sample undergoing field XRF analysis for lead. Should any of the 4 to 6 foot samples exhibit an elevated XRF lead reading (i.e.: greater than 300 ppm), then additional step-out and/or step-down samples would have also been collected. However, all of the XRF lead concentrations were below 100 ppm; therefore, no step-out or step-down samples were warranted in this area. All soil samples were submitted to the FBL for lead confirmation analysis.

Figure 3-1 presents all of the lead samples collected to date in the area of location 03SB019. Sample locations exhibiting a lead concentration at any depth interval greater than the lead MCS of 400 mg/kg are represented by red dots while sample locations exhibiting lead concentrations at any depth interval less than 400 mg/kg are represented by green dots.

Due to magnetometer interference, not all of the proposed samples were collected during the May 2014 field effort as presented in the Technical Memorandum (Tetra Tech, 2014); however, enough samples were collected throughout the area to properly delineate the lead contamination.

A soil characterization sample was also collected for the purpose of determining whether the lead-contaminated soil designated for excavation under the IMWP would require management as a hazardous or non-hazardous material. As mentioned in the 03SB018 discussion above, a soil characterization sample was collected in the areas of 03SB018 and 03SB019 from the 2 to 4 foot interval where the lead concentrations were found to be the greatest and analyzed for TCLP lead. The result was 0.35 mg/L which is well below the 5.0 mg/L threshold.

3.3 Boring 03SB022 Area Soil Delineation Data

Previous sampling events indicated that explosives (RDX/TNT) contamination existed within the area of "hot spot" 03SB022. Based on this information, 64 soil samples were collected from five former and 10 new soil borings with the use of a DPT drill rig within the area of location 03SB022 during the May 2014 sampling event (Table 2-1).

To ensure the explosives contamination was bounded within the area of 03SB022, samples at all former and new locations were collected to a maximum depth of 10-feet bgs. The 10-foot bgs depth was a maximum excavation depth previously agreed upon by the Project Team. All collected samples were shipped to the FBL with either a primary or secondary designation. The primary designation authorized the FBL to extract and analyze the sample upon receipt, while the secondary designation informed the FBL to hold the sample until further direction was provided by Tetra Tech. The secondary designation was applied to many of the samples collected at depth as well as to those samples collected from locations that comprised a secondary boundary around the projected excavation boundary. Should an upper depth interval or a primary boundary sample exhibit explosives contamination greater than its respective MCS, then the FBL would be instructed to extract and analyze those secondary samples associated with that particular location.

Figure 3-2 presents all of the RDX/TNT samples collected to date in the area of location 03SB022. Sample locations exhibiting a concentration at any depth interval greater than the respective RDX or TNT MCS are represented by red dots while sample locations exhibiting both RDX and TNT concentrations at any depth interval less than the respective MCS are represented by green dots.

Due to magnetometer interference, not all of the proposed samples were collected during the May 2014 field effort as presented in the Technical Memorandum (Tetra Tech, 2014). Samples were relocated in the area in attempt to completely bound the RDX and TNT contamination; however, a small area in the northwest has not been completely bounded.

3.4 Boring 03SB024 Area Soil Delineation Data

Previous sampling events indicated that both lead and explosives (RDX/TNT) contamination existed within the area of "hot spot" 03SB024. Based on this information, 77 soil samples were collected from five former and 13 new soil borings with the use of a DPT drill rig within the area of location 03SB024 during the May 2014 sampling event (Table 2-1).

To ensure the lead and explosives contamination was bounded within the area of 03SB024, samples at all former and new locations were collected to a maximum depth of 10-feet bgs. The 10-foot bgs depth was a maximum excavation depth previously agreed upon by the Project Team. All of the samples collected for lead were initially analyzed in the field via XRF and then shipped to the FBL for confirmation analysis. All of the samples collected for explosives analysis were shipped to the FBL with either a primary or secondary designation. As with area 03SB022, the primary designation authorized the FBL to extract and analyze the sample upon receipt, while the secondary designation informed the FBL to hold the sample until further direction was provided by Tetra Tech. The secondary designation was applied to many of the samples collected at depth as well as to those samples collected from locations that comprised a secondary boundary around the projected excavation boundary. Should an upper depth interval or a primary boundary sample exhibit explosives contamination greater than its respective MCS, then the FBL would be instructed to extract and analyze those secondary samples associated with that particular location.

Figure 3-2 presents all of the RDX/TNT samples collected to date in the area of location 03SB024. Sample locations exhibiting a concentration at any depth interval greater than the respective RDX or TNT MCS are represented by red dots while sample locations exhibiting both RDX and TNT concentrations at any depth interval less than the respective MCS are represented by green dots.

Due to magnetometer interference, not all of the proposed samples were collected during the May 2014 field effort as presented in the Technical Memorandum (Tetra Tech, 2014). Samples were relocated in the area in attempt to completely bound the RDX and TNT contamination; however, an area to the southeast has not been completely bounded.

A soil characterization sample was also collected from the area around "hot spot" 03SB024 for the purpose of determining whether the lead-contaminated soil designated for excavation under the IMWP would require management as a hazardous or non-hazardous material. The soil characterization sample was a composite sample consisting of 4 aliquots and was collected in the area of 03SB024 from the 0 to 4 foot interval and analyzed for TCLP lead. The result was 0.5 mg/L which is well below the 5.0 mg/L threshold.

3.5 Boring 03SB048 Area Soil Delineation Data

Previous sampling events indicated that lead contamination existed within the area of "hot spot" 03SB048. Based on this information, 16 soil samples were collected from four former soil borings and one new soil boring with the use of a DPT drill rig within the area of location 03SB048 during the May 2014 sampling event (Table 2-1). Samples were collected at former locations to confirm the vertical and lateral extent of the lead contamination, while samples were collected at the new location to refine the distance between the former location 03SB048 and a clean sample. Samples were collected at all locations to a maximum depth of 10 feet bgs with each sample undergoing field XRF analysis for lead. Should any of the 4 to 6 foot samples exhibit an elevated XRF lead reading (i.e.: greater than 300 ppm), then additional step-out and/or step-down samples would have also been collected. However, all of the XRF lead concentrations were below 25 ppm; therefore, no step-out or step-down samples were warranted in this area. All soil samples were submitted to the FBL for lead confirmation analysis.

Figure 3-3 presents all of the lead samples collected to date in the area of location 03SB048. Sample locations exhibiting a lead concentration at any depth interval greater than the lead MCS of 400 mg/kg are represented by red dots while sample locations exhibiting lead concentrations at any depth interval less than 400 mg/kg are represented by green dots.

Sixteen of the 20 proposed samples were collected during the May 2014 field effort as presented in the Technical Memorandum (Tetra Tech, 2014). Four samples proposed at location 03SB170 were not collected as the location of this proposed sample was only a few feet away from previous sample locations and therefore was not needed to bound the area.

Soil characterization samples were also collected for the purpose of determining whether the lead-contaminated soil designated for excavation under the IMWP would require management as a hazardous or non-hazardous material. The soil characterization samples were composite samples consisting of 4 aliquots each and were collected in the area of 03SB048 from the 2 to 6 and 6 to 10 foot intervals and analyzed for TCLP lead. The results were 0.05 mg/L for both depth intervals which are well below the 5.0 mg/L threshold.

3.6 Lead Correlation Analysis

Table 2-2 presents the lead correlation analyses, including the lead-calculated values based on the correlation factor for both the December 2011 and May 2014 field events. Appendix D contains the XRF and correlating FBL data, and Figure 1 in Appendix D is a scatterplot of the XRF lead results and the FBL lead results for each sample collected during the May 2014 field event. The scatterplot shows a strong

positive linear trend. The correlation (r) between FBL concentrations and XRF concentrations was 0.97. The correlation always falls between -1 and 1. Values of r near 0 indicate a very weak linear relationship. The strength of the linear relationship increases as r moves away from 0 toward either -1 or 1. Values of r close to -1 and 1 indicate that the points lie close to a straight line. The extreme values -1 and 1 occur only in the case of a perfect linear relationship. So the correlation indicates a strong linear trend.

The r-squared value is 94 percent. This value represents the percent of variation in FBL lead concentrations that can be explained by the lead XRF concentration. An r-squared value greater than approximately 80 percent indicates a very strong relationship between the two measurement methods. The maximum possible value is 100 percent. Based on the r and r-squared values, XRF concentrations can be used to predict FBL concentrations with a relatively high degree of accuracy. At concentrations between 9.3 ppm and 260 ppm, the measured XRF values are within 30 percent of the predicted FBL values. The following equation can be used to convert the XRF concentrations into FBL concentration equivalents:

FBL (mg/kg) = 2.52 + 1.23 * (XRF ppm).

4.0 SUMMARY AND CONCLUSIONS

4.1 Boring 03SB018 Contamination Area

All of the soil samples collected around the "hot spots" in area 03SB018 underwent field XRF analysis. All of the XRF lead results were below 400 ppm and all samples were shipped to the FBL for lead analysis confirmation with all FBL sample results also below the MCS of 400 mg/kg. Based on the evaluation of data available for "hot spot" 03SB018, the extent of the lead contamination in soil has been fully delineated. The maximum depth at which a lead concentration exceeded the MCS was 4 feet bgs which occurred at sample location 03SB018N2-0204. All samples collected and analyzed at the 4 to 6 feet bgs were below the lead MCS.

4.2 Boring 03SB019 Contamination Area

All of the soil samples collected around "hot spot" 03SB019 underwent field XRF analysis. All of the XRF lead results were below 400 ppm and all samples were shipped to the FBL for lead analysis confirmation with all FBL sample results also below the MCS of 400 mg/kg. Based on the evaluation of data available for "hot spot" 03SB019, the extent of the lead contamination in soil has been fully delineated. The maximum depth at which a lead concentration exceeded the MCS was 4 feet bgs which occurred at sample location 03SB019-0204. All samples collected and analyzed at the 4 to 6 feet bgs were below the lead MCS.

4.3 Boring 03SB48 Contamination Area

All of the soil samples collected around "hot spot" 03SB048 underwent field XRF analysis. All of the XRF lead results were below 400 ppm and all samples were shipped to the FBL for lead analysis confirmation with all FBL sample results also below the MCS of 400 mg/kg. Based on the evaluation of data available for "hot spot" 03SB048, the extent of the lead contamination in soil has been fully delineated. The maximum depth at which a lead concentration exceeded the MCS was 10 feet bgs. This occurred at sample location 03SB048-0610.

Including the latest sample data collected in May 2014, the data results show that the lead contamination present around "hot spot" location 03SB048 has been laterally delineated. Only sample location 03SB048 exhibited a lead concentration greater than the MCS of 400 mg/kg. All other delineation samples collected around this location exhibited lead concentrations well below 400 mg/kg at all depth intervals down to 10 feet bgs.

4.4 Borings 03SB022 and 03SB024 Contamination Area

Based on the evaluation of all data available for both "hot spots" 03SB022 and 03SB024, it is apparent the explosives soil contamination in this area overlaps and is comingled (i.e., there is no distinct separation of contamination between the two areas due to their close proximity to one another). The lead contamination is specific to location 03SB024.

RDX and TNT

Several samples were collected around "hot spots" 03SB022 and 03SB024 in an attempt to define the RDX and TNT contamination both laterally and vertically. Many sample locations had to be relocated or were not collected at all due to continuous unknown anomaly interference with the magnetometer; however, enough samples were collected around the two "hot spots". The majority of these samples were used to determine the lateral and vertical extent of contamination in the area; however, areas to the northwest and southeast continue to remain unbounded.

Lead

Additional samples were collected at and around the lead "hot spot" 03SB024. All samples underwent XRF field analysis for lead with all concentrations less than the MCS of 400 mg/kg. Additionally, all samples shipped to the FBL for lead analysis were well below the MCS indicating the lead contamination at "hot spot" 03SB024 is limited to a very small area.

References

Tetra Tech, 2005; Resource Conservation and Recovery Act Facility Investigation for Solid Waste Management Unit (SWMU) 3, Ammunition Burning Grounds/Old Jeep Trail (OJT), Naval Support Activity Crane, Crane, Indiana, Tetra Tech NUS, Inc., March.

Tetra Tech, 2014; Technical Memorandum SWMU 3 Soil Delineation Sampling Data Summary for the Old Jeep Trail Treatment Area of SWMU 3 – Ammunition Burning Grounds/Old Jeep Trail Naval Support Activity Crane, Crane, Indiana, Tetra Tech, Inc., May.

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
HOTSPOT 03SB018									
03SB018	03SB018-0204	12/14/2011	DPT	2-4	X	--	--	--	
	03SB018-0406	12/14/2011	DPT	4-6	X	X	--	--	
	03SB018-0608	12/14/2011	DPT	6-8	X	--	--	--	
03SB018-N2	03SB018-0204-N2	12/13/2011	DPT	2-4	X	--	--	--	
	03SB018-0406-N2	12/13/2011	DPT	4-6	X	X	--	--	
03SB018-N3	03SB018-0204-N3	12/14/2011	DPT	2-4	X	X	--	--	
	03SB018-0406-N3	5/20/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination north of 03SB018 and northwest of 03SB018E2
03SB131	03SB131-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB018-S1	03SB018-0204-S1	12/14/2011	DPT	2-4	X	--	--	--	
		5/20/2014	DPT	2-4	X	X	--	--	Define lateral extent of lead contamination west of 03SB018 (Previous XRF value of 37 ppm)
	03SB018-0406-S1	5/20/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination west of 03SB018
03SB018-S2	03SB018-0204-S2	12/13/2011	DPT	2-4	X	--	--	--	
	03SB018-0204-S2	5/20/2014	DPT	2-4	X	X	--	--	Define lateral extent of lead contamination south of 03SB018 (Previous XRF value of 58 ppm)
	03SB018-0406-S2	5/20/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination south of 03SB018
03SB123	03SB123-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB018-E2	03SB018-0204-E2	12/13/2011	DPT	2-4	X	X	--	--	
	03SB018-0406-E2	12/13/2011	DPT	4-6	X	X	--	--	
03SB018-E3	03SB018-0204-E3	12/14/2011	DPT	2-4	X	X	--	--	
	03SB018-0406-E3	5/20/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination east of 03SB018 and southwest of 03SB018E2
03SB134	03SB134-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB018-W2	03SB018-0204-W2	12/13/2011	DPT	2-4	X	X	--	--	
	03SB018-0406-W2	12/13/2011	DPT	4-6	X	X	--	--	
03SB018-W3	03SB018-0204-W3	12/14/2011	DPT	2-4	X	X	--	--	
03SB133	03SB133-0204	12/13/2011	DPT	2-4	X	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB165	03SB165-0204	5/20/2014	DPT	2-4	X	X	--	--	New sample location. Define lateral and vertical extent of lead contamination north of 03SB018E2
	03SB165-0406	5/20/2014	DPT	4-6	X	X	--	--	
03SB166	03SB166-0204	5/20/2014	DPT	2-4	X	X	--	--	New sample location. Define lateral and vertical extent of lead contamination south of 03SB018E2
	03SB166-0406	5/20/2014	DPT	4-6	X	X	--	--	
03SB167	03SB167-0204	5/20/2014	DPT	2-4	X	X	--	--	New sample location. Define lateral and vertical extent of lead contamination east of 03SB018N2
	03SB167-0406	5/20/2014	DPT	4-6	X	X	--	--	
HOTSPOT 03SB019									
03SB019	03SB019-0406	12/14/2011	DPT	4-6	X	X	--	--	
	03SB019-0608	12/14/2011	DPT	6-8	X	X	--	--	
03SB019-N1	03SB019-0204-N1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB019-0406-N1	12/14/2011	DPT	4-6	X	X	--	--	
03SB019-N2	03SB019-0204-N2	12/13/2011	DPT	2-4	X	--	--	--	
	03SB019-0204-N2	5/19/2014	DPT	2-4	X	X	--	--	Define lateral extent of lead contamination north of 03SB019 (Previous XRF value of 16 ppm)
	03SB019-0406-N2	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination north of 03SB019
03SB129	03SB129-0204	12/13/2011	DPT	2-4	X	--	--	--	
	03SB129-0204	5/20/2014	DPT	2-4	X	X	--	--	Define lateral and vertical extent of lead contamination east of 03SB018E2
	03SB129-0406	5/20/2014	DPT	4-6	X	X	--	--	
03SB019-S1	03SB019-0204-S1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB019-0406-S2	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination south of 03SB019
03SB019-S2	03SB019-0204-S2	12/13/2011	DPT	2-4	X	--	--	--	
03SB125	03SB125-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB019-E1	03SB019-0204-E1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB019-0406-E1	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination east of 03SB019
03SB019-E2	03SB019-0204-E2	12/13/2011	DPT	2-4	X	--	--	--	
03SB127	03SB127-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB019-W1	03SB019-0204-W1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB019-0406-W1	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination west of 03SB019

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB019-W2	03SB019-0204-W2	12/13/2011	DPT	2-4	X	--	--	--	
03SB168	03SB168-0204	5/19/2014	DPT	2-4	X	X	--	--	New sample location. Define lateral and vertical extent of lead contamination north of 03SB019 and to potentially refine northern excavation boundary
	03SB168-0406	5/19/2014	DPT	4-6	X	X	--	--	
03SB194	03SB194-0204	5/19/2014	DPT	2-4	X	X	--	--	Samples not initially proposed
	03SS194-0406	5/19/2014	DPT	4-6	X	X	--	--	
03SB195	03SB195-0204	5/19/2014	DPT	2-4	X	X	--	--	
	03SS195-0406	5/19/2014	DPT	4-6	X	X	--	--	
HOTSPOT 03SB048									
03SB048-N1	03SB048-0204-N1	12/13/2011	DPT	2-4	X	X	--	--	
	03SB048-040-N1	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination north of 03SB048
	03SB048-0608-N1	5/19/2014	DPT	6-8	X	X	--	--	
	03SB048-0810-N1	5/19/2014	DPT	8-10	X	X	--	--	
03SB048-N2	03SB048-0204-N2	12/13/2011	DPT	2-4	X	--	--	--	
03SB048-S1	03SB048-0204-S1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB048-0406-S1	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination south of 03SB048
	03SB048-0608-S1	5/19/2014	DPT	6-8	X	X	--	--	
	03SB048-0810-S1	5/19/2014	DPT	8-10	X	X	--	--	
03SB048-S2	03SB048-0204-S2	12/13/2011	DPT	2-4	X	--	--	--	
03SB048-E1	03SB048-0204-E1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB048-0406-E1	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination northeast of 03SB048
	03SB048-0608-E1	5/19/2014	DPT	6-8	X	X	--	--	
	03SB048-0810-E1	5/19/2014	DPT	8-10	X	X	--	--	
03SB048-E2	03SB048-0204-E2	12/13/2011	DPT	2-4	X	--	--	--	
03SB048-W1	03SB048-0204-W1	12/14/2011	DPT	2-4	X	X	--	--	
	03SB048-0406-W1	5/19/2014	DPT	4-6	X	X	--	--	Define lateral and vertical extent of lead contamination west of 03SB048
	03SB048-0608-W1	5/19/2014	DPT	6-8	X	X	--	--	
	03SB048-0810-W1	5/19/2014	DPT	8-10	X	X	--	--	
03SB161	03SB161-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB162	03SB162-0204	12/13/2011	HA	2-4	X	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB163	03SB163-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB164	03SB164-0204	12/13/2011	DPT	2-4	X	--	--	--	
03SB169	03SB169-0204	5/19/2014	DPT	2-4	X	X	--	--	New sample location. Define lateral and vertical extent of lead contamination east of 03SB048
	03SB169-0406	5/19/2014	DPT	4-6	X	X	--	--	
	03SB169-0608	5/19/2014	DPT	6-8	X	X	--	--	
	03SB169-0810	5/19/2014	DPT	8-10	X	X	--	--	
03SB170	03SB170-0204	Samples not collected. Distance between the former sample locations was approximately 4 feet; therefore, this proposed sample to be located between those two points was not needed.							New sample location. Define lateral extent of lead contamination north of 03SB048 and to potentially refine northern excavation boundary
	03SB170-0406								
	03SB170-0608								
	03SB170-0810								
HOTSPOT 03SB022									
03SB022	03SS022-0406	5/20/2014	DPT	4-6	--	X	X	X	Define vertical extent of RDX/TNT contamination
	03SB022-0608	5/20/2014	DPT	6-8	--	X	X	X	
	03SB022-0810	5/20/2014	DPT	8-10	--	X	X	X	
03SB022-N1	03SS022-0002-N1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-N1	12/15/2011	DPT	2-4	--	X	X	X	
03SB022-N2	03SS022-0002-N2	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-N2	12/15/2011	DPT	2-4	--	X	X	X	
	03SS022-0406-N2	Samples not collected due to interference with magnetometer. Location is an interior location and is bounded in all directions by other sample locations.							Define vertical extent of RDX/TNT contamination
	03SB022-0608-N2								
	03SB022-0810-N2								
03SB022-N3	03SS022-0002-N3	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-N3	12/15/2011	DPT	2-4	--	X	X	X	
	03SS022-0406-N3	Samples not collected due to interference with magnetometer. Sample location is bounded in all directions by other sample locations.							Define lateral and vertical extent of RDX/TNT contamination north of 03SB022N2 and to potentially refine northern excavation boundary
	03SB022-0608-N3								
	03SB022-0810-N3								

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB137	03SS137-0002	12/15/2011	DPT	0-2	X	X	X	X	
	03SB137-0204	12/15/2011	DPT	2-4	--	X	X	X	
	03SS137-0406	Samples not collected due to interference with magnetometer at the surface. Locations 03SB137 and 03SB137N2 are within a few feet of one another. Location is a perimeter location; however, new sample locations to the northeast (03SB175) and northwest (03SB192) were collected to bound this area.							Define lateral and vertical extent of RDX/TNT contamination north of 03SB022N2, if necessary
	03SB137-0608								
	03SB137-0810								
03SB137-N2	03SS137-0002-N2	12/15/2011	DPT	0-2	--	--	X	X	
	03SB137-0204-N2	12/15/2011	DPT	2-4	--	--	X	X	
	03SS137-0406-N2	Samples not collected due to interference with magnetometer at 2-feet bgs. Locations 03SB137 and 03SB137N2 are within a few feet of one another. Location is a perimeter location; however, new sample locations to the northeast (03SB175) and northwest (03SB192) were collected to bound this area.							Define lateral and vertical extent of RDX/TNT contamination north of 03SB022N2, if necessary
	03SB137-0608-N2								
	03SB137-0810-N2								
03SB022-S1	03SS022-0002-S1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-S1	12/15/2011	DPT	2-4	--	X	X	X	
03SB022-S2	03SS022-0002-S2	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-S2	12/15/2011	DPT	2-4	--	X	X	X	
03SB022-S3	03SS022-0002-S3	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-S3	12/15/2011	DPT	2-4	--	X	X	X	
03SB141	03SS141-0002	12/15/2011	DPT	0-2	X	X	X	X	
	03SB141-0204	12/15/2011	DPT	2-4	--	X	X	X	
03SB141-S2	03SS141-0002-S2	12/15/2011	DPT	0-2	--	--	X	X	
	03SB141-0204-S2	12/15/2011	DPT	2-4	--	--	X	X	
03SB022-E1	03SS022-0002-E1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-E1	12/15/2011	DPT	2-4	--	X	X	X	
03SB022-E2	03SS022-0002-E2	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-E2	12/15/2011	DPT	2-4	--	X	X	X	
	03SS022-0406-E2	Samples not collected due to interference with magnetometer. Sample location is bounded in all directions by other sample locations.							Define vertical extent of RDX/TNT contamination
	03SB022-0608-E2								
	03SB022-0810-E2								
03SB022-E3	03SS022-0002-E3	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-E3	12/15/2011	DPT	2-4	--	X	X	X	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB138	03SS138-0002	12/15/2011	DPT	0-2	X	X	X	X	
	03SB138-0204	12/15/2011	DPT	2-4	--	X	X	X	
	03SS138-0406	5/20/2014	DPT	4-6	--	--	X	X	Define vertical extent of RDX/TNT contamination
	03SB138-0608	5/20/2014	DPT	6-8	--	--	X	X	
	03SB138-0810	5/20/2014	DPT	8-10	--	--	--	--	
03SB138-E2	03SS138-0002-E2	12/15/2011	DPT	0-2	--	--	X	X	
	03SB138-0204-E2	12/15/2011	DPT	2-4	--	--	X	X	
03SB022-W1	03SS022-0002-W1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-W1	12/15/2011	DPT	2-4	--	X	X	X	
	03SS022W1-0406	Samples not collected due to interference with magnetometer. Locations 03SB022W1 and 03SB022W2 are within a few feet of one another. Location is an interior location and is bounded in all directions by other sample locations.							Define vertical extent of RDX/TNT contamination
	03SB022W1-0608								
	03SB022W1-0810								
03SB022-W2	03SS022-0002-W2	12/15/2011	DPT	0-2	--	X	X	X	
	03SB022-0204-W2	12/15/2011	DPT	2-4	--	X	X	X	
	03SS022-0406-W2	Samples not collected due to interference with magnetometer. Locations 03SB022W1 and 03SB022W2 are within a few feet of one another. Location is an interior location and is bounded in all directions by other sample locations.							Define vertical extent of RDX/TNT contamination
	03SB022-0608-W2								
	03SB022-0810-W2								
03SB022-W3	03SS022-0002-W3	12/15/2011	HA	0-2	--	X	X	X	
	03SB022-0204-W3	12/15/2011	HA	2-4	--	X	X	X	
	03SS022-0406-W3	5/21/2014	DPT	4-6	--	--	X	X	
	03SB022-0608-W3	5/21/2014	DPT	6-8	--	--	X	X	
	03SB022-0810-W3	5/21/2014	DPT	8-10	--	--	X	X	
03SB023	03SB023-0204	5/22/2014	DPT	2-4	--	--	X	X	Define lateral and vertical extent of RDX/TNT contamination west of 03SB022W1, if necessary
	03SS023-0406	5/22/2014	DPT	4-6	--	--	X	X	
03SB140	03SS140-0002	12/13/2011	HA	0-2	X	X	X	X	
	03SB140-0204	12/13/2011	HA	2-4	--	X	X	X	
	03SS140-0406	5/22/2014	DPT	4-6	--	--	X	X	Define lateral and vertical extent of RDX/TNT contamination southwest of 03SB022W1
	03SB140-0608	5/22/2014	DPT	6-8	--	--	--	--	
	03SB140-0810	5/22/2014	DPT	8-10	--	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB171	03SS171-0002	5/21/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination east of 03SB147
	03SB171-0204	5/21/2014	DPT	2-4	--	--	X	X	
	03SB171-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB171-0608	5/21/2014	DPT	6-8	--	--	--	--	
	03SB171-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB172	03SS172-0002	5/21/2014	DPT	0-2	--	--	--	--	New sample location. Define lateral extent of RDX/TNT contamination east of 03SB147
	03SB172-0204	5/21/2014	DPT	2-4	--	--	--	--	
	03SB172-0406	5/21/2014	DPT	4-6	--	--	--	--	
	03SB172-0608	5/21/2014	DPT	6-8	--	--	--	--	
	03SB172-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB174	03SS174-0002	Proposed location was within a large area which encountered magnetometer interfernce near an old trailer at the site. Other samples located nearby will be used to characterize this area.							New sample location. Define lateral extent of RDX/TNT contamination north of 03SB138
	03SB174-0204								
	03SB174-0406								
	03SB174-0608								
	03SB174-0810								
03SB175	03SS175-0002	5/20/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination north of 03SB138
	03SB175-0204	5/20/2014	DPT	2-4	--	--	X	X	
	03SB175-0406	5/20/2014	DPT	4-6	--	--	X	X	
	03SB175-0608	5/20/2014	DPT	6-8	--	--	X	X	
	03SB175-0810	5/20/2014	DPT	8-10	--	--	--	--	
03SB176	03SS176-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination west of 03SB022N2
	03SB176-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SB176-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB176-0608	5/22/2014	DPT	6-8	--	--	X	X	
	03SB176-0810	5/22/2014	DPT	8-10	--	--	--	--	
03SB177	03SS177-0002	Proposed location was in the middle of a boulder field. Other samples were collected to the north, west, and south to define the area.							New sample location. Define lateral extent of RDX/TNT contamination west of 03SB022
	03SB177-0204								
	03SB177-0406								
	03SB177-0608								
	03SB177-0810								

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB178	03SS178-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination west of 03SB022
	03SB178-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SB178-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB178-0608	5/22/2014	DPT	6-8	--	--	X	X	
	03SB178-0810	5/22/2014	DPT	8-10	--	--	--	--	
03SB179	03SS179-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination northwest of 03SB022W2
	03SB179-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SB179-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB179-0608	5/22/2014	DPT	6-8	--	--	X	X	
	03SB179-0810	5/22/2014	DPT	8-10	--	--	--	--	
03SB180	03SS180-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination west of 03SB022W2
	03SB180-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SB180-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB180-0608	5/22/2014	DPT	6-8	--	--	X	X	
	03SB180-0810	5/22/2014	DPT	8-10	--	--	--	--	
03SB190	03SS190-0002	5/20/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral and vertical extent of RDX/TNT contamination west of 03SB24N3
	03SB190-0204	5/20/2014	DPT	2-4	--	--	X	X	
	03SB190-0406	5/20/2014	DPT	4-6	--	--	X	X	
	03SB190-0608	5/20/2014	DPT	6-8	--	--	X	X	
	03SB190-0810	5/20/2014	DPT	8-10	--	--	--	--	
03SB191	03SS191-0002	5/21/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral and vertical extent of RDX/TNT contamination west of 03SB147
	03SB191-0204	5/21/2014	DPT	2-4	--	--	X	X	
	03SB191-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB191-0608	5/21/2014	DPT	6-8	--	--	X	X	
	03SB191-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB192	03SS192-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral and vertical extent of RDX/TNT contamination east of 03SB22N2
	03SB192-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SB192-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB192-0608	5/22/2014	DPT	6-8	--	--	X	X	
	03SB192-0810	5/22/2014	DPT	8-10	--	--	--	--	

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SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
HOTSPOT 03SB024									
03SB024	03SS024-0204	Sample location located adjacent to the old trailer on site. Other sample locations nearby will be used to characterize the area.							Define vertical extent of RDX/TNT/Pb contamination
	03SB024-0608								Define vertical extent of RDX/TNT contamination
	03SB024-0810								
03SB024-N1	03SS024-0002-N1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB024-0204-N1	12/15/2011	DPT	2-4	--	X	X	X	
03SB024-N2	03SS024-0002-N2	12/15/2011	DPT	0-2	X	X	X	X	
	03SB024-0204-N2	12/15/2011	DPT	2-4	--	X	X	X	
03SB024-N3	03SS024-0002-N3	12/15/2011	DPT	0-2	--	--	X	X	
	03SB024-0204-N3	12/15/2011	DPT	2-4	--	--	X	X	
	03SB024-0406-N3	Sample location located adjacent to the old trailer on site. Other sample locations nearby will be used to characterize the area.							Define vertical extent of RDX/TNT contamination
	03SB024-0608-N3								
	03SB024N3-0810								
03SB147	03SS147-0002	12/15/2011	DPT	0-2	X	--	X	X	
	03SB147-0204	12/15/2011	DPT	2-4	--	--	X	X	
	03SS147-0406	Samples not collected due to interference with magnetometer at the surface. Locations 03SB147 and 03SB147N2 are within a few feet of one another. Location is a perimeter location; therefore, new sample locations (03SB196 and 03SB197) were placed to the north of these locations to define the area.							Define vertical extent of RDX/TNT contamination
	03SB147-0608								
	03SB147-0810								
03SB147-N2	03SS147-0002-N2	12/15/2011	DPT	0-2	--	--	X	X	
	03SB147-0204-N2	12/15/2011	DPT	2-4	--	--	X	X	
	03SS147-0406-N2	Samples not collected due to interference with magnetometer at the surface. Locations 03SB147 and 03SB147N2 are within a few feet of one another. Location is a perimeter location; therefore, new sample locations (03SB196 and 03SB197) were placed to the north of these locations to define the area.							Define lateral and vertical extent of RDX/TNT contamination north of 03SB147
	03SB147-0608-N2								
	03SB147-0810-N2								
03SB024-S1	03SS024-0002-S1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB024-0204-S1	12/15/2011	DPT	2-4	--	X	X	X	
	03SB024S1-0406	5/20/2014	DPT	4-6	X	--	--	--	Define lateral and vertical extent of Pb contamination north of 03SB024
	03SB024S1-0608	5/20/2014	DPT	6-8	X	--	--	--	
	03SB024S1-0810	5/20/2014	DPT	8-10	X	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB024-S2	03SS024-0002-S2	12/15/2011	DPT	0-2	X	X	X	X	
	03SB024-0204-S2	12/15/2011	DPT	2-4	--	X	X	X	
	03SB024-0406-S2	Samples not collected due to interference with magnetometer. Sample location is bounded in all directions by other sample locations.							Define lateral and vertical extent of Pb contamination northwest of 03SB024
	03SB024-0608-S2								
	03SB024-0810-S2								
03SB024-S3	03SS024-0002-S3	12/15/2011	DPT	0-2	--	--	X	X	
	03SS024-0002-S3	5/21/2014	DPT	0-2	X	X	--	--	
	03SB024-0204-S3	12/15/2011	DPT	2-4	--	--	X	X	
	03SB024-0204-S3	5/21/2014	DPT	2-4	X	X	--	--	
	03SB024-0406-S3	5/21/2014	DPT	4-6	X	--	--	--	
	03SB024-0608-S3	5/21/2014	DPT	6-8	X	--	--	--	
	03SB024-0810-S3	5/21/2014	DPT	8-10	X	--	--	--	
03SB143	03SS143-0002	12/13/2011	HA	0-2	X	--	X	X	
	03SB143-0204	12/13/2011	HA	2-4	--	--	X	X	
	03SS143-0406	Samples not collected due to interference with magnetometer. Sample location is bounded in all directions by other sample locations.							Define vertical extent of RDX/TNT contamination
	03SB143-0608								
	03SB143-0810								
03SB143-S2	03SS143-0002-S2	12/15/2011	HA	0-2	--	--	X	X	
	03SB143-0204-S2	12/15/2011	HA	2-4	--	--	X	X	
	03SS143-0406-S2	5/22/2014	DPT	4-6	--	--	X	X	Define lateral and vertical extent of RDX/TNT contamination south of 03SB143
	03SB143-0608-S2	5/22/2014	DPT	6-8	--	--	X	X	
	03SB143-0810-S2	5/22/2014	DPT	8-10	--	--	--	--	
03SB024-E1	03SS024-0002-E1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB024-0204-E1	12/15/2011	DPT	2-4	--	X	X	X	
	03SB024-0406-E1	5/20/2014	DPT	4-6	X	--	--	--	Define vertical and lateral extent of Pb contamination east of 03SB024
	03SB024-0608-E1	5/20/2014	DPT	6-8	X	--	--	--	
	03SB024-0810-E1	5/20/2014	DPT	8-10	X	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB024-E2	03SS024-0002-E2	12/15/2011	DPT	0-2	X	X	X	X	
	03SB024-0204-E2	12/15/2011	DPT	2-4	--	X	X	X	
	03SS143-0406-E2	5/21/2014	DPT	4-6	--	--	X	X	
	03SB143-0608-E2	5/21/2014	DPT	6-8	--	--	X	X	
	03SB143-0810-E2	5/21/2014	DPT	8-10	--	--	--	--	
03SB024-E3	03SS024-0002-E3	12/15/2011	DPT	0-2	--	--	X	X	
	03SB024-0204-E3	12/15/2011	DPT	2-4	--	--	X	X	
03SB145	03SS145-0002	12/15/2011	DPT	0-2	X	--	X	X	
	03SB145-0204	12/15/2011	DPT	2-4	--	--	X	X	
03SB145-E2	03SS145-0002-E2	12/15/2011	DPT	0-2	--	--	X	X	
03SB145-E2	03SB145-0204-E2	12/15/2011	DPT	2-4	--	--	X	X	
03SB024-W1	03SS024-0002-W1	12/15/2011	DPT	0-2	--	X	X	X	
	03SB024-0204-W1	12/15/2011	DPT	2-4	--	X	X	X	
03SB024-W2	03SS024-0002-W2	12/15/2011	DPT	0-2	X	X	X	X	
	03SB024-0204-W2	12/15/2011	DPT	2-4	--	X	X	X	
03SB024-W3	03SS024-0002-W3	12/15/2011	DPT	0-2	--	--	X	X	
	03SB024-0204-W3	12/15/2011	DPT	2-4	--	--	X	X	
03SB173	03SS173-0002	5/21/2014	DPT	0-2	--	--	--	--	New sample location. Define lateral extent of RDX/TNT contamination east of 03SB24N3
	03SB173-0204	5/21/2014	DPT	2-4	--	--	--	--	
	03SS173-0406	5/21/2014	DPT	4-6	--	--	--	--	
	03SB173-0608	5/21/2014	DPT	6-8	--	--	--	--	
	03SB173-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB181	03SS181-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination west of 03SB143
	03SB181-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SS181-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB181-0608	5/22/2014	DPT	6-8	--	--	--	--	
	03SB181-0810	5/22/2014	DPT	8-10	--	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB182	03SS182-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination west of 03SB143
	03SB182-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SS182-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB182-0608	5/22/2014	DPT	6-8	--	--	--	--	
	03SB182-0810	5/22/2014	DPT	8-10	--	--	--	--	
03SB183	03SS183-0002	5/20/2014	DPT	0-2	X	X	X	X	New sample location. Define lateral extent of RDX/TNT contamination south of 03SB024
	03SB183-0204	5/20/2014	DPT	2-4	X	X	X	X	
	03SS183-0406	5/20/2014	DPT	4-6	--	--	X	X	
	03SB183-0608	5/20/2014	DPT	6-8	--	--	X	X	
	03SB183-0810	5/20/2014	DPT	8-10	--	--	--	--	
03SB184	03SS184-0002	5/21/2014	DPT	0-2	X	X	X	X	New sample location. Define lateral extent of RDX/TNT contamination south of 03SB024E2
	03SB184-0204	5/21/2014	DPT	2-4	X	X	X	X	
	03SS184-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB184-0608	5/21/2014	DPT	6-8	--	--	X	X	
	03SB184-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB185	03SS185-0002	5/20/2014	DPT	0-2	X	X	X	X	New sample location. Define lateral extent of RDX/TNT contamination south of 03SB024E2 and Pb contamination southeast of 03SB024
	03SB185-0204	5/20/2014	DPT	2-4	X	X	X	X	
	03SS185-0406	5/20/2014	DPT	4-6	--	--	X	X	
	03SB185-0608	5/20/2014	DPT	6-8	--	--	X	X	
	03SB185-0810	5/20/2014	DPT	8-10	--	--	--	--	
03SB186	03SS186-0002	5/21/2014	DPT	0-2	X	X	X	X	New sample location. Define lateral extent of RDX/TNT contamination south of 03SB024E2
	03SB186-0204	5/21/2014	DPT	2-4	X	X	X	X	
	03SS186-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB186-0608	5/21/2014	DPT	6-8	--	--	X	X	
	03SB186-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB187	03SS187-0002	5/21/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination east of 03SB024E2
	03SB187-0204	5/21/2014	DPT	2-4	--	--	X	X	
	03SS187-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB187-0608	5/21/2014	DPT	6-8	--	--	X	X	
	03SB187-0810	5/21/2014	DPT	8-10	--	--	--	--	

TABLE 2-1

SAMPLE COLLECTION AND ANALYSIS SUMMARY (DECEMBER 2011 and May 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	SAMPLE METHOD	SAMPLE DEPTH (feet)	XRF (LEAD)	FBL ANALYSES			SAMPLE RATIONALE (MAY 2014)
						LEAD	TNT	RDX	
03SB188	03SB188-0204	5/21/2014	DPT	2-4	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination east of 03SB024E3
	03SS188-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB188-0608	5/21/2014	DPT	6-8	--	--	--	--	
	03SB188-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB189	03SS189-0002	5/21/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral extent of RDX/TNT contamination east of 03SB24N3
	03SB189-0204	5/21/2014	DPT	2-4	--	--	X	X	
	03SS189-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB189-0608	5/21/2014	DPT	6-8	--	--	--	--	
	03SB189-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB193	03SS193-0002	5/22/2014	DPT	0-2	--	--	X	X	New sample location. Define lateral and vertical extent of RDX/TNT contamination northwest of 03SB143
	03SB193-0204	5/22/2014	DPT	2-4	--	--	X	X	
	03SS193-0406	5/22/2014	DPT	4-6	--	--	X	X	
	03SB193-0608	5/22/2014	DPT	6-8	--	--	--	--	
	03SB193-0810	5/22/2014	DPT	8-10	--	--	--	--	
03SB196	03SS196-0406	5/21/2014	DPT	4-6	--	--	X	X	New sample locations placed north of 03SB147 and 03SB147N2 to define the area.
	03SB196-0608	5/21/2014	DPT	6-8	--	--	X	X	
	03SB196-0810	5/21/2014	DPT	8-10	--	--	--	--	
03SB197	03SS197-0406	5/21/2014	DPT	4-6	--	--	X	X	
	03SB197-0608	5/21/2014	DPT	6-8	--	--	X	X	
	03SB197-0810	5/21/2014	DPT	8-10	--	--	--	--	

DPT = Direct-push technology
FBL = Fixed-base laboratory
HA = Hand auger
-- = Parameter not analyzed
X = Parameter analyzed
ppm = part per million

TABLE 2-2

LEAD CORRELATION ANALYSES (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE ID	SAMPLE DATE	PARAMETER	XRF-VALUE	FBL-VALUE	CALC VALUE
03SB018-0204	12/15/2011	Pb	836.33	NA	618.2
03SB018-0406	12/14/2011	Pb	41.33	36.2	NC
03SB018-0608	12/14/2011	Pb	22.00	NA	26.1
03SB018-0204-N2	12/13/2011	Pb	1400.00	NA	1028.2
03SB018-0406-N2	12/13/2011	Pb	66.33	54.3	NC
03SB018-0204-N3	12/14/2011	Pb	60.00	60.4	NC
03SB018N3-0406	5/20/2014	Pb	12.67	24.00	NC
03SB018-0204-S1	12/14/2011	Pb	37.33	NA	37.2
03SB018S1-0204	5/20/2014	Pb	24.67	36.60	NC
03SB018S1-0406	5/20/2014	Pb	36.67	48.00	NC
03SB018S2-0204	5/20/2014	Pb	166.33	262.00	NC
03SB018-0204-S2	12/13/2011	Pb	58.33	NA	52.5
03SB018S2-0406	5/20/2014	Pb	35.00	44.90	NC
03SB018-0204-E2	12/13/2011	Pb	697.33	547	NC
03SB018-0406-E2	12/13/2011	Pb	10.67	24.5	NC
03SB018-0204-E3	12/14/2011	Pb	51.67	80.6	NC
03SB018E3-0406	5/20/2014	Pb	58.00	80.20	NC
03SB018-0204-W2	12/13/2011	Pb	317.00	258	NC
03SB018-0406-W2	12/13/2011	Pb	40.00	50.4	NC
03SB018-0204-W3	12/14/2011	Pb	56.00	60.7	NC
03SB123-0204	12/13/2011	Pb	68.67	NA	60.0
03SB131-0204	12/13/2011	Pb	28.33	NA	30.7
03SB134-0204	12/13/2011	Pb	150.67	NA	119.6
03SB134-0204	12/13/2011	Pb	64.33	NA	56.9
03SB165-0204	5/20/2014	Pb	18.67	47.00	NC
03SB165-0406	5/20/2014	Pb	17.67	26.10	NC
03SB166-0204	5/20/2014	Pb	260.00	361.00	NC
03SB166-0406	5/20/2014	Pb	16.00	29.50	NC
03SB167-0204	5/20/2014	Pb	53.67	53.20	NC
03SB167-0406	5/20/2014	Pb	14.67	22.90	NC
03SB019-0406	12/14/2011	Pb	308.67	208	NC
03SB019-0608	12/14/2011	Pb	5.00	14	NC
03SB019-0204-N1	12/14/2011	Pb	306.33	213	NC
03SB019-0406-N1	12/14/2011	Pb	35.00	39.2	NC
03SB019-0204-N2	12/13/2011	Pb	16.00	NA	21.7
03SB019N2-0204	5/19/2014	Pb	81.33	50.90	NC
03SB019N2-0406	5/19/2014	Pb	83.33	83.70	NC
03SB019-0204-S1	12/14/2011	Pb	97.67	97.4	NC
03SB019S1-0406	5/19/2014	Pb	11.00	21.00	NC
03SB019-0204-S2	12/13/2011	Pb	37.67	NA	37.5
03SB019-0204-E1	12/14/2011	Pb	187.00	143	NC
03SB019E1-0406	5/19/2014	Pb	12.33	20.10	NC
03SB019-0204-E2	12/13/2011	Pb	50.33	NA	46.7
03SB019-0204-W1	12/14/2011	Pb	71.67	60	NC
03SB019W1-0406	5/19/2014	Pb	22.00	36.50	NC
03SB019-0204-W2	12/13/2011	Pb	170.00	NA	133.7
03SB125-0204	12/13/2011	Pb	59.33	NA	53.2
03SB127-0204	12/13/2011	Pb	12.00	NA	18.8
03SB129-0204	12/13/2011	Pb	21.67	NA	25.8
03SB129-0204	5/20/2014	Pb	17.33	16.90	NC
03SB129-0406	5/20/2014	Pb	19.33	31.90	NC
03SB168-0204	5/19/2014	Pb	27.00	NA	35.73
03SB168-0406	5/19/2014	Pb	24.33	35.30	NC
03SB194-0204	5/19/2014	Pb	25.33	29.70	NC
03SB194-0406	5/19/2014	Pb	12.00	21.00	NC
03SB195-0204	5/19/2014	Pb	22.67	28.30	NC
03SB195-0406	5/19/2014	Pb	13.33	25.00	NC
03SS022-0002-N1	12/15/2011	Pb	NA	23.7	NC
03SB022-0204-N1	12/15/2011	Pb	NA	21.8	NC
03SS022-0002-N2	12/15/2011	Pb	NA	19.8	NC
03SB022-0204-N2	12/15/2011	Pb	NA	61.9	NC
03SS022-0002-N3	12/15/2011	Pb	NA	20.5	NC
03SB022-0204-N3	12/15/2011	Pb	NA	25.8	NC
03SS022-0002-S1	12/15/2011	Pb	NA	30.2	NC
03SB022-0204-S1	12/15/2011	Pb	NA	30.8	NC

TABLE 2-2

LEAD CORRELATION ANALYSES (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE ID	SAMPLE DATE	PARAMETER	XRF-VALUE	FBL-VALUE	CALC VALUE
03SS022-0002-S2	12/15/2011	Pb	NA	19.4	NC
03SB022-0204-S2	12/15/2011	Pb	NA	20.4	NC
03SS022-0002-S3	12/15/2011	Pb	NA	20.9	NC
03SB022-0204-S3	12/15/2011	Pb	NA	21.6	NC
03SS022-0002-E1	12/15/2011	Pb	NA	18.3	NC
03SB022-0204-E1	12/15/2011	Pb	NA	23.6	NC
03SS022-0002-E2	12/15/2011	Pb	NA	43.8	NC
03SB022-0204-E2	12/15/2011	Pb	NA	149	NC
03SS022-0002-E3	12/15/2011	Pb	NA	54.4	NC
03SB022-0204-E3	12/15/2011	Pb	NA	21.3	NC
03SS022-0002-W1	12/15/2011	Pb	NA	54.7	NC
03SB022-0204-W1	12/15/2011	Pb	NA	69.7	NC
03SS022-0002-W2	12/15/2011	Pb	NA	52.2	NC
03SB022-0204-W2	12/15/2011	Pb	NA	50.9	NC
03SS022-0002-W3	12/15/2011	Pb	NA	123	NC
03SB022-0204-W3	12/15/2011	Pb	NA	94.1	NC
03SS137-0002	12/15/2011	Pb	29.33	26.6	NC
03SB137-0204	12/15/2011	Pb	NA	101	NC
03SS138-0002	12/15/2011	Pb	183.67	68.7	NC
03SB138-0204	12/15/2011	Pb	NA	118	NC
03SS140-0002	12/13/2011	Pb	66.67	87.4	NC
03SB140-0204	12/13/2011	Pb	NA	68.6	NC
03SS141-0002	12/15/2011	Pb	44.00	48.6	42.1
03SB141-0204	12/15/2011	Pb	NA	85.9	NC
03SS024-0002-N1	12/15/2011	Pb	NA	125	NC
03SB024-0204-N1	12/15/2011	Pb	NA	103	NC
03SS024-0002-N2	12/15/2011	Pb	66.67	35.3	NC
03SB024-0204-N2	12/15/2011	Pb	NA	115	NC
03SS024-0002-S1	12/15/2011	Pb	NA	71.1	NC
03SB024-0204-S1	12/15/2011	Pb	NA	17	NC
03SB024S1-0406	5/20/2014	Pb	35.67	---	46.39
03SB024S1-0608	5/20/2014	Pb	14.67	---	20.56
03SB024S1-0810	5/20/2014	Pb	11.67	---	16.87
03SS024-0002-S2	12/15/2011	Pb	55.00	73.2	NC
03SB024-0204-S2	12/15/2011	Pb	NA	160	NC
03SS024S3-0002	5/21/2014	Pb	18.00	21.00	NC
03SB024S3-0204	5/21/2014	Pb	108.33	146.00	NC
03SB024S3-0406	5/21/2014	Pb	157.33	---	196.04
03SB024S3-0608	5/21/2014	Pb	18.00	---	24.66
03SB024S3-0810	5/21/2014	Pb	11.00	---	16.05
03SS024-0002-E1	12/15/2011	Pb	NA	36.3	NC
03SB024-0204-E1	12/15/2011	Pb	NA	32.2	NC
03SB024E1-0406	5/20/2014	Pb	25.33	---	33.68
03SB024E1-0608	5/20/2014	Pb	12.33	---	17.69
03SB024E1-0810	5/20/2014	Pb	10.67	---	15.64
03SS024-0002-E2	12/15/2011	Pb	92.00	54.4	NC
03SB024-0204-E2	12/15/2011	Pb	NA	15.7	NC
03SS024-0002-W1	12/15/2011	Pb	NA	97.9	NC
03SB024-0204-W1	12/15/2011	Pb	NA	23.9	NC
03SS024-0002-W2	12/15/2011	Pb	111.33	72.4	NC
03SB024-0204-W2	12/15/2011	Pb	NA	90.2	NC
03SS143-0002	12/13/2011	Pb	76.33	---	65.6
03SS145-0002	12/15/2011	Pb	65.33	---	57.6
03SS147-0002	12/15/2011	Pb	81.67	---	69.5
03SS183-0002	5/20/2014	Pb	177.00	158.00	NC
03SB183-0204	5/20/2014	Pb	165.00	206.00	NC
03SB183-0406	5/20/2014	Pb	46.67	---	59.92
03SB183-0608	5/20/2014	Pb	11.67	---	16.87
03SB183-0810	5/20/2014	Pb	10.67	---	15.64
03SS184-0002	5/21/2014	Pb	47.67	61.60	NC
03SB184-0204	5/21/2014	Pb	88.33	129.00	NC
03SB184-0406	5/21/2014	Pb	34.33	---	44.75
03SB184-0608	5/21/2014	Pb	11.67	---	16.87
03SB184-0810	5/21/2014	Pb	11.00	---	16.05
03SS185-0002	5/20/2014	Pb	92.33	69.00	NC

TABLE 2-2

LEAD CORRELATION ANALYSES (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

SAMPLE ID	SAMPLE DATE	PARAMETER	XRF-VALUE	FBL-VALUE	CALC VALUE
03SB185-0204	5/20/2014	Pb	198.00	242.00	NC
03SB185-0406	5/20/2014	Pb	15.67	---	21.79
03SB185-0608	5/20/2014	Pb	14.67	---	20.56
03SB185-0810	5/20/2014	Pb	11.00	---	16.05
03SS186-0002	5/21/2014	Pb	20.33	34.40	NC
03SB186-0204	5/21/2014	Pb	55.67	73.40	NC
03SB186-0406	5/21/2014	Pb	17.00	---	23.43
03SB186-0608	5/21/2014	Pb	11.00	---	16.05
03SB186-0810	5/21/2014	Pb	10.67	---	15.64
03SB048-0204-N1	12/13/2011	Pb	19.67	25	NC
03SB048N1-0406	5/19/2014	Pb	13.67	27.50	NC
03SB048N1-0608	5/19/2014	Pb	11.00	10.70	NC
03SB048N1-0810	5/19/2014	Pb	12.33	18.10	NC
03SB048-0204-N2	12/13/2011	Pb	18.00	---	23.2
03SB048-0204-S1	12/14/2011	Pb	22.33	24.2	NC
03SB048S1-0406	5/19/2014	Pb	14.00	18.60	NC
03SB048S1-0608	5/19/2014	Pb	18.67	25.00	NC
03SB048S1-0810	5/19/2014	Pb	11.67	13.50	NC
03SB048-0204-S2	12/13/2011	Pb	12.67	---	19.3
03SB048-0204-E1	12/14/2011	Pb	24.33	26.4	NC
03SB048E1-0406	5/19/2014	Pb	11.33	13.10	NC
03SB048E1-0608	5/19/2014	Pb	9.33	7.75	NC
03SB048E1-0810	5/19/2014	Pb	10.67	12.30	NC
03SB048-0204-E2	12/13/2011	Pb	14.67	---	20.7
03SB048-0204-W1	12/14/2011	Pb	34.67	48.6	NC
03SB048W1-0406	5/19/2014	Pb	12.67	24.00	NC
03SB048W1-0608	5/19/2014	Pb	16.33	28.70	NC
03SB048W1-0810	5/19/2014	Pb	13.33	29.50	NC
03SB161-0204	12/13/2011	Pb	26.67	---	29.5
03SB162-0204	12/13/2011	Pb	8.67	---	16.4
03SB163-0204	12/13/2011	Pb	26.00	---	29.0
03SB164-0204	12/13/2011	Pb	5.00	---	13.7
03SB169-0204	5/19/2014	Pb	18.67	27.40	NC
03SB169-0406	5/19/2014	Pb	18.33	29.00	NC
03SB169-0608	5/19/2014	Pb	15.67	18.40	NC
03SB169-0810	5/19/2014	Pb	10.67	18.10	NC

Calc Value = Calculated lead value based on correlation
FBL = Fixed-base Laboratory
NA = Not Analyzed
NC = Not Calculated (For samples having an FBL concentration, a calculaed lead value was not required)
Pb = Lead
XRF = X-Ray Fluorescence

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

LOCATION	Media Cleanup Standards for Soil	03SB018			03SB018E2		03SB018E3		03SB018N2		03SB018N3		
SAMPLE ID		03SB018-0204	03SB018-0406	03SB018-0608	03SB018-0204-E2	03SB018-0406-E2	03SB018-0204-E3	03SB018E3-0406	03SB018-0204-N2	03SB018-0406-N2	03SB018-0204-N3	03SB018-0204-N3-D	03SB018N3-0406
SAMPLE DATE		20111214	20111214	20111214	20111213	20111213	20111214	20140520	20111213	20111213	20111214	20111214	20140520
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
TOP DEPTH		2	4	6	2	4	2	4	2	4	2	2	4
BOTTOM DEPTH		4	6	8	4	6	4	6	4	6	4	4	6
EXPLOSIVES (MG/KG)													
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RDX	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)													
LEAD	400	NA	36.2	NA	547	24.5	80.6	80.2 J	NA	54.3	60.4	82.8	23.7 J
TCLP METALS (MG/L)													
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)													
LEAD	400	836	41.33	22	697.33	10.67	51.67	58	1400	66.33	60	NA	12.67

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

LOCATION	Media Cleanup Standards for Soil	03SB018S1			03SB018S2			03SB018W2		03SB018W3		03SB019				
SAMPLE ID		03SB018-0204-S1	03SB018S1-0204	03SB018S1-0406	03SB018-0204-S2	03SB018S2-0204	03SB018S2-0406	03SB018-0204-W2	03SB018-0406-W2	03SB018-0204-W3	03SB018-0204-W3-D	03SB019-TC-0204	03SB019-0406	03SB019-0608	03SB019-0204-E1	03SB019E1-0406
SAMPLE DATE		20111214	20140520	20140520	20111213	20140520	20140520	20111213	20111213	20111214	20111214	20140522	20111214	20111214	20111214	20140519
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	ORIG
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
TOP DEPTH		2	2	4	2	2	4	2	4	2	2	2	4	6	2	4
BOTTOM DEPTH		4	4	6	4	4	6	4	6	4	4	4	6	8	4	6
EXPLOSIVES (MG/KG)																
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RDX	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)																
LEAD	400	NA	36.6 J	48 J	NA	262 J	44.9 J	258	50.4	60.7	54.4	NA	208	14	143	20.1 J
TCLP METALS (MG/L)																
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.348	NA	NA	NA	NA
XRF (MG/KG)																
LEAD	400	37.33	24.67	36.67	58.33	166.33	35	317	40	56	NA	NA	308.67	5	187	12.33

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

03SB019E1			03SB019E2	03SB019N1		03SB019N2			03SB019S1		03SB019S2
SAMPLE ID		03SB019E1-0406-D	03SB019-0204-E2	03SB019-0204-N1	03SB019-0406-N1	03SB019-0204-N2	03SB019N2-0204	03SB019N2-0406	03SB019-0204-S1	03SB019S1-0406	03SB019-0204-S2
SAMPLE DATE		20140519	20111213	20111214	20111214	20111213	20140519	20140519	20111214	20140519	20111213
SAMPLE CODE		DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
TOP DEPTH		4	2	2	4	2	2	4	2	4	2
BOTTOM DEPTH		6	4	4	6	4	4	6	4	6	4
EXPLOSIVES (MG/KG)											
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RDX	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)											
LEAD	400	24	NA	213	39.2	NA	50.9 J	83.7 J	97.4	21 J	NA
TCLP METALS (MG/L)											
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)											
LEAD	400	NA	50.33	306.33	35	16	81.33	83.33	97.67	11	37.67

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB019W1		03SB019W2	03SB022		03SB022E1		03SB022E2		03SB022E3		03SB022N1		03SB022N2	
SAMPLE ID		03SB019-0204-W1	03SB019W1-0406	03SB019-0204-W2	03SB022-0406	03SB022-0608	03SS022-0002-E1	03SB022-0204-E1	03SS022-0002-E2	03SB022-0204-E2	03SS022-0002-E3	03SB022-0204-E3	03SS022-0002-N1	03SB022-0204-N1	03SS022-0002-N2	03SB022-0204-N2
SAMPLE DATE		20111214	20140519	20111213	20140527	20140520	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SS	SB	SS	SB	SS	SB	SS	SB	SS	SB
TOP DEPTH		2	4	2	4	6	0	2	0	2	0	2	0	2	0	2
BOTTOM DEPTH		4	6	4	6	8	2	4	2	4	2	4	2	4	2	4
EXPLOSIVES (MG/KG)																
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	343	4.39 J	0.167 U	0.154 U	1210	10000	753	0.106 J	0.138 J	0.154 U	0.148 U	159
RDX	60	NA	NA	NA	336	5.41 J	0.18 J	0.154 U	829	5460	116	4.18	0.442 J	0.154 U	0.148 U	406
METALS (MG/KG)																
LEAD	400	60	36.5 J	NA	NA	NA	18.3 J	23.6 J	43.8 J	149 J	54.4 J	21.3 J	23.7 J	21.8 J	19.8 J	61.9 J
TCLP METALS (MG/L)																
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)																
LEAD	400	71.67	22	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB022N3		03SB022S1		03SB022S2			03SB022S3		
SAMPLE ID		03SS022-0002-N3	03SB022-0204-N3	03SS022-0002-S1	03SB022-0204-S1	03SS022-0002-S2	03SB022-0204-S2	03SB022-0204-S2-D	03SS022-0002-S3	03SB022-0204-S3	03SB022-0204-S3-D
SAMPLE DATE		20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL	ORIG	DUP
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SS	SB	SS	SB	SB	SS	SB	SB
TOP DEPTH		0	2	0	2	0	2	2	0	2	2
BOTTOM DEPTH		2	4	2	4	2	4	4	2	4	4
EXPLOSIVES (MG/KG)											
2,4,6-TRINITROTOLUENE	210	0.167 U	42.1	0.2 U	0.167 U	0.19 U	0.182 U	NA	0.186 J	0.16 U	NA
RDX	60	0.597	23.9	1.17	0.478	0.19 U	0.182 U	NA	3.84	0.487	NA
METALS (MG/KG)											
LEAD	400	20.5 J	25.8 J	30.2 J	30.8 J	19.4 J	20.4 J	22.9	20.9 J	21.6 J	21
TCLP METALS (MG/L)											
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)											
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB022W1		03SB022W2			03SB022W3				03SB024
SAMPLE ID		03SS022-0002-W1	03SB022-0204-W1	03SS022-0002-W2	03SB022-0204-W2	03SB022-0204-W2-D	03SS022-0002-W3	03SB022-0204-W3	03SB022-0204-W3-D	03SB022W3-0406	03SB024-TC-0004
SAMPLE DATE		20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20140521	20140522
SAMPLE CODE		NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL	ORIG	DUP	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SS	SB	SB	SS	SB	SB	SB	SS
TOP DEPTH		0	2	0	2	2	0	2	2	4	0
BOTTOM DEPTH		2	4	2	4	4	2	4	4	6	4
EXPLOSIVES (MG/KG)											
2,4,6-TRINITROTOLUENE	210	1.17	80.6	28.8	26.1 J	151 J	0.522	2.69 J	0.738 J	0.196 U	NA
RDX	60	1.87	631	193	2060 J	209 J	4.6	1.9 J	13 J	0.198 J	NA
METALS (MG/KG)											
LEAD	400	54.7 J	69.7 J	52.2 J	50.9 J	NA	123 J	94.1 J	NA	NA	NA
TCLP METALS (MG/L)											
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U
XRF (MG/KG)											
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB024E1					03SB024E2		03SB024E3		03SB024N1		03SB024N2	
SAMPLE ID		03SS024-0002-E1	03SB024-0204-E1	03SB024-0406-E1	03SB024-0608-E1	03SB024-0810-E1	03SS024-0002-E2	03SB024-0204-E2	03SS024-0002-E3	03SB024-0204-E3	03SS024-0002-N1	03SB024-0204-N1	03SS024-0002-N2	03SB024-0204-N2
SAMPLE DATE		20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SB	SS	SB	SS	SB	SS	SB	SS	SB
TOP DEPTH		0	2	4	6	8	0	2	0	2	0	2	0	2
BOTTOM DEPTH		2	4	6	8	10	2	4	2	4	2	4	2	4
EXPLOSIVES (MG/KG)														
2,4,6-TRINITROTOLUENE	210	0.598	0.148 U	NA	NA	NA	27.9	10.3	778	5.92	2.72	0.182 U	87.6	0.174 J
RDX	60	3.11	0.525 J	NA	NA	NA	1080	7.8	3800	7.94	82.6	0.182 U	307	9.03
METALS (MG/KG)														
LEAD	400	36.3 J	32.2 J	NA	NA	NA	54.4 J	15.7 J	NA	NA	125	103	35.3	115
TCLP METALS (MG/L)														
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)														
LEAD	400	NA	NA	25.33	12.33	10.67	92	NA	NA	NA	NA	NA	66.67	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB024N3		03SB024S1					03SB024S2	
SAMPLE ID		03SS024-0002-N3	03SB024-0204-N3	03SS024-0002-S1	03SB024-0204-S1	03SB024-0406-S1	03SB024-0608-S1	03SB024-0810-S1	03SS024-0002-S2	03SB024-0204-S2
SAMPLE DATE		20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215	20111215
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SS	SB	SB	SB	SB	SS	SB
TOP DEPTH		0	2	0	2	4	6	8	0	2
BOTTOM DEPTH		2	4	2	4	6	8	10	2	4
EXPLOSIVES (MG/KG)										
2,4,6-TRINITROTOLUENE	210	138	22.9	0.154 U	0.167 U	NA	NA	NA	0.243 J	0.248 J
RDX	60	1530	240	0.154 U	0.167 U	NA	NA	NA	1.03	2.06
METALS (MG/KG)										
LEAD	400	NA	NA	71.1	17	NA	NA	NA	73.2	160
TCLP METALS (MG/L)										
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)										
LEAD	400	NA	NA	NA	NA	35.67	14.67	11.67	55	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB024S3								03SB024W1		03SB024W2	
SAMPLE ID		03SS024-0002-S3	03SS024S3-0002	03SB024-0204-S3	03SB024-0204-S3-D	03SB024S3-0204	03SB024S3-0406	03SB024S3-0608	03SB024S3-0810	03SS024-0002-W1	03SB024-0204-W1	03SS024-0002-W2	03SB024-0204-W2
SAMPLE DATE		20111215	20140521	20111215	20111215	20140521	20140521	20140521	20140521	20111215	20111215	20111215	20111215
SAMPLE CODE		NORMAL	NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SS	SB	SB	SB	SB	SB	SB	SS	SB	SS	SB
TOP DEPTH		0	0	2	2	2	4	6	8	0	2	0	2
BOTTOM DEPTH		2	2	4	4	4	6	8	10	2	4	2	4
EXPLOSIVES (MG/KG)													
2,4,6-TRINITROTOLUENE	210	0.154 U	NA	0.2 U	0.16 U	NA	NA	NA	NA	3.48	0.174 U	0.287 J	0.348
RDX	60	0.847	NA	0.2 UJ	0.868 J	NA	NA	NA	NA	0.674 J	0.174 U	11.9	0.711
METALS (MG/KG)													
LEAD	400	NA	21 J	NA	NA	146 J	NA	NA	NA	97.9 J	23.9 J	72.4	90.2
TCLP METALS (MG/L)													
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)													
LEAD	400	NA	18	NA	NA	108.33	157.33	18	11	NA	NA	111.33	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB024W3			03SB048		03SB048E1				03SB048E2	03SB048N1			
SAMPLE ID		03SS024-0002-W3	03SB024-0204-W3	03SB024-0204-W3-D	03SB048-TC-0206	03SB048-TC-0610	03SB048-0204-E1	03SB048E1-0406	03SB048E1-0608	03SB048E1-0810	03SB048-0204-E2	03SB048-0204-N1	03SB048N1-0406	03SB048N1-0608	03SB048N1-0810
SAMPLE DATE		20111215	20111215	20111215	20140522	20140522	20111214	20140519	20140519	20140519	20111213	20111213	20140519	20140519	20140519
SAMPLE CODE		NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
TOP DEPTH		0	2	2	2	6	2	4	6	8	2	2	4	6	8
BOTTOM DEPTH		2	4	4	6	10	4	6	8	10	4	4	6	8	10
EXPLOSIVES (MG/KG)															
2,4,6-TRINITROTOLUENE	210	2.75	0.16 U	0.223 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RDX	60	5.52	0.343 J	1.32 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	26.4	13.1 J	7.75 J	12.3 J	NA	25	27.5	10.7	18.1
TCLP METALS (MG/L)															
LEAD	5	NA	NA	NA	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	24.33	11.33	9.33	10.67	14.67	19.67	13.67	11	12.33

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB048N2	03SB048S1				03SB048S2	03SB048W1				03SB123	03SB125	03SB127
SAMPLE ID		03SB048-0204-N2	03SB048-0204-S1	03SB048S1-0406	03SB048S1-0608	03SB048S1-0810	03SB048-0204-S2	03SB048-0204-W1	03SB048W1-0406	03SB048W1-0608	03SB048W1-0810	03SB123-0204	03SB125-0204	03SB127-0204
SAMPLE DATE		20111213	20111214	20140519	20140519	20140519	20111213	20111214	20140519	20140520	20140519	20111213	20111213	20111213
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
TOP DEPTH		2	2	4	6	8	2	2	4	6	8	2	2	2
BOTTOM DEPTH		4	4	6	8	10	4	4	6	8	10	4	4	4
EXPLOSIVES (MG/KG)														
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RDX	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)														
LEAD	400	NA	24.2	18.6 J	25 J	13.5 J	NA	48.6	24	28.7 J	29.5 J	NA	NA	NA
TCLP METALS (MG/L)														
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)														
LEAD	400	18	22.33	14	18.67	11.67	12.67	34.67	12.67	16.33	13.33	68.67	59.33	12

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB129			03SB131	03SB133	03SB134	03SB137		03SB137N2		03SB138			
SAMPLE ID		03SB129-0204	03SB129-20140520	03SB129-0406	03SB131-0204	03SB133-0204	03SB134-0204	03SS137-0002	03SB137-0204	03SS137-0002-N2	03SB137-0204-N2	03SS138-0002	03SB138-0204	03SB138-0406	03SB138-0608
SAMPLE DATE		20111213	20140520	20140520	20111213	20111213	20111213	20111215	20111215	20111215	20111215	20111215	20111215	20140520	20140520
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SB	SS	SB	SS	SB	SS	SB	SB	SB
TOP DEPTH		2	2	4	2	2	2	0	2	0	2	0	2	4	6
BOTTOM DEPTH		4	4	6	4	4	4	2	4	2	4	2	4	6	8
EXPLOSIVES (MG/KG)															
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	NA	NA	NA	0.278 J	0.19 U	0.155 J	0.143 U	2.79	2.1	0.198 U	1.95 UJ
RDX	60	NA	NA	NA	NA	NA	NA	2.45	1.61	0.167 U	0.143 U	146	81.2	0.198 U	1.95 UJ
METALS (MG/KG)															
LEAD	400	NA	16.9	31.9 J	NA	NA	NA	26.6 J	101 J	NA	NA	68.7 J	118 J	NA	NA
TCLP METALS (MG/L)															
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)															
LEAD	400	21.67	17.33	19.33	28.33	64.33	150.67	29.33	NA	NA	NA	183.67	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB138E2		03SB140			03SB141		03SB141S2		03SB143		03SB143S2			
SAMPLE ID		03SS138-0002-E2	03SB138-0204-E2	03SS140-0002	03SB140-0204	03SB140-0406	03SS141-0002	03SB141-0204	03SS141-0002-S2	03SB141-0204-S2	03SS143-0002	03SB143-0204	03SS143-0002-S2	03SB143-0204-S2	03SB143S2-0406	03SB143S2-0608
SAMPLE DATE		20111215	20111215	20111213	20111213	20140522	20111215	20111215	20111215	20111215	20111213	20111213	20111215	20111215	20140522	20140522
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SS	SB	SB	SS	SB	SS	SB	SS	SB	SS	SB	SB	SB
TOP DEPTH		0	2	0	2	4	0	2	0	2	0	2	0	2	4	6
BOTTOM DEPTH		2	4	2	4	6	2	4	2	4	2	4	2	4	6	8
EXPLOSIVES (MG/KG)																
2,4,6-TRINITROTOLUENE	210	6.05	0.138 U	0.194 J	0.215 J	0.2 U	2.41	0.182 U	3.68 J	0.154 U	89.5	764	0.154 U	0.167 U	0.196 U	2 U
RDX	60	13.5	0.263 J	0.173 J	0.287 J	0.2 U	226	0.747	242	0.249 J	264	534	0.873	0.961	0.196 U	2 U
METALS (MG/KG)																
LEAD	400	NA	NA	87.4 J	68.6 J	NA	48.6 J	85.9 J	NA	NA	NA	NA	NA	NA	NA	NA
TCLP METALS (MG/L)																
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)																
LEAD	400	NA	NA	66.67	NA	NA	44	NA	NA	NA	76.33	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB145		03SB145E2				03SB147		03SB147N		03SB161	03SB162	03SB163	03SB164
SAMPLE ID		03SS145-0002	03SB145-0204	03SS145-0002-E2	03SB145-0204-E2	03SB145E2-0406	03SB145E2-0608	03SS147-0002	03SB147-0204	03SS147-0002-N2	03SB147-0204-N2	03SB161-0204	03SB162-0204	03SB163-0204	03SB164-0204
SAMPLE DATE		20111215	20111215	20111215	20111215	20140521	20140521	20111215	20111215	20111215	20111215	20111213	20111213	20111213	20111213
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SS	SB	SB	SB	SS	SB	SS	SB	SB	SB	SB	SB
TOP DEPTH		0	2	0	2	4	6	0	2	0	2	2	2	2	2
BOTTOM DEPTH		2	4	2	4	6	8	2	4	2	4	4	4	4	4
EXPLOSIVES (MG/KG)															
2,4,6-TRINITROTOLUENE	210	28.4	0.148 U	0.243 J	0.16 U	1.92 U	1.96 UJ	3260	547	0.523	0.138 U	NA	NA	NA	NA
RDX	60	909	0.599	0.655	0.998	1.92 U	1.96 UJ	4030	820	0.785	0.138 U	NA	NA	NA	NA
METALS (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP METALS (MG/L)															
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)															
LEAD	400	65.33	NA	NA	NA	NA	NA	81.67	NA	NA	NA	26.67	8.67	26	5

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB165			03SB166		03SB167		03SB168		03SB169			
SAMPLE ID		03SB165-0204	03SB165-0406	03SB165-0406-D	03SB166-0204	03SB166-0406	03SB167-0204	03SB167-0406	03SB168-0204	03SB168-0406	03SB169-0204	03SB169-0406	03SB169-0608	03SB169-0810
SAMPLE DATE		20140520	20140520	20140520	20140520	20140520	20140520	20140520	20140519	20140519	20140519	20140519	20140519	20140519
SAMPLE CODE		NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB	SB
TOP DEPTH		2	4	4	2	4	2	4	2	4	2	4	6	8
BOTTOM DEPTH		4	6	6	4	6	4	6	4	6	4	6	8	10
EXPLOSIVES (MG/KG)														
2,4,6-TRINITROTOLUENE	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RDX	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS (MG/KG)														
LEAD	400	47 J	26.1 J	23.7	361 J	29.5 J	53.2 J	22.9 J	NA	35.3	27.4 J	29 J	18.4 J	18.1 J
TCLP METALS (MG/L)														
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)														
LEAD	400	18.67	17.67	NA	260	16	53.67	14.67	27	24.33	18.67	18.33	15.67	10.67

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB171				03SB175				03SB176				
SAMPLE ID		03SS171-0002	03SB171-0204	03SB171-0204-D	03SB171-0406	03SS175-0002	03SB175-0204	03SB175-0406	03SB175-0608	03SB176-0002	03SB176-0204	03SB176-0406	03SB176-0406-D	03SB176-0608
SAMPLE DATE		20140521	20140521	20140521	20140521	20140520	20140520	20140520	20140520	20140522	20140522	20140528	20140522	20140522
SAMPLE CODE		NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SS	SB	SB	SB	SS	SB	SB	SB	SB
TOP DEPTH		0	2	2	4	0	2	4	6	0	2	4	4	6
BOTTOM DEPTH		2	4	4	6	2	4	6	8	2	4	6	6	8
EXPLOSIVES (MG/KG)														
2,4,6-TRINITROTOLUENE	210	0.199 U	0.198 U	0.198 U	0.2 U	1.99 UJ	1.96 UJ	1.98 UJ	1.99 UJ	0.199 U	14.6	4150 J	998 J	1.95 U
RDX	60	0.154 J	0.198 U	0.198 U	0.2 U	1.99 UJ	1.96 UJ	1.98 UJ	1.99 UJ	0.199 U	27.4	1580 J	381 J	13.4
METALS (MG/KG)														
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP METALS (MG/L)														
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)														
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB178				03SB179					03SB180				
SAMPLE ID		03SS178-0002	03SB178-0204	03SB178-0406	03SB178-0608	03SS179-0002	03SS179-0002-D	03SB179-0204	03SB179-0406	03SB179-0608	03SS180-0002	03SB180-0204	03SB180-0406	03SB180-0406-D	03SB180-0608
SAMPLE DATE		20140522	20140522	20140522	20140522	20140522	20140522	20140521	20140521	20140522	20140522	20140522	20140522	20140522	20140522
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SS	SS	SB	SB	SB	SS	SB	SB	SB	SB
TOP DEPTH		0	2	4	6	0	0	2	4	6	0	2	4	4	6
BOTTOM DEPTH		2	4	6	8	2	2	4	6	8	2	4	6	6	8
EXPLOSIVES (MG/KG)															
2,4,6-TRINITROTOLUENE	210	0.221 J	0.196 U	1.99 U	2 U	0.195 U	0.196 U	0.2 U	0.198 U	2 U	0.154 J	0.198 U	0.199 U	0.137 J	2.65 J
RDX	60	0.195 U	0.196 U	1.99 U	2 U	2.46	2.96	1.08	0.773	2 U	0.196 U	0.145 J	0.132 J	0.113 J	0.195 UJ
METALS (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP METALS (MG/L)															
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

			03SB181			03SB182					03SB183			
SAMPLE ID		03SS181-0002	03SB181-0204	03SB181-0406	03SS182-0002	03SB182-0204	03SB182-0406	03SS183-0002	03SS183-0002-D	03SB183-0204	03SB183-0204-D	03SB183-0406	03SB183-0608	03SB183-0810
SAMPLE DATE		20140522	20140522	20140522	20140522	20140522	20140522	20140520	20140520	20140520	20140520	20140520	20140520	20140520
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	ORIG	DUP	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SS	SB	SB	SS	SS	SB	SB	SB	SB	SB
TOP DEPTH		0	2	4	0	2	4	0	0	2	2	4	6	8
BOTTOM DEPTH		2	4	6	2	4	6	2	2	4	4	6	8	10
EXPLOSIVES (MG/KG)														
2,4,6-TRINITROTOLUENE	210	0.199 U	0.196 U	0.733	0.886	0.197 U	0.196 U	0.197 U	0.2 U	0.195 U	NA	0.195 U	1.92 UJ	NA
RDX	60	0.199 U	0.196 U	1.04	0.256 J	0.127 J	0.222 J	0.39 J	0.311 J	0.195 U	NA	0.195 U	1.92 UJ	NA
METALS (MG/KG)														
LEAD	400	NA	NA	NA	NA	NA	NA	158 J	NA	206 J	231	NA	NA	NA
TCLP METALS (MG/L)														
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)														
LEAD	400	NA	NA	NA	NA	NA	NA	177	NA	165	NA	46.67	11.67	10.67

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

				03SB184					03SB185					03SB186		
SAMPLE ID		03SS184-0002	03SB184-0204	03SB184-0406	03SB184-0608	03SB184-0810	03SS185-0002	03SB185-0204	03SB185-0406	03SB185-0608	03SB185-0810	03SS186-0002	03SB186-0204	03SB186-0406	03SB186-0608	03SB186-0810
SAMPLE DATE		20140521	20140521	20140521	20140521	20140521	20140520	20140520	20140520	20140520	20140520	20140521	20140521	20140521	20140521	20140521
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SB	SS	SB	SB	SB	SB	SS	SB	SB	SB	SB
TOP DEPTH		0	2	4	6	8	0	2	4	6	8	0	2	4	6	8
BOTTOM DEPTH		2	4	6	8	10	2	4	6	8	10	2	4	6	8	10
EXPLOSIVES (MG/KG)																
2,4,6-TRINITROTOLUENE	210	311	23.3	40.1	1.95 UJ	NA	171	1.43	1.97 UJ	1.9 UJ	NA	37.6	778	1270	1.96 UJ	NA
RDX	60	944	74.8	11.9	1.95 UJ	NA	1250	792	37.2 J	1.9 UJ	NA	1330	904	164	1.62 J	NA
METALS (MG/KG)																
LEAD	400	61.6 J	129 J	NA	NA	NA	69 J	242 J	NA	NA	NA	34.4 J	73.4 J	NA	NA	NA
TCLP METALS (MG/L)																
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)																
LEAD	400	47.67	88.33	34.33	11.67	11	92.33	198	15.67	14.67	11	20.33	55.67	17	11	10.67

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB187				03SB188			03SB189			03SB190			
SAMPLE ID		03SS187-0002	03SB187-0204	03SB187-0406	03SB187-0608	03SS188-0204	03SS188-0204-D	03SB188-0406	03SS189-0002	03SB189-0204	03SB189-0406	03SS190-0002	03SB190-0204	03SB190-0406	03SB190-0608
SAMPLE DATE		20140521	20140521	20140521	20140521	20140521	20140521	20140521	20140521	20140521	20140521	20140520	20140520	20140520	20140520
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	ORIG	DUP	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SB	SB	SB	SS	SB	SB	SS	SB	SB	SB
TOP DEPTH		0	2	4	6	2	2	4	0	2	4	0	2	4	6
BOTTOM DEPTH		2	4	6	8	4	4	6	2	4	6	2	4	6	8
EXPLOSIVES (MG/KG)															
2,4,6-TRINITROTOLUENE	210	2550	0.195 UJ	3.2 J	1.98 UJ	0.2 U	0.2 U	1.72 U	0.199 U	0.198 U	0.195 U	1.07	0.197 U	0.2 U	1.97 UJ
RDX	60	2280	0.653 J	1.93 J	1.98 UJ	0.2 U	0.13 J	1.72 U	0.465	0.191 J	0.195 U	43.1	1.05	2.08	1.97 UJ
METALS (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP METALS (MG/L)															
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)															
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB191				03SB192				03SB193			03SB194		03SB195	
SAMPLE ID		03SS191-0002	03SB191-0204	03SB191-0406	03SB191-0608	03SS192-0002	03SB192-0204	03SB192-0406	03SB192-0608	03SS193-0002	03SB193-0204	03SB193-0406	03SB194-0204	03SB194-0406	03SB195-0204	03SB195-0406
SAMPLE DATE		20140521	20140521	20140521	20140521	20140522	20140522	20140522	20140522	20140522	20140522	20140522	20140519	20140519	20140519	20140519
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SS	SB	SB	SB	SS	SB	SB	SB	SS	SB	SB	SB	SB	SB	SB
TOP DEPTH		0	2	4	6	0	2	4	6	0	2	4	2	4	2	4
BOTTOM DEPTH		2	4	6	8	2	4	6	8	2	4	6	4	6	4	6
EXPLOSIVES (MG/KG)																
2,4,6-TRINITROTOLUENE	210	0.199 U	0.196 U	0.197 U	1.86 U	75	3.57 J	1.07 J	1.95 U	0.181 J	17.3	0.154 J	NA	NA	NA	NA
RDX	60	0.199 U	0.196 U	0.197 U	1.86 U	899	7.98	5.78	1.95 U	1.53	492	8.86	NA	NA	NA	NA
METALS (MG/KG)																
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.7 J	21 J	28.3 J	25 J
TCLP METALS (MG/L)																
LEAD	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
XRF (MG/KG)																
LEAD	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.33	12	22.67	13.33

TABLE 3-1

RDX, TNT, AND LEAD ANALYTICAL DETECTIONS SCREENING TABLE (2011 AND 2014)
SWMU 3 - ABG/OJT MAIN TREATMENT AREA
NSA CRANE
CRANE, INDIANA

		03SB196		03SB197	
SAMPLE ID		03SB196-0406	03SB196-0608	03SB197-0406	03SB197-0608
SAMPLE DATE		20140521	20140521	20140521	20140521
SAMPLE CODE		NORMAL	NORMAL	NORMAL	NORMAL
MATRIX		SO	SO	SO	SO
SAMPLE TYPE		NORMAL	NORMAL	NORMAL	NORMAL
SUBMATRIX		SB	SB	SB	SB
TOP DEPTH		4	6	4	6
BOTTOM DEPTH		6	8	6	8
EXPLOSIVES (MG/KG)					
2,4,6-TRINITROTOLUENE	210	0.196 U	1.76 U	0.2 U	1.91 U
RDX	60	0.196 U	1.76 U	0.2 U	1.91 U
METALS (MG/KG)					
LEAD	400	NA	NA	NA	NA
TCLP METALS (MG/L)					
LEAD	5	NA	NA	NA	NA
XRF (MG/KG)					
LEAD	400	NA	NA	NA	NA

Notes:

NA - Not analyzed

Exceeds Media Cleanup Standard

J - estimated value

U - concentration below laboratory detection limit

UJ – analyte not detected at indicated detection limit; sample-specific detection limit may be imprecise based on validation review criteria.

MG/KG - milligrams per kilogram

MG/L - milligrams per Liter

XRF - X-ray fluorescence

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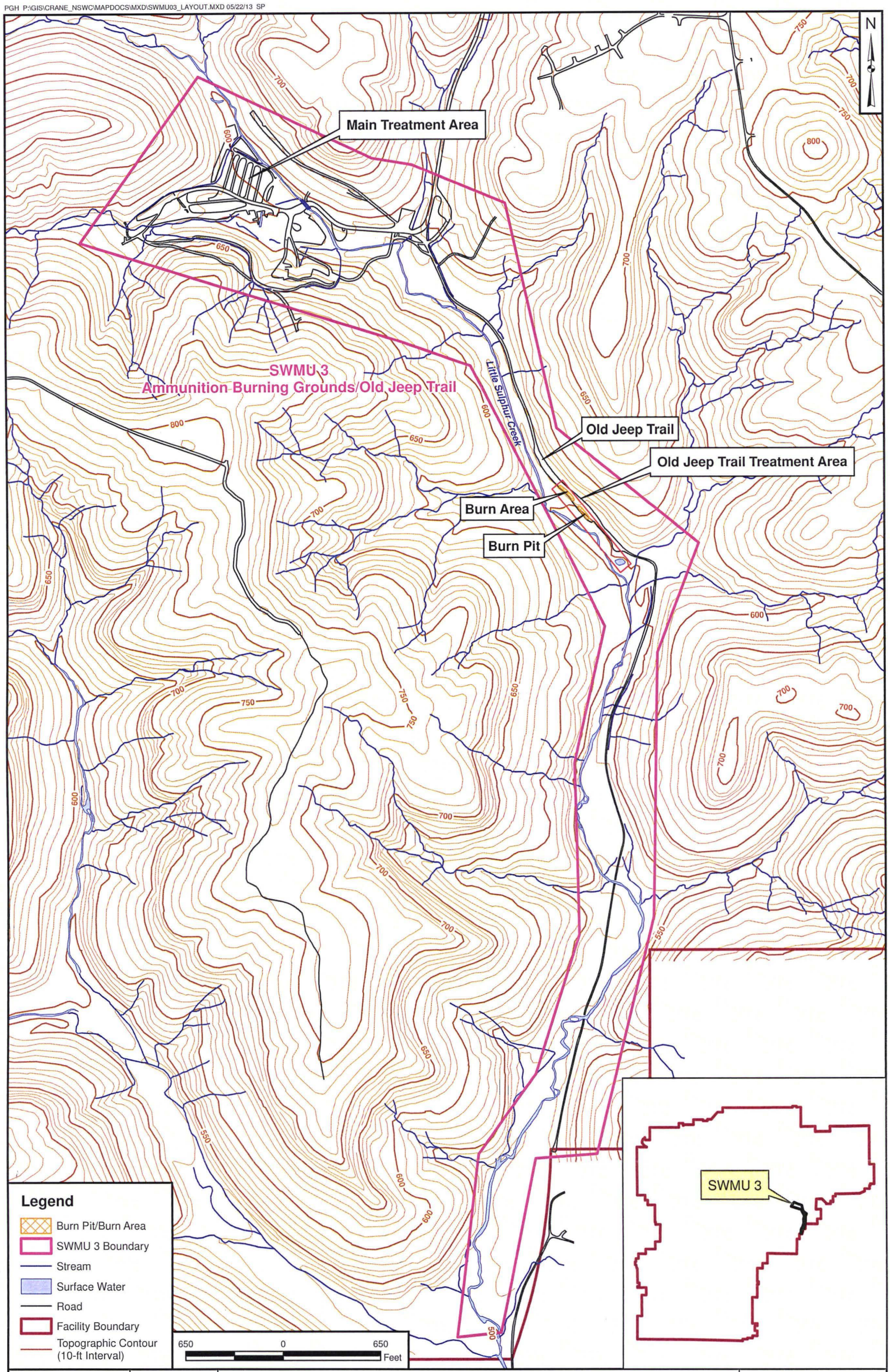

DRAWN BY	DATE
T. WHEATON	04/18/11
CHECKED BY	DATE
J. GOERDT	05/22/13
REVISED BY	DATE
S. PAXTON	05/22/13
SCALE	
AS NOTED	

NAVFAC

SITE LOCATION MAP

SWMU 3 - AMMUNITION BURNING GROUNDS/OLD JEEP TRAIL

NSA CRANE

CRANE, INDIANA

CONTRACT NUMBER	
CTO 21	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO.	REV
FIGURE 1-1	0

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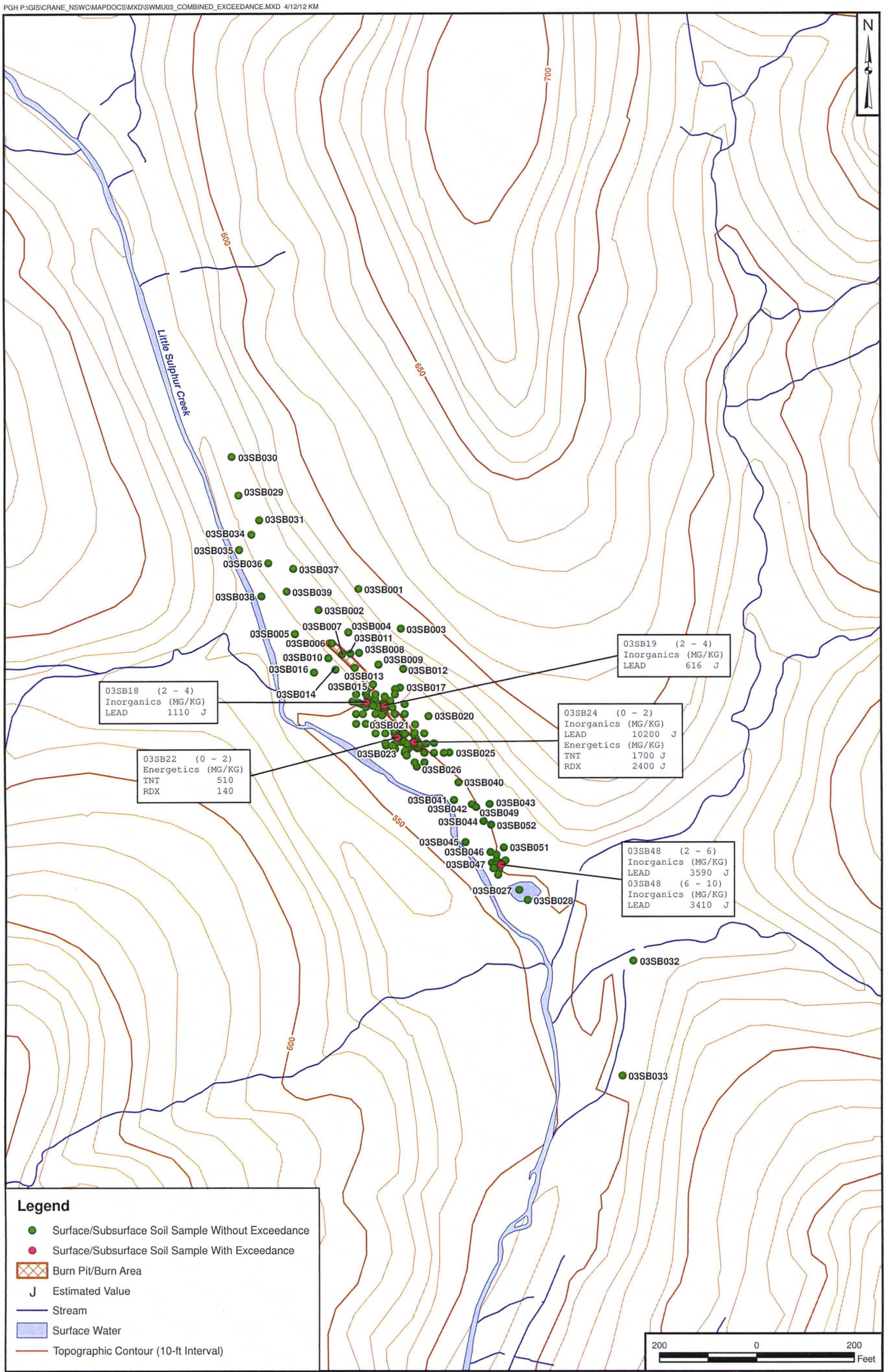
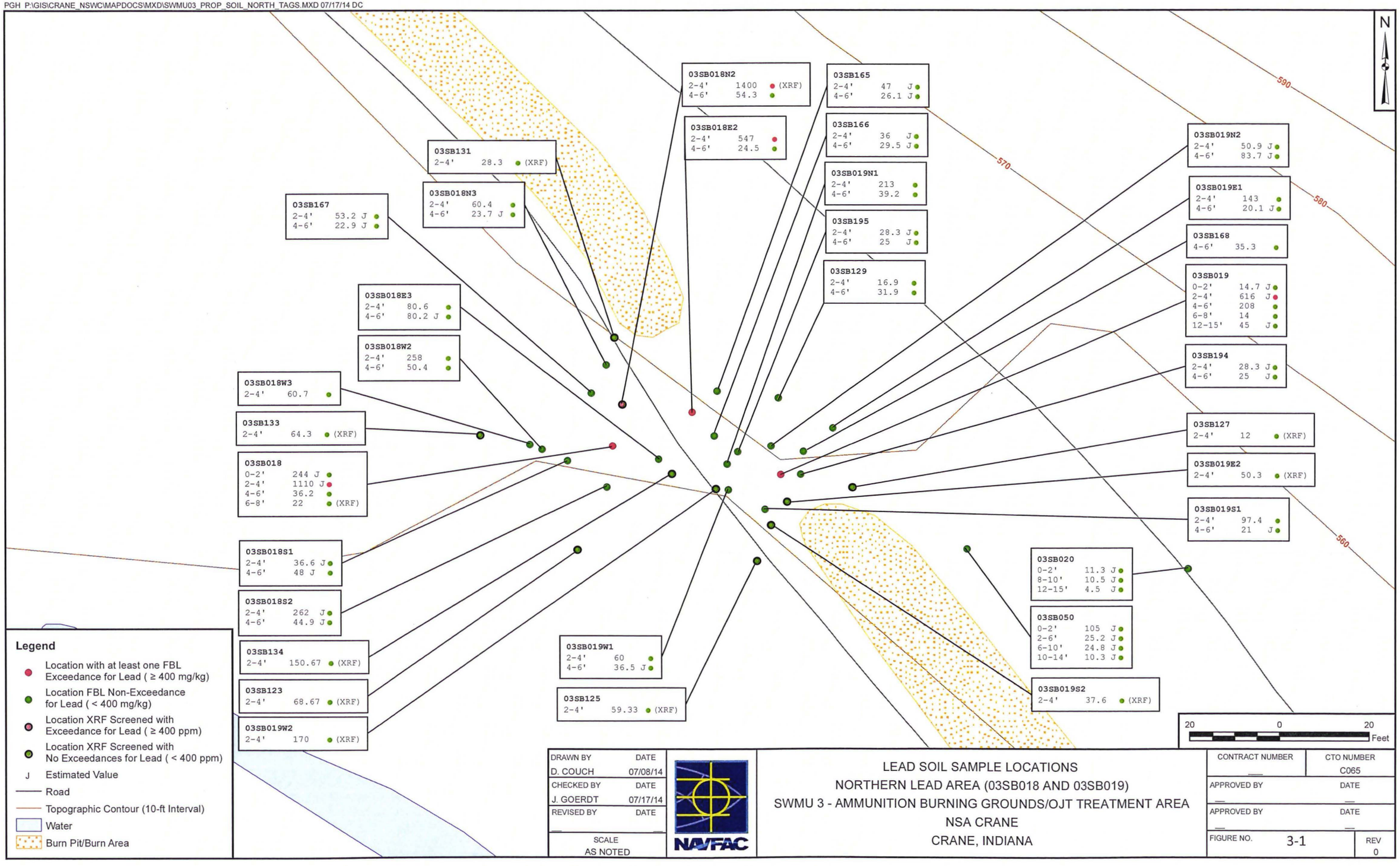


DRAWN BY	DATE			CONTRACT NUMBER
T. WHEATON	04/07/11		HISTORIC LEAD AND EXPLOSIVES EXCEEDANCES IN	CTO F274
CHECKED BY	DATE		SURFACE AND SUBSURFACE SOIL	APPROVED BY / DATE
J. DUCAR	4/12/12		SWMU 3 - AMMUNITION BURNING GROUNDS/OJT TREATMENT AREA	APPROVED BY / DATE
REVISED BY	DATE		NSA CRANE	FIGURE NO. 1-2 / REV 0
SCALE AS NOTED		NAVFAC	CRANE, INDIANA	

PGH P:\GIS\CRANE_NSWC\MAPDOCS\MXD\SWMU03_PROP_SOIL_NORTH_TAGS.MXD 07/17/14 DC



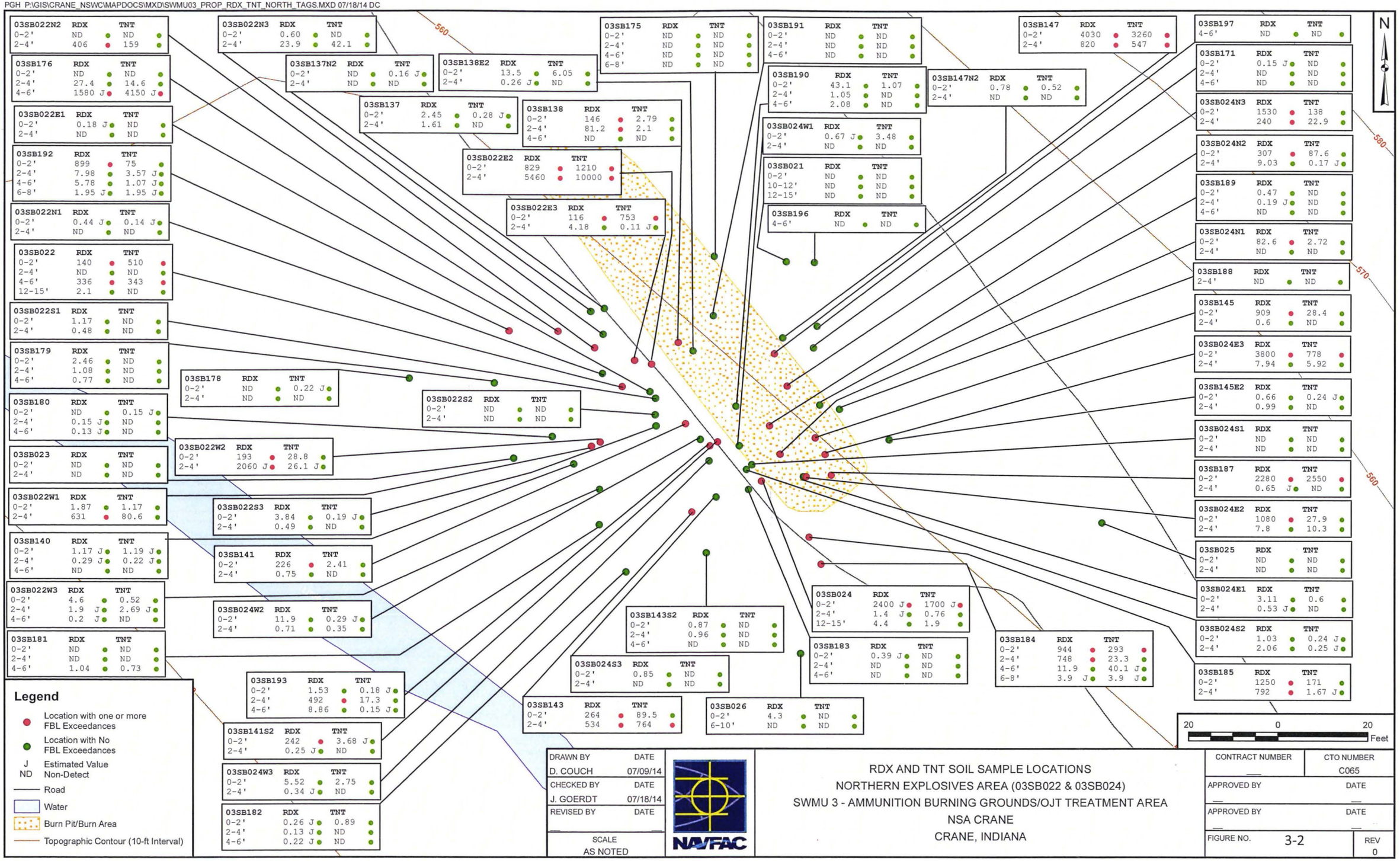
DRAWN BY	DATE
D. COUCH	07/08/14
CHECKED BY	DATE
J. GOERDT	07/17/14
REVISED BY	DATE
SCALE AS NOTED	

NAVFAC

LEAD SOIL SAMPLE LOCATIONS
NORTHERN LEAD AREA (03SB018 AND 03SB019)
SWMU 3 - AMMUNITION BURNING GROUNDS/OJT TREATMENT AREA
NSA CRANE
CRANE, INDIANA

CONTRACT NUMBER	CTO NUMBER
	C065
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. 3-1	REV 0

PGH P:\GIS\CRANE_NSWC\MAPDOCS\MXD\SWMU03_PROP_RDX_TNT_NORTH_TAGS.MXD 07/18/14 DC



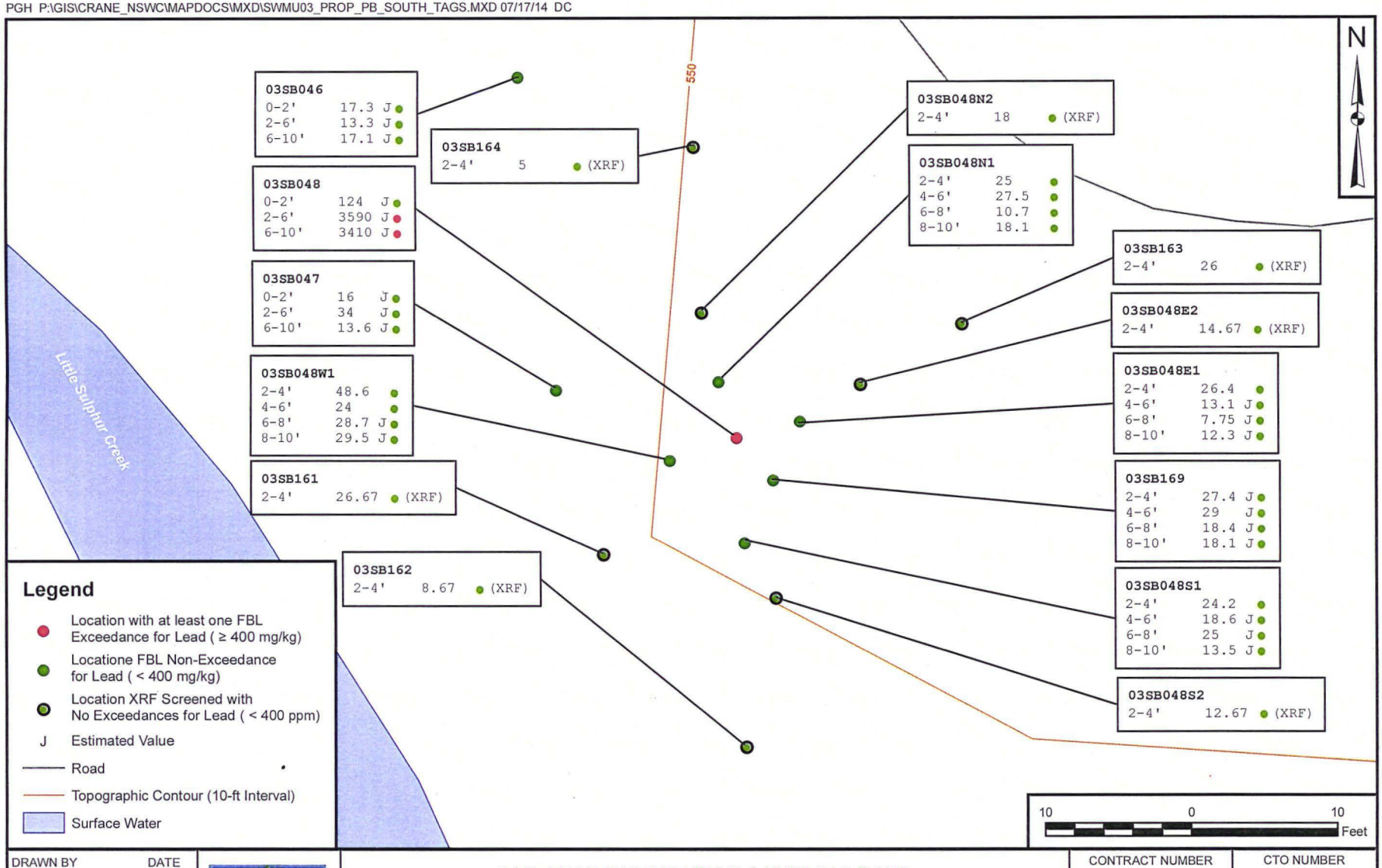
DRAWN BY	DATE
D. COUCH	07/09/14
CHECKED BY	DATE
J. GOERDT	07/18/14
REVISED BY	DATE
SCALE AS NOTED	

NAVFAC

RDX AND TNT SOIL SAMPLE LOCATIONS
NORTHERN EXPLOSIVES AREA (03SB022 & 03SB024)
SWMU 3 - AMMUNITION BURNING GROUNDS/OJT TREATMENT AREA
NSA CRANE
CRANE, INDIANA

CONTRACT NUMBER	CTO NUMBER
—	C065
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. 3-2	REV 0

PGH P:\GIS\CRANE_NSWC\MAPDOCS\MXD\SWMU03_PROP_PB_SOUTH_TAGS.MXD 07/17/14 DC



DRAWN BY	DATE
D. COUCH	07/09/14
CHECKED BY	DATE
J. GOERDT	07/17/14
REVISED BY	DATE
SCALE AS NOTED	

NAVFAC

SOIL LEAD DELINEATION SAMPLING DATA
SOUTHERN LEAD AREA (03SB048)
SWMU 3 - AMMUNITION BURNING GROUNDS/OJT TREATMENT AREA
NSA CRANE
CRANE, INDIANA

CONTRACT NUMBER	CTO NUMBER
	C065
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. 3-3	REV 0

APPENDIX A

MAY 2014 – FIELD DOCUMENTATION

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-001 | PAGE _1_ OF _3__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8020 3157 6528		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/20	1355	03SB022-0406	022	4	6	SO	G	1			1					
5/20	1357	03SB022-0608	022	6	8	SO	G	1			1					HOLD
5/20	1359	03SB022-0810	022	8	10	SO	G	1			1					HOLD
5/20	1330	03SB138-0406	138	4	6	SO	G	1			1					
5/20	1332	03SB138-0608	138	6	8	SO	G	1			1					HOLD
5/20	1334	03SB138-0810	138	8	10	SO	G	1			1					HOLD
5/20	1240	03SS175-0002	175	0	2	SO	G	1			1					HOLD
5/20	1242	03SB175-0204	175	2	4	SO	G	3			3					HOLD (MS/MSD)
5/20	1244	03SB175-0406	175	4	6	SO	G	1			1					HOLD
5/20	1246	03SB175-0608	175	6	8	SO	G	1			1					HOLD
5/20	1248	03SB175-0810	175	8	10	SO	G	1			1					HOLD
5/20	1515	03SS183-0002	183	0	2	SO	G	1			1					
5/20	1517	03SB183-0204	183	2	4	SO	G	1			1					

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-002 | PAGE _2_ OF _3__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8020 3157 6528		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/20	1519	03SB183-0406	183	4	6	SO	G	1			1					
5/20	1521	03SB183-0608	183	6	8	SO	G	1			1					HOLD
5/20	1523	03SB183-0810	183	8	10	SO	G	1			1					HOLD
5/20	1610	03SS185-0002	185	0	2	SO	G	1			1					
5/20	1612	03SB185-0204	185	2	4	SO	G	1			1					
5/20	1614	03SB185-0406	185	4	6	SO	G	1			1					HOLD
5/20	1616	03SB185-0608	185	6	8	SO	G	1			1					HOLD
5/20	1618	03SB185-0810	185	8	10	SO	G	3			3					HOLD
5/20	1400	03SS190-0002	190	0	2	SO	G	1			1					
5/20	1402	03SB190-0204	190	2	4	SO	G	1			1					
5/20	1404	03SB190-0406	190	4	6	SO	G	1			1					
5/20	1406	03SB190-0608	190	6	8	SO	G	1			1					HOLD
5/20	1408	03SB190-0810	190	8	10	SO	G	1			1					HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -003 | PAGE _3_ OF _3__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8020 3157 6528		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G					
									Preservative Used	4°C	4°C					
5/20	0000	03DUP01-0514	QC	—		SO	G	1			1					

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -004 | PAGE _1_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/21	1610	03SB022W3-0406	22W3	4	6	SO	G	1			1					
5/21	1612	03SB022W3-0608	22W3	6	8	SO	G	1			1					HOLD
5/21	1614	03SB022W3-0810	22W3	8	10	SO	G	1			1					HOLD
5/21	1100	03SB145E2-0406	145E2	4	6	SO	G	1			1					HOLD
5/21	1102	03SB145E2-0608	145E2	6	8	SO	G	1			1					HOLD
5/21	1104	03SB145E2-0810	145E2	8	10	SO	G	1			1					HOLD
5/21	1449	03SB196-0406	196	4	6	SO	G	1			1					
5/21	1451	03SB196-0608	196	6	8	SO	G	1			1					HOLD
5/21	1453	03SB196-0810	196	8	10	SO	G	1			1					HOLD
5/21	1502	03SB197-0406	197	4	6	SO	G	1			1					
5/21	1504	03SB197-0608	197	6	8	SO	G	1			1					HOLD
5/21	1506	03SB197-0810	197	8	10	SO	G	1			1					HOLD
5/21	1325	03SS171-0002	171	0	2	SO	G	1			1					

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE / TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE / TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE / TIME

COMMENTS
"HOLD" ·les not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. CHAIN OF CUSTODY | NUMBER 052014 -005 | PAGE _2_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G					
									Preservative Used	4ºC	4ºC					
5/21	1327	03SB171-0204	171	2	4	SO	G	3			3					MS/MSD
5/21	1329	03SB171-0406	171	4	6	SO	G	1			1					
5/21	1331	03SB171-0608	171	6	8	SO	G	1			1					HOLD
5/21	1333	03SB171-0810	171	8	10	SO	G	1			1					HOLD
5/21	1310	03SS172-0002	172	0	2	SO	G	1			1					HOLD
5/21	1312	03SB172-0204	172	2	4	SO	G	1			1					HOLD
5/21	1314	03SB172-0406	172	4	6	SO	G	1			1					HOLD
5/21	1316	03SB172-0608	172	6	8	SO	G	1			1					HOLD
5/21	1318	03SB172-0810	172	8	10	SO	G	1			1					HOLD
5/21	1040	03SS173-0002	173	0	2	SO	G	1			1					HOLD
5/21	1042	03SB173-0204	173	2	4	SO	G	1			1					HOLD
5/21	1044	03SB173-0406	173	4	6	SO	G	1			1					HOLD
5/21	1046	03SB173-0608	173	6	8	SO	G	1			1					HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" samples not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-006 | PAGE _3_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G					
									Preservative Used	4°C	4°C					
5/21	1048	03SB173-0810	173	8	19	SO	G	1			1					HOLD
5/21	855	03SS184-0002	184	0	2	SO	G	1			1					HOLD
5/21	857	03SB184-0204	184	2	4	SO	G	1			1					HOLD
5/21	859	03SB184-0406	184	4	6	SO	G	1			1					HOLD
5/21	901	03SB184-0608	184	6	8	SO	G	1			1					HOLD
5/21	903	03SB184-0810	184	8	10	SO	G	1			1					HOLD
5/21	835	03SS186-0002	186	0	2	SO	G	1			1					HOLD
5/21	837	03SB186-0204	186	2	4	SO	G	1			1					HOLD
5/21	839	03SB186-0406	186	4	6	SO	G	1			1					HOLD
5/21	841	03SB186-0608	186	6	8	SO	G	1			1					HOLD
5/21	843	03SB186-0810	186	8	10	SO	G	1			1					HOLD
5/21	938	03SS187-0002	187	0	2	SO	G	1			1					
5/21	940	03SB187-0204	187	2	4	SO	G	3			3					MS/MSD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE / TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE / TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE / TIME

COMMENTS
"HOLD" les not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-007 | PAGE _4_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/21	942	03SB187-0406	187	4	6	SO	G	1			1					HOLD
5/21	944	03SB187-0608	187	6	8	SO	G	1			1					HOLD
5/21	946	03SB187-0810	187	8	10	SO	G	1			1					HOLD
5/21	1015	03SS188-0002	188	0	2	SO	G	1			1					
5/21	1017	03SB188-0204	188	2	4	SO	G	1			1					
5/21	1019	03SB188-0406	188	4	6	SO	G	1			1					HOLD
5/21	1021	03SB188-0608	188	6	8	SO	G	1			1					HOLD
5/21	1023	03SB188-0810	188	8	10	SO	G	1			1					HOLD
5/21	1110	03SS189-0002	189	0	2	SO	G	1			1					
5/21	1112	03SB189-0204	189	2	4	SO	G	1			1					
5/21	1114	03SB189-0406	189	4	6	SO	G	1			1					
5/21	1116	03SB189-0608	189	6	8	SO	G	1			1					HOLD
5/21	1118	03SB189-0810	189	8	10	SO	G	1			1					HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" samples not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -008 | PAGE _5_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/21	1520	03SS191-0002	191	0	2	SO	G	1			1					
5/21	1522	03SB191-0204	191	2	4	SO	G	1			1					
5/21	1524	03SB191-0406	191	4	6	SO	G	1			1					
5/21	1526	03SB191-0608	191	6	8	SO	G	1			1					HOLD
5/21	1528	03SB191-0810	191	8	10	SO	G	1			1					HOLD
5/21	0000	03DUP02-0514	QC	—	—	SO	G	1			1					
5/21	0000	03DUP03-0514	QC	—	—	SO	G	1			1					

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" 'es not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -009 | PAGE _1_ OF _6__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)						COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G						
									Preservative Used	4°C	4°C						
5/20	1122	03SB018N3-0406	18N3	4	6	SO	G	1		1							
5/20	1110	03SB018S1-0204	18S1	2	4	SO	G	1		1							
5/20	1112	03SB018S1-0406	18S1	4	6	SO	G	1		1							
5/20	1058	03SB018S2-0204	18S2	2	4	SO	G	1		1							
5/20	1100	03SB018S2-0406	18S2	4	6	SO	G	3		3							MS/MSD
5/20	1130	03SB018E3-0406	18E3	4	6	SO	G	1		1							
5/20	1050	03SB129-0204	129	2	4	SO	G	3		3							MS/MSD
5/20	1052	03SB129-0406	129	4	6	SO	G	1		1							
5/20	820	03SB165-0204	165	2	4	SO	G	1		1							
5/20	824	03SB165-0406	165	4	6	SO	G	1		1							
5/20	835	03SB166-0204	166	2	4	SO	G	1		1							
5/20	840	03SB166-0406	166	4	6	SO	G	1		1							
5/20	935	03SB167-0204	167	2	4	SO	G	1		1							

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -010 | PAGE _2_ OF _6__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/20	940	03SB167-0406	167	4	6	SO	G	1		1						
5/19	1615	03SB019N2-0204	19N2	2	4	SO	G	1		1						
5/19	1620	03SB019N2-0406	19N2	4	6	SO	G	1		1						
5/19	1450	03SB019E1-0406	19E1	4	6	SO	G	1		1						
5/19	1535	03SB019W1-0406	19W1	4	6	SO	G	1		1						
5/19	1515	03SB019S1-0406	19S1	4	6	SO	G	1		1						
5/19	1605	03SB168-0204	168	2	4	SO	G	1		1						
5/19	1610	03SB168-0406	168	4	6	SO	G	1		1						
5/19	1250	03SB048N1-0406	48N1	4	6	SO	G	1		1						
5/19	1255	03SB048N1-0608	48N1	6	8	SO	G	1		1						
5/19	1300	03SB048N1-0810	48N1	8	10	SO	G	1		1						
5/19	1400	03SB048W1-0406	48W1	4	6	SO	G	1		1						

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -011 | PAGE _3_ OF _6__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)						COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G						
									Preservative Used	4°C	4°C						
5/20	1402	03SB048W1-0608	48W1	6	8	SO	G	1		1							
5/19	1404	03SB048W1-0810	48W1	8	10	SO	G	1		1							
5/19	1340	03SB048S1-0406	48S1	4	6	SO	G	1		1							
5/19	1342	03SB048S1-0608	48S1	6	8	SO	G	1		1							
5/19	1344	03SB048S1-0810	48S1	8	10	SO	G	1		1							
5/19	1324	03SB048E1-0406	48E1	4	6	SO	G	1		1							
5/19	1326	03SB048E1-0608	48E1	6	8	SO	G	1		1							
5/19	1328	03SB048E1-0810	48E1	8	10	SO	G	1		1							
5/19	1310	03SB169-0204	169	2	4	SO	G	1		1							
5/19	1312	03SB169-0406	169	4	6	SO	G	1		1							
5/19	1314	03SB169-0608	169	6	8	SO	G	1		1							
5/19	1316	03SB169-0810	169	8	10	SO	G	1		1							
5/20	1515	03SS183-0002	183	0	2	SO	G	1		1							

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-012 | PAGE _4_ OF _6__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)						COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G						
									Preservative Used	4°C	4°C						
5/20	1517	03SB183-0204	183	2	4	SO	G	1		1							
5/20	1519	03SB183-0406	183	4	6	SO	G	1		1							HOLD
5/20	1521	03SB183-0608	183	6	8	SO	G	1		1							HOLD
5/20	1523	03SB183-0810	183	8	10	SO	G	1		1							HOLD
5/21	855	03SS184-0002	184	0	2	SO	G	1		1							
5/21	857	03SB184-0204	184	2	4	SO	G	1		1							
5/21	859	03SB184-0406	184	4	6	SO	G	1		1							HOLD
5/21	901	03SB184-0608	184	6	8	SO	G	1		1							HOLD
5/21	903	03SB184-0810	184	8	10	SO	G	1		1							HOLD
5/20	1610	03SS185-0002	185	0	2	SO	G	1		1							
5/20	1612	03SB185-0204	185	2	4	SO	G	1		1							
5/20	1614	03SB185-0406	185	4	6	SO	G	1		1							HOLD
5/20	1616	03SB185-0608	185	6	8	SO	G	1		1							HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" [illegible]les not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -013 | PAGE _5_ OF _6__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)						COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G						
									Preservative Used	4°C	4°C						
5/20	1618	03SB185-0810	185	8	10	SO	G	1		1							HOLD
5/21	835	03SS186-0002	186	0	2	SO	G	1		1							
5/21	837	03SB186-0204	186	2	4	SO	G	1		1							
5/21	839	03SB186-0406	186	4	6	SO	G	1		1							HOLD
5/21	841	03SB186-0608	186	6	8	SO	G	1		1							HOLD
5/21	843	03SB186-0810	186	8	10	SO	G	1		1							HOLD
5/19	1500	03SB194-0204	194	2	4	SO	G	1		1							
5/19	1505	03SB194-0406	194	4	6	SO	G	1		1							
5/19	1550	03SB195-0204	195	2	4	SO	G	1		1							
5/19	1552	03SB195-0406	195	4	6	SO	G	1		1							
5/20	1600	03SB024E1-0406	24E1	4	6	SO	G	1		1							HOLD
5/20	1602	03SB024E1-0608	24E1	6	8	SO	G	1		1							HOLD
5/20	1604	03SB024E1-0810	24E1	8	10	SO	G	1		1							HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" samples not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -014 | PAGE _6_ OF _6__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Jim Goerdt	PHONE NUMBER: 412-443-0244	ADDRESS: 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER: Fed Ex / 8011 1642 8140		CITY, STATE: Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)						COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G						
									Preservative Used	4°C	4°C						
5/20	1455	03SB024S1-0406	24S1	4	6	SO	G	1		1							HOLD
5/20	1500	03SB024S1-0608	24S1	6	8	SO	G	1		1							HOLD
5/20	1502	03SB024S1-0810	24S1	8	10	SO	G	1		1							HOLD
5/21	925	03SS024S3-0002	24S3	0	2	SO	G	1		1							
5/21	927	03SB024S3-0204	24S3	2	4	SO	G	3		3							MS/MSD
5/21	929	03SB024S3-0406	24S3	4	6	SO	G	1		1							HOLD
5/21	931	03SB024S3-0608	24S3	6	8	SO	G	1		1							HOLD
5/21	933	03SB024S3-0810	24S3	8	10	SO	G	1		1							HOLD
5/19	0000	03DUP04-0514	QC	—	—	SO	G	1		1							
5/20	0000	03DUP05-0514	QC	—	—	SO	G	1		1							
5/20	0000	03DUP06-0514	QC	—	—	SO	G	1		1							

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY			1. RECEIVED BY		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS
"HOLD" les not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-015 | PAGE _1_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G					
									Preservative Used	4ºC	4ºC					
5/22	905	03SB023-0204	023	2	4	SO	G	1			1					HOLD
5/22	907	03SB023-0406	023	4	6	SO	G	1			1					HOLD
5/22	845	03SB140-0406	140	4	6	SO	G	1			1					
5/22	847	03SB140-0608	140	6	8	SO	G	1			1					HOLD
5/22	849	03SB140-0810	140	8	10	SO	G	1			1					HOLD
5/22	925	03SB143S2-0406	143S2	4	6	SO	G	1			1					
5/22	927	03SB143S2-0608	143S2	6	8	SO	G	1			1					HOLD
5/22	929	03SB143S2-0810	143S2	8	10	SO	G	1			1					HOLD
5/22	1330	03SB176-0002	176	0	2	SO	G	1			1					
5/22	1332	03SB176-0204	176	2	4	SO	G	1			1					
5/22	1334	03SB176-0406	176	4	6	SO	G	1			1					
5/22	1336	03SB176-0608	176	6	8	SO	G	1			1					HOLD
5/22	1338	03SB176-0810	176	8	10	SO	G	1			1					HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" samples not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-016 | PAGE _2_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G					
									Preservative Used	4°C	4°C					
5/22	1145	03SS178-0002	178	0	2	SO	G	1			1					
5/22	1147	03SB178-0204	178	2	4	SO	G	1			1					
5/22	1149	03SB178-0406	178	4	6	SO	G	1			1					HOLD
5/22	1151	03SB178-0608	178	6	8	SO	G	1			1					HOLD
5/22	1153	03SB178-0810	178	8	10	SO	G	1			1					HOLD
5/22	1130	03SS179-0002	179	0	2	SO	G	1			1					
5/21	1132	03SB179-0204	179	2	4	SO	G	1			1					
5/21	1134	03SB179-0406	179	4	6	SO	G	1			1					
5/22	1136	03SB179-0608	179	6	8	SO	G	1			1					HOLD
5/22	1138	03SB179-0810	179	8	10	SO	G	1			1					HOLD
5/22	912	03SS180-0002	180	0	2	SO	G	1			1					
5/22	0000	03DUP07-052214	QC	—	—	SO	G	1			1					
5/22	0000	03DUP8-052214	QC	—	—	SO	G	1			1					

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" ·les not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014 -017 | PAGE _3_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)					
5/22	914	03SB180-0204	180	2	4	SO	G	1			1					
5/22	916	03SB180-0406	180	4	6	SO	G	1			1					
5/22	918	03SB180-0608	180	6	8	SO	G	1			1					HOLD
5/22	920	03SB180-0810	180	8	10	SO	G	1			1					HOLD
5/22	1000	03SS181-0002	181	0	2	SO	G	1			1					
5/22	1002	03SB181-0204	181	2	4	SO	G	1			1					
5/22	1004	03SB181-0406	181	4	6	SO	G	1			1					
5/22	1006	03SB181-0608	181	6	8	SO	G	1			1					HOLD
5/22	1008	03SB181-0810	181	8	10	SO	G	1			1					HOLD
5/22	945	03SS182-0002	182	0	2	SO	G	1			1					
5/22	947	03SB182-0204	182	2	4	SO	G	1			1					
5/22	949	03SB182-0406	182	4	6	SO	G	1			1					
5/22	951	03SB182-0608	182	6	8	SO	G	1			1					HOLD

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" samples not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-018 | PAGE _4_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	Container Type Plastic (P) or Glass (G)	G	G					COMMENTS
									Preservative Used	4°C	4°C					
									TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)	TCLP (Lead)				
5/22	953	03SB182-0810	182	8	10	SO	G	1			1					HOLD
5/22	1050	03SS192-0002	192	0	2	SO	G	1			1					HOLD
5/22	1052	03SB192-0204	192	2	4	SO	G	1			1					HOLD
5/22	1054	03SB192-0406	192	4	6	SO	G	1			1					HOLD
5/22	1056	03SB192-0608	192	6	8	SO	G	1			1					HOLD
5/22	1058	03SB192-0810	192	8	10	SO	G	1			1					HOLD
5/22	1350	03SS193-0002	193	0	2	SO	G	1			1					
5/22	1352	03SB193-0204	193	2	4	SO	G	1			1					
5/22	1354	03SB193-0406	193	4	6	SO	G	1			1					
5/22	1356	03SB193-0608	193	6	8	SO	G	1			1					HOLD
5/22	1358	03SB193-0810	193	8	10	SO	G	1			1					HOLD
5/22	1520	03SB048-TC-0206	048	2	6	SO	C	1				1				
5/22	1530	03SB048-TC-0610	048	6	10	SO	C	1				1				

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" les not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

TETRA TECH, INC. | CHAIN OF CUSTODY | NUMBER 052014-019 | PAGE _5_ OF _5__

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G01819	NSA Crane – SWMU 3	Karen Lyons	412-921-8893	Empirical Labs / M. Walker 615-345-1115 (ext. 249)
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER Jim Goerdt	PHONE NUMBER 412-443-0244	ADDRESS 621 Mainstream Drive, Suite 270
		CARRIER/WAYBILL NUMBER Fed Ex / 8011 1642 8140		CITY, STATE Nashville, TN 37228

STANDARD TAT ☐
RUSH TAT ☒
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☒ 7 day ☐ 14 day

DATE YEAR: 2014	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAP (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	Pb	Explosives (RDX/TNT)	TCLP (Lead)				COMMENTS
									Container Type Plastic (P) or Glass (G)	G	G					
									Preservative Used	4°C	4°C					
5/22	1420	03SB024-TC-0004	024	0	4	SO	C	1				1				
5/22	1500	03SB019-TC-0204	019	2	4	SO	C	1				1				
5/22	0000	03DUP07-0514	QC	—	—	SO	G	1			1					
5/22	0000	03DUP08-0514	QC	—	—	SO	G	1			1					
5/22	0000	03DUP09-0514	QC	—	—	SO	G	1			1					
5/22	0000	03DUP09-052214	QC	—	—	SO	G	1			1					

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS
"HOLD" samples not to be extracted or analyzed until lab is instructed to do so by Tetra Tech.

May 2014

Field Event

Jim Goeidt (JG)
Jim Coffman (JC)
Norm Piper (NP)

5/19/14 - 5/23/14

5-19-14

0830 - Field Crew at trailer. HASP review. Discussed activities planned for the week

Prepared for sampling at DJT.

1000 - Field crew to DJT. Set up sample locations.

1145 - DPT at site. Crane FD on site to go over details & issue hot work permit.

1230 - Initiated soil sampling w/ DPT. All sample locations underwent anomaly clearance w/magnetometer prior to drilling. Some locations had to be

moved to "clean" area, if available.

1530 - JG back at field trailer processing samples for XRF analysis.

1645 - JC/NP at field trailer assisting w/ samples.

1730 - Exit Crane.

1800 - At Fed Ex.

5-20-14

0730 - JC/NP onsite prepping for sampling. JG at hotel dealing w/ flat tire.

0800 - JC/NP to OST soil sampling.

1110 - JG @ OST marking sample locations w/ GPS. Areas 22/24.

1400 - JG at trailer running XRF.

1630 - JC/NP at trailer assisting w/ sample prep.

1805 - JC/NP to Fed Ex shipping samples.

1940 - JG exit Crane.

5-21-14

0800 - JG at Walmart for field supplies. JC/NP at OST soil sampling.

0850 - JG @ OST marking locations.

1015 - JG at trailer processing samples & running XRF.

1900 - JC/NP exit Crane

2100 - JG exit Crane

5-22-14

0850 - JG at Field trailer, combining w/ XRF. JC/NP at OST soil sampling, & completing COC.

1230 - At OST ~~on~~ updating GPS coordinates for relocated samples.

1600 - At trailer processing samples for shipping.

1800 - JC/NP ~~at~~ enroute Fed Ex to ship samples.

1940 - JG exits Crane.

5-23-14

0800 - Everyone at field trailer prepping for Sumn 23 sampling.

0900 - JG to OST uploading GPS.

JG/NP to sumn 23.

Remainder of day at Sumn 23.

End of Shift

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [illegible]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

	SAMPLE No.	SAMPLE METHOD	DEPTH (FL)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
4"	03SB018N3-0204	DPT	2-4			L	G									Brn silty clay little gravel (moist)
	03SB018N3-0406	DPT	4-6	5/20/14	10:45	L	G							P		Brn/Red/Orange silty fine sand, intervals of Brn silty clay. Some gravel in soil (moist sample)
8"	03SB018S1-0204	DPT	2-4			L	G							P		Brn silty clay some gravel (moist)
	03SB018S1-0406	DPT	4-6			L	G							P		Brn silty clay some gravel (moist) little red very fine sandy clay bottom few inches.
3"	03SB018S2-0204	DPT	2-4	5/20/14	0905	L	G							P		Brn silty clay w/gravel trace coal (moist).
	03SB018S2-0406	DPT	4-6	5/20/14	0910	L	G							P		Brn silty clay w/gravel, fine sandy clay bottom 3" (moist)
2"	03SB018E3-0204	DPT	2-4	5/20/14	~~0850~~	L	G									Brn clay and gravel (moist) 2-3'. Fine sandy silt and clay Brn/Red/orange (moist) 3-4' with gravel.
	03SB018E3-0406	DPT	4-6	5/20/14	0855	L	G							P		4-5' fine sandy silt and clay with gravel (moist). 5-6' fine sandy silt and gravel (moist) - Brn/Red/Orange
2"	03SB129-0204	DPT	2-4	5/20/14		L	G							P		Brn silty clay some gravel (moist). Gravel from surface fell down in hole
	03SB129-0406	DPT	4-6	5/20/14		L	G							P		Brn/Red/Orange very fine sandy silt (moist). Gravel from surface fell down into hole.
3"	03SB165-0204	DPT	2-4	5/20/14	0822	L	G							P		Gray gravel, silt/sand 2-3' (moist). Brn clay some gravel 3-4' (moist). Recovery 33"
	03SB165-0406	DPT	4-6	5/20/14	0824	L	G							P		Brn clay some gravel 4-5' (moist). 5.5-6' orange/Brn silty very fine sand w/abundant gravel (moist) Recovery 36"
3"	03SB166-0204	DPT	2-4	5/20/14	0835	L	G							P		Brn silty and gravelly clay w/2" of coal in 2-3' (moist) Brn clay some gravel 3-4' (moist)
	03SB166-0406	DPT	4-6	5/20/14	0840	L	G							P		4-6 Brn/Orange very fine sand some gravel + 2" of Brn clay (moist) + Red

REMARKS: SB018 hot spot borings, 0 to 2 ft interval discarded, then 2-6 pushed into 5' liner

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [signature]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB167-0204	DPT	2-4	5/20/14	0935	L	G							P		Burn/Black silty clay some gravel (moist)
03SB167-0406	DPT	4-6	5/20/14	0940	L	G							P		Burn/Red/Orange ~~fine sandy silt~~ silty fine sand abundant gravel (moist)
03SB019N1-0204	DPT	2-4			L	G									
03SB019N1-0406	DPT	4-6			L	G									
03SB019N2-0204	DPT	2-4	5/19/14	16:15	L	G							P		Burn/little Black clayey silt and gravel, little very fine sand (moist), may be slight burnt odor in Black
03SB019N2-0406	DPT	4-6	5/19/14	16:20	L	G							P		Gray/Burn/Orange/Red silt and fine sand with gravel (moist) Recovery <30"
03SB019E1-0204	DPT	2-4			L	G									3' recovery in 2-6' interval 0-2-4' interval silt (Burn) and gravel (Burn to Gray) - 2-4' moist Recovery <30
03SB019E1-0406	DPT	4-6	5/19/14	14:50	L	G							P		Burn silty clay little gravel (moist) from 4-5' Burn-orange silt and clay w/ fine sand & gravel bottom (5-6'
03SB019W1-0204	DPT	2-4			L	G							contains gravel		Burn clay some silt (moist) 0-2.5', 2.5-3' Black clay and silt - slight burnt smell - Burn silty clay (moist) 3-4'
03SB019W1-0406	DPT	4-6	5/19/14	15:35	L	G							P		Burn silty clay some gravel and Red/Burn/Orange/Gray fine sand & gravel (moist) Recovery <30"
03SB019S1-0204	DPT	2-4			L	G									Gravel (Gray) + Black/Burn silty fine sand (moist) - Black material/slight burnt smell. Recovery <30"
03SB019S1-0406	DPT	4-6	5/19/14	15:15	L	G							P		Burn clayey silt and gravel (moist) 4-5'. Red/Burn/Orange/White fine sand & gravel (moist) Recovery <30"
03SB168-0204	DPT	2-4	5/19/14	16:05	L	G							P		Burn/Gray clayey silt & gravel (moist) to silty clay Recovery <30"
03SB168-0406	DPT	4-6	5/19/14	16:10	L	G							P		Burn/Orange silty fine sand (moist) Recovery <30"

REMARKS: Drilling AMS Power Probe 9508-VTR
5B019 hotspot borings 0 to 2 ft interval discarded then 2-6' pushed into 5' liner

LABORATORY:
Empirical Laboratories

COC No(s).:

Tetra Tech, Inc.

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [illegible]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB048N1-0204	DPT	2-4			L	G										dk brwn - brwn clayey silt some gravel (moist) Recovery < 30"
03SB048N1-0406	DPT	4-6	5/19/14	12:50	L	G								P		a clearing in the woods (grass/weeds) brwn clayey silt some gravel / Brwn SS gravel (moist) Recovery < 30"
03SB048N1-0608	DPT	6-8	5/19/14	12:55	L	G								P		Brwn fine sand and SS gravel (wet) Recovery < 30"
03SB048N1-0810	DPT	8-10	5/19/14	13:00	L	G								P		gravel fine sand & silt (wet) Recovery < 30"
03SB048W1-0204	DPT	2-4			L	G										gravel to siltyclay with gravel (Brwn) - moist Recovery < 30"
03SB048W1-0406	DPT	4-6	5/19/14	14:00	L	G								P		Brwn clayey silt with gravel abundant (moist) Recovery < 30"
03SB048W1-0608	DPT	6-8	5/19/14	14:02	L	G								P		Brwn clayey silt with gravel (moist) Recovery < 30"
03SB048W1-0810	DPT	8-10	5/19/14	14:04	L	G								P		Brwn siltyclay and gravel (wet) Recovery < 30"
03SB048S1-0204	DPT	2-4		~~13:40~~	L	G										Brwn clay little silt (moist) Recovery < 30"
03SB048S1-0406	DPT	4-6	5/19/14	13:48	L	G								P		brwn clay little silt (4-5'). Brwn fine sand & gravel (5-6') 4-6' - moist Recovery < 30"
03SB048S1-0608	DPT	6-8	5/19/14	~~13:50~~ 13:45	L	G								P		Brwn fine sand & gravel (6-7'). Brwn siltyclay (7-8') 6-8' moist w/some gravel Recovery < 30"
03SB048S1-0810	DPT	8-10	5/19/14	13:46	L	G								P		8-9' Brwn siltyclay (8-9'). Brwn fine sand & silty clay (9-10'). 8-10' - moist w/some gravel Recovery < 30"
03SB048E1-0204	DPT	2-4	5/19/14	~~13:22~~	L	G										~~organic top few inches~~ Brwn gravel and clayey silt (moist) Recovery < 30"
03SB048E1-0406	DPT	4-6	5/19/14	13:24	L	G								P		Brwn siltyclay some gravel (moist) Recovery < 30"

REMARKS: 5' acetate liners 20" recovery 0-5' & 14" recovery 5-10' fairly typical for SB048 hotspot borings

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL
[X] SUBSURFACE SOIL
[ ] OTHER _____

[ ] SEDIMENT
[ ] LAGOON / POND

SIGNATURE(S): JDC

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE		TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD (X-20 lbs. L-lead)	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB048E1-0608	DPT	6-8	5/19/14	13:26	L	G								P		Brn very fine sand little silt (moist) Recovery < 30"
03SB048E1-0810	DPT	8-10	5/19/14	13:28	L	G								P		8-9 Brn silty clay little gravel (moist) Recovery < 30" 9-10 Brn fine sand little gravel (moist)
03SB169-0204	DPT	2-4	5/19/14	13:10	L	G								P		Brn - Dk Brn clayey silt some gravel (moist) Recovery < 30"
03SB169-0406	DPT	4-6	5/19/14	13:12	L	G								P		Brn clayey silt some gravel (moist) Recovery < 30"
03SB169-0608	DPT	6-8	5/19/14	13:14	L	G								P		Brn clayey silt some gravel (moist) / Lt Brn fine sand & SS gravel (moist) Recovery < 30"
03SB169-0810	DPT	8-10	5/19/14	13:16	L	G								P		Brn - Lt Brn fine sand & SS gravel (wet) Recovery < 30"
03SB170-0204	DPT	2-4			L	G								P		
03SB170-0406	DPT	4-6			L	G								P		
03SB170-0608	DPT	6-8			L	G								P		
03SB170-0810	DPT	8-10			L	G								P		
03SS022-0002	DPT	0-2	5		L	G										Brn silty clay some gravel (moist)
03SB022-0204	DPT	2-4			L	G										" "
03SB022-0406	DPT	4-6	5/20/14	13:55	L	G		1			X			P		Brn silty clay some gravel (moist)
03SB022-0608	DPT	6-8	5/20/14	13:57	L	G		1			X			S		" "

REMARKS: 5' liners: 22" recovery 0-5' & 14" recovery 5-10 ft fairly typical for SB048 borings (not 30 ft)

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JDC

SAMPLER: Coffman / Goerdt

PROJECT NAME: **Old Jeep Trail Treatment Area**
PROTECT NUMBER: **112G01819**
YEAR **2014**

LOCATION **NSA Crane - SWMU 3**

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE		TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
Recovery											Explosives by Flash					
03SB022-0810	DPT	8-10	5/24/14	13:59	L	G		1			X			S	9-10	Brn silty clay some gravel (moist) 8-9'. Brn/orange silty clay some gravel & fine sandy silt layer
03SB022-1215	DPT	12-15			L	G										
03SS022N2-0002	DPT	0-2			L	G										
03SB022N2-0204	DPT	2-4			L	G										
03SB022N2-0406	DPT	4-6			L	G								P		
03SB022N2-0608	DPT	6-8			L	G								S		
03SB022N2-0810	DPT	8-10			L	G								S		
03SS022E2-0002	DPT	0-2			L	G										
03SB022E2-0204	DPT	2-4			L	G										
03SB022E2-0406	DPT	4-6			L	G								P		
03SB022E2-0608	DPT	6-8			L	G								S		
03SB022E2-0810	DPT	8-10			L	G								S		
03SS022N3-0002	DPT	0-2			L	G										
03SB022N3-0204	DPT	2-4			L	G										

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

Tetra Tech, Inc.

MULTIPLE SAMPLE LOG SHEET

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): _____

SAMPLERS: Coffman / Goerdt

PROJECT NAME: **Old Jeep Trail Treatment Area**
PROTECT NUMBER: **112G01819**
YEAR **2014**

LOCATION **NSA Crane - SWMU 3**

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
Recovery											X explosives L lead					
03SB022N3-0406	DPT	4-6			L	G								P		
03SB022N3-0608	DPT	6-8			L	G								S		
03SB022N3-0810	DPT	8-10			L	G								S		
03SS022W1-0002	DPT	0-2			L	G										
03SB022W1-0204	DPT	2-4			L	G										
03SB022W1-0406	DPT	4-6			L	G								P		
03SB022W1-0608	DPT	6-8			L	G								S		
03SB022W1-0810	DPT	8-10			L	G								S		
03SS022W2-0002	DPT	0-2			L	G										
03SB022W2-0204	DPT	2-4			L	G										
03SB022W2-0406	DPT	4-6			L	G								P		
03SB022W2-0608	DPT	6-8			L	G								S		
03SB022W2-0810	DPT	8-10			L	G								S		
03SS022W3-0002	DPT	0-2			L	G										

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): DC

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB022W3-0204	DPT	2-4			L	G										
03SB022W3-0406	DPT	4-6	5/21/14	1610	L	G					X			P		Located in woods Brn silty clay little gravel (wet)
03SB022W3-0608	DPT	6-8	"	1612	L	G					X			S		Gray clay (silty) wet
03SB022W3-0810	DPT	8-10	"	1614	L	G					X			S		" 5-10 - Black silty clay (wet)
03SS023-0002	DPT	0-2			L	G										Brn clayey sand (damp) little gravel
03SB023-0204	DPT	2-4	5/22/14	0905	L	G					X			S		" "
03SB023-0406	DPT	4-6	"	0907	L	G					X			S		" "
03SB023-0610	DPT	6-10			L	G										Gray clay (wet)
03SS024-0002	DPT	0-2			L	G										
03SB024-0204	DPT	2-4			L	G								P/P		
03SB024-0406	DPT	4-6			L	G										
03SB024-0608	DPT	6-8			L	G								S		
03SB024-0810	DPT	8-10			L	G								S		
03SB024-1215	DPT	12-15			L	G										

Recovery from 0
32"
18"
16"

X-explos: VOS L-lead

REMARKS:

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [signature]

SAMPLERS: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SS024E1-0002	DPT	0-2			L	G										Gray gravel 0-0.5', Brn sandy loam 0.5-2' w/ some gravel (moist)
03SB024E1-0204	DPT	2-4			L	G										Dk Brn / Brn Silty clay some gravel, wet @ ~2.5'
03SB024E1-0406	DPT	4-6	5/20/14	6:00	L	G								S		"
03SB024E1-0608	DPT	6-8	5/20/14	6:02	L	G								S		Brn / Red/orange fine sandy loam (wet)
03SB024E1-0810	DPT	8-10	5/20/14	6:04	L	G								S		" "
03SS024N3-0002	DPT	0-2			L	G										
03SB024N3-0204	DPT	2-4			L	G										
03SB024N3-0406	DPT	4-6			L	G								P		
03SB024N3-0608	DPT	6-8			L	G								S		
03SB024N3-0810	DPT	8-10			L	G								S		
03SS024S1-0002	DPT	0-2			L	G										Brn silty clay some gravel (moist)
03SB024S1-0204	DPT	2-4			L	G										"
03SB024S1-0406	DPT	4-6	5/20/14	14:55	L	G								S		"
03SB024S1-0608	DPT	6-8	5/20/14	15:00	L	G								S		Red/Brn/orange fine sandy loam (moist) some gravel

REMARKS: 34S1 moved 2' SE of marked loc

LABORATORY: Empirical Laboratories

COC No(s):

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JDC

SAMPLER: Coffman / Goerdt

PROJECT NAME: **Old Jeep Trail Treatment Area**
PROTECT NUMBER: **112G01819**
YEAR **2014**

LOCATION **NSA Crane - SWMU 3**

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
											X-explosives L-lead					
03SB024S1-0810	DPT	8-10	5/20/14	1507	L	G		1			(NO) X			S		Burn/orange/red fine sandy loam (moist) some gravel
03SS024S2-0002	DPT	0-2			L	G										
03SB024S2-0204	DPT	2-4			L	G										
03SB024S2-0406	DPT	4-6			L	G								S		
03SB024S2-0608	DPT	6-8			L	G								S		
03SB024S2-0810	DPT	8-10			L	G								S		
03SS024S3-0002	DPT	0-2	5/21/14	0925	L	G								P		Burn/Black silty clay & gravel (moist) may be organic (no burnt smell)
03SB024S3-0204	DPT	2-4	5/21/14	0927	L	G								P		Gray gravel & silty clay (Burn) moist
03SB024S3-0406	DPT	4-6	"	0929	L	G								S		Burn silty clay (moist) little gravel
03SB024S3-0608	DPT	6-8	"	0931	L	G								S		6-7 " 7-8 Burn/orange/red silty fine sand (moist)
03SB024S3-0810	DPT	8-10	"	0933	L	G								S		Burn/orange/red silty fine sand (moist)
03SS137-0002	DPT	0-2			L	G										
03SB137-0204	DPT	2-4			L	G										
03SB137-0406	DPT	4-6			L	G								S		

REMARKS:

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JDC

SAMPLERS: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (FL)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD, X-Explosives L-Lead	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB137-0608	DPT	6-8			L	G								S		
03SB137-0810	DPT	8-10			L	G								S		
03SS137N2-0002	DPT	0-2			L	G										
03SB137N2-0204	DPT	2-4			L	G										
03SB137N2-0406	DPT	4-6			L	G								S		
03SB137N2-0608	DPT	6-8			L	G								S		
03SB137N2-0810	DPT	8-10			L	G								S		
03SS138-0002	DPT	0-2			L	G										Brn silty clay (moist)
03SB138-0204	DPT	2-4			L	G										Brn silty clay (moist) 1" coal Pocket some gravel
✓ 03SB138-0406	DPT	4-6	5/20/14	13:30	L	G		1			X			P		Brn silty clay (moist) little gravel
✓ 03SB138-0608	DPT	6-8	5/20/14	13:32	L	G		1			X			S		Brn/Orange sandy silt loam (moist)
✓ 03SB138-0810	DPT	8-10	5/20/14	13:34	L	G		1			X			S		Brn/orange fine sandy clay
03SB140-0002	DPT	0-2	5/22/14		L	G										Brn clayey silt (damp)
03SB140-0204	DPT	2-4			L	G										Brn silt and sand (damp)

Recovery

0" 6" 2"

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): DRC

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE		TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT) X-explosives L-lead	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB140-0406	DPT	4-6	8/22/14	0845	L	G					X			P		Brn-gray silty sand and clay (wet)
03SB140-0608	DPT	6-8	"	0847	L	G					X			S		Gray clay (wet)
03SB140-0810	DPT	8-10	"	0849	L	G					X			S		" little organic black clay at bottom (saturated)
03SB143-0002	DPT	0-2			L	G										
03SB143-0204	DPT	2-4			L	G										
03SB143-0406	DPT	4-6			L	G								P		
03SB143-0608	DPT	6-8			L	G								S		
03SB143-0810	DPT	8-10			L	G								S		
03SS143S2-0002	DPT	0-2	8/22/14		L	G										Brn silty clay (wet)
03SB143S2-0204	DPT	2-4	"		L	G										" " "
03SB143S2-0406	DPT	4-6	"	0925	L	G					X	X		P		Brn clayey fine sand (orange/red) wet
03SB143S2-0608	DPT	6-8	"	0927	L	G					X			S		Brn f-sandy clay (wet)
03SB143S2-0810	DPT	8-10	"	0929	L	G					X			S		Gray f-sandy clay (saturated)
03SS145E2-0002	DPT	0-2			L	G										

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JDC

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

Recovery	SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD (X Explosives, X lead)	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
	03SB145E2-0204	DPT	2-4	5/21/14		L	G										Gray/Brn gravel and silty Clay (moist
2"	✓03SB145E2-0406	DPT	4-6	"	1100	L	G					X			S		" "
2"	✓03SB145E2-0608	DPT	6-8	"	1102	L	G					X			S		" "
	✓03SB145E2-0810	DPT	8-10	"	1104	L	G					X			S		Brn/orange silty fine sand (moist) & silty clay
10"	03SS147-0002	DPT	0-2	"	~~1445~~	L	G										Gray gravel (moist)
	03SB147-0204	DPT	2-4	"	~~1447~~	L	G										Brn silty clay (moist 2-3' gray gravel 3-4' (moist)
	✓03SB147-0406	DPT	4-6	"	1449	L	G					X			P		" "
5"	✓03SB147-0608	DPT	6-8	"	1451	L	G					X			S		Brn/orange silty clay (moist)
	✓03SB147-0810	DPT	8-10	"	1457	L	G					X			S		Brn/orange clayey silt (moist)
	03SS147N2-0002	DPT	0-2	"	~~1500~~	L	G										Gray gravel (moist) 0-1 silty fine sand (Brn) 1-2
8"	03SB147N2-0204	DPT	2-4	"	~~15~~	L	G										Brn silty clay (moist) 2-3 Gray gravel 3-4'
	✓03SB147N2-0406	DPT	4-6	"	15:02	L	G					X			P		Brn silty clay / gray gravel
5"	✓03SB147N2-0608	DPT	6-8	"	15:04	L	G					X			S		Brn/orange silty sand (weathered rock) - fine sand
	✓03SB147N2-0810	DPT	8-10	"	15:06	L	G					X			S		Brn/orange silty sand (fine sand)

REMARKS: 147 moved 12' east (MAG)
191 moved 14' to NE (MAG)
147N2 moved 10' to NE (MAG)

LABORATORY:
Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): DC

SAMPLERS: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD X-Explosives L-Lead	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SS171-0002	DPT	0-2	5/21/14	1325	L	G					X			P		gray gravel (dry) 0-1 Black material (coal) Brn silty clay (moist) 1-2
03SB171-0204	DPT	2-4	"	1327	L	G					X	X	X	P		gray gravel 2-3 (moist) 03DUP03-0514 Brn silty clay (moist) 3-4
03SB171-0406	DPT	4-6	"	1329	L	G					X			P		gravel, Brn silty, Brn/orange silty fine sand
03SB171-0608	DPT	6-8	"	1331	L	G					X			S		Brn/Red/orange silty fine sand
03SB171-0810	DPT	8-10	"	1333	L	G					X			S		Brn/orange sandy clay
03SS172-0002	DPT	0-2	5/21/14	1310	L	G					X			S		gray gravel (moist) 0-1.5' 1.5-2 Brn silty clay
03SB172-0204	DPT	2-4	5/21/14	1312	L	G					X			S		gray gravel 2-2.5' (moist) 2.5-3.5 Brn silty clay (some gravel).
03SB172-0406	DPT	4-6	5/21/14	1314	L	G					X			S		Brn silty clay and gravel (moist)
03SB172-0608	DPT	6-8	5/21/14	1316	L	G					X			S		Poorly sorted sand and gravel Brn/Red/orange
03SB172-0810	DPT	8-10	5/21/14	1318	L	G					X			S		Tan/Brn/orange silty fine sand, ~~and~~ gravel (moist)
03SS173-0002	DPT	0-2	5/21/14	1040	L	G					X			S		Grave/gravel (moist)
03SB173-0204	DPT	2-4	"	1042	L	G					X			S		Brn silty clay (moist) some gravel 2-3' 3-4 sand gravel (gray) -moist
03SB173-0406	DPT	4-6	"	1044	L	G					X			S		Brn silty clay (moist) and gravel gravel
03SB173-0608	DPT	6-8	"	1046	L	G					X			S		"

REMARKS: 172 moved 2' North
171 moved 3' NE

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JDC

SAMPLER: Coffman / Goerdt

PROJECT NAME: **Old Jeep Trail Treatment Area**
PROTECT NUMBER: **112G01819**
YEAR **2014**

LOCATION **NSA Crane - SWMU 3**

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE		TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD (X-Duplicates L- Lead)	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
Recovery																
03SB173-0810	DPT	8-10	5/21/14	1648	L	G					X			S		Gravel & Sand Brn/orange/Red some silt/clay (moist)
03SS174-0002	DPT	0-2			L	G								P		
03SB174-0204	DPT	2-4			L	G								P		
03SB174-0406	DPT	4-6			L	G								P		
03SB174-0608	DPT	6-8			L	G								S		
03SB174-0810	DPT	8-10			L	G								S		
03SS175-0002	DPT	0-2	5/20/14	12:40	L	G		1			X			S		Gray silty gravel (moist) 0-1.5' Brn silty clay w/some gravel 1.5-2' (moist)
03SB175-0204	DPT	2-4	5/20/14	12:42	L	G		3			X	X		S		Brn silty clay little gravel (moist)
03SB175-0406	DPT	4-6	5/20/14	12:44	L	G		1			X			S		Brn silty clay little gravel (moist)
03SB175-0608	DPT	6-8	5/20/14	12:46	L	G		1			X			S		Brn/Orange/Red fine sandy silt (moist)
03SB175-0810	DPT	8-10	5/20/14	12:48	L	G		1			X			S		Brn/Orange/Red fine sandy silt (moist)
03SS176-0002	DPT	0-2	5/22/14	13:30	L	G					X			P		Brn Red/Orange
03SB176-0204	DPT	2-4	"	13:32	L	G					X	X		P		Brn gravel/sand/silt/clay
03SB176-0406	DPT	4-6	"	13:34	L	G					X		X	P		Brn silty/sandy clay (moist) some gravel 03DUP09-052214

REMARKS: moved 175 3' east from marked (MAG) moved 138 7' to south

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [illegible]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE		TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB176-0608	DPT	6-8	5/22/14	13:36	L	G					X			S		Brn silty gravelly clay (moist)
03SB176-0810	DPT	8-10	"	13:38	L	G					X			S		@9-10' - silty fine sand & grave)
03SS177-0002	DPT	0-2			L	G								P		
03SB177-0204	DPT	2-4			L	G								P		
03SB177-0406	DPT	4-6			L	G								S		
03SB177-0608	DPT	6-8			L	G								S		
03SB177-0810	DPT	8-10			L	G								S		
03SS178-0002	DPT	0-2	5/22/14	1145	L	G					X			P		Brn f-sandy clay (wet) Some gravel
03SB178-0204	DPT	2-4	5/22/14	1147	L	G					X			P		" orange & red too
03SB178-0406	DPT	4-6	"	1149	L	G					X			S		" no gravel
03SB178-0608	DPT	6-8	"	1151	L	G					X			S		Gray f-sandy clay (wet)
03SB178-0810	DPT	8-10	"	1153	L	G					X			S		"
03SS179-0002	DPT	0-2	5/22/14	1130	L	G					X		X	P		Brn f-sandy clay (damp) 03DUP08 5/22/14
03SB179-0204	DPT	2-4	"	1132	L	G					X			P		"

REMARKS:

LABORATORY: Empirical Laboratories

COC No(s).:

Tetra Tech, Inc.

MULTIPLE SAMPLE LOG SHEET

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [illegible]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD (X-explosives L-lead)	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB179-0406	DPT	4-6	5/22/14	1134	L	G					X	X		P		Brn fine sandy clay (damp)
03SB179-0608	DPT	6-8	"	1136	L	G					X			S		" " (wet)
03SB179-0810	DPT	8-10	"	1138	L	G					X			S		Gray f-sandy clay (wet)
03SS180-0002	DPT	0-2	5/22/14	0912	L	G					X			P		Brn silty clay (wet)
03SB180-0204	DPT	2-4	"	0914	L	G					X		FD	P		Brn clayey fine sand (wet)
03SB180-0406	DPT	4-6	"	0916	L	G					X		X	P		Brn fine sandy clay 03SDUP01-052214
03SB180-0608	DPT	6-8	"	0918	L	G					X			S		" " "
03SB180-0810	DPT	8-10	"	0920	L	G					X			S		Gray ~~clayey~~ fine sandy (wet) clay Gray clay 9-10'
03SS181-0002	DPT	0-2	5/22/14	10:00	L	G					X			P		Brn/brown/red fine sandy clay (damp)
03SB181-0204	DPT	2-4	"	10:02	L	G					X			P		Brn clayey f-sand (damp) to (wet)
03SB181-0406	DPT	4-6	"	10:04	L	G					X			P		" " "
03SB181-0608	DPT	6-8	"	10:06	L	G					X			S		" " "
03SB181-0810	DPT	8-10	"	10:08	L	G					X			S		Gray f-sandy clay (wet)
03SS182-0002	DPT	0-2	5/22/14	0945	L	G					X			P		Brn wet clayey sand & gravel

REMARKS: 182 moved 3' to SW

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JDC

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

	SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
recovery from 0											Explosives - Field					
23"	03SB182-0204	DPT	2-4	5/22/14	0947	L	G				X			P		Brn wet clayey sandy gravel
	03SB182-0406	DPT	4-6	"	0949	L	G				X			P		Brn fine sandy clay (wet) some gravel
	03SB182-0608	DPT	6-8	"	0951	L	G				X			S		Brn fine sandy clay (wet)
	03SB182-0810	DPT	8-10	"	0953	L	G				X			S		Gray " " " Gray fine sandy clay (wet)
	03SS183-0002	DPT	0-2	5/22/14	15:15	L	G	2			X		X	P/P		Brn silty clay some gravel (moist) 03DUP01-0514
16"	03SB183-0204	DPT	2-4	"	15:17	L	G	1			X			P/P		"
	03SB183-0406	DPT	4-6	"	15:19	L	G	1			X			S/P		Brn/orange/red fine sandy loam (moist)
16"	03SB183-0608	DPT	6-8	"	15:21	L	G	1			X			S/S		" "
	03SB183-0810	DPT	8-10	"	15:23	L	G	1			X			S/S		Brn/orange fine sand (moist) alternating w/ Brn silty clay
	03SS184-0002	DPT	0-2	5/21/14	0855	L	G				X			P/S		Brn silty loam and silty clay, some gravel (moist)
6"	03SB184-0204	DPT	2-4	"	0857	L	G				X			P/S		Brn silty clay (moist) some gravel
	03SB184-0406	DPT	4-6	"	0859	L	G				X			S/S		Brn/orange silty clay (moist) some gravel
	03SB184-0608	DPT	6-8	"	0901	L	G				X			S/S		Brn/orange/red clayey loam (moist) some gravel
	03SB184-0810	DPT	8-10	"	0903	L	G				X			S/S		Brn/orange/red clayey fine sand (moist) some gravel

REMARKS:

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): DOC

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

Recovery	SAMPLE No.	SAMPLE METHOD	DEPTH (FL)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD X-explosives L-lead	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
52"	03SS185-0002	DPT	0-2	5/20/14	16:10	L	G		1			X			P/P		Gray gravel & silty clay (Brn) (moist)
	03SB185-0204	DPT	2-4	5/20/14	16:12	L	G		1			X			P/P		Brn/DkBrn silty clay wet @ 2.5'
	03SB185-0406	DPT	4-6	5/20/14	16:14	L	G		1			X			S/S		~~Brn~~ " "
39"	03SB185-0608	DPT	6-8	5/20/14	16:16	L	G		1			X			S/S		fine sandy loam (moist) Brn/orange/white
	03SB185-0810	DPT	8-10	5/20/14	16:18	L	G		1			X			S/S		fine sand (moist) - Brn/orange
	03SS186-0002	DPT	0-2	5/21/14	0835	L	G					X			P/S		Brn/orange silty fine sand clay and gravel (moist)
3"	03SB186-0204	DPT	2-4	5/21/14	0837	L	G					X			P/S		Brn silty clay some gravel (saturated @ ~3')
	03SB186-0406	DPT	4-6	5/21/14	0839	L	G					X			S/S		Brn gravel & clayey silt (wet)
	03SB186-0608	DPT	6-8	5/21/14	0841	L	G					X			S/S		Brn/orange/red silty fine sand (moist) + gravel
	03SB186-0810	DPT	8-10	5/21/14	0843	L	G					X			S/S		Brn/orange/red silty clay (moist) little gravel
0"	03SS187-0002	DPT	0-2	5/21/14	0938	L	G					X			P		gravel & blck gravelly silt moist to wet (organic)
	03SB187-0204	DPT	2-4	"	0940	L	G					X	X		P		Blk/Brn silty clay (wet to moist)
	03SB187-0406	DPT	4-6	"	0942	L	G					X			S		Brn silty clay & Brn fine sand (moist)
	03SB187-0608	DPT	6-8	"	0944	L	G					X			S		silty and clayey fine sand (Brn/orange/red) moist + fine sandy clay (Brn)

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [signature]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

Recolog

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
										X-Explosives		E-Field			
03SB187-0810	DPT	8-10	5/21/14	0946	L	G				X			S		Burn/orange/red silty fine sand (moist)
03SS188-0002	DPT	0-2	5/21/14	1015	L	G				X			P		gray gravel and gravelly silt/sand (moist) Burn
03SB188-0204	DPT	2-4	"	1017	L	G				X		X	P		Silty and f-sandy clay (moist) Burn/orange 63BUP02-0514
03SB188-0406	DPT	4-6	"	1019	L	G				X			S		Burn/orange silty clay (moist)
03SB188-0608	DPT	6-8	"	1021	L	G				X			S		"
03SB188-0810	DPT	8-10	"	1023	L	G				X			S		"
03SS189-0002	DPT	0-2	5/21/14	1110	L	G				X			P		Gray gravel 0-1, Burn silty clay 1-2 (moist)
03SB189-0204	DPT	2-4	"	1112	L	G				X			P		Burn/orange/red poorly sorted gravel (moist)
03SB189-0406	DPT	4-6	"	1114	L	G				X			P		Burn silty clay and gravel (moist)
03SB189-0608	DPT	6-8	"	1116	L	G				X			S		Burn/orange/red poorly sorted sand/gravel (moist)
03SB189-0810	DPT	8-10	"	1118	L	G				X			S		Burn/orange/red silty fine sand some gravel (moist)
03SS190-0002	DPT	0-2	5/20/14	14:00	L	G	1			X			P		Burn silty clay and gray gravel (moist)
03SB190-0204	DPT	2-4	5/20/14	14:02	L	G	1			X			P		Burn silty clay, some gravel (moist)
03SB190-0406	DPT	4-6	5/20/14	14:04	L	G	1			X			P		Burn silty clay some gravel and silt loam (moist)

REMARKS: 196 located 3' west of marked loc

LABORATORY: Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[X] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): JZ

SAMPLERS: Coffman / Goerdt

PROJECT NAME: **Old Jeep Trail Treatment Area**
PROTECT NUMBER: **112G01819**
YEAR **2014**

LOCATION **NSA Crane - SWMU 3**

Recovery

SAMPLE No.	SAMPLE METHOD	DEPTH (FL)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
03SB190-0608	DPT	6-8	5/20/14	14:06	L	G		1			X			S		Brn sandy/silty loam (moist)
03SB190-0810	DPT	8-10	5/20/14	14:08	L	G		1			X			S		Brn sandy/silty loam (moist)
03SS191-0002	DPT	0-2	5/20/14	15:20	L	G					X			P		Gray gravel (moist) 0-1' Black narrow zone Brn silty clay 1-2' (moist)
03SB191-0204	DPT	2-4	"	15:22	L	G					X			P		Gray sand/gravel 2-3' (moist) Brn silty clay (moist)
03SB191-0406	DPT	4-6	"	15:24	L	G					X			P		Gray sand/gravel 4-5' (moist) Brn/orange silty clay (moist) 5-6'
03SB191-0608	DPT	6-8	"	15:26	L	G					X			S		poorly sorted gravel and sand (brn/orange/red) (moist)
03SB191-0810	DPT	8-10	"	15:28	L	G					X			S		red colored "soil too"
03SS192-0002	DPT	0-2			L	G								S		
03SB192-0204	DPT	2-4			L	G								S		
03SB192-0406	DPT	4-6			L	G								S		
03SB192-0608	DPT	6-8			L	G								S		
03SB192-0810	DPT	8-10			L	G								S		
03SS193-0002	DPT	0-2			L	G								P		
03SB193-0204	DPT	2-4			L	G								P		

38"

38"

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

MULTIPLE SAMPLE LOG SHEET

Tetra Tech, Inc.

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): [signature]

SAMPLER: Coffman / Goerdt

PROJECT NAME: Old Jeep Trail Treatment Area
PROTECT NUMBER: 112G01819
YEAR 2014

LOCATION NSA Crane - SWMU 3

SAMPLE No.	SAMPLE METHOD	DEPTH (Ft.)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB	(C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD: X-Explosives L-Lead	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
Recovery																
03SB193-0406	DPT	4-6			L	G								P		
03SB193-0608	DPT	6-8			L	G								S		
03SB193-0810	DPT	8-10			L	G								S		
03SB194-0204	DPT	2-4	5/19/14	15:00	L	G								P		Lt Brn gravel and silty clay (moist) Pt of SB019 hotspot Recovery 30"
03SB194-0406	DPT	4-6	5/19/14	15:05	L	G								P		Brn silty clay some gravel, Brn-orange fine sand gravel (5-6'). Pt of SB019 hotspot Recovery 30"
03SB195-0204	DPT	2-4	5/19/14	15:50	L	G								P		Brn silty clay with gravel (moist). Pt of SB019 hotspot. Recovery 30
03SB195-0406	DPT	4-6	5/19/14	15:55	L	G								P		Brn silty clay with gravel (moist) 4-5'. Gravel (gray) 4-5', Brn/Red/orange fine sand (moist) 5-6'
03SB193-0002	DPT	0-2	5/22/14	13:50	L	G					X			P		Brn silty clay w/gravel (moist) / Red/orange ~~fine~~/ gray clay asphalt
03SB193-0204	DPT	2-4	"	13:52	L	G					X			P		" " "
03SB193-0406	DPT	4-6	"	13:54	L	G					X			P		" " "
03SB193-0608	DPT	6-8	"	13:56	L	G					X			S		silty fine sandy clay (Brn Red Orange) moist
03SB193-0810	DPT	8-10	"	13:58	L	G					X			S		9-10' - clayey fine sand (moist) Brn/Red/orange
03SB024-TC-0004	DPT	0-4	5/22/14	14:20	L	G		1	TC metals							SB176/SB193/2/4-4/24-2 composite Silty fine sandy clay (moist)
03SB019-TC-0204	DPT	2-4	"	15:00	L	G		1	TC metals							TC metals for SB018 and SB019 Brn silty clay (moist)

REMARKS: SB019 hotspot borings 0 to 2' interval discarded, then 2 to 6' pushed into 5' liner. SB176 moved 2' south

LABORATORY: Empirical Laboratories

COC No(s).:

Tetra Tech, Inc.

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

SIGNATURE(S): _____

SAMPLERS: _____

PROJECT NAME:
PROTECT NUMBER:
YEAR

LOCATION **NSA Crane**

SAMPLE No.	SAMPLE METHOD	DEPTH (FL)	DATE	TIME	CONCENTRATION (L)LOW (H)HIGH	(G) GRAB (C) COMPOSITE	TOTAL NUMBER OF CONTAINERS	ANALYSES: XRF - Lead	Lead - (FBL)	Explosives (RDX,TNT)	MS / MSD	FD	Primary (P) or Secondary (S)	USCS	COMMENTS
0358022-TC	DPT	0-5 5-10	5/20/14	0850						ND					Next to 0358140
0358192-0002	"	0-2	"	1050						X					Brn sandy clay and clayey sand (Damp)
" 0204	"	2-4	"	1052						X					"
" 0406	"	4-6	"	1054						X					"
" 0608	"	6-8	"	1056						X					"
" 0810	"	8-10	"	1058						X					Gray " "
0358048-TC-0206	"	2-6	"	1520			1	TC		Metals					Brn silty clay and gravel (gray) / orange red to (moist)
0358048TC-0610	"	6-10	"	1530			1	TC		Metals					Brn/orange/red fines and clay (moist)

REMARKS:

LABORATORY:
Empirical Laboratories

COC No(s).:

APPENDIX B

SITE PHOTOGRAPHS

NSA Crane – Old Jeep Trail Main Treatment Area (SWMU 3)

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of the Old Jeep Trail (OJT) looking to the northwest. Northern Lead Area associated with 03SB018 back-center of photo.	1 05/15/14

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	Close-up view of 03SB018 area pin flags adjacent to stacked wire mesh pallets marking sample locations in the Northern Lead Area.	2 05/15/14

NSA Crane – Old Jeep Trail Main Treatment Area (SWMU 3)

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of the area associated with 03SB019, also adjacent to stacked wire mesh pallets in the Northern Lead Area.	3 05/15/14

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	Large boulders (just left of tree) in a vegetated area of 03SB022 in the Northern Explosives Area.	4 05/15/14

NSA Crane – Old Jeep Trail Main Treatment Area (SWMU 3)

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	Open grassy area and wooded area associated with 03SB022 the Northern Explosives Area.	5 05/15/14

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of the OJT looking southeast. Conex (intermodal container) box and abandoned RV trailer within areas 03SB022 and 03SB024 (Northern Explosives Area).	6 05/15/14

NSA Crane – Old Jeep Trail Main Treatment Area (SWMU 3)

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of the OJT looking southeast. Close up view of excavation nodes (pink whiskers).	7 05/15/14

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	Wooded area associated with 03SB022 and 03SB024 in the Northern Explosives Area.	8 05/15/14

NSA Crane – Old Jeep Trail Main Treatment Area (SWMU 3)

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of area associated with 03SB024 (Northern Explosives Area) along OJT.	9 05/15/14

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	Wooded area west of abandoned RV trailer near 03SB024 (Northern Explosives Area) near the OJT.	10 05/15/14

NSA Crane – Old Jeep Trail Main Treatment Area (SWMU 3)

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of Southern Lead Area associated with 03SB048 (summer view). Metal post in forefront is associated with groundwater well.	11 05/15/14

SITE:	PHOTOGRAPHER:	DESCRIPTION:	
NSA Crane SWMU 3	J. Goerdt	View of Southern Lead Area (similar view as Photograph #11 above) associated with 03SB048 (winter view). Groundwater well protected by metal posts is visible in this view.	12 01/16/14

APPENDIX C

COMPREHENSIVE ANALYTICAL DATA

(LOCATED ON CD)

APPENDIX D

MAY 2014 – XRF DATA CORRELATION

Correlation Analysis – SWMU 3

The correlation analysis was conducted to determine whether XRF field measurements used to delineate contamination at the site is comparable to fixed-base laboratory (FBL) data. Note that the correlation analysis establishes a relationship for the observed concentration ranges. The relationship should not be extrapolated to concentrations outside the observed concentrations. Predicted FBL concentrations can be obtained by using the regression equation for sites where an acceptable correlation between the XRF and FBL concentrations exists. The intercept of the regression equation is the average FBL concentration when the XRF concentration is not present. The slope of the regression equation is the average rate of change in the FBL concentration as the XRF concentration increases one unit.

Figure 1 presents the scatterplot of the XRF and FBL lead concentrations for SWMU 3 from the May 2014 sampling event. The correlation between the XRF and FBL concentrations is 0.97 and the corresponding R^2 value is 0.94. The correlation indicates a strong linear relationship. FBL concentrations can be predicted from XRF concentrations for concentrations from 9.3 to 260 ppm using the following equation.

$$FBL = 2.52 + 1.23*XRF$$

Table 1 presents all the samples that were used in the correlation analysis.

Table 1
SWMU 3
May 2014

Sample ID	XRF Concentration (ppm)	FBL Concentration (mg/kg)
03SB018N3-0406	12.67	24.00
03SB018S1-0204	24.67	36.60
03SB018S1-0406	36.67	48.00
03SB018S2-0204	166.33	262.00
03SB018S2-0406	35.00	44.90
03SB018E3-0406	58.00	80.20
03SB129-0204	17.33	16.90
03SB129-0406	19.33	31.90
03SB165-0204	18.67	47.00
03SB165-0406	17.67	26.10
03SB166-0204	260.00	361.00
03SB166-0406	16.00	29.50
03SB167-0204	53.67	53.20
03SB167-0406	14.67	22.90
03SB019N2-0204	81.33	50.90
03SB019N2-0406	83.33	83.70
03SB019E1-0406	12.33	20.10
03SB019W1-0406	22.00	36.50
03SB019S1-0406	11.00	21.00
03SB168-0406	24.33	35.30
03SB194-0204	25.33	29.70
03SB194-0406	12.00	21.00

Table 1 SWMU 3 May 2014		
Sample ID	XRF Concentration (ppm)	FBL Concentration (mg/kg)
03SB195-0204	22.67	28.30
03SB195-0406	13.33	25.00
03SS024S3-0002	18.00	21.00
03SB024S3-0204	108.33	146.00
03SS183-0002	177.00	158.00
03SB183-0204	165.00	206.00
03SS184-0002	47.67	61.60
03SB184-0204	88.33	129.00
03SS185-0002	92.33	69.00
03SB185-0204	198.00	242.00
03SS186-0002	20.33	34.40
03SB186-0204	55.67	73.40
03SB048N1-0406	13.67	27.50
03SB048N1-0608	11.00	10.70
03SB048N1-0810	12.33	18.10
03SB048W1-0406	12.67	24.00
03SB048W1-0608	16.33	28.70
03SB048W1-0810	13.33	29.50
03SB048S1-0406	14.00	18.60
03SB048S1-0608	18.67	25.00
03SB048S1-0810	11.67	13.50
03SB048E1-0406	11.33	13.10
03SB048E1-0608	9.33	7.75
03SB048E1-0810	10.67	12.30
03SB169-0204	18.67	27.40
03SB169-0406	18.33	29.00
03SB169-0608	15.67	18.40
03SB169-0810	10.67	18.10

MAY 2014 XRF vs FBL Data					
SAMPLE ID	SAMPLE DATE	PARAMETER	XRF Value	FBL RESULT	Lead Calc Result
03SB018N3-0406	5/20/2014	Pb	12.67	24.00	NC
03SB018S1-0204	5/20/2014	Pb	24.67	36.60	NC
03SB018S1-0406	5/20/2014	Pb	36.67	48.00	NC
03SB018S2-0204	5/20/2014	Pb	166.33	262.00	NC
03SB018S2-0406	5/20/2014	Pb	35.00	44.90	NC
03SB018E3-0406	5/20/2014	Pb	58.00	80.20	NC
03SB129-0204	5/20/2014	Pb	17.33	16.90	NC
03SB129-0406	5/20/2014	Pb	19.33	31.90	NC
03SB165-0204	5/20/2014	Pb	18.67	47.00	NC
03SB165-0406	5/20/2014	Pb	17.67	26.10	NC
03SB166-0204	5/20/2014	Pb	260.00	361.00	NC
03SB166-0406	5/20/2014	Pb	16.00	29.50	NC
03SB167-0204	5/20/2014	Pb	53.67	53.20	NC
03SB167-0406	5/20/2014	Pb	14.67	22.90	NC
03SB019N2-0204	5/19/2014	Pb	81.33	50.90	NC
03SB019N2-0406	5/19/2014	Pb	83.33	83.70	NC
03SB019E1-0406	5/19/2014	Pb	12.33	20.10	NC
03SB019W1-0406	5/19/2014	Pb	22.00	36.50	NC
03SB019S1-0406	5/19/2014	Pb	11.00	21.00	NC
03SB168-0204	5/19/2014	Pb	27.00	NA	35.73
03SB168-0406	5/19/2014	Pb	24.33	35.30	NC
03SB194-0204	5/19/2014	Pb	25.33	29.70	NC
03SB194-0406	5/19/2014	Pb	12.00	21.00	NC
03SB195-0204	5/19/2014	Pb	22.67	28.30	NC
03SB195-0406	5/19/2014	Pb	13.33	25.00	NC
03SB024E1-0406	5/20/2014	Pb	25.33	NA	33.68
03SB024E1-0608	5/20/2014	Pb	12.33	NA	17.69
03SB024E1-0810	5/20/2014	Pb	10.67	NA	15.64
03SB024S1-0406	5/20/2014	Pb	35.67	NA	46.39
03SB024S1-0608	5/20/2014	Pb	14.67	NA	20.56
03SB024S1-0810	5/20/2014	Pb	11.67	NA	16.87
03SS024S3-0002	5/21/2014	Pb	18.00	21.00	NC
03SB024S3-0204	5/21/2014	Pb	108.33	146.00	NC
03SB024S3-0406	5/21/2014	Pb	157.33	NA	196.04
03SB024S3-0608	5/21/2014	Pb	18.00	NA	24.66
03SB024S3-0810	5/21/2014	Pb	11.00	NA	16.05
03SS183-0002	5/20/2014	Pb	177.00	158.00	NC
03SB183-0204	5/20/2014	Pb	165.00	206.00	NC
03SB183-0406	5/20/2014	Pb	46.67	NA	59.92
03SB183-0608	5/20/2014	Pb	11.67	NA	16.87
03SB183-0810	5/20/2014	Pb	10.67	NA	15.64
03SS184-0002	5/21/2014	Pb	47.67	61.60	NC
03SB184-0204	5/21/2014	Pb	88.33	129.00	NC

MAY 2014 XRF vs FBL Data					
SAMPLE ID	SAMPLE DATE	PARAMETER	XRF Value	FBL RESULT	Lead Calc Result
03SB184-0406	5/21/2014	Pb	34.33	NA	44.75
03SB184-0608	5/21/2014	Pb	11.67	NA	16.87
03SB184-0810	5/21/2014	Pb	11.00	NA	16.05
03SS185-0002	5/20/2014	Pb	92.33	69.00	NC
03SB185-0204	5/20/2014	Pb	198.00	242.00	NC
03SB185-0406	5/20/2014	Pb	15.67	NA	21.79
03SB185-0608	5/20/2014	Pb	14.67	NA	20.56
03SB185-0810	5/20/2014	Pb	11.00	NA	16.05
03SS186-0002	5/21/2014	Pb	20.33	34.40	NC
03SB186-0204	5/21/2014	Pb	55.67	73.40	NC
03SB186-0406	5/21/2014	Pb	17.00	NA	23.43
03SB186-0608	5/21/2014	Pb	11.00	NA	16.05
03SB186-0810	5/21/2014	Pb	10.67	NA	15.64
03SB048N1-0406	5/19/2014	Pb	13.67	27.50	NC
03SB048N1-0608	5/19/2014	Pb	11.00	10.70	NC
03SB048N1-0810	5/19/2014	Pb	12.33	18.10	NC
03SB048W1-0406	5/19/2014	Pb	12.67	24.00	NC
03SB048W1-0608	5/19/2014	Pb	16.33	28.70	NC
03SB048W1-0810	5/19/2014	Pb	13.33	29.50	NC
03SB048S1-0406	5/19/2014	Pb	14.00	18.60	NC
03SB048S1-0608	5/19/2014	Pb	18.67	25.00	NC
03SB048S1-0810	5/19/2014	Pb	11.67	13.50	NC
03SB048E1-0406	5/19/2014	Pb	11.33	13.10	NC
03SB048E1-0608	5/19/2014	Pb	9.33	7.75	NC
03SB048E1-0810	5/19/2014	Pb	10.67	12.30	NC
03SB169-0204	5/19/2014	Pb	18.67	27.40	NC
03SB169-0406	5/19/2014	Pb	18.33	29.00	NC
03SB169-0608	5/19/2014	Pb	15.67	18.40	NC
03SB169-0810	5/19/2014	Pb	10.67	18.10	NC

NA = Not analyzed
NC = Not calculated

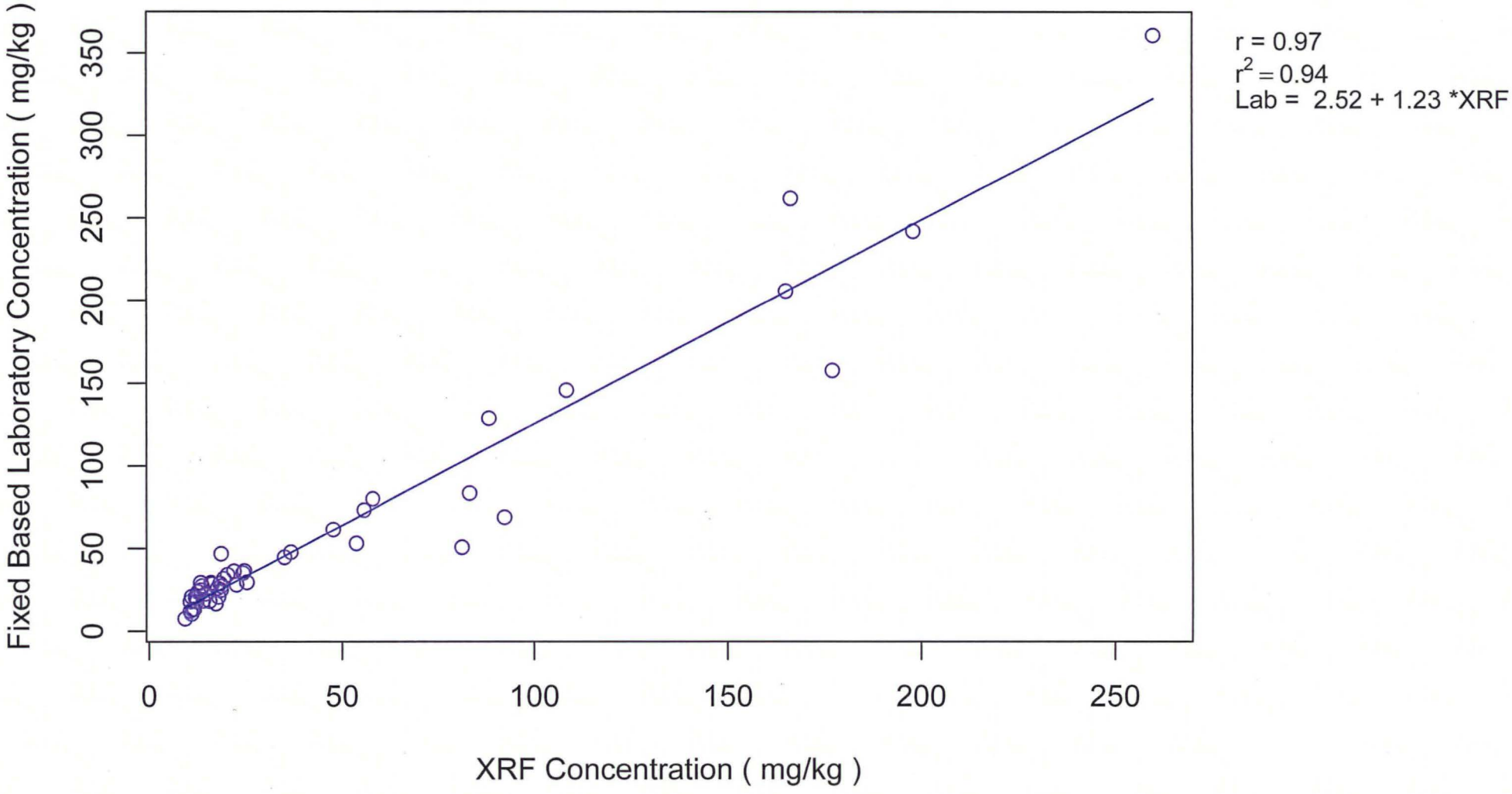



Figure 1
CORRELATION ANALYSIS - MAY 2014
SWMU 3
NSA CRANE
CRANE, INDIANA