

N00164.AR.002604
NSA CRANE
5090.3a

FINAL INTERIM MEASURES REPORT FOR SOLID WASTE MANAGEMENT UNIT 12 (SWMU
12) BATTERY DUMP SITE NSA CRANE IN
11/01/2010
TETRA TECH NUS INC

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-04-D-0055



Rev. 0
11/10

Final Interim Measures Report for SWMU 12 – Battery Dump Site

Naval Support Activity Center
Crane, Indiana

Contract Task Order 0042

November 2010



Midwest

201 Decatur Avenue
Building IA, Code EV
Great Lakes, Illinois 60088

**FINAL
INTERIM MEASURES REPORT
for
SWMU 12 – BATTERY DUMP SITE
NAVAL SUPPORT ACTIVITY CRANE
CRANE, INDIANA**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
Naval Facilities Engineering Command Midwest
201 Decatur Avenue
Building 1A, Code EV
Great Lakes, Illinois 60088**

**Submitted by:
Tetra Tech NUS, Inc.
234 Mall Boulevard, Suite 260
King of Prussia, Pennsylvania 19406**

**CONTRACT NUMBER N62472-03-D-0057
CONTRACT TASK ORDER 42**

NOVEMBER 2010

PREPARED UNDER THE DIRECTION OF:



**STEVE RUFFING, P.E.
PROJECT MANAGER
TETRA TECH NUS
PITTSBURGH, PENNSYLVANIA**

APPROVED FOR SUBMISSION BY:



**JOHN J. TREPANOWSKI, P.E.
PROGRAM MANAGER
TETRA TECH NUS
KING OF PRUSSIA, PENNSYLVANIA**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE NO.</u>
LIST OF ACRONYMS	3
1.0 INTRODUCTION.....	1-1
1.1 PURPOSE.....	1-1
1.2 FACILITY DESCRIPTION.....	1-1
1.3 SITE DESCRIPTION AND HISTORY	1-1
1.4 PREVIOUS INVESTIGATIONS AND ACTIONS	1-2
1.4.1 Battery Dump Site Interim Measures	1-2
1.4.2 Battery Dump Site Resource Conservation and Recovery Act Facility Investigation Sampling.....	1-3
1.4.3 Interim Measures Work Plan for SWMU 12 Battery Dump Site	1-4
1.5 EXTENT OF CONTAMINATION.....	1-4
1.5.1 Human Health Risks	1-4
1.5.2 Ecological Risks	1-5
1.5.3 Extent of Unacceptable Risk.....	1-5
1.6 REPORT ORGANIZATION.....	1-6
2.0 DESCRIPTION OF INTERIM REMEDIAL ACTIVITIES.....	2-1
2.1 PURPOSE.....	2-1
2.2 SITE PREPARATION	2-1
2.2.1 Mobilization	2-1
2.2.2 Erosion and Sediment Controls	2-2
2.2.3 Clearing.....	2-2
2.2.4 Off-Site Disposal.....	2-2
2.2.5 Soil Excavation and Verification Sampling	2-2
2.3 VERIFICATION SAMPLE RESULTS.....	2-5
2.3.1 Verification Sample Results for Round 1	2-5
2.3.2 Verification Sample Results for Round 2	2-6
2.3.3 Verification Sample Results for Round 3	2-6
2.3.4 Support Areas	2-6
2.4 SITE RESTORATION	2-7
2.5 FIELD DOCUMENTATION	2-7
3.0 CONCLUSIONS.....	3-1
REFERENCES.....	R-1

TABLE OF CONTENTS (Continued)

APPENDICES

A	SITE PHOTOGRAPHS
B	NORTH WIND'S CLOSURE REPORT
C	FIXED-BASE LABORATORY ANALYTICAL RESULTS FOR VERIFICATION SAMPLES (TETRA TECH)
D	FIXED-BASE LABORATORY ANALYTICAL RESULTS FOR WASTE CHARACTERIZATION SAMPLES (NORTHWIND)
E	SOIL SAMPLE LOG SHEETS
F	DAILY FIELD LOGS (TETRA TECH)
G	SWMU 12 BATTERY DUMP SITE RISK EVALUATION

FIGURES

NUMBER

1-1	Base and Site Location Map
1-2	Site Layout Map
1-3	Battery Site Layout Map
1-4	Initial and Potential Excavation Limits
1-5	Locations Causing Unacceptable Risk to Human Health (Residential Direct Contact)
1-6	Locations Causing Unacceptable Ecological Risks
1-7	Required Removal to Achieve Acceptable Human Health Risks
1-8	Required Removal to Achieve Acceptable Ecological Risks
2-1	Initial Excavation Verification Samples
2-2	Additional Excavation Verification Samples

TABLES

NUMBER

1-1	Comparison of Post-Excavation Concentrations to Human Health PRGs
1-2	Summary of Ecological Evaluation
2-1	Verification and Backfill Sample Results

LIST OF ACRONYMS

bgs	below ground surface
CLEAN	Comprehensive Long-Term Environmental Action Navy
COC	chemical of concern
CTO	Contract Task Order
EMAC	Environmental Multiple Award Contractor
HHRA	Human Health Risk Assessment
HI	hazard index
IDEM	Indiana Department of Environmental Management
IM	Interim Measure
IMWP	Interim Measures Work Plan
MFA	Mine Fill A
mg/kg	milligrams per kilogram
NAVFAC	Naval Facilities Engineering Command
North Wind	North Wind Remediation Services
NSA	Naval Support Activity
ppm	part per million
PRG	preliminary remediation goal
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SAP	Sampling and Analysis Plan
sf	square feet
SWMU	Solid Waste Management Unit
Tetra Tech	Tetra Tech NUS, Inc.
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
XRF	X-ray fluorescence

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this Interim Measures (IM) Report is to describe the activities performed during the interim remedial action conducted at Solid Waste Management Unit (SWMU) 12 Battery Dump Site, at Naval Support Activity (NSA) Crane located in Crane, Indiana. The activities associated with this interim action were completed in accordance with the Interim Measures Work Plan (IMWP) for SWMU 12 Battery Dump Site (Tetra Tech, 2009a) and the Sampling and Analysis Plan (SAP), Field Sampling Plan, and Quality Assurance Project Plan (QAPP) for Verification Soil Sampling, SWMU 12 Battery Dump Site (Tetra Tech, 2009b). Activities included establishing erosion and sediment controls, clearing of trees and other vegetation in the excavation and work areas, excavation of contaminated soils from within the Battery Dump Site, off-site disposal of contaminated soils, backfilling/regrading of excavation areas, and seeding of all disturbed areas. This report was prepared for the United States Navy, Naval Facilities Engineering Command (NAVFAC) Midwest by Tetra Tech NUS, Inc. (Tetra Tech) under Contract Task Order (CTO) 42 of the Comprehensive Long-Term Environmental Action Navy (CLEAN) IV Contract Number N62472-03-D-0057. Remediation work was performed by North Wind Remediation Services, LLC (North Wind) and Tetra Tech. Initial field activities began in October 2009, and work was completed in November 2009.

1.2 FACILITY DESCRIPTION

NSA Crane is located in the southern portion of Indiana, approximately 75 miles southwest of Indianapolis and 71 miles northwest of Louisville, Kentucky, immediately east of Crane Village and Burns City (Figure 1-1). NSA Crane encompasses 62,463 acres (approximately 98 square miles), most of which are located in the northern portion of Martin County. Smaller portions of NSA Crane are located in Greene, Daviess, and Lawrence Counties. NSA Crane is located in a rural, sparsely populated area. Most of NSA Crane is forested, and the surrounding area is wooded or farmed land. NSA Crane provides material, technical, and logistical support to the Navy for equipment, shipboard weapons systems, and nonexpendable ordnance items. In addition, NSA Crane supports the Crane Army Ammunition Activity with production, renovation, storage, shipment, demilitarization, and disposal of conventional ammunition.

1.3 SITE DESCRIPTION AND HISTORY

SWMU 12 consists of Mine Fill A (MFA) and the area surrounding MFA. SWMU 12 is located in the central portion of NSA Crane as shown on Figure 1-1. SWMU 12 occupies approximately 200 acres,

including the area located within the southern portion of the SWMU identified as the Battery Dump Site (Figure 1-2). The Battery Dump Site was the location of interest for this IM. MFA began operations when NSA Crane was commissioned in December 1941. Core activities at MFA included the production of large mines, depth charges, rocket heads, aerial bombs, and projectiles. MFA continued to produce ordnance until 1975 when production was suspended. Production was resumed in 1980 for a short period of time. Most recently, MFA has been used for the production of 2,000-pound aerial bombs (Tetra Tech, 2008).

In the early 1990s, the NSA Crane Environmental Protection Department discovered a Battery Dump Site at the southern end of MFA, approximately 140 feet outside of the perimeter fence (Figure 1-3). The Battery Dump Site consisted of two areas: (1) Battery Area – where batteries were dumped on the ground surface and (2) Soil Area – an area adjacent to the Battery Area where soil and construction debris were dumped, forming small mounds. The Battery Area was composed of a large number of AA batteries with only the inner cores visible on the ground surface. The origin and disposal date(s) of the batteries in this area are unknown. However, based on the deterioration of the batteries, it was estimated that the batteries must have been dumped on site in the mid-1980s. The soil and construction debris mounds are believed to have originated from the installation of road culverts within the MFA area (Tetra Tech, 2008). The Battery Dump Site contained an estimated 4,145 square feet (sf) of contaminated surface soil and 100 sf of contaminated subsurface soil (Tetra Tech, 2009a).

The ground surface at the Battery Dump Site was vegetated with grass, tall weeds, and saplings. Areas to the west, south, and east are heavily wooded, and although the Battery Dump Site is relatively flat, the terrain slopes away from the Battery Dump Site in these three directions. Erosion potential is limited by the vegetation. Bedrock is within 10 feet of ground surface. The physiography, topography, surface water hydrology, geology, and hydrogeology of SWMU 12 are detailed in Sections 2.1.1 through 2.1.4 of the IMWP (Tetra Tech, 2009a).

1.4 PREVIOUS INVESTIGATIONS AND ACTIONS

1.4.1 Battery Dump Site Interim Measures

In September 2001 and June 2002, IM actions were conducted that included identification, removal, treatment, and disposal of contaminated soil from the SWMU 12 Battery Dump Site.

The September 2001 IM removal action in the Soil Area included excavation and treatment of 18 tons of explosives-contaminated soil (TolTest, 2002). Post-excavation sampling and analysis of the Soil Area

indicated that remaining contamination concentrations were less than Indiana Department of Environmental Management (IDEM) Default Closure Levels for industrial receptors (IDEM, 2001). Based on the post-excavation analytical results, no further action was recommended for the Soil Area.

The September 2001 and June 2002 IM removal activities at the Battery Area included excavation and off-site disposal of 299 tons of metals-contaminated soil (ToITest, 2002). Post-excavation sampling and analysis indicated that concentrations of lead were greater than the IDEM Default Closure Level for industrial receptors (IDEM, 2001). Post-IM recommendations included further investigation of lead contamination at the SWMU 12 Battery Area, including expansion of the investigation area and additional sampling.

In September 2002, a follow-up IM action was performed at the Soil Area. About 20 tons of contaminated soil was excavated and disposed of, but the horizontal and vertical extent of this contamination was not determined. Four post-excavation samples were collected, and the results confirmed that contaminated soil was still present at the site. Results indicated that concentrations of antimony and lead at two sample locations and arsenic at all four locations exceeded industrial clean-up goals. However, with the exception of one sample, arsenic concentrations in these samples were less than the maximum detection of 10.2 mg/kg in the Basewide Background Soil Investigation Report (Tetra Tech, 2001). ToITest (the removal action contractor) recommended the excavation of additional exploration trenches to determine the horizontal extent of metals contamination in the area.

1.4.2 Battery Dump Site Resource Conservation and Recovery Act Facility Investigation Sampling

Following the 2001 and 2002 IMs, a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was conducted at the SWMU 12 Battery Dump Site in three phases to delineate the horizontal and vertical extent of contamination remaining at the Battery Dump Site. Analytical results from the 2004, 2005, and 2006 RFI field events adequately delineated the horizontal and vertical extent of contamination remaining at the SWMU 12 Battery Dump Site.

Human health and ecological risk assessments completed as part of the RFI determined that chemicals of concern (COCs) in surface and subsurface soil at the SWMU 12 Battery Dump Site are: antimony, arsenic, copper, chromium, iron, lead, mercury, silver, tin, and zinc (Tetra Tech, 2008).

1.4.3 Interim Measures Work Plan for SWMU 12 Battery Dump Site

In 2009 an IMWP was developed to detail how the remaining soil contamination within the limits of the Battery Dump Site was to be excavated (Tetra Tech, 2009a). The IMWP also established the COCs, preliminary remediation goals (PRGs), the excavation limits, and the verification sampling scheme.

1.5 EXTENT OF CONTAMINATION

Using the analytical data obtained during the SWMU 12 Battery Dump Site RFI, Tetra Tech developed the human health and ecological risk assessments presented in the RFI Report (Tetra Tech, 2008). The preliminary results of these risk assessments were used in the IMWP to develop a list of COCs detected at concentrations that present unacceptable risks to human and ecological receptors (Tetra Tech, 2009a). The COC detections were used to establish the locations that required excavation to reduce the site-associated risks to acceptable levels for these COCs. Figure 1-4 shows the limits of the excavation presented in the IMWP. Figure 1-4 also shows the potential maximum excavation limits identified in the IMWP. The excavation had the potential to expand to the potential maximum excavation limits, based on the verification sample results.

1.5.1 Human Health Risks

Analytical data from 36 RFI samples collected at the Battery Dump Site were used to evaluate human health risks. The locations of these 36 RFI samples are shown on Figure 1-5. The results of the RFI human health risk assessment (HHRA) identified four COCs as causing unacceptable human health risks under a potential future residential scenario. This scenario was evaluated to determine the feasibility of closing the Battery Dump Site portion of SWMU 12. The COCs include antimony, arsenic, iron, and lead in surface soil [0 to 2 feet below ground surface (bgs)] and subsurface soil (deeper than 2 feet bgs) (Tetra Tech, 2008).

Using average and 95 percent upper confidence limits (UCLs), cancer risk levels and non-cancer risk hazard indices (HI) were calculated and compared to the acceptable cancer risk level (1×10^{-4}) and acceptable non-cancer risk HI (1), respectively. Using this approach, RFI sample locations with high concentrations of COCs were systematically removed (simulating location specific excavation) to determine the extent of excavation needed to reduce the human health risks associated with the SWMU 12 Battery Dump Site to acceptable levels. To meet residential criteria at the SWMU 12 Battery Dump Site, eight surface soil (0 to 2 feet bgs) sample locations (12SB21, 12SB22, 12SB23, 12SB25, 12SB26, 12SB28, 12SB30, and 12SB35) and one subsurface soil (4 to 6 feet bgs) sample location (12SB33) were excavated (see Figure 1-5). Because sample locations 12SB24 and 12SB32 are located near surface

soil sample locations that were excavated to achieve acceptable human health risk, the IM also included removal and disposal of surface soil at these sample locations. Additionally, during the excavation of subsurface soil at 12SB33, the 12SB21 surface soil was also removed and disposed.

1.5.2 Ecological Risks

In addition to human health risks, the RFI identified ecological risks. Analytical data from 36 RFI samples collected at the Battery Dump Site were also used to evaluate ecological risks. The locations of these 36 RFI samples are shown on Figure 1-6. The preliminary ecological risk assessment identified nine COCs (antimony, arsenic, copper, chromium, lead, mercury, silver, tin, and zinc) (Tetra Tech, 2008). The human health surface soil excavation area was reviewed to determine whether acceptable ecological risk would be achieved with this soil removal. Three additional locations were excavated to achieve acceptable ecological risks. These additional surface soil locations, identified in Figure 1-6, included 12SB34, 12SB36, and 12SB39.

1.5.3 Extent of Unacceptable Risk

A review of the results of the preliminary human health and ecological risk assessments indicated that remedial action was required for the SWMU 12 Battery Dump Site surface and subsurface soil to achieve acceptable risk levels and to achieve no further action at the SWMU 12 Battery Dump Site. Figure 1-7 presents the minimum limits of excavation required to achieve acceptable human health risks. Table 1-1 presents the estimated concentrations of COCs remaining onsite following the proposed removal action identified in Figure 1-7. To comply with United States Department of Environmental Protection (USEPA) guidance on the determination of human health risks, the estimated COC concentrations remaining after excavation were calculated for antimony, lead, arsenic, and iron independently. To determine an acceptable risk for antimony, the estimated maximum antimony concentration remaining onsite following excavation and backfill was compared to the cleanup goal for antimony. To determine an acceptable risk for lead, the average of the estimated remaining concentrations following excavation and backfill was compared to the cleanup goal for lead. Lastly, to determine acceptable risk for arsenic and iron, the 95 percent UCL of their estimated concentrations that remain after excavation and backfill was calculated and compared to the cleanup goals for arsenic and iron.

Based on the estimated post-excavation concentrations presented in Table 1-1, the remaining concentrations of:

- Lead and antimony met all residential cleanup goals;
- Arsenic exceeded the calculated human health risk cleanup level;
- Arsenic exceeded the IDEM default migration to groundwater level;
- Arsenic was below the background value; and
- Iron met the residential human health risk cleanup level.

Because the estimated post-excavation arsenic concentration was below background level, further excavation will not be required. Therefore, the estimated post-excavation surface and subsurface soil concentrations, as presented in Figure 1-7, were predicted to achieve acceptable human health risks at SWMU 12 Battery Dump Site.

A similar approach was used to determine if estimated remaining contaminant concentrations after excavation caused unacceptable ecological risks. Figure 1-8 presents the additional excavation limits associated with achieving acceptable ecological risk levels that are outside the excavation limits associated with achieving acceptable human health risk. Table 1-2 presents the statistical data following the removal of the indicated locations in Figure 1-8. In order to determine whether the proposed soil excavation limits would reduce concentrations to levels that are protective of ecological receptors, screening criteria for plants, soil invertebrates, avian wildlife, and mammalian wildlife were used for the COCs (antimony, arsenic, chromium, copper, lead, mercury, silver, tin, and zinc). These screening criteria were compared to the average post-excavation contaminant concentrations for each COC. In general, although concentrations of some COCs still remained above the screening criteria under post-excavation conditions, the average post-excavation concentrations over the relatively small area met or only slightly exceeded the screening criteria.

1.6 REPORT ORGANIZATION

The remaining sections of this document contain the following information.

- Section 2.0 presents the activities associated with this interim remedial action and the data associated with the verification sampling conducted upon excavation and removal of soil from the SWMU 12 Battery Dump Site.
- Section 3.0 presents the report conclusions based on the results of the interim remedial action activities.

TABLE 1-1

COMPARISON OF POST-EXCAVATION CONCENTRATIONS TO HUMAN HEALTH PRGs
 SWMU 12 - BATTERY DUMP SITE
 NSA CRANE
 CRANE, INDIANA

Parameter	PRG (mg/kg)		Maximum Detected Background Concentration	Concentrations Following Proposed Removal Action (mg/kg)		
	RFI Report Future Resident Direct Contact Cleanup Value	IDEM Default Closure Level for Migration to Groundwater		Surface and Subsurface Soil	Surface Soil	Subsurface Soil
Antimony (maximum concentration)	31	5.4	11.3	8.7	8.7	1.7
Arsenic ⁽¹⁾ (95% UCL concentration)	0.39	5.8	10.2	6.0	6.6	6.3
Iron (95% UCL concentration)	55,000 ⁽²⁾	NA	40,800	40,300	30,200	50,000
Lead (average concentration)	400	81	21.5	38.3	72.5	18.1

1 - Because the post-excavation arsenic concentration is below background, excavation of arsenic to below PRG concentrations is not required.

2 - USEPA Screening Level - Oak Ridge National Laboratory, Regional Screening Level for Chemical Contaminants at Superfund Sites, September 2008.

Concentration exceeds the RFI cleanup value and the IDEM Migration to Groundwater Criteria

IDEM - Indiana Department of Environmental Management
 mg/kg - milligrams per kilogram

TABLE 1-2

SUMMARY OF ECOLOGICAL EVALUATION
 SWMU 12 BATTERY DUMP SITE
 NSA CRANE
 CRANE, INDIANA

Parameters	Ecological Screening Criteria ⁽¹⁾ (mg/kg)	Maximum Background Detection (mg/kg)	Average Concentrations Following Proposed Removal Action (mg/kg) ⁽²⁾
Inorganics (mg/kg)			
ANTIMONY	NC / 78 / NC / 0.27	11.3	1.01
ARSENIC	18 / NC / 43 / 46	10.2	4.97
CHROMIUM	NC / NC / 26 / 34	30.6	25.03
COPPER	70 / 80 / 28 / 49	23.8	22.55
LEAD	120 / 1,700 / 11 / 56	21.5	36.32
MERCURY	NC / NC / NC / NC	0.14	0.02
SILVER	560 / NC / 4.2 / 14	0.11	0.08
TIN	NC / NC / NC / NC	NA	0.37
ZINC	160 / 120 / 46 / 79	60.2	124.67

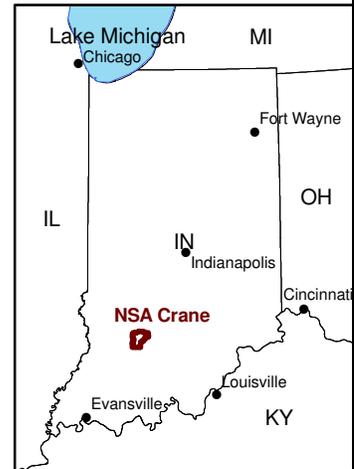
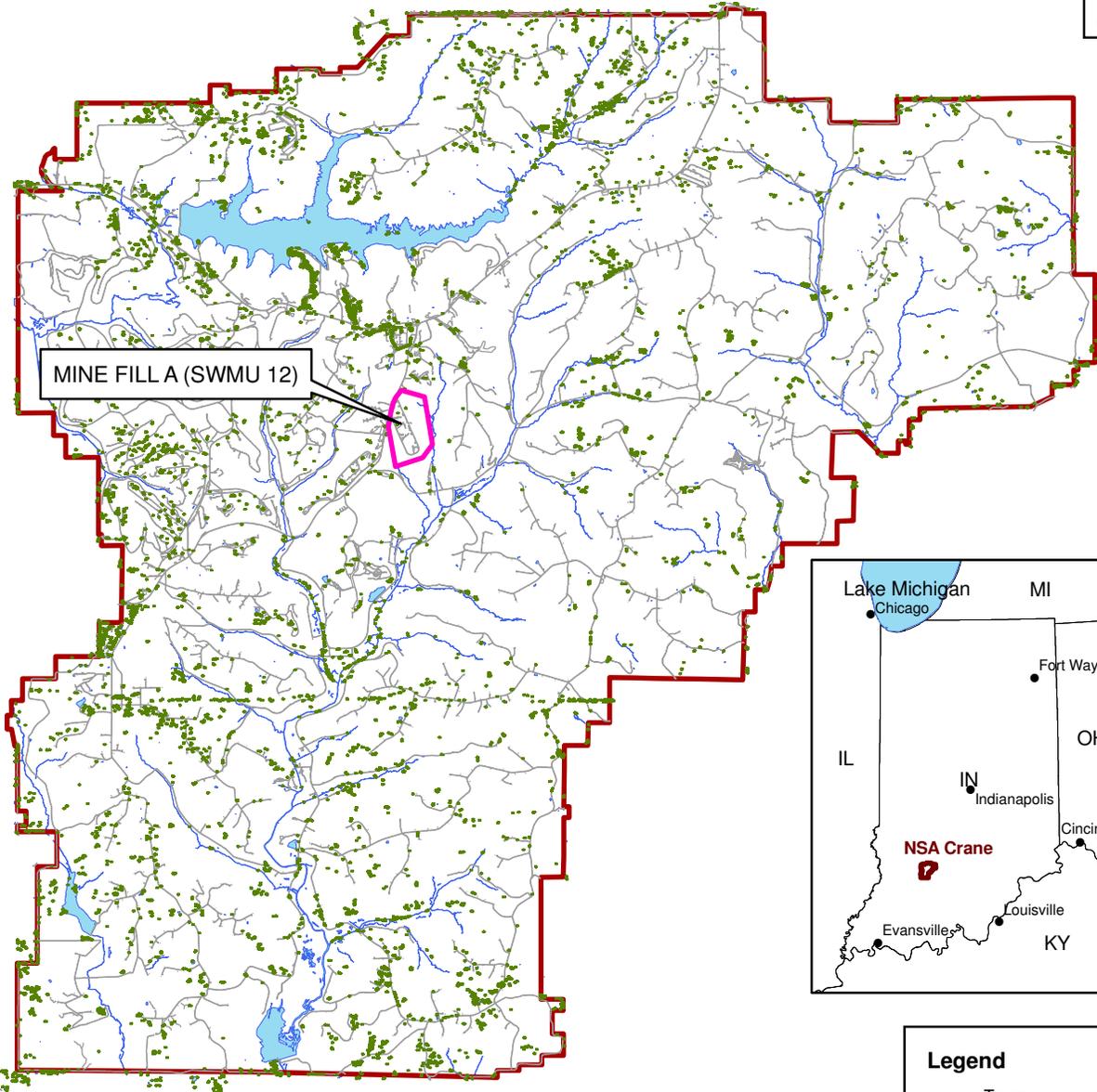
- (1) Ecological soil screening levels (ECO-SSLs) prepared by the USEPA Office of Solid Water and Emergency Response. The reported values represent screening levels for plants / soil invertebrates / avian wildlife / mammal wildlife.
- (2) Values were calculated using 1/2 the method detection limits for samples with a non-detect
- (3) Values were calculated using the average background value as the anticipated parameter concentration in the backfill material used for the SWMU 12 Battery Dump Site

NA Not available
 NC No criteria
 ND Not detected

■ Concentration exceeds one or more of the indicated screening criteria.

The proposed excavation includes the removal of soil associated with the following list of samples:

12SB210002	12SB280001	12SB340001
12SB220002	12SB300001	12SB350001
12SB230002	12SB320001	12SB360001
12SB240002	12SB330001	12SB360103
12SB250001	12SB330204	12SB390001
12SB260001	12SB330406	12SB390103



Legend

- Trees
- Road
- SWMU 12
- Base Boundary
- Water



DRAWN BY	DATE
S. STROZ	02/08/10
CHECKED BY	DATE
B. COLLINS	08/16/10
REVISED BY	DATE
T. WHEATON	08/16/10
SCALE AS NOTED	



BASE AND SITE LOCATION MAP
 SWMU 12 - BATTERY DUMP SITE
 INTERIM MEASURES REPORT
 NSA CRANE
 CRANE, INDIANA

CONTRACT NUMBER CTO 0042	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. FIGURE 1-1	REV 0



DRAWN BY	DATE
K. MOORE	12/12/08
CHECKED BY	DATE
B. COLLINS	08/16/10
REVISED BY	DATE
T. WHEATON	08/16/10
SCALE AS NOTED	

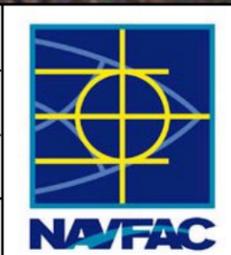


SITE LAYOUT - 2005 AERIAL PHOTOGRAPH
 SWMU 12 - BATTERY DUMP SITE
 INTERIM MEASURES REPORT
 NSA CRANE
 CRANE, INDIANA

CONTRACT NUMBER CTO 0042	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. FIGURE 1-2	REV 0

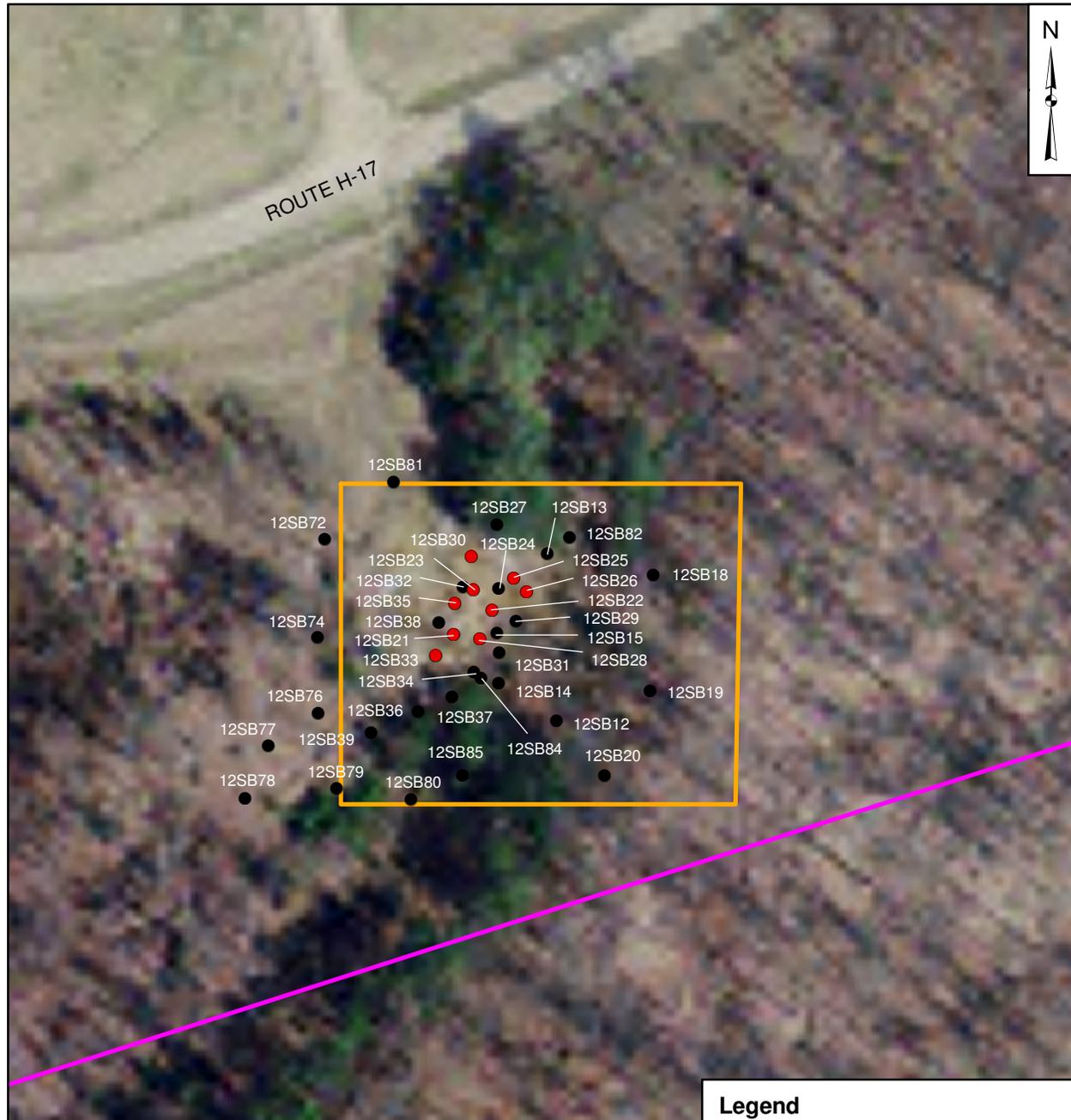


DRAWN BY K. MOORE	DATE 06/25/08
CHECKED BY B. COLLINS	DATE 08/16/10
REVISED BY T. WHEATON	DATE 08/16/10
SCALE AS NOTED	



BATTERY SITE LAYOUT - 2005 AERIAL PHOTOGRAPH
 SWMU 12 - BATTERY DUMP SITE
 INTERIM MEASURES REPORT
 NSA CRANE
 CRANE, INDIANA

CONTRACT NUMBER CTO 0042	
APPROVED BY ---	DATE ---
APPROVED BY ---	DATE ---
FIGURE NO. FIGURE 1-3	REV 0



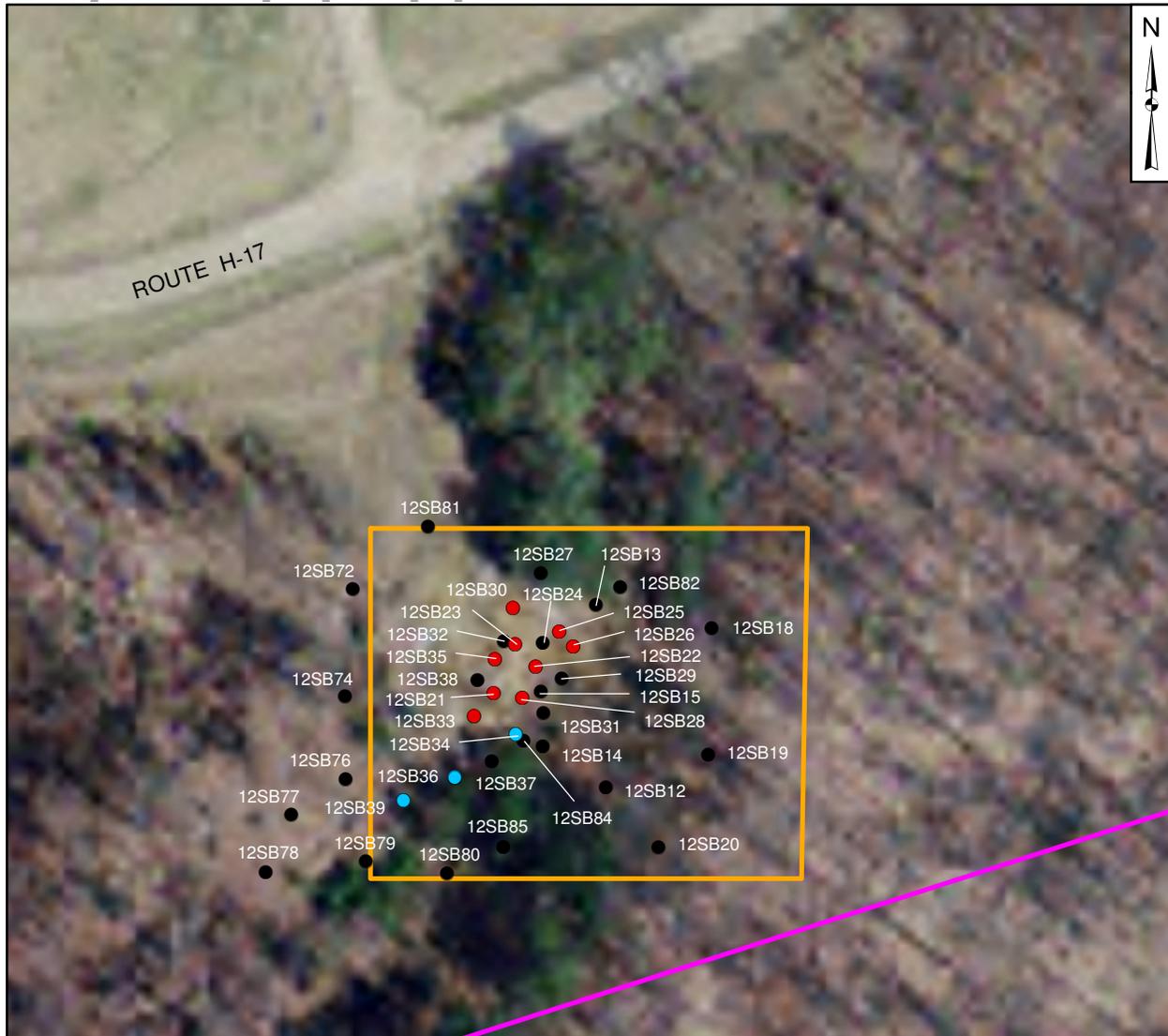
NOTE:
The removal of soil at these locations will result in acceptable risks to human receptors.



Legend

- Locations Causing Unacceptable Human Health Risks (see note)
- RFI Sample Locations
- SWMU Boundary
- Battery Dump Site

DRAWN BY S. STROZ	DATE 03/06/09		CONTRACT NUMBER CTO 0042
CHECKED BY B. COLLINS	DATE 08/16/10	LOCATIONS CAUSING UNACCEPTABLE RISK TO HUMAN HEALTH (RESIDENTIAL DIRECT CONTACT) SWMU 12 - BATTERY DUMP SITE INTERIM MEASURES REPORT NSA CRANE CRANE, INDIANA	APPROVED BY _____ DATE _____
REVISED BY T. WHEATON	DATE 08/16/10		APPROVED BY _____ DATE _____
SCALE AS NOTED			FIGURE NO. FIGURE 1-5



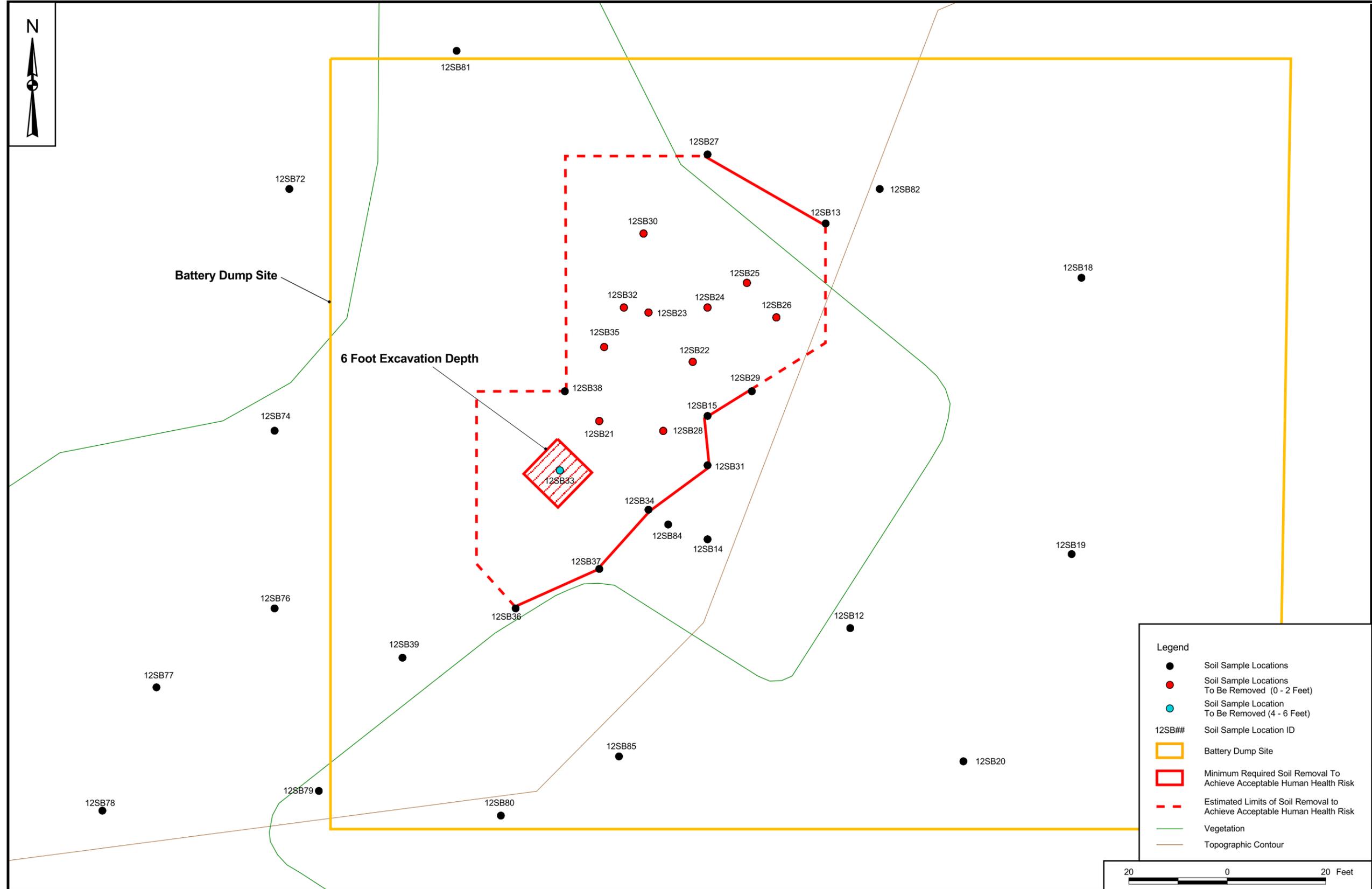
NOTE:
The removal of soil at these locations to a depth of 2 feet bgs will result in acceptable risks to ecological receptors.

Legend

- Locations Causing Unacceptable Human Health and Ecological Risks
- Additional Locations Causing Unacceptable Ecological Risks
- RFI Sample Locations
- SWMU Boundary
- Battery Dump Site



DRAWN BY S. STROZ	DATE 03/06/09	TETRA TECH	CONTRACT NUMBER CTO 0042		
CHECKED BY B. COLLINS	DATE 08/16/10		APPROVED BY	DATE	
CHECKED BY T. WHEATON	DATE 08/16/10	LOCATIONS CAUSING UNACCEPTABLE ECOLOGICAL RISKS SWMU 12 - BATTERY DUMP SITE INTERIM MEASURES REPORT NSA CRANE CRANE, INDIANA		APPROVED BY	DATE
SCALE AS NOTED				FIGURE NO. FIGURE 1-6	REV 0

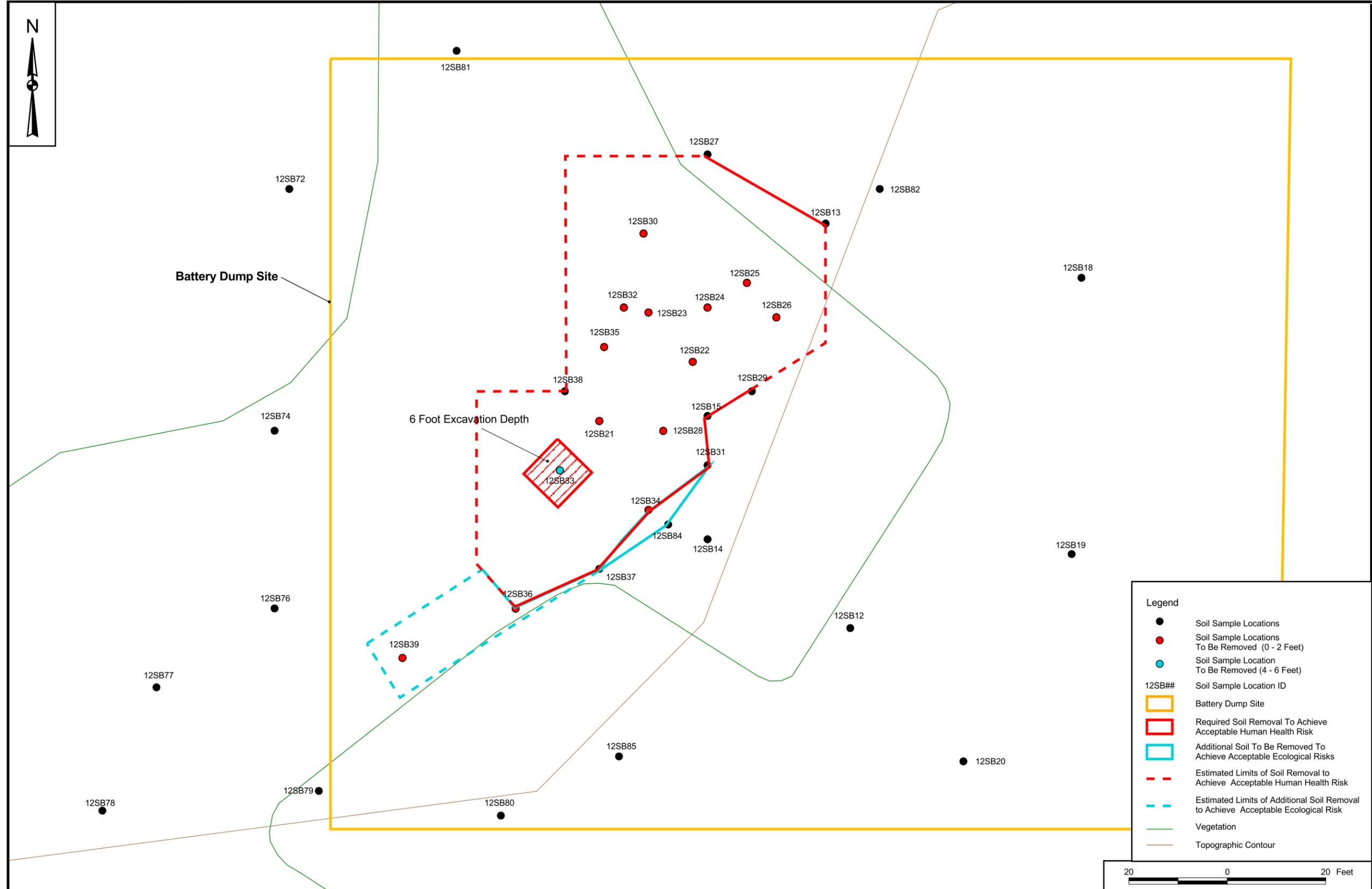


Legend

- Soil Sample Locations
- Soil Sample Locations To Be Removed (0 - 2 Feet)
- Soil Sample Location To Be Removed (4 - 6 Feet)
- 12SB## Soil Sample Location ID
- Battery Dump Site
- Minimum Required Soil Removal To Achieve Acceptable Human Health Risk
- - - Estimated Limits of Soil Removal to Achieve Acceptable Human Health Risk
- Vegetation
- Topographic Contour



CONTRACT NO. CTO.0042		DATE		DRAWING NO. FIGURE 1 - 7	REV 0
APPROVED BY		DATE			
APPROVED BY		DATE		SCALE AS NOTED	
DRAWN BY S. STROZ		DATE 03/31/09			
CHECKED BY B. COLLINS		DATE 08/16/10		COST/SCHED-AREA	
MINIMUM REQUIRED REMOVAL TO ACHIEVE ACCEPTABLE HUMAN HEALTH RISKS SWMU 12 - BATTERY DUMP SITE INTERIM MEASURES REPORT NSA CRANE CRANE, INDIANA					
					



Legend

- Soil Sample Locations
- Soil Sample Locations To Be Removed (0 - 2 Feet)
- Soil Sample Location To Be Removed (4 - 6 Feet)
- 12SB## Soil Sample Location ID
- Battery Dump Site
- Required Soil Removal To Achieve Acceptable Human Health Risk
- Additional Soil To Be Removed To Achieve Acceptable Ecological Risks
- - - Estimated Limits of Soil Removal to Achieve Acceptable Human Health Risk
- - - Estimated Limits of Additional Soil Removal to Achieve Acceptable Ecological Risk
- Vegetation
- Topographic Contour

CONTRACT NO. CTO.0042		DATE	
APPROVED BY		DATE	
APPROVED BY		DATE	
DRAWING NO. FIGURE 1 - 8		REV 0	
ADDITIONAL REQUIRED REMOVAL TO ACHIEVE ACCEPTABLE ECOLOGICAL RISKS SWMU 12 - BATTERY DUMP SITE INTERIM MEASURES REPORT NSA CRANE CRANE, INDIANA			
DRAWN BY S. STROZ		DATE 03/31/09	
CHECKED BY B. COLLINS		DATE 08/16/10	
COST/SCHED-AREA		SCALE AS NOTED	



2.0 DESCRIPTION OF INTERIM REMEDIAL ACTIVITIES

2.1 PURPOSE

The purpose of this section is to present the field activities conducted as part of the interim remedial action and the post-excavation sample results used to confirm that no further removal of soil from the SWMU 12 Battery Dump Site is required to satisfy regulatory requirements. The SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a) provided requirements for the excavation and off-site disposal of contaminated soil from the SWMU 12 Battery Dump Site. The SAP, Field Sampling Plan, and QAPP for Verification Soil Sampling, SWMU 12 Battery Dump Site (Tetra Tech, 2009b) described sampling locations, methods, and rationales for the sampling activities conducted in support of the IM at the SWMU 12 Battery Dump Site. Details regarding the environmental sampling, including sampling locations and analyses, are provided in this section. Photographs taken during the remedial activities are presented in Appendix A.

The Environmental Multiple Award Contract (EMAC) Contractor responsible for all on-site construction and excavation activities conducted in accordance with the IMWP was North Wind. Tetra Tech personnel completed the verification sampling activities.

2.2 SITE PREPARATION

Site preparation included a pre-construction meeting, mobilizing personnel and equipment to the site, establishing perimeter erosion and sediment controls, and clearing vegetation at the site. The pre-construction meeting between the Navy and North Wind was conducted to review the responsibilities of each party and to establish lines of communication. North Wind worked directly with the NSA Crane Public Works Department to locate and mark all underground utilities within the area of IM activities.

2.2.1 Mobilization

Initial mobilization to the site by North Wind personnel was conducted on October 5, 2009. Upon mobilization, the excavation limits were delineated with spray paint and the accuracy of the survey stakes was confirmed. A gravel construction entrance was established to provide access to the work area and to prevent soil from being tracked off-site via equipment and trucks. This structure was maintained throughout the project.

2.2.2 Erosion and Sediment Controls

Temporary erosion controls consisted of a silt fence located along the downslope sides of the excavation areas and gravel construction entrance. The silt fence was installed in accordance with Section 4.2 and Figure 4-2 of the SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a). The silt fencing was installed where indicated on Figure 4-1 of the SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a) prior to intrusive activities at the site and was visually observed periodically during the remediation project to verify its continued integrity.

2.2.3 Clearing

Initial clearing began on October 5, 2009. Trees and other vegetation were removed from the proposed work area. Clearing was limited to the excavation area, work area, and gravel construction entrance.

2.2.4 Off-Site Disposal

On August 19, 2009, a North Wind representative collected 14 soil samples from the proposed excavation area for the purpose of waste disposal characterization. All samples were analyzed using the methods in the approved sampling plan provided by North Wind (Tetra Tech, 2009b) and in accordance with the methods required by the NSA Crane-approved waste disposal facility. The waste characterization samples were submitted to STAT Analytical for analysis. A copy of these results can be found in Appendix D. The results indicated that the soil would be classified as non-hazardous.

Off-site transportation of the 528.73 tons of soil excavated at the SWMU 12 Battery Dump Site was completed by Focus Contracting. The soil was transported via dump truck on October 6 and 7, 2009; October 15 and 16, 2009; and October 27, 2009 to Veolia's Blackfoot Landfill in Winslow, Indiana for disposal. All waste manifests and disposal certifications are provided in Appendix B.

2.2.5 Soil Excavation and Verification Sampling

IM implementation included the excavation and off-site disposal of soil contaminated with 10 COCs. If the concentration of any 10 COCs exceeded the PRGs in any verification sample, Tetra Tech evaluated site-wide risks for the selected COCs. If either the human health or ecological risk was unacceptable, further excavation was recommended to remove the contamination (Tetra Tech, 2009b). The 10 COCs and their corresponding PRGs are presented below:

SWMU 12 Battery Dump Site: Surface and Subsurface Soil⁽¹⁾	
COC	Surface/Subsurface Soil PRG (mg/kg)
Antimony	31
Arsenic	10.2 ⁽²⁾
Chromium	26
Copper	28
Iron	55,000 ⁽³⁾
Lead	400
Mercury	2.1
Silver	4.2
Tin	10
Zinc	46 ⁽⁴⁾

- 1 From Section 3.0 of the SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a) and Section 11.1 of the SWMU 12 Battery Dump Site SAP (Tetra Tech, 2009b).
- 2 Background value was used as the PRG per the SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a).
- 3 Value was incorrectly reported as 40,800 in both the SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a) and the SWMU 12 Battery Dump Site SAP (Tetra Tech, 2009b).
- 4 Value was incorrectly reported as 49 in both the SWMU 12 Battery Dump Site IMWP (Tetra Tech, 2009a) and SWMU 12 Battery Dump Site SAP (2009b).

North Wind performed three rounds of excavation at the SWMU 12 Battery Dump Site. Following each excavation, Tetra Tech collected verification samples at a rate of one composite floor sample for every 1,000 sf of exposed surface area, with a minimum of one sample collected from each depth interval, and one composite sidewall sample for every 25 linear feet of exposed sidewall, with a minimum of one sample collected from each directionally facing sidewall. X-ray fluorescence (XRF) lead testing was used to screen the verification samples collected during the first and third rounds of sampling. Tetra Tech also collected support area samples, to verify that IM activities did not cause any further contamination, and topsoil/backfill samples, to verify that the fill material North Wind used met all backfill requirements listed in the SWMU 12 IMWP (Tetra Tech, 2009a).

The following provides information regarding the excavation and sampling activities specific to each round of excavation. The verification sample results are presented in Section 2.3 of this report.

Round 1

North Wind began the initial excavation (Round 1) on October 5, 2009, and completed it on October 7, 2009. During the Round 1 excavation, North Wind excavated soil to the excavation limits indicated on Figure 2-1. The NSA Crane truck scales were not working on October 6 and 7, 2009, so portable scales were set up at SWMU 12 and weights were recorded for four trucks. A loose connection in the portable scales prevented the weight of the remaining 16 trucks from being recorded at NSA Crane; however, the

weights of all 20 trucks were recorded at the disposal facility. The excavated soil was transported by Focus Contracting, Inc. to Veolia's Blackfoot Landfill in Winslow, Indiana for disposal. A total of 392.48 tons of contaminated soil was removed for disposal during the initial excavation. All documentation regarding waste disposal is provided in Appendix B.

On October 7, 2009, Tetra Tech collected 21 verification samples (14 composite wall samples, 6 composite floor samples, and 1 grab wall sample) from the walls and floors of the initial excavation (Figure 2-1). All of these samples were screened for lead using XRF testing. Based on the results of the XRF screening, 20 of the 21 verification samples collected were analyzed by the fixed-base laboratory for all 10 COCs, and the results are discussed in Section 2.3 of this report. Table 2-1 presents the verification sampling results. Appendix C contains the fixed-base laboratory verification results along with the data validation reports.

Based on the XRF results and the fixed-base laboratory results, the Navy directed North Wind to expand the excavation as described in the following paragraph. Figure 2-2 shows the expanded excavation limits.

Round 2

North Wind began the Round 2 excavation on October 15, 2009, and completed it on October 16, 2009. Based on the Navy's recommendation, North Wind excavated two additional feet in the direction of wall sample 12SOCW004A and two small areas to the northeast and southwest of wall grab sample 12SOGW015A (Figure 2-2). A seam of black material was discovered at wall grab sample 12SOGW015A and North Wind excavated the black material in a northeast and southwest direction until it was no longer visible. The NSA Crane truck scales were not working on October 15 and 16, but the weight of all five trucks was recorded at the disposal facility. The excavated soil was transported by Focus Contracting, Inc. to Veolia's Blackfoot Landfill in Winslow, Indiana for disposal. A total of 96.17 tons of contaminated soil was removed for disposal during the Round 2 excavation. All documentation regarding waste disposal is provided in Appendix B.

On October 15 and 16, 2009, Tetra Tech collected three verification samples (one composite wall sample and two composite floor samples) from the walls and floors of the Round 2 excavation (Figure 2-2). No samples were screened using XRF testing. The three samples collected were analyzed by the fixed-base laboratory for all 10 COCs and the results are discussed in Section 2.3 of this report. Table 2-1 presents the verification sampling results. Appendix C contains the fixed-base laboratory verification results along with the data validation reports.

Based on the fixed-base laboratory results, the Navy directed North Wind to expand the excavation as described in the following paragraph.

Round 3

North Wind began the Round 3 excavation on October 27, 2009, and completed it the same day. Based on the Navy's recommendation, North Wind excavated an additional 10 foot wide by 15 foot long area around floor sample 12SOCF008A (Figure 2-2). The NSA Crane truck scales were not working on October 27, but the weight of both trucks was recorded at the disposal facility. The excavated soil was transported by Focus Contracting, Inc. to Veolia's Blackfoot Landfill in Winslow, Indiana for disposal. A total of 40.08 tons of contaminated soil was removed for disposal during the Round 3 excavation. All documentation regarding waste disposal is provided in Appendix B.

On October 27, 2009, Tetra Tech collected four verification samples (three composite wall samples and one composite floor sample) from the walls and floors of the Round 3 excavation (Figure 2-2). All of these samples were screened for lead using XRF testing. All four verification samples collected were analyzed by the fixed-base laboratory for all 10 COCs and the results are discussed in Section 2.3 of this report. Table 2-1 presents the verification sampling results. Appendix C contains the fixed-base laboratory verification results along with the data validation reports.

Based on the XRF results and the fixed-base laboratory results, the Navy recommended no further excavation. Figure 2-2 shows the final excavation limits at the SWMU 12 Battery Dump Site.

2.3 VERIFICATION SAMPLE RESULTS

2.3.1 Verification Sample Results for Round 1

As indicated in Section 2.2.4, 21 verification samples were collected from the walls and floors of the initial excavation (see Figure 2-1). Of the 21 samples screened using XRF testing, 1 sample, grab sample 12SOGW015A, had an XRF result of 3,023 mg/kg for lead and was not analyzed by the fixed-base laboratory. North Wind did not continue the excavation at this grab sample location until the following round. The other 20 verification samples had XRF results below 200 parts per million (ppm) for lead and were analyzed by the fixed-base laboratory for all 10 COCs.

Seventeen out of the 20 samples analyzed by the fixed-based laboratory had at least one COC that exceeded the PRG. According to the SWMU 12 Battery Dump Site SAP (Tetra Tech, 2009b), further

excavation would only be necessary when the human health or ecological risk was found to be unacceptable. When the concentration of a COC exceeded the PRG in a verification sample, the project team evaluated that COC to determine if it presented a site-wide risk at the remaining concentration. The methodology and results of the risk determination are presented in Appendix G. The Navy and Tetra Tech determined that, aside from the high lead XRF result from 12SOGW015A, only wall sample 12SOCW004A had a result that presented an unacceptable risk (Arsenic = 13.1 mg/kg). Table 2-1 presents the verification sample results. Appendix C contains the fixed-base laboratory verification results along with the data validation report, and Appendix E contains the soil sample log forms.

2.3.2 Verification Sample Results for Round 2

As indicated in Section 2.2.4, three verification samples were collected from the walls and floors of the Round 2 excavation (Figure 2-2). XRF testing was not used to screen any of the samples. The three samples were sent to a fixed-based laboratory and all had at least one COC that exceeded the PRG. According to the SWMU 12 Battery Dump Site SAP (Tetra Tech, 2009b), further excavation would only be necessary when the human health or ecological risk was found to be unacceptable. The Navy and Tetra Tech determined that only floor sample 12SOCF008A had a result that presented an unacceptable risk (Lead = 519 ppm). The methodology and results of this risk determination are presented in Appendix G. Table 2-1 presents the verification sample results. Appendix C contains the fixed-base laboratory verification results along with the data validation report, and Appendix E contains the soil sample log forms.

2.3.3 Verification Sample Results for Round 3

As indicated in Section 2.2.4, four verification samples were collected from the walls and floors of the Round 3 excavation (Figure 2-2). XRF results for the four samples indicated that lead was less than 35 ppm in each sample. The four samples were sent to a fixed-base laboratory and all results were below the PRGs for each of the ten COCs. According to the SWMU 12 Battery Dump Site SAP (Tetra Tech, 2009b), if results are below PRGs for each COC, then no further excavation is necessary. Table 2-1 presents the verification sample results. Appendix C contains the fixed-base laboratory verification results along with the data validation report, and Appendix E contains the soil sample log forms.

2.3.4 Support Areas

Upon completion of site activities, Tetra Tech collected five additional verification samples on November 15, 2009, from the areas used for support during the remedial activities. This included three

samples from the gravel access road, one sample from the excavator location, and one sample from the truck-loading area. The sample results are provided in Table 2-1 and Appendix C along with the data validation report, and Appendix E contains the soil sample log forms.

2.4 SITE RESTORATION

Upon completion of remediation activities, the excavation area was backfilled to the pre-construction grade. The backfill soil was obtained from Votorantim Cement North America, Inc. Prairie, Indiana. Northwind collected a backfill sample, which was analyzed by STAT analysis, to verify that the material complied with all of the analytical requirements, as described in the IMWP. Backfill tickets and analytical results for this sample can be found in Appendix B. The backfill sample was not analyzed for all ten COCs and Tetra Tech required backfill analytical results for each of the ten COCs to calculate the weighted averages shown in the SWMU 12 Battery Dump Site Risk Calculation (Appendix G). Therefore, Tetra Tech collected six samples of the in-place backfill and topsoil material on November 15, 2009, to verify the concentrations for the ten COCs. The sample results are provided in Table 2-1 and Appendix C along with the data validation report. Review of all backfill results indicated that the concentrations of the ten COCs did not cause any unacceptable human health or ecological risks. Vegetated areas were restored by grading the site, seeding, and then covering with straw to retain moisture and promote seed germination.

2.5 FIELD DOCUMENTATION

Appendix F contains copies of the daily field log book entries.

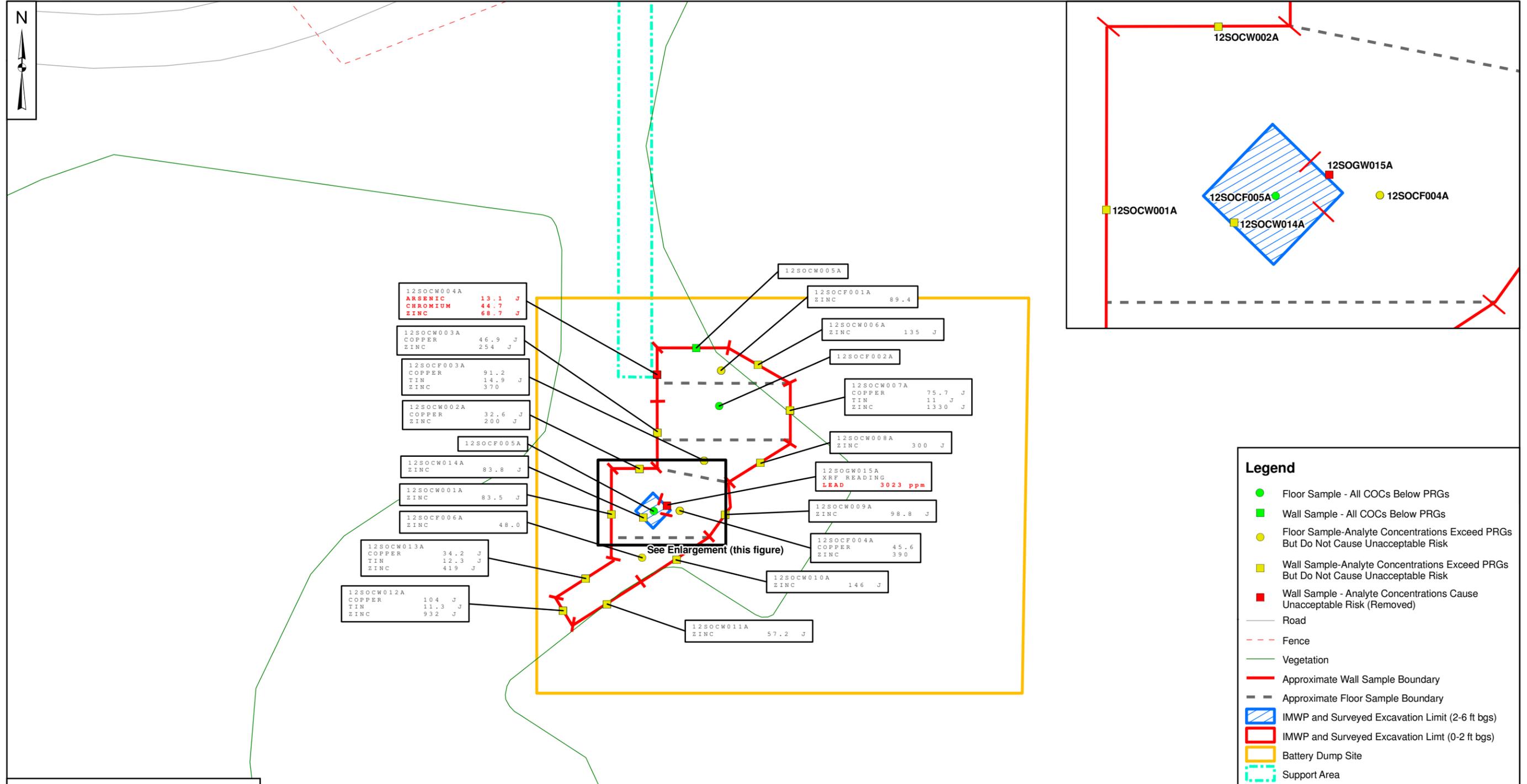
TABLE 2-1

VERIFICATION AND BACKFILL SAMPLE RESULTS
SWMU 12 - BATTERY DUMP SITE
NSA CRANE
CRANE, INDIANA

Sample Number	Wall or Floor Sample?	Date	XRF Result (ppm)	Antimony (ppm)	Arsenic (ppm)	Chromium (ppm)	Copper (ppm)	Iron (ppm)	Lead (ppm)	Mercury (ppm)	Silver (ppm)	Tin (ppm)	Zinc (ppm)
Round 1 Verification Samples													
12SOCF001A	Floor	10/7/2009	43	0.29 UJ	2.87 J	13 J	14.2	17200 J	17.9 J	0.0431	0.058 U	3.98 J	89.4
12SOCF002A	Floor	10/7/2009	82	0.275 UJ	5.21 J	20.5 J	8.41 J	21300 J	13.5 J	0.0129 U	0.055 U	2.87 J	18.6
12SOCF003A	Floor	10/7/2009	70	0.294 UJ	6.17 J	20.6 J	91.2	21700 J	294 J	0.0161	0.0594	14.9 J	370
12SOCF004A	Floor	10/7/2009	83	0.281 UJ	6.38 J	18.4 J	45.6	19200 J	104 J	0.0418	0.0562 U	5.92 J	390
12SOCF005A	Floor	10/7/2009	23	0.284 UJ	2.58 J	13.8 J	9.58	19900 J	12 J	0.0255	0.0568 U	2.84 U	30.5
12SOCF006A	Floor	10/7/2009	16	0.288 UJ	1.87 J	13.6 J	12.3	14900 J	14.5 J	0.0148 U	0.0576 U	3.17 J	48
12SOCW001A	Wall	10/7/2009	62	0.299 UJ	4.99 J	14.5	15.2 J	15300 J	23.2 J	0.0175	0.0598 U	4.25 J	83.5 J
12SOCW002A	Wall	10/7/2009	42	0.302 UJ	6.87 J	16.8	32.6 J	22,200 J	59 J	0.0326	0.0605 U	5.91 J	200 J
12SOCW003A	Wall	10/7/2009	152	0.296 UJ	8.89 J	19.3	46.9 J	25,500 J	81.5 J	0.0244	0.0591 U	5.81 J	254 J
12SOCW004A	Wall	10/7/2009	68	0.573 UJ	13.1 J	44.7	17.8 J	40,800 J	35.3 J	0.0173	0.115 U	4.46 J	68.7 J
12SOCW005A	Wall	10/7/2009	19	0.292 UJ	5.99 J	18.1	9.75 J	23,600 J	13.5 J	0.0149 U	0.0583 U	2.97 J	20.8 J
12SOCW006A	Wall	10/7/2009	49	0.292 UJ	1.5 J	16	24.5 J	17,100 J	35.2 J	0.0226	0.0585 U	3.26 J	135 J
12SOCW007A	Wall	10/7/2009	79	0.313 UJ	4.37 J	16.3	75.7 J	13,000 J	73.4 J	0.246	0.113	11 J	1330 J
12SOCW008A	Wall	10/7/2009	34	0.297 UJ	5.07 J	12	21 J	12,100 J	20.3 J	0.0149 U	0.0594 U	4.22 J	300 J
12SOCW009A	Wall	10/7/2009	38	0.57 UJ	1.35 J	17.2	13.7 J	43,400 J	21.6 J	0.0146 U	0.114 U	2.99 J	98.8 J
12SOCW010A	Wall	10/7/2009	104	0.313 UJ	3 J	18.4	25.3 J	14,700 J	41 J	0.0176	0.0626 U	4.16 J	146 J
12SOCW011A	Wall	10/7/2009	41	0.313 UJ	3.46 J	14.1	14.8 J	12,200 J	14.2 J	0.0147 U	0.0627 U	3.41 J	57.2 J
12SOCW012A	Wall	10/7/2009	119	0.314 UJ	4.35 J	18.1	104 J	19,600 J	142 J	0.0241	1.18	11.3 J	932 J
12SOCW013A	Wall	10/7/2009	121	0.3 UJ	0.899 J	12.9	34.2 J	7,140 J	101 J	0.0155 U	0.127	12.3 J	419 J
12SOCW014A	Wall	10/7/2009	29	0.261 UJ	5.81 J	17	12.5 J	21,700 J	24 J	0.0208	0.0523 U	2.95 J	83.8 J
12SOGW015A	Wall	10/7/2009	3,023	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Round 2 Verification Samples													
12SOCF007A	Floor	10/15/2009	NA	0.289 UJ	2.87	11.7 J	24.4 J	13,200	40.8 J	0.015 U	0.0578 UJ	3.3	176 J
12SOCF008A	Floor	10/16/2009	NA	0.933 J	4.92	17.4 J	74 J	18,400	519 J	0.108	0.0613 UJ	9.69	480 J
12SOCW016A	Wall	10/16/2009	NA	0.29 UJ	5.83	23.7 J	38 J	22,500	86.1 J	0.0133 U	0.058 UJ	4	153 J
Round 3 Verification Samples													
12SOCW017A	Wall	10/27/2009	18	ND	2.73	18.1 J	9.67	21,400 J	19.8 J	ND	ND	ND	30.5 J
12SOCW018A	Wall	10/27/2009	22	ND	4.9	18.6 J	8.43	27,400 J	10.4 J	ND	ND	ND	17.1 J
12SOCW019A	Wall	10/27/2009	15	ND	1.61	16.7 J	9.46	27,700 J	16 J	ND	ND	ND	41.8 J
12SOCF009A	Floor	10/27/2009	30	ND	2.95	11.6 J	7.54	19,900 J	7.58 J	0.0318	ND	ND	16.7 J
Support Area Verification Samples													
12SOCF010A	Excavator	11/15/2009	NA	0.284 UJ	5.27	11	15.6	13,600	25.3 J	0.0185	0.0568 U	2.84 U	68.3
12SOCF011A	Truck loading	11/15/2009	NA	0.58 UJ	11.6	27.6	49.5	32,500	156 J	0.0439	0.116 U	7.64	356
12SOCF012A	Access Road	11/15/2009	NA	0.416 J	6.81	13.4	33	15,200	90.8 J	0.0221	0.0575 U	4.65	196
12SOCF013A	Access Road	11/15/2009	NA	0.279 UJ	9.19	27.1	16.1	26,500	33.9 J	0.0171	0.167 U	2.98	61.8
12SOCF014A	Access Road	11/15/2009	NA	0.287 UJ	9.08	18.5	17.9	21,100	45 J	0.0301	0.172 U	2.87 U	78.5
Backfill Samples													
12BACKFILL001-A	topsoil	11/15/2009	NA	0.284 UJ	4.51	9.76	8.97	12,800	10.9 J	0.0266	0.114 U	2.84 U	45
12BACKFILL001-B	topsoil	11/15/2009	NA	0.278 UJ	4.48	9.31	8.29	12,700	7.7 J	0.0151	0.111 U	2.78 U	41.2
12BACKFILL001-C	topsoil	11/15/2009	NA	0.276 UJ	4.44	9.81	8.63	12,900	8.23 J	0.0183	0.11 U	2.76 U	42.3
12BACKFILL002-A	backfill	11/15/2009	NA	0.288 UJ	4.48	9.25	8.57	12,600	7.95 J	0.019	0.115 U	2.88 U	41.6
12BACKFILL002-B	backfill	11/15/2009	NA	0.285 UJ	3.87	8.28	7.24	11,400	6.7 J	0.0159	0.114 U	2.85 U	35.4
12BACKFILL002-C	backfill	11/15/2009	NA	0.287 UJ	4.28	8.93	10.5 J	12,300 J	13.9 J	0.0149	0.115 U	2.87 U	50

Notes

number	Result exceeds the PRG presented in the SWMU 12 Battery Dump Site SAP (Tetra Tech, 2009b) but does not cause an unacceptable human health or ecological risk
number	Result presents unacceptable human health or ecological risk as determined in the SWMU 12 Battery Dump Site Risk Evaluation (Appendix G) and resulted in further excavation
NA	Not Analyzed



Notes:
 1) Identified sample locations represent composite samples. These locations do not necessarily identify actual locations where soil was collected.
 2) Verification sample depths vary with respect to original ground surface. However, all verification samples have been collected from a 0 to 6 inch depth interval of the exposed surface.

DRAWN BY K. MOORE	DATE 06/23/10
CHECKED BY B. COLLINS	DATE 08/16/10
REVISED BY T. WHEATON	DATE 08/16/10
SCALE AS NOTED	

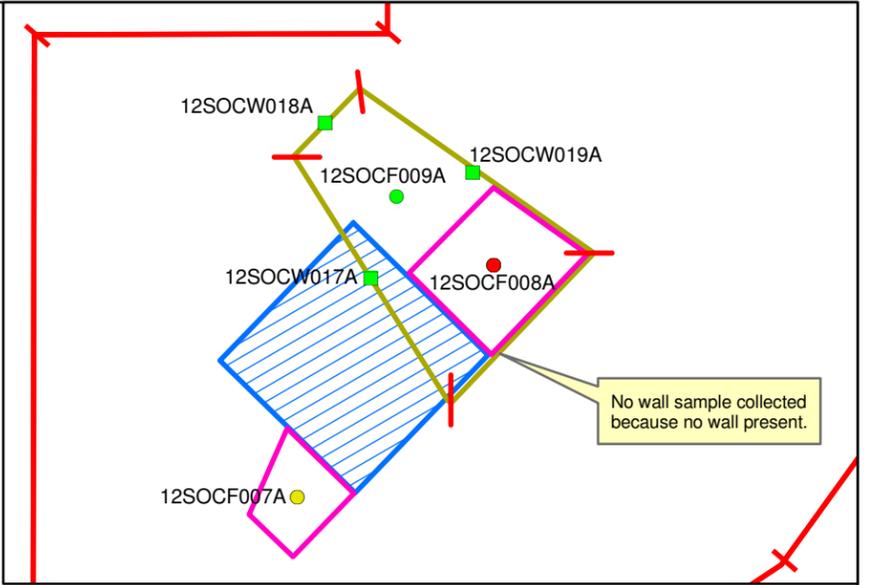
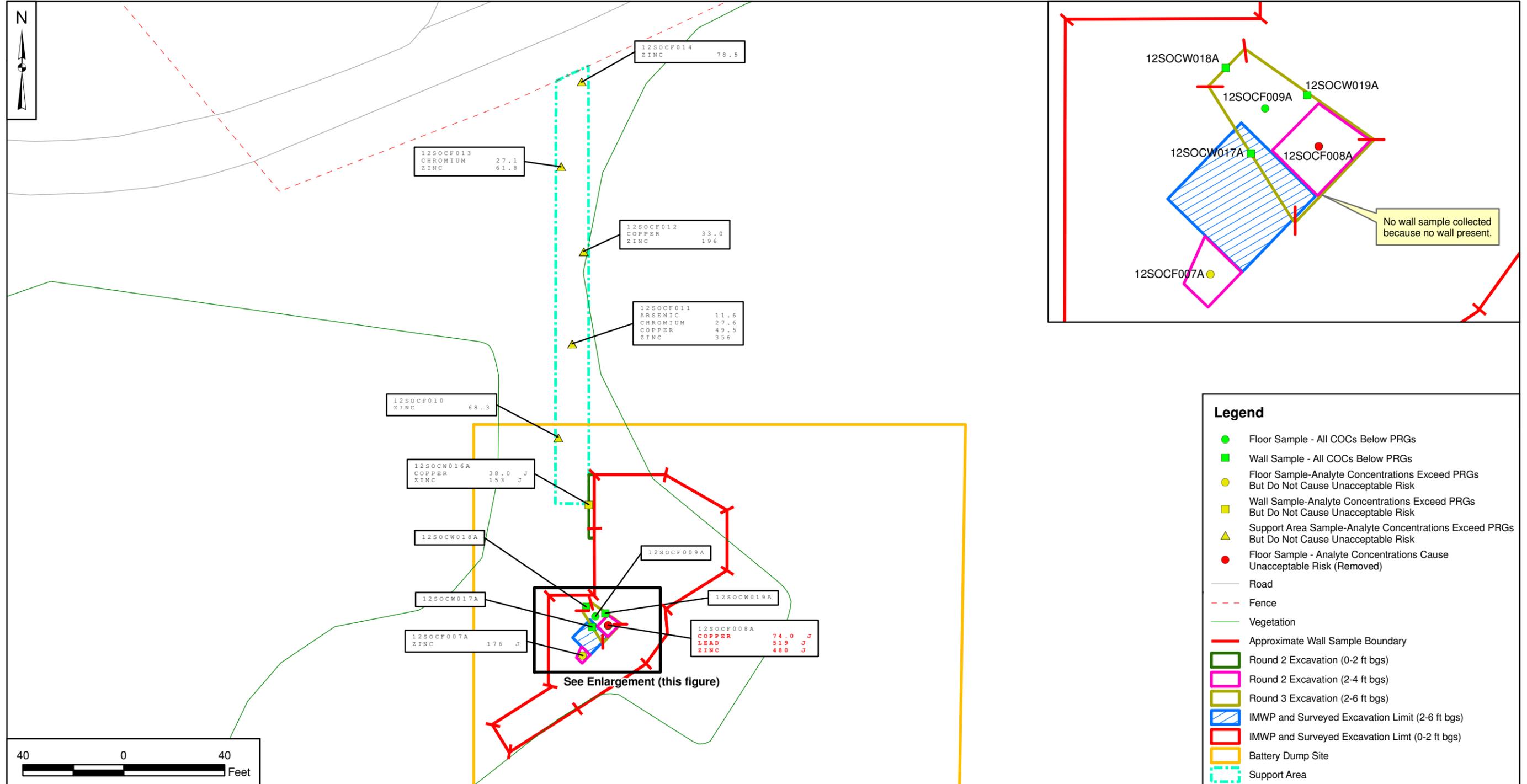


ROUND 1 VERIFICATION SAMPLES
 SWMU 12 - BATTERY DUMP SITE
 INTERIM MEASURES REPORT
 NSA CRANE
 CRANE, INDIANA

Legend

- Floor Sample - All COCs Below PRGs
- Wall Sample - All COCs Below PRGs
- Floor Sample-Analyte Concentrations Exceed PRGs But Do Not Cause Unacceptable Risk
- Wall Sample-Analyte Concentrations Exceed PRGs But Do Not Cause Unacceptable Risk
- Wall Sample - Analyte Concentrations Cause Unacceptable Risk (Removed)
- Road
- - - Fence
- Vegetation
- Approximate Wall Sample Boundary
- - - Approximate Floor Sample Boundary
- ▨ IMWP and Surveyed Excavation Limit (2-6 ft bgs)
- ▨ IMWP and Surveyed Excavation Limit (0-2 ft bgs)
- ▨ Battery Dump Site
- ▨ Support Area

CONTRACT NUMBER CTO 0042	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. FIGURE 2-1	REV 0



Legend

- Floor Sample - All COCs Below PRGs
- Wall Sample - All COCs Below PRGs
- Floor Sample-Analyte Concentrations Exceed PRGs But Do Not Cause Unacceptable Risk
- Wall Sample-Analyte Concentrations Exceed PRGs But Do Not Cause Unacceptable Risk
- ▲ Support Area Sample-Analyte Concentrations Exceed PRGs But Do Not Cause Unacceptable Risk
- Floor Sample - Analyte Concentrations Cause Unacceptable Risk (Removed)
- Road
- - - Fence
- Vegetation
- Approximate Wall Sample Boundary
- Round 2 Excavation (0-2 ft bgs)
- Round 2 Excavation (2-4 ft bgs)
- Round 3 Excavation (2-6 ft bgs)
- IMWP and Surveyed Excavation Limit (2-6 ft bgs)
- IMWP and Surveyed Excavation Limit (0-2 ft bgs)
- Battery Dump Site
- Support Area



Notes:
 1) Identified sample locations represent composite samples. These locations do not necessarily identify actual locations where soil was collected.
 2) Verification sample depths vary with respect to original ground surface. However, all verification samples have been collected from a 0 to 6 inch depth interval of the exposed surface.
 3) Rounds 2 & 3 excavation and support area limits were not surveyed. Limits of Rounds 2 & 3 excavation and support areas were estimated based on field notes, field measurements, and sketches.

DRAWN BY	DATE
K. MOORE	06/23/10
CHECKED BY	DATE
B. COLLINS	08/16/10
REVISED BY	DATE
T. WHEATON	08/16/10
SCALE	
AS NOTED	



ROUNDS 2 AND 3 VERIFICATION SAMPLES
 SWMU 12 - BATTERY DUMP SITE
 INTERIM MEASURES REPORT
 NSA CRANE
 CRANE, INDIANA

CONTRACT NUMBER CTO 0042	
APPROVED BY	DATE
---	---
APPROVED BY	DATE
---	---
FIGURE NO.	REV
FIGURE 2-2	0

3.0 CONCLUSIONS

This IM Report summarizes the work performed at NSA Crane, SWMU 12 Battery Dump Site, by North Wind and the verification sampling conducted by Tetra Tech.

Upon completion of the interim remedial activities at the SWMU 12 Battery Dump Site, 28 verification samples (12SOCW001A through -019A and 12SOCF001A through -009A) were collected from the walls and floors of the excavation area to verify that the remaining soils did not pose an unacceptable human health or ecological risk. Most verification samples were analyzed in the field using XRF testing to determine whether to send the sample to a fixed-base laboratory for analysis. Samples that had an XRF result less than 370 ppm were sent to the fixed-base laboratory for analysis. Samples that had an XRF result greater than 370 ppm were excavated further and then re-sampled. Verification samples that were not analyzed in the field using XRF testing were sent to the fixed-base laboratory. The results of the XRF field analysis can be found in Table 2-1 and on the respective field sample log sheets (Appendix E), and the fixed-base laboratory verification results are presented in Appendix C.

Five support area verification samples (12SOCF010A through -014A) were collected from the floors of the support areas to verify that the interim action did not spread contamination to the support areas. The samples were shipped to a fixed-base laboratory for analysis. Six backfill and topsoil samples were collected and analyzed for the ten COCs to calculate area weighted averages for the SWMU 12 Battery Dump Site Risk Calculation (Appendix G). The analytical results for the support area, backfill, and topsoil samples are presented in Appendix C.

The results of the analytical data presented in Appendix C and the risk evaluation presented in Appendix G demonstrate that the soil excavation and removal conducted during the interim remedial action was successful in removing contamination that posed unacceptable human health and ecological risk at the SWMU 12 Battery Dump Site. No further action is recommended for the SWMU 12 Battery Dump Site.

REFERENCES

IDEM, 2001. IDEM Risk Integrated System of Closure Users Guide and Technical Resource Guidance Document. Indiana Department of Environmental Management. February 2001.

Tetra Tech, 2001. Final Basewide Background Soil Investigation Report, Naval Surface Warfare Center Crane, Crane, Indiana. Revision 1, January.

Tetra Tech, 2008. Resource Conservation and Recovery Act Facility Investigation Report for Mine Fill A (SWMU 12), Naval Surface Warfare Center Crane Division, Crane, Indiana.

Tetra Tech, 2009a. Interim Measures Work Plan for SWMU 12 Battery Dump Site, Naval Surface Warfare Center Crane Division, Crane, Indiana. July.

Tetra Tech, 2009b. Sampling and Analysis Plan, Field Sampling Plan, and Quality Assurance Project Plan for Verification Soil Sampling, SWMU 12 Battery Dump Site, Naval Surface Warfare Center Crane, Crane, Indiana. October.

Toltest, 2002. Interim Measures Report for Removal and Disposal of Contaminated Soil from the Mine Fill A Battery Site, Naval Surface Warfare Center Crane Division, Crane, Indiana.

APPENDIX A

SITE PHOTOGRAPHS

Naval Surface Warfare Center – Crane Division



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: South	DESCRIPTION: Entrance to SWMU 12 Battery Dump Site excavated area (at far south end of SWMU 12) Note that the blue SUV is in the approximate location of truck loadout.	1 10/8/09
---	--	--	--------------



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: West	DESCRIPTION: View along the northern edge of the excavated area (the immediate foreground is the beginning of aliquots for wall sample 12SOCW005A, denoted by orange pin flags).	2 10/8/09
---	---	---	--------------

Naval Surface Warfare Center – Crane Division



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: Northwest	DESCRIPTION: View of the northern portion of the excavated area taken from the downgradient side of the excavation (note the “drainage trench” in the foreground).	3 10/8/09
---	--	---	--------------



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: Southwest	DESCRIPTION: View of the southern portion of the excavated area taken from the downgradient side of the excavation (note the “drainage trench” in the right foreground).	4 10/8/09
---	--	---	--------------

Naval Surface Warfare Center – Crane Division



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: South	DESCRIPTION: View of the eastern edge of the excavated area taken from the northeast corner (note: orange flags are wall aliquots, white flags are floor aliquots and yellow flags denote boundaries between either wall or floor sample areas.)	5 10/8/09
---	--	---	--------------



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: Southwest	DESCRIPTION: View of the southern-most portion of the excavated area.	6 10/8/09
---	--	--	--------------

Naval Surface Warfare Center – Crane Division



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: Northeast	DESCRIPTION: View from the western portion of the excavated area (note the 2-6 foot BGS “pit” excavation in the foreground and the dark coloration of soils on the northern edge specifically sampled as 12SOGW014A).	7 10/8/09
---	--	--	--------------



SITE: SWMU 12 Battery Dump	PHOTOGRAPHER: J. Floyd VIEW: Southwest	DESCRIPTION: View of the “pit” area (note dark coloration of soils on the southern edge).	8 10/8/09
--------------------------------------	--	--	--------------



Clearing trees from within the excavation area



Delineation of deeper portion of excavation



Delineation of extents of excavation area



Furthestmost edge of excavation area



Construction of temporary access road



Removing trees and vegetation from within the excavation area



Trenching during silt fencing installation



Installation of silt fence



Completed silt fence installation



Beginning of excavation with the stockpiling of soil uphill



Excavation along north extent



Excavation along southern extents



Loading soil



Stockpiling soil between loads



Southern extents of excavation area



Extending and repairing the temporary construction access road



Stockpiling soil within excavation area to assist in efficient loading



Segregating excavated concrete from soils



Site conditions at end of day



Segregated stone from excavation



North wall of excavation during confirmation sampling



Loading final truck



Confirming depth of deep excavation



Extent of deep excavation, looking northwest



Extent of deep excavation, looking north



Truck entrance conditions at end of day



Soils removal and decontamination from excavator bucket



Confirmation sampling and surveying of excavation



Covered decontamination waste



Standing water in bottom of excavation



Slope of excavation



Southern extent of excavation



Deep area of excavation



Preparing for over-excavation of contaminated soil



Side slope of excavation



Truck loading during over-excavation



Decontamination of excavator



Completed over-excavation along west extent



Standing water in excavation, looking down from the west



Standing water in excavation, looking down from the north



View from above following over-excavation



View from above following over-excavation



Excavation with direct loading, looking southwest



Excavation with direct loading, looking northwest



Completed additional excavation; preparing for confirmation sampling



Tetra Tech collecting confirmation samples



Standing water at the down gradient, eastern edge of the excavation



Dewatering standing water from excavation prior to backfill



Excavation following completion of backfill



Restored site from access gate

APPENDIX B

NORTH WIND'S CLOSURE REPORT

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, TEST REPORTS, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE	DATE 12-11-09	TRANSMITTAL NO. 6
---	------------------	----------------------

SECTION I - TRANSMITTAL INFORMATION *(To be completed by Contractor)*

TO: NAVFAC MW PWD Crane NSA Building 2516 Crane, IN 47522-5082 ATTN: Tim Sears	FROM: Todd Carmichael North Wind Remediation 433 Kitty Hawk Rd Universal City, TX 78148	CONTRACT NO. N40083-05-D-4016 DELIVERY ORDER NO. FC51	CHECK ONE <i>(Use a separate form for each category):</i> <input checked="" type="checkbox"/> This is a new transmittal <input type="checkbox"/> This is a resubmittal of transmittal <input type="checkbox"/> This is an addition to transmittal _____
---	--	--	--

SPECIFICATION SECTION NO. <i>(Use a separate form for each specification section)</i>	PROJECT TITLE AND LOCATION AST UST Inspection and Moving
---	--

CHECK ONE *(Use a separate form for each category):* This transmittal is Contractor Approved (For Information Only) for Government Approval Variation for Government Approval

ITEM NO. <i>a.</i>	SUBMITTAL DESCRIPTION (SD) NUMBER AND TYPE <i>b.</i>	DESCRIPTION OF ITEM SUBMITTED <i>(Type, size, model no., etc.)</i> <i>c.</i>	NO. OF COPIES <i>d.</i>	SPEC. PAR. # OR DRAWING # <i>e.</i>	ACTION CODE <i>(Designer/ROICC Use Only)</i> <i>f.</i>
1	Closure Report		1		

CONTRACTOR REMARKS: 	I hereby certify that the <input type="checkbox"/> Equipment <input type="checkbox"/> Material <input checked="" type="checkbox"/> Article shown and marked in this submittal is that proposed to be incorporated in the Contract identified above, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces. Proposed variations, if <u>Todd Carmichael</u> d on each submittal, and are recommended for Government approval. 12-11-09 <div style="text-align: right;"> _____ Signature of QC Manager Date </div>
------------------------------------	--

SECTION II - GOVERNMENT APPROVAL ACTION *(To be completed by Designer/ROICC)*

DATE RECEIVED FROM KTR:	DATE SENT TO REVIEWER:	ACTION CODES: The following Action Codes are given to items submitted:
The submittals listed above have been reviewed, and are returned with actions taken as indicated in Section I, Column <i>f</i> above. Approval of the listed items does not indicate approval of variations, if any, unless the variations are clearly marked on each submittal and are supported by the contractor; furthermore, approval of items does not relieve the contractor from complying with all requirements of the contract plans and specifications.		A - Approved as submitted AN - Approved as noted, resubmission not required AR - Approved as noted, resubmission required, see Sec. II Remarks D - Disapproved, resubmission required, see Sec. II Remarks E - Will be returned by separate cover F - Receipt acknowledged FX - Receipt acknowledged, does not comply with Contract Requirements, see Sec. II Remarks G - Other, see Sec. II Remarks NR - Not reviewed, see Sec. II Remarks
NAME, TITLE & SIGNATURE OF REVIEWER		DATE

REMARKS (Attach additional sheets as necessary):

DATE RECEIVED FROM REVIEWER	NAME, TITLE & SIGNATURE OF APPROVING AUTHORITY	DATE	DATE RETURNED TO KTR
-----------------------------	--	------	----------------------

CONTRACT TASK ORDER CLOSURE REPORT

**Sampling, Excavation, and Disposal of Contaminated Soil
SWMU 12**

NSA Crane, Indiana

Prepared for:



**Department of the Navy
Naval Facilities Engineering Command
Engineering Field Activity Midwest/Det Crane**

Prepared by:

North Wind
Remediation Services, LLC

**North Wind Remediation Services, LLC
433 Kitty Hawk Road
Universal City, Texas 78148**

Contract No. N40083-05-D-4016-FC-51

December 2009

9 December 2009

Mr. Tim Sears
Project Manager
NAVFAC MIDWEST
300 Highway 361
Crane, IN 47522

Re: N40083-05-D-4016 ENVIRONMENTAL MULTIPLE AWARD
CONTRACT, GREAT LAKES, ILLINOIS, VARIOUS MIDWEST STATES
FC51 SWMU #12, NSA CRANE, INDIANA

Dear Mr. Sears

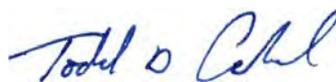
Northwind Remediation Services LLC (NWRS) has compiled the project completion documentation for FC51 SWMU #12. Included in this documentation is the following:

- *DAILY REPORTS*
- *PHOTO LOGS*
- *SIGN-IN SHEETS*
- *LOG BOOK NOTES*
- *QUALITY CONTROL REPORTS*
- *DRAWINGS*
- *WASTE MANIFESTS*
- *BACKFILL TICKETS*
- *ANALYTICAL REPORTS*

If you have any questions or comments, or if you require additional information, please do not hesitate to contact me at (773) 433-0519.

Sincerely,

NORTHWIND REMEDIATION SERVICES LLC



Todd D. Carmichael
Project Manager

Enclosure

Daily Reports



Daily Quality Control Report

<u>W9128F-04-D-0017-006</u>	<u>NWRS/Weston</u>	<u>SWMU-12</u>
Contract Number / Task Order Number	Contractor	Project Title / NWI Project No.
<u>1</u>	<u>5 October 2009</u>	<u>Crane, IN</u>
CQC Report Number	Date or Time Period	Location and Team

I. Weather Conditions:
 Temp Low 43 Temp High 71 Sunny
 Wind Speed 3 Precipitation No Yes 0.01 Inches

II. Quality Control Inspections Performed This Date (Include inspections, results, deficiencies observed, and corrective action)
 Preparatory Checklist attached.
 Initial
 Follow-Up
 Was the construction deficiency tracking list updated this date? Yes No

III. Was Field Sampling and Testing Performed This Date? Yes No
 If yes, then complete the following:

	Type of test	Method/Matrix	Results
1.			
2.			
3.			
4.			

Have Data Quality Objectives been achieved? Yes No

IV. Have Samples Been Collected for Laboratory Analysis? Yes No
 If yes, then complete the following:

	Type of Test	EPA Test Method/Matrix	Quantity of Samples
1.			
2.			
3.			

Have required amount of QC trip blanks and rinsates been achieved? Yes No
 Have appropriate QC laboratory tests been ordered? (matrix spikes, method blanks, surrogates, reference standards, etc.) Yes No
 Have QA and QC samples been collected in the specified quantity? Yes No
 Have samples been properly labeled and packaged? Yes No

V. Health and Safety.
 Worker protection levels this date: Level A Level B Level C Level D
 Was any work activity conducted within a confined space? Yes No
 Was any work activity conducted within an area determined to be immediately dangerous to life and health? Yes No
 Were approved decontamination procedures used on workers and equipments as required? Yes No
 Was a Job Safety Meeting held this date? Yes No
 Were there any lost time accidents this date? (If YES, attach copy of completed accident report) Yes No
 Was hazardous waste/material released into the environment? Yes No
 Safety comments: (Include any infractions of approved safety plan, and include instructions from Government personnel. Specify corrective action taken.)
All onsite personnel briefed on the HASP during the morning safety meeting.

VI. Work Activities Performed This Date.

	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor
1.	SWMU-12	Site Preparation	1	Focus Contracting
2.				
3.				
4.				
5.				



VII. Labor & Manpower.						
	Classification	Number	Employer	Hours		
1.	FSO	1	NWRS/Weston	7		
2.	SS	1	Focus Contracting	7		
3.	Operator	1	Focus Contracting	7		
4.	Laborer	1	Focus Contracting	7		
5.						
Total Hours				28		
VIII. Equipment.						
	No. of Units	Plant/Equipment	Date of Safety Check	Hours Used	Hours Idle	Hours Repair
1.	1	CAT 277B Bobcat	5 October 2009	5	1	1
2.	1	CAT 318B Excavator	5 October 2009	4	3	0
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
Total Hours				9	4	1
IX. Material Received to be Incorporated into Job. None <input type="checkbox"/>						
	Acceptability	Stored Where?	Reference Plans/Drawings			
1.	Course Aggregate	Used as Construction Entrance	Figure 4-1, IMWP			
2.						
3.						
X. Submittals Reviewed. None <input checked="" type="checkbox"/>						
	Submittal No.	Spec/Plan Reference	By Whom	Action Taken		
1.						
2.						
3.						
XI. Offsite Surveillance Activities. (include action taken) None <input checked="" type="checkbox"/>						
XII. Instructions Given by the Government to the Contractor. (Include names, reactions, and remarks) Verbal <input checked="" type="checkbox"/> Written <input type="checkbox"/> None <input type="checkbox"/>						
Because all onsite scales are inoperable, trucks shall be weighed upon arrival at and departure from the landfill.						
XIII. Work Progress.						
1.	Are there any Contractor caused delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2.	Are there any Contractor-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
3.	Are there any Government caused delays or potential finding of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.	Are there any Government-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5.	Are there any unforeseeable or weather related delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



XIV. Deficiency List.			
Tracking No.	Deficiencies Identified (Not corrected by COB)	Tracking No.	Deficiencies Corrected (From Deficiency Tracking List)

XV. Remarks. (Include any visitors to project and miscellaneous remarks pertinent to work.)
All site preparation tasks were completed, including construction of the temporary access road, clearing of trees and vegetation within the limits of excavation, and installing silt fence along the down gradient side of the work area. Additionally, excavation was initiated with the stockpiling of soils within the excavation area in order to facilitate efficient waste load out the following day. A minor leak in the connection of a hydraulic line on the excavator ended work for the day and a mechanic will be onsite in the morning to correct the fault. No fluids were spilled on the ground.

The above report is complete and correct, and all work reported is believed, to the best of my knowledge, to be in compliance with contract plans and specifications, except as noted above.

CQC Site Manager (acting) _____ **Date** 5 October 2009



XVI. Government Quality Assurance Comments. (if applicable)
Concurs with the QC report? Yes No
Additional comments or exceptions:

QAR Signature _____ **Date** _____

Supervisor's Initial _____ **Date** _____



Daily Quality Control Report

W9128F-04-D-0017-006 Contract Number / Task Order Number 2 CQC Report Number	NWRS/Weston Contractor 6 October 2009 Date or Time Period	SWMU-12 Project Title / NWI Project No. Crane, IN Location and Team																														
I. Weather Conditions: Temp Low <u>50</u> Temp High <u>62</u> Cloudy and Rainy Wind Speed <u>11</u> Precipitation <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <u>0.21</u> Inches																																
II. Quality Control Inspections Performed This Date (Include inspections, results, deficiencies observed, and corrective action) Preparatory <input type="checkbox"/> Initial <input checked="" type="checkbox"/> Checklist attached. Follow-Up <input type="checkbox"/> Was the construction deficiency tracking list updated this date? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																
III. Was Field Sampling and Testing Performed This Date? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, then complete the following:																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Type of test</th> <th style="width:30%;">Method/Matrix</th> <th style="width:40%;">Results</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Dust Monitoring</td> <td>Air, Near Truck Loading Area</td> <td>TWA = 0.00 mg/m³; stopped when rain started</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Type of test	Method/Matrix	Results	1.	Dust Monitoring	Air, Near Truck Loading Area	TWA = 0.00 mg/m ³ ; stopped when rain started	2.				3.				4.													
#	Type of test	Method/Matrix	Results																													
1.	Dust Monitoring	Air, Near Truck Loading Area	TWA = 0.00 mg/m ³ ; stopped when rain started																													
2.																																
3.																																
4.																																
Have Data Quality Objectives been achieved? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
IV. Have Samples Been Collected for Laboratory Analysis? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, then complete the following:																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Type of Test</th> <th style="width:30%;">EPA Test Method/Matrix</th> <th style="width:40%;">Quantity of Samples</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Personal Air Sample</td> <td>Air</td> <td>1</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Type of Test	EPA Test Method/Matrix	Quantity of Samples	1.	Personal Air Sample	Air	1	2.				3.																	
#	Type of Test	EPA Test Method/Matrix	Quantity of Samples																													
1.	Personal Air Sample	Air	1																													
2.																																
3.																																
Have required amount of QC trip blanks and rinsates been achieved? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Have appropriate QC laboratory tests been ordered? (matrix spikes, method blanks, surrogates, reference standards, etc.) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Have QA and QC samples been collected in the specified quantity? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Have samples been properly labeled and packaged? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
V. Health and Safety. Worker protection levels this date: Level A <input type="checkbox"/> Level B <input type="checkbox"/> Level C <input type="checkbox"/> Level D <input checked="" type="checkbox"/> Was any work activity conducted within a confined space? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Was any work activity conducted within an area determined to be immediately dangerous to life and health? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Were approved decontamination procedures used on workers and equipments as required? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Was a Job Safety Meeting held this date? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Were there any lost time accidents this date? (If YES, attach copy of completed accident report) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Was hazardous waste/material released into the environment? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Safety comments: (Include any infractions of approved safety plan, and include instructions from Government personnel. Specify corrective action taken.) Safety meeting conducted; workers donned Level D PPE; air monitoring conducted by NWRS.																																
VI. Work Activities Performed This Date.																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:20%;">Reference (DFW #/Tech Spec #)</th> <th style="width:30%;">Activity & Location</th> <th style="width:15%;">Quantity</th> <th style="width:30%;">Subcontractor</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>SWMU-12</td> <td>Excavation and Disposal</td> <td>1</td> <td>Focus Contracting</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor	1.	SWMU-12	Excavation and Disposal	1	Focus Contracting	2.					3.					4.					5.				
#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor																												
1.	SWMU-12	Excavation and Disposal	1	Focus Contracting																												
2.																																
3.																																
4.																																
5.																																



VII. Labor & Manpower.							
	Classification	Number	Employer	Hours			
1.	FSO	1	NWRS/Weston	10			
2.	SS	1	Focus Contracting	10			
3.	Operator	1	Focus Contracting	10			
4.	Laborer	1	Focus Contracting	10			
5.							
Total Hours				40 (Daily); 68 (Project Total)			
VIII. Equipment.							
	No. of Units	Plant/Equipment	Date of Safety Check	Hours Used	Hours Idle	Hours Repair	
1.	1	CAT 277B Bobcat	6 October 2009	2	8	0	
2.	1	CAT 318B Excavator	6 October 2009	3	5	1	
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
Total Hours				5	13	1	
IX. Material Received to be Incorporated into Job. None <input type="checkbox"/>							
	Acceptability	Stored Where?		Reference Plans/Drawings			
1.	Course Aggregate	Used for temporary construction entrance		IMWP Figure 4-1			
2.							
3.							
X. Submittals Reviewed. None <input checked="" type="checkbox"/>							
	Submittal No.	Spec/Plan Reference	By Whom	Action Taken			
1.							
2.							
3.							
XI. Offsite Surveillance Activities. (include action taken) None <input checked="" type="checkbox"/>							
<hr/> <hr/> <hr/>							
XII. Instructions Given by the Government to the Contractor. (Include names, reactions, and remarks) Verbal <input type="checkbox"/> Written <input type="checkbox"/> None <input checked="" type="checkbox"/>							
<hr/> <hr/> <hr/>							
XIII. Work Progress.							
1.	Are there any Contractor caused delays?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2.	Are there any Contractor-potential findings of fact?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
3.	Are there any Government caused delays or potential finding of fact?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
4.	Are there any Government-potential findings of fact?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
5.	Are there any unforeseeable or weather related delays?					Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>



XIV. Deficiency List.			
Tracking No.	Deficiencies Identified (Not corrected by COB)	Tracking No.	Deficiencies Corrected (From Deficiency Tracking List)

XV. Remarks. (Include any visitors to project and miscellaneous remarks pertinent to work.)
A total of fourteen loads were hauled off site. One additional load of course aggregate was brought onsite to extend and repair the temporary construction road after heavy rain in the morning caused saturated conditions in the work area.

The above report is complete and correct, and all work reported is believed, to the best of my knowledge, to be in compliance with contract plans and specifications, except as noted above.

CQC Site Manager (acting) _____ **Date** 6 October 2009



XVI. Government Quality Assurance Comments. (if applicable)
Concurs with the QC report? Yes No
Additional comments or exceptions:

QAR Signature _____ **Date** _____

Supervisor's Initial _____ **Date** _____



Daily Quality Control Report

<u>W9128F-04-D-0017-006</u>	<u>NWRS/Weston</u>	<u>SWMU-12</u>
Contract Number / Task Order Number	Contractor	Project Title / NWI Project No.
<u>3</u>	<u>7 October 2009</u>	<u>Crane, IN</u>
CQC Report Number	Date or Time Period	Location and Team

I. Weather Conditions:
 Temp Low 44 Temp High 61 Mostly Sunny
 Wind Speed 4 Precipitation No Yes _____ Inches

II. Quality Control Inspections Performed This Date (Include inspections, results, deficiencies observed, and corrective action)
 Preparatory
 Initial
 Follow-Up
 Was the construction deficiency tracking list updated this date? Yes No

III. Was Field Sampling and Testing Performed This Date? Yes No
 If yes, then complete the following:

	Type of test	Method/Matrix	Results
1.	Dust Monitoring	Air, Near Truck Loading Area	TWA = 0.02 mg/m ³
2.			
3.			
4.			

Have Data Quality Objectives been achieved? Yes No

IV. Have Samples Been Collected for Laboratory Analysis? Yes No
 If yes, then complete the following:

	Type of Test	EPA Test Method/Matrix	Quantity of Samples
1.	Personal Air Sample	Air	1
2.			
3.			

Have required amount of QC trip blanks and rinsates been achieved? Yes No
 Have appropriate QC laboratory tests been ordered? (matrix spikes, method blanks, surrogates, reference standards, etc.) Yes No
 Have QA and QC samples been collected in the specified quantity? Yes No
 Have samples been properly labeled and packaged? Yes No

V. Health and Safety.
 Worker protection levels this date: Level A Level B Level C Level D
 Was any work activity conducted within a confined space? Yes No
 Was any work activity conducted within an area determined to be immediately dangerous to life and health? Yes No
 Were approved decontamination procedures used on workers and equipments as required? Yes No
 Was a Job Safety Meeting held this date? Yes No
 Were there any lost time accidents this date? (If YES, attach copy of completed accident report) Yes No
 Was hazardous waste/material released into the environment? Yes No
 Safety comments: (Include any infractions of approved safety plan, and include instructions from Government personnel. Specify corrective action taken.)
 Safety meeting conducted; workers donned Level D PPE; air monitoring conducted by NWRS.

VI. Work Activities Performed This Date.

	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor
1.	SWMU-12	Excavation and Disposal	1	Focus Contracting
2.	SWMU-12	Surveying	1	RPG
3.				
4.				
5.				



VII. Labor & Manpower.						
	Classification	Number	Employer	Hours		
1.	FSO	1	NWRS/Weston	9		
2.	SS	1	Focus Contracting	8		
3.	Operator	1	Focus Contracting	7		
4.	Laborer	1	Focus Contracting	7		
5.						
Total Hours				33 (Daily); 101 (Project Total)		
VIII. Equipment.						
	No. of Units	Plant/Equipment	Date of Safety Check	Hours Used	Hours Idle	Hours Repair
1.	1	CAT 277B Bobcat	7 October 2009	2	5	0
2.	1	CAT 318B Excavator	7 October 2009	4	3	0
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
Total Hours				6	8	0
IX. Material Received to be Incorporated into Job. None <input checked="" type="checkbox"/>						
	Acceptability	Stored Where?	Reference Plans/Drawings			
1.						
2.						
3.						
X. Submittals Reviewed. None <input checked="" type="checkbox"/>						
	Submittal No.	Spec/Plan Reference	By Whom	Action Taken		
1.						
2.						
3.						
XI. Offsite Surveillance Activities. (include action taken) None <input checked="" type="checkbox"/>						
<hr/> <hr/> <hr/>						
XII. Instructions Given by the Government to the Contractor. (Include names, reactions, and remarks) Verbal <input checked="" type="checkbox"/> Written <input type="checkbox"/> None <input type="checkbox"/>						
Straw matting may be used for erosion control and the seed mixture shall contain wheat, rye, and festrue. <hr/> <hr/>						
XIII. Work Progress.						
1.	Are there any Contractor caused delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2.	Are there any Contractor-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
3.	Are there any Government caused delays or potential finding of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.	Are there any Government-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5.	Are there any unforeseeable or weather related delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



XIV. Deficiency List.			
Tracking No.	Deficiencies Identified (Not corrected by COB)	Tracking No.	Deficiencies Corrected (From Deficiency Tracking List)

XV. Remarks. (Include any visitors to project and miscellaneous remarks pertinent to work.)
 Six additional loads were hauled off site for a project total of twenty loads (392.48 ton). TetraTech was onsite to conduct confirmation sampling. BRG was onsite to conduct the post-excavation survey.

The above report is complete and correct, and all work reported is believed, to the best of my knowledge, to be in compliance with contract plans and specifications, except as noted above.

CQC Site Manager (acting) _____ **Date** 7 October 2009



XVI. Government Quality Assurance Comments. (if applicable)
 Concurs with the QC report? Yes No
 Additional comments or exceptions:

QAR Signature _____ **Date** _____

Supervisor's Initial _____ **Date** _____



Daily Quality Control Report

W9128F-04-D-0017-006 Contract Number / Task Order Number 4 CQC Report Number	NWRS/Weston Contractor 15 October 2009 Date or Time Period	SWMU-12 Project Title / NWI Project No. Crane, IN Location and Team																														
I. Weather Conditions: Temp Low <u>41</u> Temp High <u>47</u> Cloudy Wind Speed <u>5</u> Precipitation <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <u>0.07</u> Inches																																
II. Quality Control Inspections Performed This Date (Include inspections, results, deficiencies observed, and corrective action) Preparatory <input type="checkbox"/> Initial <input type="checkbox"/> Follow-Up <input type="checkbox"/> Was the construction deficiency tracking list updated this date? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																
III. Was Field Sampling and Testing Performed This Date? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, then complete the following:																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Type of test</th> <th style="width:35%;">Method/Matrix</th> <th style="width:35%;">Results</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Dust Monitoring</td> <td>Air, Near Truck Loading Area</td> <td>0.00 mg/m³</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Type of test	Method/Matrix	Results	1.	Dust Monitoring	Air, Near Truck Loading Area	0.00 mg/m ³	2.				3.				4.													
#	Type of test	Method/Matrix	Results																													
1.	Dust Monitoring	Air, Near Truck Loading Area	0.00 mg/m ³																													
2.																																
3.																																
4.																																
Have Data Quality Objectives been achieved? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
IV. Have Samples Been Collected for Laboratory Analysis? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, then complete the following:																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Type of Test</th> <th style="width:35%;">EPA Test Method/Matrix</th> <th style="width:35%;">Quantity of Samples</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Type of Test	EPA Test Method/Matrix	Quantity of Samples	1.	NA	NA	NA	2.				3.																	
#	Type of Test	EPA Test Method/Matrix	Quantity of Samples																													
1.	NA	NA	NA																													
2.																																
3.																																
Have required amount of QC trip blanks and rinsates been achieved? Yes <input type="checkbox"/> No <input type="checkbox"/> Have appropriate QC laboratory tests been ordered? (matrix spikes, method blanks, surrogates, reference standards, etc.) Yes <input type="checkbox"/> No <input type="checkbox"/> Have QA and QC samples been collected in the specified quantity? Yes <input type="checkbox"/> No <input type="checkbox"/> Have samples been properly labeled and packaged? Yes <input type="checkbox"/> No <input type="checkbox"/>																																
V. Health and Safety. Worker protection levels this date: Level A <input type="checkbox"/> Level B <input type="checkbox"/> Level C <input type="checkbox"/> Level D <input checked="" type="checkbox"/> Was any work activity conducted within a confined space? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Was any work activity conducted within an area determined to be immediately dangerous to life and health? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Were approved decontamination procedures used on workers and equipments as required? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Was a Job Safety Meeting held this date? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Were there any lost time accidents this date? (If YES, attach copy of completed accident report) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Was hazardous waste/material released into the environment? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Safety comments: (Include any infractions of approved safety plan, and include instructions from Government personnel. Specify corrective action taken.) Safety meeting conducted; workers donned Level D PPE; air monitoring conducted by NWRS.																																
VI. Work Activities Performed This Date.																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Reference (DFW #/Tech Spec #)</th> <th style="width:35%;">Activity & Location</th> <th style="width:15%;">Quantity</th> <th style="width:20%;">Subcontractor</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>SWMU-12</td> <td>Excavation and Disposal</td> <td>1</td> <td>Focus Contracting</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor	1.	SWMU-12	Excavation and Disposal	1	Focus Contracting	2.					3.					4.					5.				
#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor																												
1.	SWMU-12	Excavation and Disposal	1	Focus Contracting																												
2.																																
3.																																
4.																																
5.																																



VII. Labor & Manpower.						
	Classification	Number	Employer	Hours		
1.	FSO	1	NWRS/Weston	8		
2.	SS	1	Focus Contracting	7		
3.	Operator	1	Focus Contracting	7		
4.	Laborer	1	Focus Contracting	7		
5.						
Total Hours				33 (Daily); 101 (Project Total)		
VIII. Equipment.						
	No. of Units	Plant/Equipment	Date of Safety Check	Hours Used	Hours Idle	Hours Repair
1.	1	CAT 318B Excavator	7 October 2009	1	5	1
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
Total Hours				1	5	1
IX. Material Received to be Incorporated into Job. None <input checked="" type="checkbox"/>						
	Acceptability	Stored Where?	Reference Plans/Drawings			
1.	NA	NA	NA			
2.						
3.						
X. Submittals Reviewed. None <input checked="" type="checkbox"/>						
	Submittal No.	Spec/Plan Reference	By Whom	Action Taken		
1.	NA					
2.						
3.						
XI. Offsite Surveillance Activities. (include action taken) None <input checked="" type="checkbox"/>						
NA						
XII. Instructions Given by the Government to the Contractor. (Include names, reactions, and remarks) Verbal <input checked="" type="checkbox"/> Written <input type="checkbox"/> None <input type="checkbox"/>						
Due to rain, no plastic covering necessary.						
XIII. Work Progress.						
1.	Are there any Contractor caused delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2.	Are there any Contractor-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
3.	Are there any Government caused delays or potential finding of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.	Are there any Government-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5.	Are there any unforeseeable or weather related delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



W9128F-04-D-0017-006 Contract Number / Task Order Number 5 CQC Report Number	NWRS/Weston Contractor 16 October 2009 Date or Time Period	SWMU-12 Project Title / NWI Project No. Crane, IN Location and Team																														
I. Weather Conditions: Temp Low <u>41</u> Temp High <u>43</u> Cloudy Wind Speed <u>5-10</u> Precipitation <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <u>0.01</u> Inches																																
II. Quality Control Inspections Performed This Date (Include inspections, results, deficiencies observed, and corrective action) Preparatory <input type="checkbox"/> Initial <input type="checkbox"/> Follow-Up <input type="checkbox"/> Was the construction deficiency tracking list updated this date? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																
III. Was Field Sampling and Testing Performed This Date? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, then complete the following:																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Type of test</th> <th style="width:35%;">Method/Matrix</th> <th style="width:35%;">Results</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Dust Monitoring</td> <td>Air, Near Truck Loading Area</td> <td>0.00 mg/m³</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Type of test	Method/Matrix	Results	1.	Dust Monitoring	Air, Near Truck Loading Area	0.00 mg/m ³	2.				3.				4.													
#	Type of test	Method/Matrix	Results																													
1.	Dust Monitoring	Air, Near Truck Loading Area	0.00 mg/m ³																													
2.																																
3.																																
4.																																
Have Data Quality Objectives been achieved? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
IV. Have Samples Been Collected for Laboratory Analysis? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, then complete the following:																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Type of Test</th> <th style="width:35%;">EPA Test Method/Matrix</th> <th style="width:35%;">Quantity of Samples</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Type of Test	EPA Test Method/Matrix	Quantity of Samples	1.	NA	NA	NA	2.				3.																	
#	Type of Test	EPA Test Method/Matrix	Quantity of Samples																													
1.	NA	NA	NA																													
2.																																
3.																																
Have required amount of QC trip blanks and rinsates been achieved? Yes <input type="checkbox"/> No <input type="checkbox"/> Have appropriate QC laboratory tests been ordered? (matrix spikes, method blanks, surrogates, reference standards, etc.) Yes <input type="checkbox"/> No <input type="checkbox"/> Have QA and QC samples been collected in the specified quantity? Yes <input type="checkbox"/> No <input type="checkbox"/> Have samples been properly labeled and packaged? Yes <input type="checkbox"/> No <input type="checkbox"/>																																
V. Health and Safety. Worker protection levels this date: Level A <input type="checkbox"/> Level B <input type="checkbox"/> Level C <input type="checkbox"/> Level D <input checked="" type="checkbox"/> Was any work activity conducted within a confined space? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Was any work activity conducted within an area determined to be immediately dangerous to life and health? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Were approved decontamination procedures used on workers and equipments as required? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Was a Job Safety Meeting held this date? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Were there any lost time accidents this date? (If YES, attach copy of completed accident report) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Was hazardous waste/material released into the environment? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Safety comments: (Include any infractions of approved safety plan, and include instructions from Government personnel. Specify corrective action taken.) Safety meeting conducted; workers donned Level D PPE; air monitoring conducted by NWRS.																																
VI. Work Activities Performed This Date.																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:5%;">#</th> <th style="width:25%;">Reference (DFW #/Tech Spec #)</th> <th style="width:35%;">Activity & Location</th> <th style="width:15%;">Quantity</th> <th style="width:20%;">Subcontractor</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>SWMU-12</td> <td>Excavation and Disposal</td> <td>1</td> <td>Focus Contracting</td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor	1.	SWMU-12	Excavation and Disposal	1	Focus Contracting	2.					3.					4.					5.				
#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor																												
1.	SWMU-12	Excavation and Disposal	1	Focus Contracting																												
2.																																
3.																																
4.																																
5.																																



VII. Labor & Manpower.						
	Classification	Number	Employer	Hours		
1.	FSO	1	NWRS/Weston	9		
2.	SS	1	Focus Contracting	5		
3.	Operator	1	Focus Contracting	5		
4.	Laborer	1	Focus Contracting	5		
5.						
Total Hours				33 (Daily); 101 (Project Total)		
VIII. Equipment.						
	No. of Units	Plant/Equipment	Date of Safety Check	Hours Used	Hours Idle	Hours Repair
1.	1	CAT 318B Excavator	7 October 2009	4	1	0
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
Total Hours				4	1	0
IX. Material Received to be Incorporated into Job. None <input checked="" type="checkbox"/>						
	Acceptability	Stored Where?	Reference Plans/Drawings			
1.	NA	NA	NA			
2.						
3.						
X. Submittals Reviewed. None <input checked="" type="checkbox"/>						
	Submittal No.	Spec/Plan Reference	By Whom	Action Taken		
1.	NA					
2.						
3.						
XI. Offsite Surveillance Activities. (include action taken) None <input checked="" type="checkbox"/>						
NA						
XII. Instructions Given by the Government to the Contractor. (Include names, reactions, and remarks) Verbal <input checked="" type="checkbox"/> Written <input type="checkbox"/> None <input type="checkbox"/>						
No plastic covering necessary.						
XIII. Work Progress.						
1.	Are there any Contractor caused delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2.	Are there any Contractor-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
3.	Are there any Government caused delays or potential finding of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.	Are there any Government-potential findings of fact?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5.	Are there any unforeseeable or weather related delays?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>



Daily Quality Control Report

W9128F-04-D-0017-006 <small>Contract Number / Task Order Number</small>	NWRS/Weston <small>Contractor</small>	SWMU-12 <small>Project Title / NWI Project No.</small>
6 <small>CQC Report Number</small>	27 October 2009 <small>Date or Time Period</small>	Crane, IN <small>Location and Team</small>

I. Weather Conditions:
 Temp Low 47 Temp High 57 Cloudy; Rain
 Wind Speed 5-10 Precipitation No Yes 0.22 Inches

II. Quality Control Inspections Performed This Date (Include inspections, results, deficiencies observed, and corrective action)
 Preparatory
 Initial
 Follow-Up
 Was the construction deficiency tracking list updated this date? Yes No

III. Was Field Sampling and Testing Performed This Date? Yes No
 If yes, then complete the following:

#	Type of test	Method/Matrix	Results
1.			
2.			
3.			
4.			

Have Data Quality Objectives been achieved? Yes No

IV. Have Samples Been Collected for Laboratory Analysis? Yes No
 If yes, then complete the following:

#	Type of Test	EPA Test Method/Matrix	Quantity of Samples
1.			
2.			
3.			

Have required amount of QC trip blanks and rinsates been achieved? Yes No
 Have appropriate QC laboratory tests been ordered? (matrix spikes, method blanks, surrogates, reference standards, etc.) Yes No
 Have QA and QC samples been collected in the specified quantity? Yes No
 Have samples been properly labeled and packaged? Yes No

V. Health and Safety.
 Worker protection levels this date: Level A Level B Level C Level D
 Was any work activity conducted within a confined space? Yes No
 Was any work activity conducted within an area determined to be immediately dangerous to life and health? Yes No
 Were approved decontamination procedures used on workers and equipments as required? Yes No
 Was a Job Safety Meeting held this date? Yes No
 Were there any lost time accidents this date? (If YES, attach copy of completed accident report) Yes No
 Was hazardous waste/material released into the environment? Yes No
 Safety comments: (Include any infractions of approved safety plan, and include instructions from Government personnel. Specify corrective action taken.)

VI. Work Activities Performed This Date.

#	Reference (DFW #/Tech Spec #)	Activity & Location	Quantity	Subcontractor
1.	SWMU-12	Excavation and Disposal	1	Focus Contracting
2.				
3.				
4.				
5.				



VII. Labor & Manpower.							
	Classification	Number	Employer	Hours			
1.	FSO	1	NWRS/Weston	5			
2.	SS	1	Focus Contracting	5			
3.	Operator	1	Focus Contracting	5			
4.							
5.							
Total Hours				15 (Daily); 116 (Project Total)			
VIII. Equipment.							
	No. of Units	Plant/Equipment	Date of Safety Check	Hours Used	Hours Idle	Hours Repair	
1.	1	CAT 318B Excavator	7 October 2009	1	4	0	
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
Total Hours				1	4	0	
IX. Material Received to be Incorporated into Job.							
						None <input checked="" type="checkbox"/>	
	Acceptability	Stored Where?	Reference Plans/Drawings				
1.							
2.							
3.							
X. Submittals Reviewed.							
						None <input checked="" type="checkbox"/>	
	Submittal No.	Spec/Plan Reference	By Whom	Action Taken			
1.							
2.							
3.							
XI. Offsite Surveillance Activities. (include action taken)							
NA						None <input checked="" type="checkbox"/>	
XII. Instructions Given by the Government to the Contractor. (Include names, reactions, and remarks)							
				Verbal <input checked="" type="checkbox"/>	Written <input type="checkbox"/>	None <input type="checkbox"/>	
NAVFAC PM requests NWRS to collect sample of standing water in the excavation to determine proper handling prior to backfill.							
XIII. Work Progress.							
1.	Are there any Contractor caused delays?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2.	Are there any Contractor-potential findings of fact?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
3.	Are there any Government caused delays or potential finding of fact?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
4.	Are there any Government-potential findings of fact?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
5.	Are there any unforeseeable or weather related delays?					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



XIV. Deficiency List.			
Tracking No.	Deficiencies Identified (Not corrected by COB)	Tracking No.	Deficiencies Corrected (From Deficiency Tracking List)

XV. Remarks. (Include any visitors to project and miscellaneous remarks pertinent to work.)
Two loads of material were removed, totaling 40.08 tons. Tetra Tech was onsite and collected confirmation sampling. XRF field measurements indicated that concentrations were <50ppm, so no additional excavation was conducted.

The above report is complete and correct, and all work reported is believed, to the best of my knowledge, to be in compliance with contract plans and specifications, except as noted above.

CQC Site Manager (acting) _____ **Date** 27 October 2009



XVI. Government Quality Assurance Comments. (if applicable)
Concurs with the QC report? Yes No
Additional comments or exceptions:

QAR Signature _____ **Date** _____

Supervisor's Initial _____ **Date** _____

Photo Logs



Clearing trees from within the excavation area



Delineation of deeper portion of excavation



Delineation of extents of excavation area



Furthestmost edge of excavation area



Construction of temporary access road



Removing trees and vegetation from within the excavation area



Trenching during silt fencing installation



Installation of silt fence



Completed silt fence installation



Beginning of excavation with the stockpiling of soil uphill



Excavation along north extent



Excavation along southern extents



Loading soil



Stockpiling soil between loads



Southern extents of excavation area



Extending and repairing the temporary construction access road



Stockpiling soil within excavation area to assist in efficient loading



Segregating excavated concrete from soils



Site conditions at end of day



Segregated stone from excavation



North wall of excavation during confirmation sampling



Loading final truck



Confirming depth of deep excavation



Extent of deep excavation, looking northwest



Extent of deep excavation, looking north



Truck entrance conditions at end of day



Soils removal and decontamination from excavator bucket



Confirmation sampling and surveying of excavation



Covered decontamination waste



Standing water in bottom of excavation



Slope of excavation



Southern extent of excavation



Deep area of excavation



Preparing for over-excavation of contaminated soil



Side slope of excavation



Truck loading during over-excavation



Decontamination of excavator



Completed over-excavation along west extent



Standing water in excavation, looking down from the west



Standing water in excavation, looking down from the north



View from above following over-excavation



View from above following over-excavation



Excavation with direct loading, looking southwest



Excavation with direct loading, looking northwest



Completed additional excavation; preparing for confirmation sampling



Tetra Tech collecting confirmation samples



Standing water at the down gradient, eastern edge of the excavation



Dewatering standing water from excavation prior to backfill



Excavation following completion of backfill



Restored site from access gate

Sign-In Sheets

Log Book Notes

14

Crane Naval
Crane, IN Summer 8-17-09

cloudy: 50% chance of rain all day 64/76°F

- 0850 - Weston's TW departs for Crane Naval Visitors Center to meet with Bledsoe Surveyors and acquire site pass. TL
- 0950 - TW at Crane Visitors Center to meet Bledsoe surveyors Eli Cook and Rich Jenks. TL
- 0815 - TW and Bledsoe at Building 2516 for Tim Sears (Nator) who is showing location.
- 0835 - Group at site. Bledsoe tying in survey to existing points. TL
- 0925 - Bledsoe back at site. TL
- 0930 - Bledsoe setting excavation and sample points. TL
- 1015 - TW has begun collecting samples. TL

Sample	Time
125B 86	1020
125B 87	1030
125B 88	1040
125B 89	1045
125B 90	1060
125B 91	1100
125B 92	1115
125B 93	1120
125B 94	1130
125B 95	1135

Crane Naval
Crane, IN Summer?8-19-09
15

- | Sample | Time |
|---------|------|
| 125B 96 | 1145 |
| 125B 97 | 1150 |
| 125B 98 | 1200 |
| 125B 99 | 1210 |
- 1215 - TW has collected all samples. Packing up equipment. TL
- 1230 - Note: above sample times are in CST. 125B 88 was re located ~ 8' South. Surveyors shot in new point as 75 re located. TL
- 1325 - TW and Bledsoe moving off-site. TL
- 1745 - TW at STAT analysis to drop samples.
- 1800 - TW moving to drop equipment at VHI. TL
- 1930 - TW at VHI dropping off equipment
- 2000 - TW dropping off rental vehicle.
- 2005 - TW done for the day. TL

~~Tom Bledsoe 8-19-09~~

5 OCT 2009

0800: NWRS (L. MOEN) AND FOCUS CONTRACTING MEET OUTSIDE THE CRANE GATE TO COLLECT PASSES.

0815: NWRS AND FOCUS CARAVAN TO THE WORK SITE.

0845: NWRS AND FOCUS ARE ON SITE AND BECOME FAMILIAR WITH THE LAYOUT. A CAT 277B BOBCAT IS ON SITE.

0900: SITE SAFETY MEETING IS CONDUCTED AND THE HASP IS SIGNED BY ALL ON SITE PERSONNEL. FOCUS PREPARES FOR CLEARING, GRUBBING OF THE WORK AREA AND OTHER SITE PREPARATION ACTIVITIES. THE LIMITS OF EXCAVATION ARE DELINEATED IN THE FIELD WITH SPRAY PAINT AND NWRS CONFIRMS THE ACCURACY OF THE SURVEY STAKES.

5 OCT 2009

1000: A LOAD OF COURSE AGGREGATE IS DELIVERED TO THE SITE FOR USE AS THE TEMPORARY CONSTRUCTION ENTRANCE. FOCUS MOBILIZES A CAT 318B EXCAVATOR TO THE SITE. TIM SEARS CONFIRMS WITH ~~NWRS~~ NWRS THAT NATURALLY OCCURRING BOULDERS ENCOUNTERED DURING EXCAVATION MAY REMAIN ON SITE.

1015: TOM BRENT VISITS THE SITE AND INFORMS NWRS THAT BOTH TRUCK SCALES ARE CURRENTLY NOT WORKING. ANY CHANGES OR UPDATES WILL BE CONVEYED. FOCUS CONTINUES TO CLEAR TREES AND SHRUBS IN THE EXCAVATION AREA.

1130: PLACEMENT OF THE TEMPORARY CONSTRUCTION ENTRANCE IS COMPLETE.

5 OCT 2009

1215: FOCUS COMMENCES INSTALLATION OF THE SILT FENCE.

1300: TIM SEARS DIRECTS NWRS TO THE PUMP AREA FOR ALL CONCRETE THAT IS EXCAVATED.

1315: THE THIRD AND FINAL ONSITE SCALE IS ALSO NOT WORKING. TRUCKS SHALL BE LOADED UPON ARRIVAL AT AND DEPARTURE FROM THE LANDFILL TO DETERMINE NET WEIGHT.

1400: FOCUS COMPLETES INSTALLATION OF THE SILT FENCE AND BEGINS STOCKPILING SOIL WITHIN THE EXCAVATION AREA TO ASSIST IN WASTE LOAD OUT THE FOLLOWING DAY.

5 OCT 2009

1500: FOCUS REPORTS A SMALL LEAK FROM A CONNECTION ON A HYDRAULIC LINE ON THE EXCAVATOR. NO FLUID SPILLS ON THE GROUND AND THE LEAK STOPS WHEN THE ENGINE IS NOT RUNNING. FOCUS AND NWRS ARRANGE FOR A MECHANIC TO BE ONSITE IN THE MORNING PRIOR TO THE ARRIVAL OF THE TRUCKS.

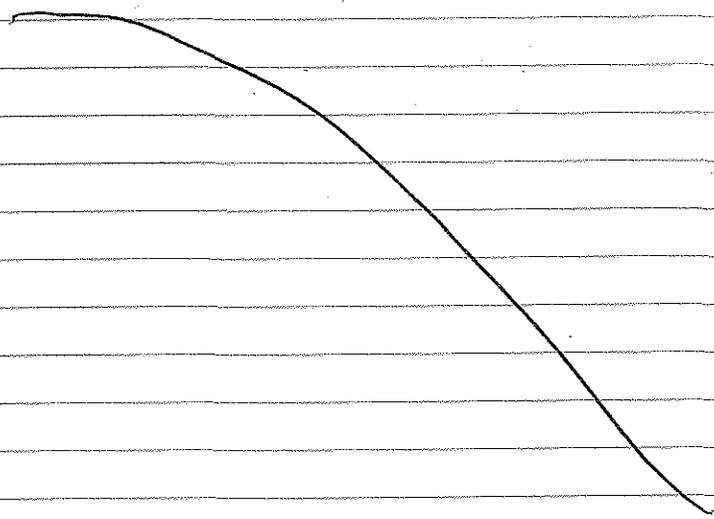
1530: ALL EQUIPMENT IS COLLECTED AND STORED. THE BROKEN O-RING IS WRAPPED AND NO LIQUID IS DISCHARGING. NWRS CLOSES THE GATE TO THE WORK AREA BUT DOES NOT LOCK IT PER DIRECTION FROM TIM SEARS.

1600: NWRS AND FOCUS ARE OFF SITE.

5 OCT 2009

WEATHER: HIGHT: 71°F
 LOW: 43°F
 RAIN: 0.01"
 WIND: SE @ 3 MPH
 SUNNY

[Signature]
 5 October 2009



6 OCT 2009

0700: NURS AND FOCUS MEET THE MECHANIC FROM MACALLISTER AT THE CRANE GATE.

0745: PERSONNEL ARE ON SITE AND MACALLISTER BEGINS FIXING THE BROKEN HYDRAULIC CONNECTION.

0730: SITE SAFETY MEETING COMPLETED.

0800: TRUCKS BEGIN ARRIVING ON SITE.

0815: MACALLISTER COMPLETES WORK ON THE EXCAVATOR AND FOCUS BEGINS LOADING THE FIRST TRUCK.

0830: FIVE TRUCKS TOTAL ARE ON SITE.

0815: NURS BEGINS AIR MONITORING VIA A PERSONAL AIR SAMPLE TO BE WORN ON THE EXCAVATOR OPERATOR AND A PDR FOR DUST MONITORING. PERSONAL AIR SAMPLE CALIBRATED AT 1.9798 AT 0809.

6 OCT 2009

0845: TOM BRENT ARRIVES ON SITE TO SIGN THE WASTE MANIFESTS. NWRS MAKES A DUPLICATE COPY OF EACH PRIOR TO EACH TRUCK DEPARTING. RAIN BEGINS.

0915: FIFTH TRUCK LEAVES THE SITE, COMPLETING THE FIRST ROUND OF LOADS. RAIN BECOMES MORE STEADY AND NWRS COLLECTS THE DUST MONITOR TO PREVENT MOISTURE DAMAGE. THE TWA READING WAS 0.00 mg/m^3 .

1000: FOCUS STOPS STOCKPILING SOIL DUE TO THE RAIN. WORK IS ON HOLD UNTIL THE TRUCKS RETURN, AT WHICH POINT THE ABILITY TO PROCEED WILL BE REASSESSED.

TETRA TECH JOHN FLOYD / JIM GOERDT
502-693-1417

6 OCT 2009

1130: TETRA TECH VISITS THE SITE AND INFORMS NWRS THAT A TEMPORARY SCALE HAS BEEN SET UP. NWRS WILL CONFIRM WITH NAUFAC WHETHER TO USE THE SCALE OR CONTINUE WEIGHING AT THE LANDFILL. THE RAIN FINISHED AND MOVED THROUGH THE AREA.

1215: TOM BRENT ARRIVES ON SITE AND DIRECTS NWRS TO USE THE TEMPORARY SCALE PRIOR TO TRUCKS LEAVING THE SITE.

1230: TRUCKS ARRIVE AND FOCUS BEGINS LOADING.

1245: FIRST TRUCK DEPARTS ON SECOND ROUND FOLLOWING WEIGHING.

1315: TEMPORARY SCALE IS NOT READING PROPERLY, SO TRUCKS ARE SENT WITHOUT WEIGHING.

6 OCT 2009

1330: THE FIFTH TRUCK IS SENT TO BRING AN ADDITIONAL LOAD OF STONE TO EXTEND THE CONSTRUCTION ACCESS ROAD.

1400: RAW BEGINS AGAIN. FOCUS IS IDLE WHILE WAITING FOR THE DELIVERY OF STONE. FOCUS CLEANS TRACKED SOIL FROM THE ROAD.

812.296.6482 TOM BREWT

1500: THE LOAD OF STONE ARRIVES AND FOCUS EXTENDS AND REPAIRS THE CONSTRUCTION ENTRANCE

1545: FOCUS LOADS THE TENTH LOAD, WHICH WILL BE DELIVERED TO THE LANDFILL THE FOLLOWING MORNING.

1615: THE TRUCKS ARRIVE AND BEGIN LOADING THE THIRD LOAD, WHICH WILL BE DELIVERED TO THE LANDFILL THE FOLLOWING MORNING. THE TEMPORARY SCALE IS WORKING AGAIN.

6 OCT 2009

1700: THE FINAL TRUCK IS LOADED AND LEAVES THE SITE FOR A TOTAL OF 14 LOADS. THE FIRST NINE WEIGHT TICKETS INDICATE A TOTAL OF 193.16 TONS.

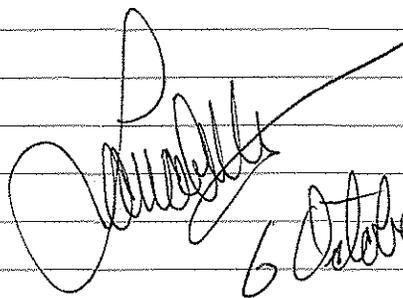
1715: FOCUS CLEANS THE AREA AND FIXES THE CONSTRUCTION ROAD. NWRS COLLECTS THE PDR WITH THE TWA READING OF 0.00 MG/M³

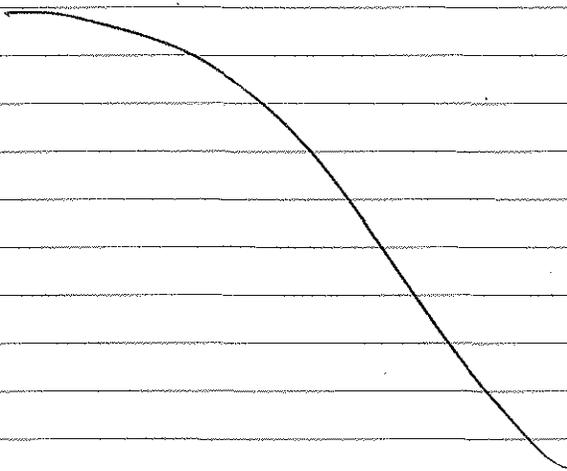
1730: NWRS COLLECTS THE PERSONAL AIR SAMPLE AND RECALIBRATES TO 2.006 LPM AT 1724 FOR A TOTAL OF 555 MINUTES.

1745: ALL EQUIPMENT IS STORED AND THE GATE IS CLOSED. NWRS AND FOCUS ARE OFF SITE.

6 OCT 2009

WEATHER: HIGH: 61°F
 LOW: 50°F
 RAW: 0.26"
 WIND WSW @ 11 MPH
 CLOUDY AND RAINY


 6 October 2009



7 OCT 2009

0800: FOCUS AND NWRS ARE ONSITE AND PREPARE TO CONTINUE EXCAVATION AND LOADING.

0815: TRUCKS ARRIVE AND LOADING COMMENCES. NWRS BEGINS DUST MONITORING WITH A PDR.

0830: NWRS CONTACTS TOM BRENT TO GAIN SIGNATURES FOR THE WASTE MANIFESTS. NWRS BEGINS A PERSONAL AIR SAMPLE - CALIBRATED TO 1.9374 LPM AT 0837.

0900: TOM BRENT ARRIVES TO SIGN MANIFESTS AND TRUCKS DEPART.

0930: FIFTH AND FINAL TRUCK DEPARTS FOR THE FIRST ROUND.

0945: FOCUS BRINGS EXCAVATED CONCRETE TO THE ONSITE DISPOSAL AREA.

7 Oct 2009

1045: TETRA TECH ARRIVES AND PREPARES FOR CONFIRMATION SAMPLING.

1145: FOCUS COMPLETES MOVING THE CONCRETE FROM THE WORK AREA.

1215: TRUCKS ARRIVE ON SITE FOR SECOND ROUND OF LOADS. FOCUS CONTINUES EXCAVATING.

1300: FOCUS WILL ONLY NEED ONE ADDITIONAL LOAD AND FOUR TRUCKS ARE DISMISSED.

1315: THE FINAL LOAD DEPARTS. FOCUS BEGINS DECONTAMINATING THE EXCAVATOR. MACALLISTER IS ON SITE TO WORK ON A SQUEAKING WHEEL ON THE BOBCAT.

1330: NWRS COLLECTS THE PERSONAL AIR SAMPLE AT 13:23 AND RECALIBRATES IT AT 2.1404 LPM FOR 286 MINUTES. NWRS ALSO COLLECTS THE PDR WITH A TWA READING OF 0.002 MG/M³

7 OCT 2009

1415: FOCUS INQUIRES IN THE REQUIREMENTS FOR EROSION CONTROL MATTING AND THE SEED MIXTURE. NWRS WILL FOLLOW UP WITH NAUFAC.

1430: BRG ARRIVES ONSITE TO CONDUCT THE SURVEY. FOCUS REFUELS EQUIPMENT AND PREPARES FOR DEMOBILIZATION UNTIL ANALYTICAL RESULTS ARE RECEIVED.

1500: BRG REPORTS THAT GPS IS NOT WORKING. FOCUS COVERS THE DECONTAMINATION SPOILS AND WORKERS ARE OFF SITE. TETRA TECH REPORTS THAT THE FIRST THREE XRF FIELD RESULTS ARE BELOW THE THRESHOLD OF 100 PPM.

1515: FOCUS SUPERVISOR MOVES TO THE CRANE GATE TO WAIT FOR FINAL WEIGHT TICKET.

1125 - Truck #47 off-site. Truck #37 on-site. TW
 1140 - Breakdown of truck weights below. →

Truck	Weight (ton)
# 47	19.00
# 37	17.98
# 47	20.82
# 37	17.90

 1145 - Focus decoupling excavator bucket and cleaning trucks.
 1230 - Tetra Tech on-site. Will acquire two samples.
 Focus has completed decontamination procedures and
 is ready off site for lunch. →
 1245 - Tetra Tech has acquired samples and
 is off-site. TW awaiting arrival of
 trucks to obtain weight tickets. →
 1330 - TW awaiting arrival of trucks. →
 1400 - As above. →
 1440 - Truck #47 has dropped off weight ticket.
 Waiting on Truck #37. →
 1520 - Truck #37 on-site, moving to drop manifest
 and weight ticket copies with Tom Brent. →
 1530 - TW out →
 1540 - TW moving to UHI. →
 2015 (EST) TW at UHI. →

~~Twinsville~~

27 OCT 2009

0815: NWRS, FOCUS, AND TOM BRENT OF
 NAVFAC ARE ONSITE. EXTENTS OF
 THE EXCAVATION ARE DELINEATED
 IN THE FIELD WITH SPRAY PAINT.

0830: TRUCKS ARRIVE AND PREPARE FOR
 LOADING. TETRA TECH ARRIVES ON SITE
 TO COLLECT CONFIRMATION SAMPLES.
 EXCAVATION COMMENCES.

0845: FIRST TRUCK DEPARTS. TIM SEARS
 OF NAVFAC IS ON SITE AND DIRECTS
 NWRS TO COLLECT A WATER SAMPLE
 FROM THE EXCAVATION PRIOR TO
 BACK FILLING.

0900: SECOND TRUCK DEPARTS.

0915: TETRA TECH BEGINS SAMPLE
 COLLECTION.

0945: TETRA TECH DEPARTS TO ANALYZE
 SAMPLES VIA XRF.

27 OCT 2009

1215: TETRA TECH REPORTS XRF RESULTS
< 50 PPM. NWRS DIRECTS FOCUS
TO ~~THE~~ EXCAVATE NO ADDITIONAL
MATERIAL.

1230: TRUCKS RETURN WITH WEIGHT TICKETS
AND DEPART SITE.

1300: NWRS AND FOCUS ARE OFF SITE.

WEATHER: HIGH: 57°F

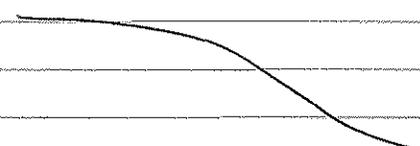
LOW: 47°F

RAIN: 0.22"

WIND: 5-10 MPH

CLOUDY WITH RAIN

[Signature]
27 October 2009



Quality Control Reports



Preparatory Phase Checklist

Project Name:	SWMU-12, Crane, IN	Date:	5 October 2009		
Project Number:	13676.011.001.0010				
Definable Feature of Work:	Excavation and Disposal				
QA Rep. Notified (24 hrs in advance):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date/Time:			
I. Personnel Present.					
	Name	Position	Company/Government		
1.	Lance A. Moen	CQC/FSO	NWRS/Weston		
2.	Tim Bonds	PM	Focus Contracting		
3.	Bryan Barnes	Laborer	Focus Contracting		
4.	Tim Young	Operator	Focus Contracting		
5.					
6.					
7.					
<i>List additional personnel on reverse side.</i>					
II. Safety. <i>Review planned job site activities, hazards and conditions compare to those described in the Job Safety Analysis/Site Safety and Health Plan. Document new or changed conditions:</i>					
Site safety meeting conducted at beginning of day to cover the HASP. All personnel donned appropriate Level D PPE, including safety boots, vests, hard hats, and glasses.					
III. Submittals. <i>Review submittals and/or submittal log. List missing or unapproved submittals:</i>					
	Submittals	Missing or Unapproved?			
1.					
2.					
3.					
4.					
5.					
IV. Materials. <i>Ensure all necessary materials are on hand. List missing or unapproved materials:</i>					
	Item	Available?	In Spec?	Properly Stored?	Comments/Deficiencies
1.					
2.					
3.					
4.					
5.					
Check approved submittals against delivered material. Identify any discrepancies:					
No Shop Drawing Submittals Applicable					

V. Preliminary Work. *Examine work area to ensure preliminary work is complete. Ensure permits are complete and correct. Document discrepancy items:*
 All planning documents have been reviewed and approved.

VI. Specifications. *Review all specifications for feature of work. Discuss procedure for accomplishing the work. Clarify any differences:*
 No specifications generated for this project.

VII. Testing. *Review required control inspection and testing procedures and document below:*

	Test	Location	Date	Tester	Ref. Test Plan
1.					
2.					
3.					
4.					
5.					

VIII. Certifications. *Review certifications for equipment, personnel, testing facilities, etc.*

	Item	Company	Certified?
1.			
2.			
3.			
4.			
5.			

IX. Specifications. *Review contract specifications and compare to planned work procedures. Clarify any differences:*
 No differences noted.

X. Review Signature. *Use this form as an agenda for the Preparatory Phase Meeting. Discuss all discrepancies and action items at the meeting and document on the Preparatory Phase Meeting Minutes form.*



Site CQC Manager



Initial Phase Checklist

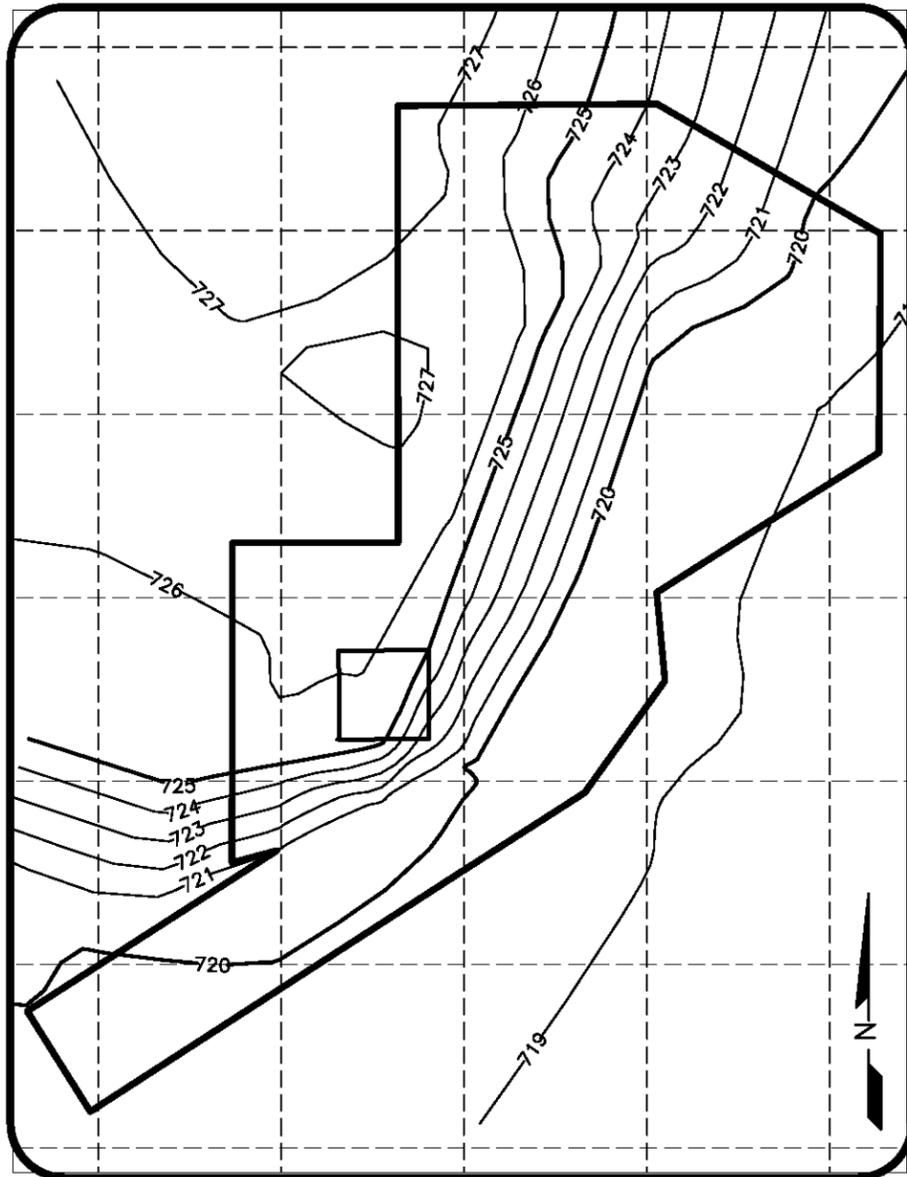
Project Name:	SWMU-12, Crane, IN	Date:	6 October 2009		
Project Number:	13676.011.001.0010				
Definable Feature of work:	Excavation and Disposal				
QA Rep. Notified (24 Hrs. in advance):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Date/Time:		
I. Personnel Present.					
	Name	Position	Company/Government		
1.	Lance Moen	CQC/FSO	NWRS/Weston		
2.	Tim Bond	SS	Focus Contracting		
3.	Tim Young	Operator	Focus Contracting		
4.	Bryan Barnes	Laborer	Focus Contracting		
5.					
II. Safety. Review current job site activities, hazards and conditions, compare to those described in the Job Safety Analysis / Site Safety and Health Plan and list new or changed conditions and action taken:					
<p>Site safety meeting conducted in the morning. All personnel wearing appropriate Level D PPE.</p>					
III. Workmanship. Inspect workmanship for this feature; verify compliance with contract specifications, plans, and submittals. Identify any non-conforming items:					
	Items/Activities Inspected	In Spec?			
1.	First Round of five loads of waste loaded and hauled off site				
2.	Silt fence is in place and in good condition				
3.	Construction entrance is performing well with truck traffic				
4.					
5.					
Is a sample panel required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Will the initial work be considered as a sample panel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
IV. Preliminary Work. Was preliminary work and permits complete and correct. If not, what rework was needed?					
<p>Preliminary work was complete.</p>					
V. Testing. Identify testing completed and/or in progress.					
	Test	Location	Date	Tester	Per Test Plan?
1.	Personal Air Sample	Excavator Operator	6 OCT 2009	Lance Moen	Yes
2.	Dust Monitoring – PDR	North of Waste Loading	6 OCT 2009	Lance Moen	Yes
3.					
4.					
5.					
CQC Site Manager					



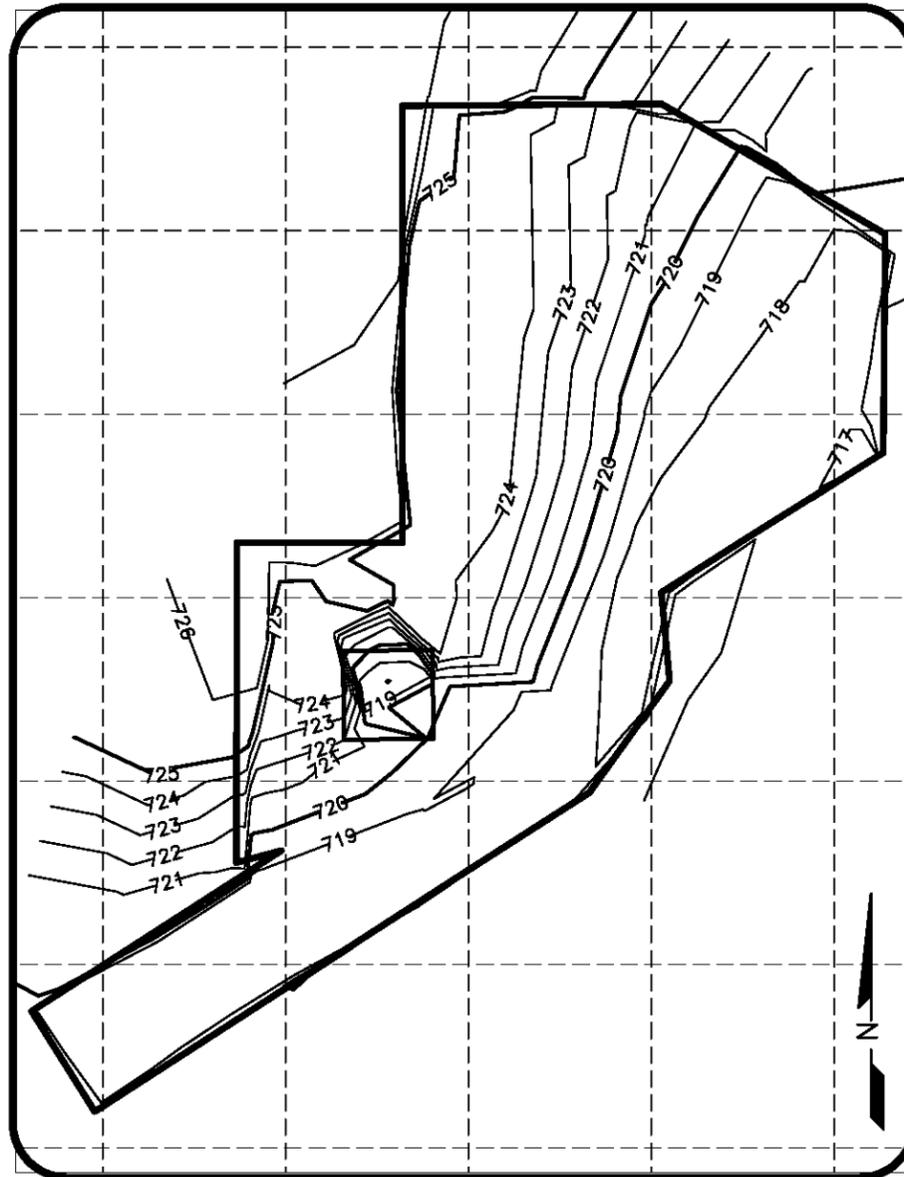
Drawings

TOPOGRAPHIC SURVEY - SWMU12

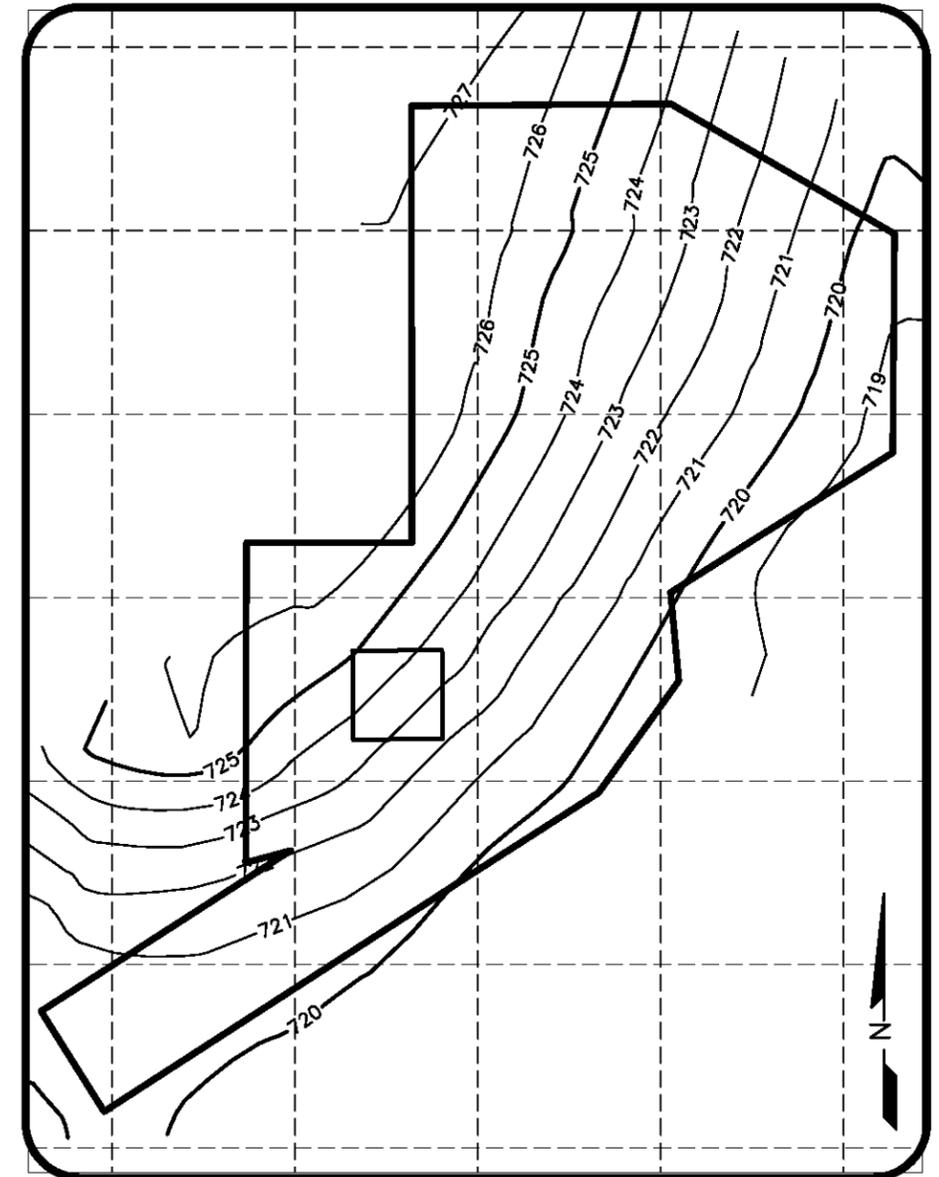
PHASE 1: PRE-EXCAVATION TOPOGRAPHIC SURVEY - SWMU12



PHASE 2: POST-EXCAVATION TOPOGRAPHIC SURVEY - SWMU12



PHASE 3: FINAL REMEDIATION TOPOGRAPHIC SURVEY - SWMU12



SCALE 1"=20'

BRG
Bledsoe Riggert Guerrettaz
 Land Surveying • Civil Engineering
 535 North Gospel Street, Paoli, IN 47454
 p.(812) 723-2900 f.(812) 723-2933

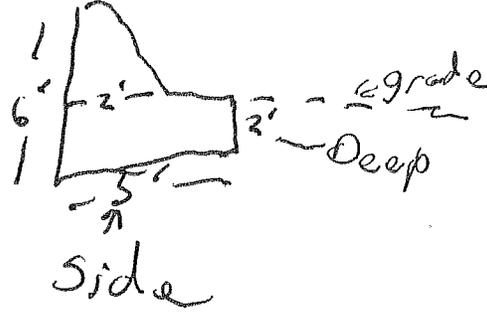
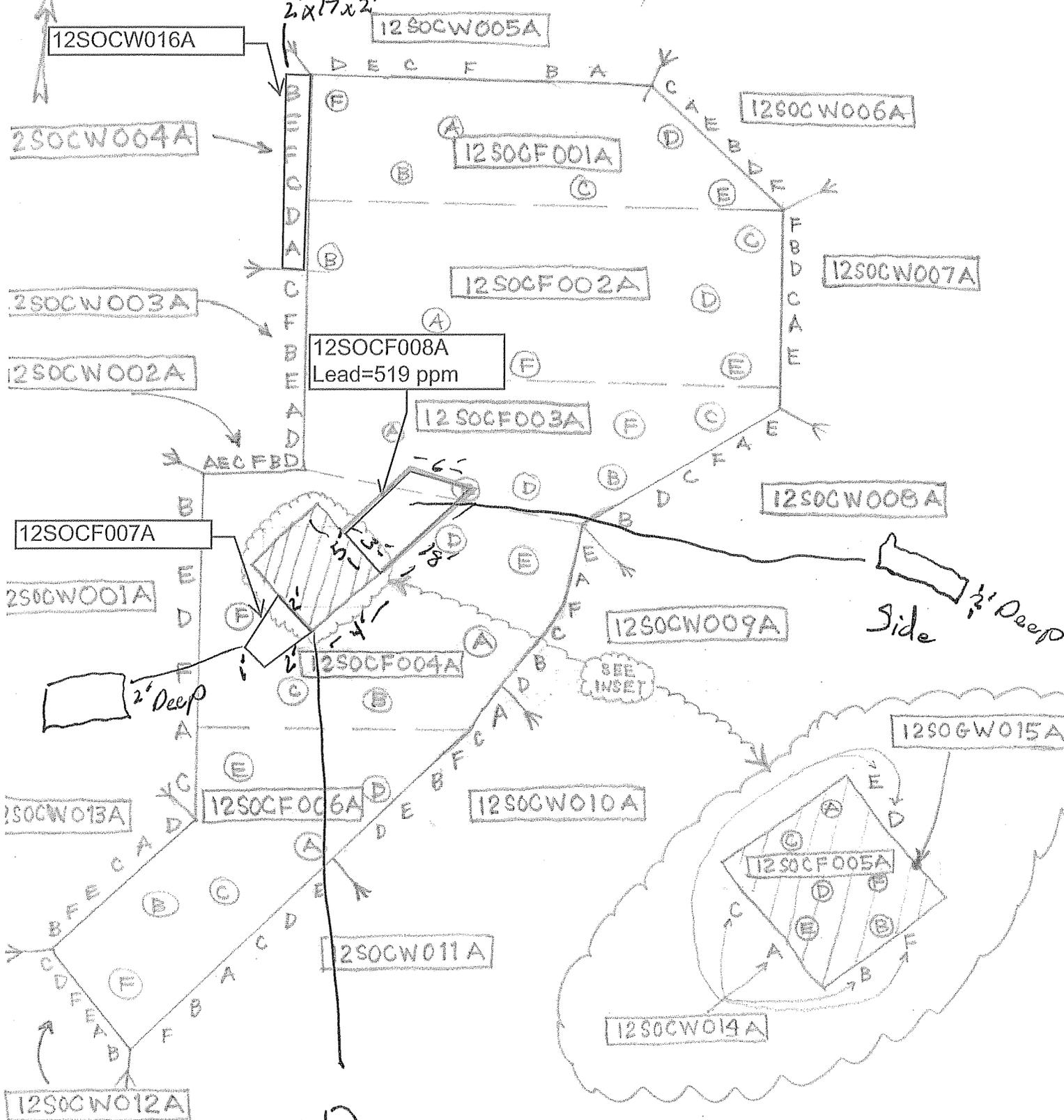
Note:

1. Pre-Excavation Topographic Field work was performed Aug. 19th, 2009.
2. Post Excavation Topographic Field work was performed Oct. 7th, 2009.
3. Remediation Topographic Field work was performed Nov. 18th, 2009.

3. Benchmark Information: The project bench mark is an aluminum disc, located +/- 300' East of the Former Building 55, in top of a 6'x9' concrete pad being 27' West of the centerline of the Hyw. 45. Elev.=720.05' (NAVD88)

Project No.: 3-0165
Client Name: Weston Solutions, Inc.
 Sheet 1 of 1

OCTOBER 7, 2009 CONFIRMATORY SAMPLING



JOHN T. FLOYD
 * NOT DRAWN TO SCALE

Waste Manifests

①

Truck # 32552
47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088		

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brent
Name: (print or type) Signature Date 10/6/09

Company Name: Young Trucking Mailing Address:
Driver's signature Date 10-6-09

Site Name: Blackfoot Landfill Volume/Weight:
Ticket No.:
Authorized Signature Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
 3726 EAST STATE ROAD 64
 WINSLOW IN, 47598

Ticket: N2 309319
 000000 0000 0.00
 6 October 2009 9:32 am
 6 October 2009 9:43 am
 FOCUS

000806
 FOCUS
 137 S PRODUCTION DRIVE
 AVON, IN 46123

Vehicle: FOCUS
 MARTIN

Contract: FOCUS/BLO9088
 Reference: YOUNG # 47

Inbound - DISPOSAL CHARGE

00 Gross Weight 69,840.00 lb
 Tare Weight 27,360.00 lb
 Net Weight 42,480.00 lb 21.24 TN

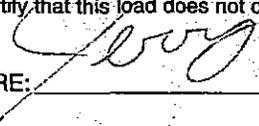
Quantity	Unit	Description	Rate	FS	Total
21.24	TN	C4 [MT] C-Soil			

Net Amount:
 Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

SPECIAL WASTE DISPOSAL NOTIFICATION

②
TRUCK 37

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088		

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brent *Thomas J. Brent* 10/6/09
Name (print or type) Signature Date

Company Name: Young Trucking Mailing Address: _____
Young Trucking 10/6/09
Driver's signature Date

Site Name: Blackfoot Landfill Volume/Weight: _____
Ticket No.: _____
Authorized Signature Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

- Please check the appropriate box (to be completed by Generator)**
- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
 - The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
 - The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
 - The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.

INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

2



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309318
000000 0000 0.00
6 October 2009 9:34 am
6 October 2009 9:43 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088
Reference: # 37 YOUNG

Inbound - DISPOSAL CHARGE

00 Gross Weight 67,520.00 lb
Tare Weight 26,260.00 lb
Net Weight 41,260.00 lb 20.63 TN

Quantity	Unit	Description	Rate	FS	Total
20.63	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

③ Truck #26

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Brent and Donald Best, dated 10/6/09.

Company Name: Youngs Trucking, Mailing Address:
Driver's signature: Clarence Butler, Date: 10 6 09

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No., Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

- Please check the appropriate box (to be completed by Generator)
No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

3



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309320
000000 0000 0.00
6 October 2009 9:36 am
6 October 2009 9:44 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088
Reference: # 26

Inbound - DISPOSAL CHARGE

00 Gross Weight 69,480.00 lb
Tare Weight 28,440.00 lb
Net Weight 41,040.00 lb 20.52 TN

Quantity	Unit	Description	Rate	FS	Total
20.52	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: Lawrence

④ TRACK 40

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature line for Thomas J. Brent, dated 10/6/09.

Company Name: Youns Trucking, Mailing Address:
Driver's signature: Raymond W. Blumette, Date: 10/6/09

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No., Date

Authorized Signature
Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

4



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309321
000000 0000 0.00
6 October 2009 9:37 am
6 October 2009 9:45 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088
Reference: TR 40

Inbound - DISPOSAL CHARGE

Gross Weight 61,600.00 lb
Tare Weight 26,360.00 lb
Net Weight 35,240.00 lb 17.62 TN

Quantity	Unit	Description	Rate	FS	Total
17.62	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: *R. Brando*

⑤ Truck #36

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 48123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brown
Name (print or type)

[Signature]
Signature

10/6/09
Date

Company Name: Youngs Trucking
[Signature]
Driver's signature

Mailing Address:
Date: 10-6-09

Site Name: Blackfoot Landfill

Volume/Weight:
Ticket No.:
Date:

Authorized Signature

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.

INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

5



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309324
000000 0000 0.00
6 October 2009 9:54 am
6 October 2009 10:03 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088
Reference: # 36

Inbound - DISPOSAL CHARGE

00 Gross Weight 67,460.00 lb
Tare Weight 26,140.00 lb
Net Weight 41,320.00 lb 20.66 TN

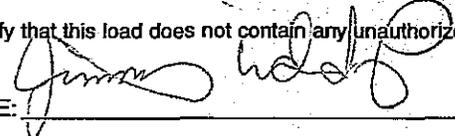
Quantity	Unit	Description	Rate	ES	Total
20.66	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

⑥ TRUCK # 47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088	35,810 ?	

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Bress
Name (print or type) Signature Date 10/6/09

Company Name: Young Trucking
Mailing Address: 8262 E Strad 45
Unionville, In 47468
Driver's signature Date 10-6-09

Site Name: Blackfoot Landfill Volume/Weight: _____
Ticket No.: _____

Authorized Signature _____ Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

6



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309377
000000 0000 0.00
6 October 2009 1:23 pm
6 October 2009 1:33 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BL09088 Inbound - DISPOSAL CHARGE
Reference: TRK 47

00 Gross Weight 66,740.00 lb
Tare Weight 27,240.00 lb
Net Weight 39,500.00 lb 19.75 TN

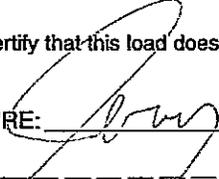
Quantity	Unit	Description	Rate	FS	Total
19.75	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

7



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309381
000000 0000 0.00
6 October 2009 1:53 pm
6 October 2009 1:58 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE
Reference: TRK 37

00 Gross Weight 72,680.00 lb
Tare Weight 26,080.00 lb
Net Weight 46,600.00 lb 23.30 TN

Quantity	Unit	Description	Rate	FS	Total
23.30	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

SIGNATURE: 

Weighmaster: CV

⑧ TRUCK # 26

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

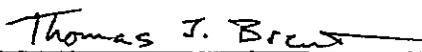
Technical Contact: Eric Likens

Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

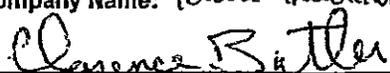
Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088		

I hereby certify that the above information is true and accurate to the best of my knowledge.



10/6/03
 Name (print or type) Signature Date

Company Name: YOWA TRACKING Mailing Address: 8262 EAST ST RD 45
 UNIONVILLE IN 47468
 Driver's signature Date 10 6 03

Site Name: Blackfoot Landfill Volume/Weight: _____
Ticket No.: _____

Authorized Signature _____ Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

8



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309379
000000 0000 0.00
6 October 2009 1:49 pm
6 October 2009 1:58 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BL09088 Inbound - DISPOSAL CHARGE
Reference: # 26

00 Gross Weight 69,540.00 lb
Tare Weight 28,320.00 lb
Net Weight 41,220.00 lb 20.61 TN

Quantity	Unit	Description	Rate	FS	Total
20.61	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

SIGNATURE: Clarence Butler

Weighmaster: CV

9 TRUCK # 40

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), and One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brent
Name (print or type)

Thomas J. Brent
Signature

10/6/09
Date

Company Name: YOUNG TRUCKING

Raymond W. Burnett
Driver's signature

Mailing Address: Young Trucking of Southern, Inc.
5262 E. ST. Rd 45
Unionville, In. 47468

10/6/09
Date

Site Name: Blackfoot Landfill

Volume/Weight: _____

Ticket No.: _____

Authorized Signature _____

Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

9



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN. 47598

Ticket: N2 309380
000000 0000 0.00
6 October 2009 1:52 pm
6 October 2009 1:58 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BL09088 Inbound - DISPOSAL CHARGE
Reference: TRK 40

00 Gross Weight 63,900.00 lb
Tare Weight 26,240.00 lb
Net Weight 37,660.00 lb 18.83 TN

Quantity	Unit	Description	Rate	FS	Total
18.83	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: Raymond D. Burnett

(78) TRUCK # 36

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088	37,370 P	

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brent
Name (print or type)

Thomas J. Brent
Signature

10/6/09
Date

Company Name: QUANTA TRUCKING

Mailing Address: 8262 EAST ST. RD. 45
UNIONVILLE IN 47468

Jimmy Udell
Driver's signature

10-6-09
Date

Site Name: Blackfoot Landfill

Volume/Weight: _____

Ticket No.: _____

Authorized Signature _____

Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.

INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

10



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309406
000000 0000 0.00
7 October 2009 5:30 am
7 October 2009 5:38 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE

Reference: TRK #47

00 Gross Weight 66,380.00 lb
Tare Weight 27,400.00 lb
Net Weight 38,980.00 lb 19.49 TN

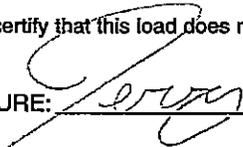
Quantity	Unit	Description	Rate	FS	Total
19.49	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: JC

SIGNATURE: 

11 TRUCK # 47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 48123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6580

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088, 38.5 10 P.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature line for Thomas J. Brews, Signature of Donald A. Best, Date 10/6/07

Company Name: YOUNG TRUCKING, Mailing Address: 8262 EAST STATE RD 45
UNIONVILLE IN 47468, Driver's signature, Date 10-6-07

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No.

Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

11



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309409
000000 0000 0.00
7 October 2009 5:39 am
7 October 2009 5:45 am
FOCUS .

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN .

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE

Reference: #37

00 Gross Weight 62,620.00 lb
Tare Weight 26,280.00 lb
Net Weight 36,340.00 lb 18.17 TN

Quantity	Unit	Description	Rate	ES	Total
18.17	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

SIGNATURE: _____

Weighmaster: JC

92

TRUCK # 37

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cen
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088, 37, 290 P.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Brent and Donald B. [unclear], Date 10/6/09

Company Name: Young Trucking, Mailing Address: 5262 EAST STATE RD 45
UNIONVILLE IN 47468
Driver's Signature: Harry D. Arnold, Date: 10/6/09

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No., Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

12



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309407
000000 0000 0.00
7 October 2009 5:32 am
7 October 2009 5:40 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088
Reference: TRK #40

Inbound - DISPOSAL CHARGE

00 Gross Weight 61,600.00 lb
Tare Weight 26,380.00 lb
Net Weight 35,220.00 lb 17.61 TN

Quantity	Unit	Description	Rate	FS	Total
17.61	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: JC

SIGNATURE: Raymond D. Burmette

(13) TRUCK # 26

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature line for Thomas J. Brent, dated 10/6/09.

Company Name: YOUNG TRUCKING, Mailing Address: 8262 EAST STATE RD 45
UNIONVILLE IN 47468, Date: 10 6 09. Driver's signature: Clarence Butler.

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No., Date.

Authorized Signature, Date. Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

- Please check the appropriate box (to be completed by Generator)
No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

13



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309408
000000 0000 0.00
7 October 2009 5:31 am
7 October 2009 5:41 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088
Reference: TRK #26

Inbound - DISPOSAL CHARGE

00 Gross Weight 63,600.00 lb
Tare Weight 28,440.00 lb
Net Weight 35,160.00 lb 17.58 TN

Quantity	Unit	Description	Rate	FS	Total
17.58	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: JC

SIGNATURE: Clarence Butler

(14) TRUCK # 40

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Brews and Ronald B. Best, dated 10/6/09.

Company Name: YOUNG TRUCKING, Mailing Address: 8262 EAST STATE RD 45, UNIONVILLE IN 47468. Driver's signature: Raymond D. Burnett, Date: 10-6-09.

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No.

Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- Checkboxes for waste changes: No changes, change in regulatory status, or change in regulatory status requiring updated verification notice.

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact.

INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

14



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309413
000000 0000 0.00
7 October 2009 6:13 am
7 October 2009 6:22 am
FOCUS

000806
FOCUS

137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS

MARTIN

Contract: FOCUS/BLO9088
Reference: TRK #36

Inbound - DISPOSAL CHARGE

00 Gross Weight 64,120.00 lb
Tare Weight 26,180.00 lb
Net Weight 37,940.00 lb

18.97 TN

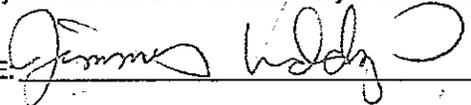
Quantity	Unit	Description	Rate	FS	Total
18.97	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: JC

SIGNATURE: 

(15) TRUCK # 47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6580

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088		

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brent
Name (print or type) Signature Date 10/9/09

Company Name: Young Trucking Mailing Address: 8262 E. STATE RD 415
UNIONVILLE, IN 47468
Date 10-9-09
Driver's signature

Site Name: Blackfoot Landfill

Volume/Weight: _____

Ticket No.: _____

Authorized Signature _____ Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator information and Transporter information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

15



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309451
000000 0000 0.00
7 October 2009 9:34 am
7 October 2009 9:43 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088
Reference: TRK 47

Inbound - DISPOSAL CHARGE

00 Gross Weight 64,400.00 lb
Tare Weight 27,260.00 lb
Net Weight 37,140.00 lb 18.57 TN

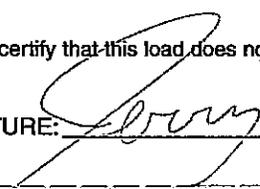
Quantity	Unit	Description	Rate	FS	Total
18.57	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

(16)

TRUCK # 37

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature: Thomas J. Brent, Date: 10/1/09

Company Name: Young Trucking, Mailing Address: 8202 EAST STATE RD 45, UNIONVILLE IN 47468, Date: 10/7/09

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No.

Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

16



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309450
000000 0000 0.00
7 October 2009 9:35 am
7 October 2009 9:42 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088
Reference: TRK 37

Inbound - DISPOSAL CHARGE

00 Gross Weight 64,360.00 lb
Tare Weight 25,120.00 lb
Net Weight 38,240.00 lb 19.12 TN

Quantity	Unit	Description	Rate	ES	Total
19.12	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

(17) TRUCK # 40

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature: Thomas J. Brent, Howard Bus, Date: 10/7/09

Company Name: Young Trucking, Mailing Address: 8262 EAST STATE RD 45
CRAWFORDVILLE IN 47469, Driver's signature: Raymond G. Burnett, Date: 10-07-09

Site Name: Blackfoot Landfill, Volume/Weight: , Ticket No.:

Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

- Please check the appropriate box (to be completed by Generator)
No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



17

VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309452
000000 0000 0.00
7 October 2009 9:36 am
7 October 2009 9:44 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE

Reference: TRK 40

00 Gross Weight 66,600.00 lb
Tare Weight 26,640.00 lb
Net Weight 39,960.00 lb 19.98 TN

Quantity	Unit	Description	Rate	FS	Total
19.98	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: Raymond D. Burnett

75

TRUCK # 26

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Brew and Donald A. Brew, dated 10/2/09.

Company Name: YOUNG TRUCKING, Mailing Address: 5262 EAST STATE RD 45, UNIONVILLE IN 47468. Driver's signature: Clarence Butler.

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No., Authorized Signature, Date.

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

18



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309453
000000 0000 0.00
7 October 2009 9:37 am
7 October 2009 9:45 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088
Reference: # 26

Inbound - DISPOSAL CHARGE

00 Gross Weight 65,960.00 lb
Tare Weight 28,360.00 lb
Net Weight 37,600.00 lb 18.80 TN

Quantity	Unit	Description	Rate	FS	Total
18.80	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: _____

19 TRUCK # 36

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 381
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Bruce and Donald S. Burt, dated 10/9/09.

Company Name: YOUNG TRUCKING, Mailing Address: 3262 EAST STATE RD 45, UNIONVILLE IN 47469, Date: 10-7-09, Driver's signature.

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No.

Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

- Please check the appropriate box (to be completed by Generator)
No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

19



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309455
000000 0000 0.00
7 October 2009 9:59 am
7 October 2009 10:06 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE

Reference: TRK 36

00 Gross Weight 66,020.00 lb
Tare Weight 26,020.00 lb
Net Weight 40,000.00 lb 20.00 TN

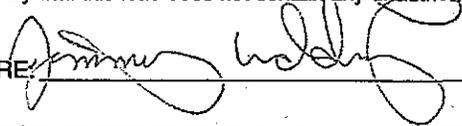
Quantity	Unit	Description	Rate	FS	Total
20.00	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE 

20 TRUCK # 47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Brents and Donald A. Best, dated 10/7/09.

Company Name: POWER TRUCKING, Mailing Address: 8262 EAST STATE RD 45, UNIONVILLE IN 47468, Date: 10-7-09.

Site Name: Blackfoot Landfill, Volume/Weight: _____, Ticket No.: _____

Authorized Signature _____ Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

- Please check the appropriate box (to be completed by Generator)
[] No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
[] The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
[] The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
[] The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.

20



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 309510
000000 0000 0.00
7 October 2009 1:47 pm
7 October 2009 1:57 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BL09088 Inbound - DISPOSAL CHARGE
Reference: TRK 47

00 Gross Weight 69,100.00 lb
Tare Weight 27,040.00 lb
Net Weight 42,060.00 lb 21.03 TN

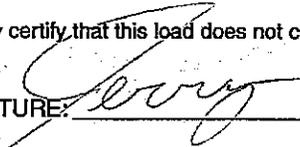
Quantity	Unit	Description	Rate	FS	Total
21.03	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

22 TRUCK # 47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088		

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Bress
Name (print or type) Signature Date 10/15/09

Company Name: BROWN TRUCKING Mailing Address: 8262 EAST STATE RD 45
WINDYVILLE IN 47468
Driver's signature Date 10-15-09

Site Name: Blackfoot Landfill Volume/Weight: _____
Ticket No.: _____

Authorized Signature _____ Date _____

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 310234
000000 0000 0.00
15 October 2009 10:37 am
15 October 2009 10:48 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088
Reference: CRANE TRK 47

Inbound - DISPOSAL CHARGE

00 Gross Weight 68,380.00 lb
Tare Weight 27,400.00 lb
Net Weight 40,980.00 lb 20.49 TN

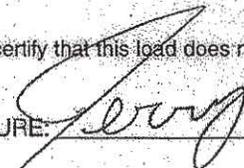
Quantity	Unit	Description	Rate	FS	Total
20.49	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

23 TRUCK # 97

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088, empty, empty.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas P. Brent (Name), Thomas P. Brent (Signature), 10/16/09 (Date)

Company Name: Young TRUCKING, Mailing Address: 8262 EAST STATE RD 45 WINDYVILLE IN 47468, Driver's signature, Date: 10-16-09

Site Name: Blackfoot Landfill, Authorized Signature: Carol Verge, Volume/Weight: 19.00, Ticket No.: 310318, Date: 10-16-09

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator information and Transporter information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 310318
000000 0000 0.00
16 October 2009 8:31 am
16 October 2009 8:41 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE

Reference: CRANE # 47

00 Gross Weight 65,400.00 lb
Tare Weight 27,400.00 lb
Net Weight 38,000.00 lb 19.00 TN

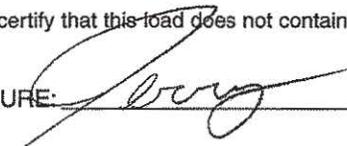
Quantity	Unit	Description	Rate	FS	Total
19.00	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 310372
000000 0000 0.00
16 October 2009 12:45 pm
16 October 2009 12:53 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS

MARTIN

Contract: FOCUS/BL09088 Inbound - DISPOSAL CHARGE
Reference: TRK 37 CRANE

00 Gross Weight 61,880.00 lb
Tare Weight 26,080.00 lb
Net Weight 35,800.00 lb 17.90 TN

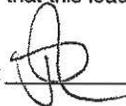
Quantity	Unit	Description	Rate	FS	Total
17.90	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

25 TRUCK # 47

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature lines for Thomas J. Brown and another person, with date 10/15/09.

Company Name: Young Trucking, Mailing Address: 8262 E SR45, Unionville IN 47408, Date: 10-16-09.

Site Name: Blackfoot Landfill, Volume/Weight: 20.82, Ticket No.: 310366, Date: 10-16-09.

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- Checkboxes for waste determination changes: No changes, change occurred but not regulatory, change occurred and regulatory status changed, change occurred and regulatory status changed with updated notice.

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 310366
000000 0000 0.00
16 October 2009 11:58 am
16 October 2009 12:12 pm
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE
Reference: TRUCK 47

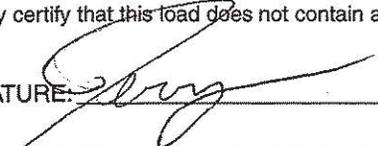
00 Gross Weight 68,900.00 lb
Tare Weight 27,260.00 lb
Net Weight 41,640.00 lb 20.82 TN

Quantity	Unit	Description	Rate	FS:	Total
20.82	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

SIGNATURE: 

Weighmaster: CV

26 TRUCK # 37

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens
Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6590

Waste Name	Category A or B	Verification No.	Volume/Weight (generator's estimate)	One-time only disposal
Contaminated Soil	B	BL09088		

I hereby certify that the above information is true and accurate to the best of my knowledge.

Thomas J. Brents
Name (print or type) Signature Date 10/16/09

Company Name: Mailing Address:
Driver's signature Date 10/16/09

Site Name: Blackfoot Landfill Volume/Weight: 17.90
10-16-09 Ticket No.: 310372
Authorized Signature Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification. Regulatory citations require generators to provide the disposal facility or processing facility with a written disposal notification for each load of special waste to be disposed. The solid waste disposal/processing facility shall check each load of special waste with the information provided on this form with the Special Waste Certification or the Special Waste Verification Notice. An original signature must appear on the disposal notification for the first load of the waste. The signature on the disposal notifications for subsequent loads of the same waste may be photocopied; however, those photocopied signatures will be considered to have the same authority as the original signature.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined the change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
- The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
- The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section.
INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
 3726 EAST STATE ROAD 64
 WINSLOW IN, 47598

Ticket: N2 310320
 000000 0000 0.00
 16 October 2009 8:46 am
 16 October 2009 8:54 am
 FOCUS

000806
 FOCUS
 137 S PRODUCTION DRIVE
 AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE
 Reference: TRK 37 CRANE

00 Gross Weight 62,200.00 lb
 Tare Weight 26,280.00 lb
 Net Weight 35,920.00 lb 17.96 TN

Quantity	Unit	Description	Rate	FS	Total
17.96	TN	C4 [MT] C-Soil			

Net Amount:
 Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

27 Truck # 36

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 48123

Technical Contact: Eric Likens

Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317272-6680

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature line for Thomas J. Brent, dated 10/27/09.

Company Name: YONG TRUCKING, Mailing Address: 8607 E. ST. RD. 45, UNIONVILLE IN 47468, Date: 10-27-09.

Site Name: Blackfoot Landfill, Volume/Weight, Ticket No., Date.

Authorized Signature section with regulatory text regarding waste disposal notification requirements.

- Please check the appropriate box (to be completed by Generator)
No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined this change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-8(e). Generators may use their own Disposal Notification Form, as long as it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 311303
000000 0000 0.00
27 October 2009 9:40 am
27 October 2009 9:49 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE
Reference: TRK 36 CRANE

00 Gross Weight 68,500.00 lb
Tare Weight 26,180.00 lb
Net Weight 42,320.00 lb 21.16 TN

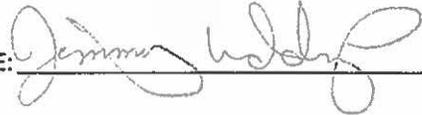
Quantity	Unit	Description	Rate	FS	Total
21.16	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: 

(28) Truck # 40

SPECIAL WASTE DISPOSAL NOTIFICATION

Company Name: Focus Contracting, Inc.
Mailing Address: 137 S. Production Dr.
Avon, IN 46123

Technical Contact: Eric Likens

Generator Location: Crane Naval Warfare Cent
300 HWY 361
Crane, IN 47522

Phone: 317/272-6880

Table with 5 columns: Waste Name, Category (A or B), Verification No., Volume/Weight (generator's estimate), One-time only disposal. Row 1: Contaminated Soil, B, BL09088.

I hereby certify that the above information is true and accurate to the best of my knowledge.

Signature: Thomas J. Brent, Date: 10/27/09

Company Name: YOUNG TRACKING, Mailing Address: Young Trucking EAST STATE ROAD 45, WOODVILLE IN 47468

Driver's signature: Raymond D. Burnett, Date: 10-27-09

Site Name: Blackfoot Landfill, Volume/Weight: Ticket No.:

Authorized Signature, Date

Pursuant to Solid Waste Rule 329 IAC 10-28-21 (facility responsibility for special waste disposal), 329 IAC 10-8.1-7(d) (the special waste verification process; generator responsibilities), 329 IAC 10-8.1-9 (The special waste certification process; generator responsibilities) and 329 IAC 10-8.1-5(f), all special waste delivered for disposal shall be accompanied by a disposal notification.

Please check the appropriate box (to be completed by Generator)

- No changes have been made to any relevant raw material or to the waste generating process since the last shipment of waste.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have determined this change could not have led to a change in regulatory status; and I did not repeat the waste determination for this waste.
The following changes to a relevant raw material or to the waste generating process has occurred since the last shipment of the waste. I have repeated the waste determination and have determined this change did not cause a change in regulatory status.
The following change to a relevant raw material or to the waste generating process has occurred since the last shipment of waste. I have repeated the waste determination and have determined that this change caused a change in the regulatory status of the waste. I have received from the owner, operator, or permittee of the MSWLF unit or non-MSWLF unit an updated verification notice that reflects the change in regulatory status. (describe change below) (please use additional paper if necessary)

Disposal Facilities may make corrections to this Disposal Notification ONLY in the Generator Information and Transporter Information areas. Such as, Generator Name, Transporter Name, Mailing Address, Telephone No., and Technical Contact. Changes may also be made in the Certification No., Verification No., and Volume/Weight of the Waste Information Section. INFORMATION MUST HAVE BEEN PREVIOUSLY SUBMITTED BY THE GENERATOR NOT LEFT BLANK!

This form has been provided by IDEM for Generator use, and contains all regulatory requirements. Option Items have been included to assist the MSWLF and non-MSWLF to comply with 329 IAC 10-8.1-9(e). Generators may use their own Disposal Notification Form, as long it complies with all regulatory requirements under 329 IAC 10-8.1-7(d). This form is NOT acceptable for disposal of asbestos or petroleum contaminated wastes.



VEOLIA BLACKFOOT
3726 EAST STATE ROAD 64
WINSLOW IN, 47598

Ticket: N2 311304
000000 0000 0.00
27 October 2009 9:41 am
27 October 2009 9:50 am
FOCUS

000806
FOCUS
137 S PRODUCTION DRIVE
AVON, IN 46123

Vehicle: FOCUS
MARTIN

Contract: FOCUS/BLO9088 Inbound - DISPOSAL CHARGE
Reference: TRK 40 CRANE

00 Gross Weight 64,200.00 lb
Tare Weight 26,360.00 lb
Net Weight 37,840.00 lb 18.92 TN

Quantity	Unit	Description	Rate	FS	Total
18.92	TN	C4 [MT] C-Soil			

Net Amount:
Tendered:

Thank you for using Blackfoot Landfill.

I hereby certify that this load does not contain any unauthorized waste.

Weighmaster: CV

SIGNATURE: Raymond D. Burnette

Backfill Tickets

VCNA PRAIRIE

Votorantim Cement North America Inc.

FILL DIRT

TRUCK 43

1 9.02

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

420.33
Tons

Billing Control
No. 1292869

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854010
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 08:15

BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT43 YTI YOUNG TRUCKING, INC. Total 20.30 Loads 1

Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
20.30 4353 FILL DIRT Ton

GROSS: 67,800lb
TARE: 27,200lb
NET: 40,600lb

AGYT - 01/05



Signature / /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 26

2 9.07

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292875

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854016
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 08:23

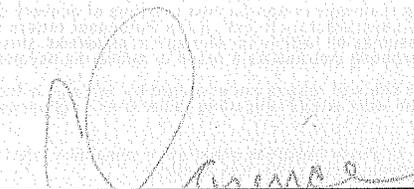
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT26 YTI YOUNG TRUCKING, INC. Total 39.53 Loads 2

Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
19.23 4353 FILL DIRT Ton

GROSS: 66,800lb
TARE: 28,340lb
NET: 38,460lb

AGYT - 01/05



Signature / /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 37 3 7.69

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292877

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854018
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 08:27
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT37 YTI YOUNG TRUCKING, INC. Total 58.05 Loads 3
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
19.32 4353 FILL DIRT Ton

GROSS: 64,000lb
TARE: 25,160lb
NET: 38,840lb

AGYT - 01/05


Signature / /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 47 4 7.13

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292879

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854020
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 08:34
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT47 YTI YOUNG TRUCKING, INC. Total 79.07 Loads 4
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
20.22 4353 FILL DIRT Ton

GROSS: 67,520lb
TARE: 27,080lb
NET: 40,440lb

AGYT - 01/05


Signature / /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 43 10:19 7

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292900

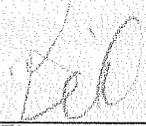
PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-I Ticket No: 07854041
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 09:48
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rundate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT43 YTI YOUNG TRUCKING, INC. Total 138.50 Loads 7
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
20.61 4353 FILL DIRT Ton

GROSS: 68,500lb
TARE: 27,280lb
NET: 41,220lb

AGYT - 01/05


Signature

/ /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 26 10:29 8

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292901

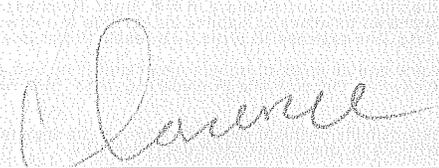
PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-I Ticket No: 07854042
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 09:51
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rundate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT26 YTI YOUNG TRUCKING, INC. Total 159.94 Loads 8
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
21.44 4353 FILL DIRT Ton

GROSS: 71,220lb
TARE: 28,340lb
NET: 42,880lb

AGYT - 01/05


Signature

/ /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 37 10:31 9

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292903

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854044
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 09:56
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No.	Trucker No.	Trucker Name	Cumulative	
YT37	YTI	YOUNG TRUCKING, INC.	Total	181.11 Loads 9
Zone	Job/Section/Contract No.	Delivered		
		N		
Quantity	Description	U/M		
21.17	4353 FILL DIRT	Ton		

GROSS: 68,500lb
TARE: 26,160lb
NET: 42,340lb

AGYT - 01/05

Signature

Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 47 10:46 10

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292907

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854048
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 10:15
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No.	Trucker No.	Trucker Name	Cumulative	
YT47	YTI	YOUNG TRUCKING, INC.	Total	201.02 Loads 10
Zone	Job/Section/Contract No.	Delivered		
		N		
Quantity	Description	U/M		
20.71	4353 FILL DIRT	Ton		

GROSS: 68,500lb
TARE: 27,000lb

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 40 11 11:03

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292912

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854053
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 10:27
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT40 YTI YOUNG TRUCKING, INC. Total 221.55 Loads 11
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
19.73 4353 FILL DIRT Ton

GROSS: 66,100lb
TARE: 26,640lb
NET: 39,460lb

AGYT - 01/05

Doyle
Signature / / Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 12 41 11:15

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292915

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854056
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 10:43
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT41 YTI YOUNG TRUCKING, INC. Total 240.61 Loads 12
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
19.06 4353 FILL DIRT Ton

GROSS: 65,000lb
TARE: 26,880lb
NET: 38,120lb

AGYT - 01/05

[Signature]
Signature / / Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 93 13 11:48

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292921

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854062
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 11:08
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
088550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT43 YTI YOUNG TRUCKING, INC. Total 260.78 Loads 13
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
20.17 4353 FILL DIRT Ton

GROSS: 67,620lb
TARE: 27,280lb
NET: 40,340lb

AGYT - 01/05

Bel

Signature

Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 26 14 11:45

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292922

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854063
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 11:13
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
088550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT26 YTI YOUNG TRUCKING, INC. Total 280.42 Loads 14
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
19.64 4353 FILL DIRT Ton

GROSS: 67,620lb
TARE: 28,340lb
NET: 39,280lb

AGYT - 01/05

To Crane
Lawrence

Signature

Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 37 15 1070

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control

No. 1292923

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-I Ticket No: 07854064
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 11:19

BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS

Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT37 YTI YOUNG TRUCKING, INC. Total 300.26 Loads 15

Zone Job/Section/Contract No. Delivered
N

Quantity Description U/M
19.84 4353 FILL DIRT Ton

GROSS: 65,840lb
TARE: 26,160lb
NET: 39,680lb

AGYT - 01/05

Signature

Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 16 47 12'03

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control

No. 1292924

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-I Ticket No: 07854065
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 11:29

BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS

Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT47 YTI YOUNG TRUCKING, INC. Total 320.87 Loads 16

Zone Job/Section/Contract No. Delivered
N

Quantity Description U/M
20.61 4353 FILL DIRT Ton

GROSS: 68,300lb
TARE: 27,000lb
NET: 41,300lb

AGYT - 01/05

Signature

Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

11/18 12:18

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292931

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854072
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 11:43
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT40 YTI YOUNG TRUCKING, INC. Total 340.32 Loads 17

Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
19.45 4353 FILL DIRT Ton

GROSS: 65,540LB
TARE: 26,640LB
NET: 38,900LB

AGYT - 01/05

Doyle
Signature / / Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

11/18 12:34

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292935

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854076
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 11:59
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT41 YTI YOUNG TRUCKING, INC. Total 360.47 Loads 18

Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
20.15 4353 FILL DIRT Ton

GROSS: 67,180LB
TARE: 26,880LB
NET: 40,300LB

AGYT - 01/05

[Signature]
Signature / / Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 43 19 1101

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292936

PLANT 7A BLOOMFIELD
SOURCE 2657

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854077
Delivery Address: PU 7B ODOM PROJECT THEY LOAD
PU 7B ODOM PROJECT THEY LOAD 12:25
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

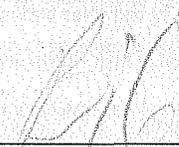
Truck No.	Trucker No.	Trucker Name	Cumulative Total	Loads
YT43	YTI	YOUNG TRUCKING, INC.	380.05	19

Zone	Job/Section/Contract No.	Delivered
		N

Quantity	Description	U/M
20.38	4353 FILL DIRT	Ton

GROSS: 68,040LB
TARE: 27,280LB
NET: 40,760LB

AGYT - 01/05

Focus

Signature _____ Date / /

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 26 20 1110

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292938

PLANT 7A BLOOMFIELD
SOURCE 2697

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854079
Delivery Address: PU 7B ODOM PROJECT THEY LOAD
PU 7B ODOM PROJECT THEY LOAD 12:31
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

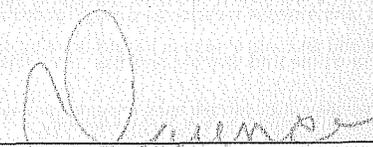
Truck No.	Trucker No.	Trucker Name	Cumulative Total	Loads
YT26	YTI	YOUNG TRUCKING, INC.	399.16	20

Zone	Job/Section/Contract No.	Delivered
		N

Quantity	Description	U/M
14.31	4353 FILL DIRT	Ton

GROSS: 64,960LB
TARE: 28,340LB
NET: 36,620LB

AGYT - 01/05


Signature _____ Date / /

VCNA PRAIRIE

Votorantim Cement North America Inc.

TRUCK 37 21 1:11

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292940

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854081
 Delivery Address: PU 78 ODOM PROJECT THEY LOAD
 PU 78 ODOM PROJECT THEY LOAD 12:39
 BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
 Customer JobID Customer Order/Job No. Method of Payment Rndate
 898550 19497 OPEN ACCOUNT 11/05/2009

Truck No.	Trucker No.	Trucker Name	Cumulative
YT37	YTI	YOUNG TRUCKING, INC.	Total 420.33 Loads 21

Zone	Job/Section/Contract No.	Delivered
Quantity	Description	N U/M Ton
21.17	4353 FILL BIRT	

GROSS: 63,500lb
 TARE: 26,160lb
 NET: 42,340lb

AGYT - 01/05



 Signature Date

Votorantim Cement North America Inc.

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after Invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292917

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-I
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD

Ticket No: 07854058

11:02

BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS

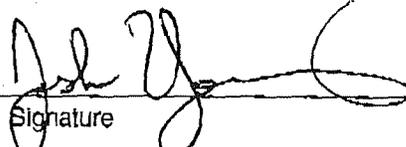
Customer JobID Customer Order/Job No. Method of Payment Rundate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT46 YTI YOUNG TRUCKING, INC. Total 20.70 Loads 1

Zone Job/Section/Contract No. Delivered
Quantity Description U/M
20.70 4298 TOP SOIL Ton

GROSS: 68,300lb
TARE: 26,900lb
NET: 41,400lb

AGYT - 01/05


Signature _____ Date ____/____/____

VCNA PRAIRIE

Votorantim Cement North America Inc.

166 TOPSOIL TRUCK 47

22 1:32

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Top Soil
121.13
tons

Billing Control
No. 1292946

PLANT 78 BLOOMFIELD SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854087
 Delivery Address: PU 78 ODOM PROJECT THEY LOAD
 PU 78 ODOM PROJECT THEY LOAD 13:00
 BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
 Customer: JobID Customer Order/Job No. Method of Payment Rndate
 888550 18497 OPEN ACCOUNT 11/05/2009

Truck No.	Trucker No.	Trucker Name	Cumulative Total	Loads
YT477	YTI	YOUNG TRUCKING, INC.	41.41	2

Zone	Job/Section/Contract No.	Delivered
		N

Quantity	Description	U/M
20.71	4298 TOP SOIL	Ton

GROSS: 68,500lb
TARE: 27,000lb
NET: 41,420lb

AGYT - 01/05

[Signature]
Signature

/ /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

206 TOPSOIL TRUCK 40

23 1:45

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292948

PLANT 78 BLOOMFIELD SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854089
 Delivery Address: PU 78 ODOM PROJECT THEY LOAD
 PU 78 ODOM PROJECT THEY LOAD 13:05
 BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
 Customer: JobID Customer Order/Job No. Method of Payment Rndate
 888550 18497 OPEN ACCOUNT 11/05/2009

Truck No.	Trucker No.	Trucker Name	Cumulative Total	Loads
YT407	YTI	YOUNG TRUCKING, INC.	61.51	3

Zone	Job/Section/Contract No.	Delivered
		N

Quantity	Description	U/M
20.10	4298 TOP SOIL	Ton

GROSS: 66,840lb
TARE: 26,640lb
NET: 40,200lb

AGYT - 01/05

[Signature]
Signature

/ /
Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

3 of 6 TOPSOIL 11/24 1:48

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292949

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854090

Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 13:14

BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT41 YTI YOUNG TRUCKING, INC. Total 80.41 Loads 4

Zone Job/Section/Contract No. Delivered
N

Quantity Description U/M
18.90 4298 TOP SOIL Ton

GROSS: 64,600lb
TARE: 26,800lb
NET: 37,800lb

AGYT - 01/05

Signature _____ Date / /

VCNA PRAIRIE

Votorantim Cement North America Inc.

4 of 6 TOPSOIL TRUCK 11/25 2:17

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292951

PLANT 78 BLOOMFIELD
SOURCE 2687

Ship To: YOUNG TRUCKING INC AGENT-1 Ticket No: 07854092

Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 13:39

BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rndate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT43 YTI YOUNG TRUCKING, INC. Total 100.59 Loads 5

Zone Job/Section/Contract No. Delivered
N

Quantity Description U/M
20.10 4298 TOP SOIL Ton

GROSS: 67,640lb
TARE: 27,280lb
NET: 40,360lb

AGYT - 01/05

Signature *Bill* _____ Date / /

VCNA PRAIRIE

Votorantim Cement North America Inc.

5066 26 TRUCK 26 2:30

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292957

PLANT 78 BLOOMFIELD
SOURCE 2697

Ship To: YOUNG TRUCKING INC AGENT-I Ticket No: 07854096
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 13:49
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rundate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT26 YTI YOUNG TRUCKING, INC. Total 120.67 Loads 6
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
20.00 4298 TOP SOIL Ton

GROSS: 68,500lb
TARE: 28,340lb
NET: 40,160lb

AGYT - 01/05

Signature

Date

VCNA PRAIRIE

Votorantim Cement North America Inc.

6086 TOPSOIL TRUCK 27 2:41

The material delivered on this ticket is subject to separately agreed upon prices for material and service charges including cartage and Saturday delivery.

Payment is due within 30 days from date on invoice. A service charge of 1-1/2% per month which is an annual rate of 18%, will accrue 30 days after invoice date. It is expressly agreed by and between the parties hereto that Buyer will reimburse Seller for any and all collection costs incurred including reasonable attorney fees.

Billing Control
No. 1292962

PLANT 78 BLOOMFIELD
SOURCE 2587

Ship To: YOUNG TRUCKING INC AGENT-I Ticket No: 07854103
Delivery Address: PU 78 ODOM PROJECT THEY LOAD
PU 78 ODOM PROJECT THEY LOAD 13:58
BULK AGGREGATE WEIGHTS ARE ROUNDED TO THE NEAREST 20 POUNDS
Customer JobID Customer Order/Job No. Method of Payment Rundate
888550 18497 OPEN ACCOUNT 11/05/2009

Truck No. Trucker No. Trucker Name Cumulative
YT37 YTI YOUNG TRUCKING, INC. Total 141.83 Loads 7
Zone Job/Section/Contract No. Delivered
N
Quantity Description U/M
21.16 4298 TOP SOIL Ton

GROSS: 68,480lb
TARE: 26,160lb
NET: 42,320lb

AGYT - 01/05

Signature

Date

Analytical Reports

Laboratory ID : 09100914-001
 Client Sample ID : 09WS001A0000
 Date Collected : 10/28/2009 10:21

Analyte	Test Method	Units		IDEM RISC GW Industrial Cleanup Level
Arsenic	SW6020	mg/L	< 0.004	0.0019
Barium	SW6020	mg/L	0.1	20
Cadmium	SW6020	mg/L	< 0.002	0.051
Chromium	SW6020	mg/L	0.025	0.31
Lead	SW6020	mg/L	0.018	0.042
Mercury	SW7470A	mg/L	< 0.00025	0.031
Selenium	SW6020	mg/L	< 0.004	0.51
Silver	SW6020	mg/L	< 0.004	0.51

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

November 03, 2009

Weston Solutions
20 North Wacker Drive
Suite 1210
Chicago, IL 60606
Telephone: (312) 424-3304
Fax: (312) 424-3330

RE: 13676.0011.001.0010, SWMU #12, Crane, Indiana

STAT Project No 09100914

Dear Todd Carmichael:

STAT Analysis received 1 sample for the referenced project on 10/28/2009 3:35:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Craig Chawla

Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

Client: Weston Solutions**Project:** 13676.0011.001.0010, SWMU #12, Crane, Indiana**Lab Order:** 09100914**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
09100914-001A	09WS001A0000		10/28/2009 10:21:00 AM	10/28/2009

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: November 03, 2009

Print Date: November 03, 2009

Client:	Weston Solutions	Client Sample ID:	09WS001A0000
Lab Order:	09100914	Tag Number:	
Project:	13676.0011.001.0010, SWMU #12, Crane, Indiana	Collection Date:	10/28/2009 10:21:00 AM
Lab ID:	09100914-001A	Matrix:	Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	SW7470A		Prep Date: 11/2/2009		Analyst: JG	
Mercury	ND	0.00025		mg/L	1	11/2/2009
Metals by ICP/MS	SW6020 (SW3005A)		Prep Date: 11/2/2009		Analyst: JG	
Arsenic	ND	0.004		mg/L	2	11/2/2009
Barium	0.1	0.004		mg/L	2	11/2/2009
Cadmium	ND	0.002		mg/L	2	11/2/2009
Chromium	0.025	0.004		mg/L	2	11/2/2009
Lead	0.018	0.002		mg/L	2	11/2/2009
Selenium	ND	0.004		mg/L	2	11/2/2009
Silver	ND	0.004		mg/L	2	11/2/2009

Qualifiers:	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Sample Receipt Checklist

Client Name WESTON CHICAGO

Date and Time Received: 10/28/2009 3:35:00 PM

Work Order Number 09100914

Received by: JJM

Checklist completed by: Katelin Lewis 10/28/09
Signature Date

Reviewed by: CL 12/29/09
Initials Date

Matrix: Carrier name Client Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels/containers? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container or Temp Blank temperature in compliance? Yes No Temperature 4.9 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - Samples pH checked? Yes No Checked by: KL
- Water - Samples properly preserved? Yes No pH Adjusted? yes

Any No response must be detailed in the comments section below.

Comments: 5 mL HNO₃ added to Sample 09WS001A0000

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

Prep Start Date: **11/2/2009 11:08:00**

Prep End Date:

Prep Factor Units:

mL / ml

Prep Batch **45617** Prep Code: **M_W_PREP** Technician: **JMS**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
IMBW1 11/2/09			50	0	0	50	1.000	11/2/2009	11/2/2009
ILCSW1 11/2/09			50	0	0	50	1.000	11/2/2009	11/2/2009
IMBTCLP1 10/30/09			50	0	0	50	1.000	11/2/2009	11/2/2009
09100726-002A	Solid		50	0	0	50	1.000	11/2/2009	11/2/2009
09100726-005A	Solid		50	0	0	50	1.000	11/2/2009	11/2/2009
09100726-007A	Solid		10	0	0	50	5.000	11/2/2009	11/2/2009
09100726-008A	Solid		10	0	0	50	5.000	11/2/2009	11/2/2009
09100726-009A	Solid		50	0	0	50	1.000	11/2/2009	11/2/2009
09100990-001A	Soil		50	0	0	50	1.000	11/2/2009	11/2/2009
09100815-004C	Aqueous		50	0	0	50	1.000	11/2/2009	11/2/2009
09100861-002C	Aqueous		50	0	0	50	1.000	11/2/2009	11/2/2009
09100914-001A	Water		50	0	0	50	1.000	11/2/2009	11/2/2009
09100940-001C	Aqueous		50	0	0	50	1.000	11/2/2009	11/2/2009
09100980-001C	Aqueous		50	0	0	50	1.000	11/2/2009	11/2/2009
IMBSPLP 10/30/09			50	0	0	50	1.000	11/2/2009	11/2/2009
09100997-003A	Soil		50	0	0	50	1.000	11/2/2009	11/2/2009
09100997-005A	Soil		50	0	0	50	1.000	11/2/2009	11/2/2009
09100914-001AMS	Water		50	0	0	50	1.000	11/2/2009	11/2/2009
09100914-001AMSD	Water		50	0	0	50	1.000	11/2/2009	11/2/2009
09100726-009AMS	Solid		50	0	0	50	1.000	11/2/2009	11/2/2009
09100997-005AMS	Soil		50	0	0	50	1.000	11/2/2009	11/2/2009
09100990-001AMS	Soil		50	0	0	50	1.000	11/2/2009	11/2/2009
09100866-045A	Aqueous		50	0	0	50	1.000	11/2/2009	11/2/2009
09100866-045AMS	Aqueous		50	0	0	50	1.000	11/2/2009	11/2/2009
09100866-045AMSD	Aqueous		45	0	0	50	1.111	11/2/2009	11/2/2009

CLIENT: Weston Solutions
Work Order: 09100914
Project: 13676.0011.001.0010, SWMU #12, Crane, Indiana

ANALYTICAL QC SUMMARY REPORT

BatchID: 45617

Sample ID: IMBW1 11/2/09	SampType: MBLK	TestCode: M_ICPMS_W	Units: mg/L	Prep Date: 11/2/2009	Run ID: ICPMS-2_091102A
Client ID: ZZZZ	Batch ID: 45617	TestNo: SW6020		Analysis Date: 11/2/2009	SeqNo: 1532257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0040									
Barium	ND	0.0040									
Cadmium	ND	0.0020									
Chromium	ND	0.0040									
Lead	ND	0.0020									
Selenium	ND	0.0040									
Silver	ND	0.0040									

Sample ID: ILCSW1 11/2/09	SampType: LCS	TestCode: M_ICPMS_W	Units: mg/L	Prep Date: 11/2/2009	Run ID: ICPMS-2_091102A
Client ID: ZZZZ	Batch ID: 45617	TestNo: SW6020		Analysis Date: 11/2/2009	SeqNo: 1532258

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5305	0.0040	0.5	0	106	80	120	0	0		
Barium	0.5511	0.0040	0.5	0	110	80	120	0	0		
Cadmium	0.5512	0.0020	0.5	0	110	80	120	0	0		
Chromium	0.5192	0.0040	0.5	0	104	80	120	0	0		
Lead	0.532	0.0020	0.5	0	106	80	120	0	0		
Selenium	0.5167	0.0040	0.5	0	103	80	120	0	0		
Silver	0.1772	0.0040	0.2	0	88.6	80	120	0	0		

Sample ID: 09100914-001AMS	SampType: MS	TestCode: M_ICPMS_W	Units: mg/L	Prep Date: 11/2/2009	Run ID: ICPMS-2_091102A
Client ID: 09WS001A0000	Batch ID: 45617	TestNo: SW6020		Analysis Date: 11/2/2009	SeqNo: 1532260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5648	0.0040	0.5	0.00203	113	75	125	0	0		
Barium	0.6884	0.0040	0.5	0.1046	117	75	125	0	0		
Cadmium	0.5817	0.0020	0.5	0	116	75	125	0	0		
Chromium	0.5322	0.0040	0.5	0.0246	102	75	125	0	0		
Lead	0.5885	0.0020	0.5	0.01816	114	75	125	0	0		
Selenium	0.5363	0.0040	0.5	0	107	75	125	0	0		
Silver	0.1868	0.0040	0.2	0	93.4	75	125	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 09100914
Project: 13676.0011.001.0010, SWMU #12, Crane, Indiana

ANALYTICAL QC SUMMARY REPORT

BatchID: 45617

Sample ID: 09100914-001AMSD	SampType: MSD	TestCode: M_ICPMS_W	Units: mg/L	Prep Date: 11/2/2009	Run ID: ICPMS-2_091102A
Client ID: 09WS001A0000	Batch ID: 45617	TestNo: SW6020		Analysis Date: 11/2/2009	SeqNo: 1532261

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5437	0.0040	0.5	0.00203	108	75	125	0.5648	3.81	20	
Barium	0.6539	0.0040	0.5	0.1046	110	75	125	0.6884	5.14	20	
Cadmium	0.5569	0.0020	0.5	0	111	75	125	0.5817	4.36	20	
Chromium	0.5052	0.0040	0.5	0.0246	96.1	75	125	0.5322	5.21	20	
Lead	0.5675	0.0020	0.5	0.01816	110	75	125	0.5885	3.63	20	
Selenium	0.5149	0.0040	0.5	0	103	75	125	0.5363	4.07	20	
Silver	0.1792	0.0040	0.2	0	89.6	75	125	0.1868	4.15	20	

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

Prep Start Date: **11/2/2009 10:15:00**

Prep End Date: **11/2/2009 12:15:00**

Prep Factor Units:
mL / mL

Prep Batch **45604** Prep Code: **M_HG_W_PRE** Technician: **VA**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
HGMBW1 11/2/09			30	0	0	30	1.000	11/2/2009	11/2/2009
HGLCSW1 11/2/09			30	0	0	30	1.000	11/2/2009	11/2/2009
09100852-001C	Groundwater		30	0	0	30	1.000	11/2/2009	11/2/2009
09100886-001C	Water		30	0	0	30	1.000	11/2/2009	11/2/2009
09100886-002C	Water		30	0	0	30	1.000	11/2/2009	11/2/2009
09100886-003C	Water		30	0	0	30	1.000	11/2/2009	11/2/2009
09100886-004C	Water		30	0	0	30	1.000	11/2/2009	11/2/2009
09100886-005C	Water		30	0	0	30	1.000	11/2/2009	11/2/2009
09100914-001A	Water		30	0	0	30	1.000	11/2/2009	11/2/2009
09100921-001A	Soil		30	0	0	30	1.000	11/2/2009	11/2/2009
09100976-001C	Aqueous		30	0	0	30	1.000	11/2/2009	11/2/2009
09100976-002C	Aqueous		30	0	0	30	1.000	11/2/2009	11/2/2009
09100976-003C	Aqueous		30	0	0	30	1.000	11/2/2009	11/2/2009
09100852-001CMS	Groundwater		30	0	0	30	1.000	11/2/2009	11/2/2009
09100852-001CMSD	Groundwater		30	0	0	30	1.000	11/2/2009	11/2/2009

CLIENT: Weston Solutions
Work Order: 09100914
Project: 13676.0011.001.0010, SWMU #12, Crane, Indiana

ANALYTICAL QC SUMMARY REPORT

BatchID: 45604

Sample ID: HGMBW1 11/2/09	SampType: MBLK	TestCode: M_HG_WATE	Units: mg/L	Prep Date: 11/2/2009	Run ID: CETAC_091102A						
Client ID: ZZZZ	Batch ID: 45604	TestNo: SW7470A		Analysis Date: 11/2/2009	SeqNo: 1531673						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	ND	0.00025									
---------	----	---------	--	--	--	--	--	--	--	--	--

Sample ID: HGLCSW1 11/2/09	SampType: LCS	TestCode: M_HG_WATE	Units: mg/L	Prep Date: 11/2/2009	Run ID: CETAC_091102A						
Client ID: ZZZZ	Batch ID: 45604	TestNo: SW7470A		Analysis Date: 11/2/2009	SeqNo: 1531674						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.0024	0.00025	0.0025	0	96	85	115	0	0		
---------	--------	---------	--------	---	----	----	-----	---	---	--	--

Sample ID: 09100852-001CMS	SampType: MS	TestCode: M_HG_WATE	Units: mg/L	Prep Date: 11/2/2009	Run ID: CETAC_091102A						
Client ID: ZZZZ	Batch ID: 45604	TestNo: SW7470A		Analysis Date: 11/2/2009	SeqNo: 1531676						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.00233	0.00025	0.0025	0	93.2	75	125	0	0		
---------	---------	---------	--------	---	------	----	-----	---	---	--	--

Sample ID: 09100852-001CMSD	SampType: MSD	TestCode: M_HG_WATE	Units: mg/L	Prep Date: 11/2/2009	Run ID: CETAC_091102A						
Client ID: ZZZZ	Batch ID: 45604	TestNo: SW7470A		Analysis Date: 11/2/2009	SeqNo: 1531677						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.0024	0.00025	0.0025	0	96	75	125	0.00233	2.96	20	
---------	--------	---------	--------	---	----	----	-----	---------	------	----	--

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

NWRS Collected Analytical Data

Prairie Materials General Fill and Topsoil Data collected 8/7/08.

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

August 18, 2008

Weston Solutions
20 North Wacker Drive
Suite 1210
Chicago, IL 60606
Telephone: (312) 424-3304
Fax: (312) 424-3330

RE: 13676.005.001.0020, SWMU 9, Crane, IL

STAT Project No 08080269

Dear Todd Carmichael:

STAT Analysis received 4 samples for the referenced project on 8/8/2008 1:10:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Craig Chawla
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

Client: Weston Solutions
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Lab Order: 08080269

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
08080269-001A	09SOGFTA001A		8/7/2008 3:00:00 PM	8/8/2008
08080269-002A	09S0CB550011		8/7/2008 3:20:00 PM	8/8/2008
08080269-003A	09SOCTS001A		8/7/2008 4:15:00 PM	8/8/2008
08080269-003B	09SOCTS001A		8/7/2008 4:15:00 PM	8/8/2008
08080269-004A	09SOCFILL001A		8/7/2008 4:30:00 PM	8/8/2008
08080269-004B	09SOCFILL001A		8/7/2008 4:30:00 PM	8/8/2008

CLIENT: Weston Solutions
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Lab Order: 08080269

CASE NARRATIVE

The following three parameters apply to sample number 09S0CTS001A (08080269-003):

Reactivity with Water: None

Reactivity with Base: None

Reactivity with Acid: Sample effervesced with no temperature change

The following three parameters apply to sample number 09SOCFILL001A (08080269-004):

Reactivity with Water: None

Reactivity with Base: None

Reactivity with Acid: Sample effervesced with no temperature change

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 18, 2008

Date Printed: August 18, 2008

Client: Weston Solutions

Lab Order: 08080269

Project: 13676.005.001.0020, SWMU 9, Crane, IL

Lab ID: 08080269-004

Client Sample ID: 09SOCFILL001A

Collection Date: 8/7/2008 4:30:00 PM

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
PCBs	SW8082 (SW3550B)		Prep Date: 8/11/2008		Analyst: DCW	
Aroclor 1016	ND	0.097		mg/Kg-dry	1	8/14/2008
Aroclor 1221	ND	0.097		mg/Kg-dry	1	8/14/2008
Aroclor 1232	ND	0.097		mg/Kg-dry	1	8/14/2008
Aroclor 1242	ND	0.097		mg/Kg-dry	1	8/14/2008
Aroclor 1248	ND	0.097		mg/Kg-dry	1	8/14/2008
Aroclor 1254	ND	0.097		mg/Kg-dry	1	8/14/2008
Aroclor 1260	ND	0.097		mg/Kg-dry	1	8/14/2008
Pesticides	SW8081 (SW3550B)		Prep Date: 8/11/2008		Analyst: DCW	
4,4'-DDD	ND	0.0019		mg/Kg-dry	1	8/14/2008
4,4'-DDE	ND	0.0019		mg/Kg-dry	1	8/14/2008
4,4'-DDT	ND	0.0019		mg/Kg-dry	1	8/14/2008
alpha-Chlordane	ND	0.0019		mg/Kg-dry	1	8/14/2008
Dieldrin	ND	0.0019		mg/Kg-dry	1	8/14/2008
gamma-Chlordane	ND	0.0019		mg/Kg-dry	1	8/14/2008
Heptachlor	ND	0.0019		mg/Kg-dry	1	8/14/2008
TCLP Pesticides	SW8081 (SW3510C)		Prep Date: 8/14/2008		Analyst: DCW	
Chlordane	ND	0.0001		mg/L	1	8/14/2008
Endrin	ND	0.0002		mg/L	1	8/14/2008
gamma-BHC	ND	0.001		mg/L	1	8/14/2008
Heptachlor	ND	0.0001		mg/L	1	8/14/2008
Heptachlor epoxide	ND	0.0001		mg/L	1	8/14/2008
Methoxychlor	ND	0.0001		mg/L	1	8/14/2008
Toxaphene	ND	0.002		mg/L	1	8/14/2008
Total Petroleum Hydrocarbons	SW8015M (SW3550B)		Prep Date: 8/11/2008		Analyst: JT	
TPH (DRO)	ND	24		mg/Kg-dry	1	8/13/2008
Herbicides, TCLP Leached	SW1311/8321A (SW3510C)		Prep Date: 8/13/2008		Analyst: VS	
2,4,5-TP (Silvex)	ND	0.001		mg/L	1	8/14/2008
2,4-D	ND	0.002		mg/L	1	8/14/2008
TCLP Mercury	SW1311/7470A		Prep Date: 8/12/2008		Analyst: VA	
Mercury	ND	0.00025		mg/L	1	8/12/2008
TCLP Metals by ICP/MS	SW1311/6020 (SW3005A)		Prep Date: 8/12/2008		Analyst: JG	
Arsenic	ND	0.01		mg/L	5	8/12/2008
Barium	0.54	0.02		mg/L	5	8/12/2008
Cadmium	ND	0.005		mg/L	5	8/12/2008
Chromium	ND	0.01		mg/L	5	8/12/2008

ND - Not Detected at the Reporting Limit

RL - Reporting / Quantitation Limit for the analysis

Qualifiers:

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

HT - Sample received past holding time

E - Value above quantitation range

* - Non-accredited parameter

H - Holding time exceeded

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 18, 2008

Date Printed: August 18, 2008

Client: Weston Solutions

Lab Order: 08080269

Project: 13676.005.001.0020, SWMU 9, Crane, IL

Lab ID: 08080269-004

Client Sample ID: 09SOCFILL001A

Collection Date: 8/7/2008 4:30:00 PM

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Metals by ICP/MS	SW1311/6020 (SW3005A)			Prep Date: 8/12/2008		Analyst: JG
Lead	ND	0.005		mg/L	5	8/12/2008
Selenium	ND	0.01		mg/L	5	8/12/2008
Silver	ND	0.01		mg/L	5	8/12/2008
TCLP Semivolatile Organic Compounds	SW1311/8270C (SW3510C)			Prep Date: 8/13/2008		Analyst: JT
1,4-Dichlorobenzene	ND	0.01		mg/L	1	8/14/2008
2,4-Dinitrotoluene	ND	0.01		mg/L	1	8/14/2008
Hexachlorobenzene	ND	0.01		mg/L	1	8/14/2008
Hexachlorobutadiene	ND	0.01		mg/L	1	8/14/2008
Hexachloroethane	ND	0.01		mg/L	1	8/14/2008
Nitrobenzene	ND	0.01		mg/L	1	8/14/2008
2-methylphenol	ND	0.01		mg/L	1	8/14/2008
3- & 4-Methylphenol	ND	0.01		mg/L	1	8/14/2008
Pentachlorophenol	ND	0.05		mg/L	1	8/14/2008
Pyridine	ND	0.01		mg/L	1	8/14/2008
2,4,5-Trichlorophenol	ND	0.01		mg/L	1	8/14/2008
2,4,6-Trichlorophenol	ND	0.01		mg/L	1	8/14/2008
BTEX by GC/MS	SW5035/8260B			Prep Date: 8/9/2008		Analyst: PS
Benzene	ND	0.0045		mg/Kg-dry	1	8/13/2008
Toluene	ND	0.0045		mg/Kg-dry	1	8/13/2008
Ethylbenzene	ND	0.0045		mg/Kg-dry	1	8/13/2008
Xylenes, Total	ND	0.014		mg/Kg-dry	1	8/13/2008
Total Petroleum Hydrocarbons (GRO) by GCMS	SW8260B			Prep Date: 8/9/2008		Analyst: PS
Gasoline Range Organics	ND	0.46	*	mg/Kg-dry	1	8/15/2008
TCLP Volatile Organic Compounds by GC/MS	SW1311/8260B (SW5030B)			Prep Date: 8/11/2008		Analyst: PS
Benzene	ND	0.05		mg/L	10	8/13/2008
2-Butanone	ND	0.1		mg/L	10	8/13/2008
Carbon tetrachloride	ND	0.05		mg/L	10	8/13/2008
Chlorobenzene	ND	0.05		mg/L	10	8/13/2008
Chloroform	ND	0.05		mg/L	10	8/13/2008
1,2-Dichloroethane	ND	0.05		mg/L	10	8/13/2008
1,1-Dichloroethene	ND	0.05		mg/L	10	8/13/2008
Tetrachloroethene	ND	0.05		mg/L	10	8/13/2008
Trichloroethene	ND	0.05		mg/L	10	8/13/2008
Vinyl chloride	ND	0.05		mg/L	10	8/13/2008
Cyanide, Reactive	SW7.3.3.2			Prep Date: 8/9/2008		Analyst: KB
Reactive Cyanide	ND	1		mg/Kg	1	8/9/2008

ND - Not Detected at the Reporting Limit

RL - Reporting / Quantitation Limit for the analysis

Qualifiers: J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

R - RPD outside accepted recovery limits

HT - Sample received past holding time

E - Value above quantitation range

* - Non-accredited parameter

H - Holding time exceeded

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 18, 2008

Date Printed: August 18, 2008

Client: Weston Solutions

Lab Order: 08080269

Project: 13676.005.001.0020, SWMU 9, Crane, IL

Lab ID: 08080269-004

Client Sample ID: 09SOCFILL001A

Collection Date: 8/7/2008 4:30:00 PM

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Flash Point (Open-Cup) Flashpoint	SW1010(M) No flash up to 212		*	°F	1	Prep Date: 8/11/2008 Analyst: RW 8/11/2008
pH (25 °C) pH	SW9045C 8.1			pH Units	1	Prep Date: 8/11/2008 Analyst: RW 8/11/2008
Percent Moisture Percent Moisture	D2974 17.9	0.01	*	wt%	1	Prep Date: 8/11/2008 Analyst: RW 8/12/2008
Sulfide, Reactive Reactive Sulfide	SW7.3.4.2 ND	10		mg/Kg	1	Prep Date: 8/14/2008 Analyst: YZ 8/14/2008

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 HT - Sample received past holding time
 * - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range
 H - Holding time exceeded

CHAIN OF CUSTODY RECORD

No: 823605

Page: 1 of 1

Company: <u>NESTEN Solutions Inc</u>					P.O. No.:																																																	
Project Number: <u>13676.005.001, 0020</u> Client Tracking No.:					Quote No.:																																																	
Project Name: <u>SWMU 9</u>					TULIP Pest/HERB TULIP PEST TPA WRS/620 BTEX 2-gal. H ₂ O PCB's 4-4 DDT 4-4 DDE H ₂ O 1-Gallon / Disinfectant 2-Gal. SW-516 HD'S M 8081 Attach to / Disinfectant 8081 Disinfectant / Disinfectant Disinfectant / Disinfectant																																																	
Project Location: <u>CRANE, IN</u>																																																						
Sampler(s): <u>TODD CARMICHAEL</u>																																																						
Report To: <u>TODD CARMICHAEL</u> Phone: <u>3124243300</u> Fax: <u>3380</u>																																																						
QC Level: 1 2 <u>X</u> 3 4					e-mail: <u>todd.carmichael@nesten.com</u>																																																	
Client Sample Number/Description:					Date Taken					Time Taken					Matrix					Comp					Grab					Preserv.					No. of Containers					Remarks					Lab No.									
<u>09506 FTAGIA</u>					<u>8708</u>					<u>500</u>					<u>S</u>										<u>X</u>					<u>NA</u>					<u>1</u>					<u>X</u>										<u>001</u>				
<u>0950 C BSS 001A</u>					<u>8708</u>					<u>520</u>					<u>S</u>					<u>X</u>										<u>NA</u>					<u>1</u>					<u>X</u>										<u>002</u>				
<u>0950 C IS 001A</u>					<u>8708</u>					<u>165</u>					<u>S</u>					<u>X</u>					<u>7-NA</u>					<u>4</u>					<u>X X X X X X X X X X</u>					<u>LOC GRAB</u>					<u>003</u>									
<u>0950 C FILL 001A</u>					<u>8708</u>					<u>1630</u>					<u>S</u>					<u>X</u>					<u>7-NA</u>					<u>4</u>					<u>X X X X X X X X X X</u>					<u>LOC GRAB</u>					<u>004</u>									
Relinquished by: (Signature) <u>[Signature]</u>					Date/Time: <u>8/8/08 1310</u>					Comments: <u>RUP Wet Limits Must be Below H₂O Waste Levels</u>					Laboratory Work Order No.:																																							
Received by: (Signature) <u>[Signature]</u>					Date/Time: <u>8/8/08 1310</u>										<u>08080269</u>																																							
Relinquished by: (Signature)					Date/Time:					Preservation Code: A = None B = HNO ₃ C = NaOH D = H ₂ SO ₄ E = HCl F = 5035/EnCore G = Other					Received on for: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																							
Received by: (Signature)					Date/Time:										Temperature: <u>11</u> °C																																							

Sample Receipt Checklist

Client Name WESTON CHICAGO

Date and Time Received: 8/8/2008 1:10:00 PM

Work Order Number 08080269

Received by: CDF

Checklist completed by:

[Handwritten Signature]
 Signature _____ Date 8/8/08

Reviewed by:

MAK 8/11/08
 Initials Date

Matrix:

Carrier name: Client Delivered

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels/containers? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container or Temp Blank temperature in compliance? Yes No Temperature 1.1 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - Samples pH checked? Yes No Checked by: _____
- Water - Samples properly preserved? Yes No pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted:

Date contacted:

Contacted by:

Response:

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW5035/8260B **Matrix:** S

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK081308-3	91.9	97.2	99.9	103				
VLCS081308-3	98.6	100	101	99.6				
VLCS081308-3	101	99.6	100	96.4				
08080248-004AMS	102	100	105	101				
08080248-004AMSD	98.6	97.0	104	98.0				
08080269-003A	93.4	99.1	103	114				
08080269-004A	93.7	99.4	106	120				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	44-114
BZMED8	= Toluene-d8	62-122
DBFM	= Dibromofluoromethane	74-150
DCA12D4	= 1,2-Dichloroethane-d4	78-160

* Surrogate recovery outside acceptance limits

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46969

Sample ID: 08080269-004BMS		SampType: MS		TestCode: VOC_W+		Units: mg/L		Prep Date:		Run ID: VOA-4_080813A		
Client ID: 09SOCFILL001A		Batch ID: R46969		TestNo: SW8260B				Analysis Date: 8/13/2008		SeqNo: 1200629		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	0.4588	0.050	0.5	0	91.8	70	130	0	0			
1,2-Dichloroethane	0.4942	0.050	0.5	0	98.8	70	130	0	0			
2-Butanone	0.6078	0.10	0.5	0	122	70	130	0	0			
Benzene	0.4772	0.050	0.5	0	95.4	70	130	0	0			
Carbon tetrachloride	0.4696	0.050	0.5	0	93.9	70	130	0	0			
Chlorobenzene	0.4992	0.050	0.5	0	99.8	70	130	0	0			
Chloroform	0.4813	0.050	0.5	0	96.3	70	130	0	0			
Ethylbenzene	0.4877	0.050	0.5	0	97.5	70	130	0	0			
Tetrachloroethene	0.4697	0.050	0.5	0	93.9	70	130	0	0			
Toluene	0.5135	0.050	0.5	0	103	70	130	0	0			
Trichloroethene	0.4647	0.050	0.5	0	92.9	70	130	0	0			
Vinyl chloride	0.4649	0.020	0.5	0	93	70	130	0	0			
Xylenes, Total	1.429	0.15	1.5	0	95.2	70	130	0	0			

Sample ID: 08080269-004BMS		SampType: MSD		TestCode: VOC_W+		Units: mg/L		Prep Date:		Run ID: VOA-4_080813A		
Client ID: 09SOCFILL001A		Batch ID: R46969		TestNo: SW8260B				Analysis Date: 8/13/2008		SeqNo: 1200630		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	0.4488	0.050	0.5	0	89.8	70	130	0.4588	2.20	15		
1,2-Dichloroethane	0.4939	0.050	0.5	0	98.8	70	130	0.4942	0.0607	15		
2-Butanone	0.6172	0.10	0.5	0	123	70	130	0.6078	1.53	15		
Benzene	0.4782	0.050	0.5	0	95.6	70	130	0.4772	0.209	15		
Carbon tetrachloride	0.4786	0.050	0.5	0	95.7	70	130	0.4696	1.90	15		
Chlorobenzene	0.5066	0.050	0.5	0	101	70	130	0.4992	1.47	15		
Chloroform	0.479	0.050	0.5	0	95.8	70	130	0.4813	0.479	15		
Ethylbenzene	0.4861	0.050	0.5	0	97.2	70	130	0.4877	0.329	15		
Tetrachloroethene	0.4767	0.050	0.5	0	95.3	70	130	0.4697	1.48	15		
Toluene	0.5068	0.050	0.5	0	101	70	130	0.5135	1.31	15		
Trichloroethene	0.466	0.050	0.5	0	93.2	70	130	0.4647	0.279	15		
Vinyl chloride	0.4621	0.020	0.5	0	92.4	70	130	0.4649	0.604	15		
Xylenes, Total	1.443	0.15	1.5	0	96.2	70	130	1.429	0.975	15		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46999

Sample ID: 08080248-004AMS		SampType: MS		TestCode: VOC_5035+		Units: mg/Kg-dry		Prep Date: 8/8/2008		Run ID: VOA-3_080813A	
Client ID: ZZZZ		Batch ID: R46999		TestNo: SW5035/8260		Analysis Date: 8/13/2008		SeqNo: 1201194			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.05745	0.0065	0.06463	0	88.9	70	130	0	0		
1,2-Dichloroethane	0.06804	0.0065	0.06463	0	105	70	130	0	0		
2-Butanone	0.0543	0.013	0.06463	0	84	70	130	0	0		
Benzene	0.06642	0.0065	0.06463	0	103	70	130	0	0		
Carbon tetrachloride	0.06355	0.0065	0.06463	0	98.3	70	130	0	0		
Chlorobenzene	0.06238	0.0065	0.06463	0	96.5	70	130	0	0		
Chloroform	0.06688	0.0065	0.06463	0	103	70	130	0	0		
Ethylbenzene	0.06418	0.0065	0.06463	0	99.3	70	130	0	0		
Tetrachloroethene	0.05916	0.0065	0.06463	0	91.5	70	130	0	0		
Toluene	0.05995	0.0065	0.06463	0	92.8	70	130	0	0		
Trichloroethene	0.06165	0.0065	0.06463	0	95.4	70	130	0	0		
Vinyl chloride	0.04886	0.0065	0.06463	0	75.6	70	130	0	0		
Xylenes, Total	0.1923	0.019	0.1939	0	99.2	70	130	0	0		

Sample ID: 08080248-004AMSD		SampType: MSD		TestCode: VOC_5035+		Units: mg/Kg-dry		Prep Date: 8/8/2008		Run ID: VOA-3_080813A	
Client ID: ZZZZ		Batch ID: R46999		TestNo: SW5035/8260		Analysis Date: 8/13/2008		SeqNo: 1201195			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.06455	0.0066	0.06565	0	98.3	70	130	0.05745	11.6	25	
1,2-Dichloroethane	0.07169	0.0066	0.06565	0	109	70	130	0.06804	5.22	25	
2-Butanone	0.05653	0.013	0.06565	0	86.1	70	130	0.0543	4.01	25	
Benzene	0.07152	0.0066	0.06565	0	109	70	130	0.06642	7.40	25	
Carbon tetrachloride	0.06794	0.0066	0.06565	0	103	70	130	0.06355	6.68	25	
Chlorobenzene	0.06855	0.0066	0.06565	0	104	70	130	0.06238	9.43	25	
Chloroform	0.07322	0.0066	0.06565	0	112	70	130	0.06688	9.04	25	
Ethylbenzene	0.07014	0.0066	0.06565	0	107	70	130	0.06418	8.88	25	
Tetrachloroethene	0.06739	0.0066	0.06565	0	103	70	130	0.05916	13.0	25	
Toluene	0.06528	0.0066	0.06565	0	99.4	70	130	0.05995	8.51	25	
Trichloroethene	0.06712	0.0066	0.06565	0	102	70	130	0.06165	8.51	25	
Vinyl chloride	0.05684	0.0066	0.06565	0	86.6	70	130	0.04886	15.1	25	
Xylenes, Total	0.2084	0.020	0.197	0	106	70	130	0.1923	8.05	25	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46999

Sample ID: VBLK081308-3	SampType: MBLK	TestCode: VOC_ENCOR	Units: mg/Kg	Prep Date:	Run ID: VOA-3_080813A
Client ID: ZZZZ	Batch ID: R46999	TestNo: SW5035/8260		Analysis Date: 8/13/2008	SeqNo: 1201186

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	ND	0.0050									
1,2-Dichloroethane	ND	0.0050									
2-Butanone	ND	0.010									
Benzene	ND	0.0050									
Carbon tetrachloride	ND	0.0050									
Chlorobenzene	ND	0.0050									
Chloroform	ND	0.0050									
Ethylbenzene	ND	0.0050									
Tetrachloroethene	ND	0.0050									
Toluene	ND	0.0050									
Trichloroethene	ND	0.0050									
Vinyl chloride	ND	0.0050									
Xylenes, Total	ND	0.015									

Sample ID: VLCS081308-3	SampType: LCS	TestCode: VOC_ENCOR	Units: mg/Kg	Prep Date:	Run ID: VOA-3_080813A
Client ID: ZZZZ	Batch ID: R46999	TestNo: SW5035/8260		Analysis Date: 8/13/2008	SeqNo: 1201187

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.04684	0.0050	0.05	0	93.7	70	130	0	0		
1,2-Dichloroethane	0.05229	0.0050	0.05	0	105	70	130	0	0		
2-Butanone	0.0583	0.010	0.05	0	117	70	130	0	0		
Benzene	0.05161	0.0050	0.05	0	103	70	130	0	0		
Carbon tetrachloride	0.04832	0.0050	0.05	0	96.6	70	130	0	0		
Chlorobenzene	0.05282	0.0050	0.05	0	106	70	130	0	0		
Chloroform	0.05103	0.0050	0.05	0	102	70	130	0	0		
Ethylbenzene	0.05351	0.0050	0.05	0	107	70	130	0	0		
Tetrachloroethene	0.05	0.0050	0.05	0	100	70	130	0	0		
Toluene	0.04948	0.0050	0.05	0	99	70	130	0	0		
Trichloroethene	0.04928	0.0050	0.05	0	98.6	70	130	0	0		
Vinyl chloride	0.04262	0.0050	0.05	0	85.2	70	130	0	0		
Xylenes, Total	0.1592	0.015	0.15	0	106	70	130	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46999

Sample ID: VLCS081308-3	SampType: LCSD	TestCode: VOC_ENCOR	Units: mg/Kg	Prep Date:	Run ID: VOA-3_080813A						
Client ID: ZZZZ	Batch ID: R46999	TestNo: SW5035/8260		Analysis Date: 8/13/2008	SeqNo: 1201188						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.04591	0.0050	0.05	0	91.8	70	130	0.04684	2.01	20	
1,2-Dichloroethane	0.05429	0.0050	0.05	0	109	70	130	0.05229	3.75	20	
2-Butanone	0.05207	0.010	0.05	0	104	70	130	0.0583	11.3	20	
Benzene	0.05125	0.0050	0.05	0	103	70	130	0.05161	0.700	20	
Carbon tetrachloride	0.05062	0.0050	0.05	0	101	70	130	0.04832	4.65	20	
Chlorobenzene	0.05376	0.0050	0.05	0	108	70	130	0.05282	1.76	20	
Chloroform	0.05213	0.0050	0.05	0	104	70	130	0.05103	2.13	20	
Ethylbenzene	0.05522	0.0050	0.05	0	110	70	130	0.05351	3.15	20	
Tetrachloroethene	0.05085	0.0050	0.05	0	102	70	130	0.05	1.69	20	
Toluene	0.04933	0.0050	0.05	0	98.7	70	130	0.04948	0.304	20	
Trichloroethene	0.05015	0.0050	0.05	0	100	70	130	0.04928	1.75	20	
Vinyl chloride	0.04403	0.0050	0.05	0	88.1	70	130	0.04262	3.25	20	
Xylenes, Total	0.1656	0.015	0.15	0	110	70	130	0.1592	3.89	20	

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW1311/8260B **Matrix:** W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK081308-4	95.6	101	102	101				
VLCS081308-4	104	101	102	99.5				
VLCSD081308-4	96.8	102	100	97.4				
ZBLK081108-4	95.3	102	102	107				
08080269-003B:10	94.7	102	103	106				
08080269-004B:10	92.5	104	102	104				
08080269-004BMS	99.9	105	104	104				
08080269-004BMS	99.3	104	98.9	96.7				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	86-115
BZMED8	= Toluene-d8	88-110
DBFM	= Dibromofluoromethane	86-118
DCA12D4	= 1,2-Dichloroethane-d4	80-120

* Surrogate recovery outside acceptance limit

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46969

Sample ID: ZBLK081108-4	SampType: MBLK	TestCode: VOC_TCLP+	Units: mg/L	Prep Date:	Run ID: VOA-4_080813A						
Client ID: ZZZZ	Batch ID: R46969	TestNo: SW1311/8260		Analysis Date: 8/13/2008	SeqNo: 1200626						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	ND	0.050									
2-Butanone	ND	0.10									
Carbon tetrachloride	ND	0.050									
Chlorobenzene	ND	0.050									
Chloroform	ND	0.050									
1,2-Dichloroethane	ND	0.050									
1,1-Dichloroethene	ND	0.050									
Ethylbenzene	ND	0.050									
Tetrachloroethene	ND	0.050									
Toluene	ND	0.050									
Trichloroethene	ND	0.050									
Vinyl chloride	ND	0.050									
Xylenes, Total	ND	0.15									

Sample ID: VBLK081308-4	SampType: MBLK	TestCode: VOC_W+	Units: mg/L	Prep Date:	Run ID: VOA-4_080813A						
Client ID: ZZZZ	Batch ID: R46969	TestNo: SW8260B		Analysis Date: 8/13/2008	SeqNo: 1200275						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	ND	0.0050									
1,2-Dichloroethane	ND	0.0050									
2-Butanone	ND	0.010									
Benzene	ND	0.0050									
Carbon tetrachloride	ND	0.0050									
Chlorobenzene	ND	0.0050									
Chloroform	ND	0.0050									
Ethylbenzene	ND	0.0050									
Tetrachloroethene	ND	0.0050									
Toluene	ND	0.0050									
Trichloroethene	ND	0.0050									
Vinyl chloride	ND	0.0020									
Xylenes, Total	ND	0.015									

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46969

Sample ID: VLCS081308-4		SampType: LCS		TestCode: VOC_W+		Units: mg/L		Prep Date:		Run ID: VOA-4_080813A	
Client ID: ZZZZ		Batch ID: R46969		TestNo: SW8260B		Analysis Date: 8/13/2008		SeqNo: 1200276			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.04737	0.0050	0.05	0	94.7	70	130	0	0		
1,2-Dichloroethane	0.05059	0.0050	0.05	0	101	70	130	0	0		
2-Butanone	0.05735	0.010	0.05	0	115	70	130	0	0		
Benzene	0.04904	0.0050	0.05	0	98.1	70	130	0	0		
Carbon tetrachloride	0.04925	0.0050	0.05	0	98.5	70	130	0	0		
Chlorobenzene	0.05391	0.0050	0.05	0	108	70	130	0	0		
Chloroform	0.0498	0.0050	0.05	0	99.6	70	130	0	0		
Ethylbenzene	0.05199	0.0050	0.05	0	104	70	130	0	0		
Tetrachloroethene	0.05135	0.0050	0.05	0	103	70	130	0	0		
Toluene	0.05097	0.0050	0.05	0	102	70	130	0	0		
Trichloroethene	0.0486	0.0050	0.05	0	97.2	70	130	0	0		
Vinyl chloride	0.04775	0.0020	0.05	0	95.5	70	130	0	0		
Xylenes, Total	0.1534	0.015	0.15	0	102	70	130	0	0		

Sample ID: VLCS081308-4		SampType: LCSD		TestCode: VOC_W+		Units: mg/L		Prep Date:		Run ID: VOA-4_080813A	
Client ID: ZZZZ		Batch ID: R46969		TestNo: SW8260B		Analysis Date: 8/13/2008		SeqNo: 1200277			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.04414	0.0050	0.05	0	88.3	70	130	0.04737	7.06	20	
1,2-Dichloroethane	0.04954	0.0050	0.05	0	99.1	70	130	0.05059	2.10	20	
2-Butanone	0.04997	0.010	0.05	0	99.9	70	130	0.05735	13.8	20	
Benzene	0.04621	0.0050	0.05	0	92.4	70	130	0.04904	5.94	20	
Carbon tetrachloride	0.04605	0.0050	0.05	0	92.1	70	130	0.04925	6.72	20	
Chlorobenzene	0.04858	0.0050	0.05	0	97.2	70	130	0.05391	10.4	20	
Chloroform	0.04721	0.0050	0.05	0	94.4	70	130	0.0498	5.34	20	
Ethylbenzene	0.04737	0.0050	0.05	0	94.7	70	130	0.05199	9.30	20	
Tetrachloroethene	0.04653	0.0050	0.05	0	93.1	70	130	0.05135	9.85	20	
Toluene	0.04915	0.0050	0.05	0	98.3	70	130	0.05097	3.64	20	
Trichloroethene	0.04581	0.0050	0.05	0	91.6	70	130	0.0486	5.91	20	
Vinyl chloride	0.0442	0.0020	0.05	0	88.4	70	130	0.04775	7.72	20	
Xylenes, Total	0.1419	0.015	0.15	0	94.6	70	130	0.1534	7.84	20	

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

Prep Start Date: **8/11/2008 6:38:32 P**

Prep End Date: **8/13/2008 6:14:46 A**

Prep Factor Units:

mL / g

Prep Batch **36866**

Prep Code: **3550_TPH**

Technician: **PM**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-36866-TPH			0.03	0	0	1	33.333	8/11/2008	8/12/2008
LCS-36866-TPH			0.03	0	0	1	33.333	8/11/2008	8/12/2008
08080269-003B	Soil		0.03097	0	0	1	32.289	8/11/2008	8/12/2008
08080269-004B	Soil		0.03027	0	0	1	33.036	8/11/2008	8/12/2008
08080269-004BMS	Soil		0.03027	0	0	1	33.036	8/11/2008	8/12/2008
08080269-004BMSD	Soil		0.03028	0	0	1	33.025	8/11/2008	8/12/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36866

Sample ID: MB-36866-TPH	SampType: MBLK	TestCode: TPH	Units: mg/Kg	Prep Date: 8/11/2008	Run ID: GC-FID_080813A						
Client ID: ZZZZ	Batch ID: 36866	TestNo: SW8015M		Analysis Date: 8/13/2008	SeqNo: 1200786						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	ND	20
-----------	----	----

Sample ID: LCS-36866-TPH	SampType: LCS	TestCode: TPH	Units: mg/Kg	Prep Date: 8/11/2008	Run ID: GC-FID_080813A						
Client ID: ZZZZ	Batch ID: 36866	TestNo: SW8015M		Analysis Date: 8/13/2008	SeqNo: 1200787						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	44.99	20	33.3	0	135	30	150	0	0
-----------	-------	----	------	---	-----	----	-----	---	---

Sample ID: 08080269-004BMS	SampType: MS	TestCode: TPH	Units: mg/Kg-dry	Prep Date: 8/11/2008	Run ID: GC-FID_080813A						
Client ID: 09SOCFILL001A	Batch ID: 36866	TestNo: SW8015M		Analysis Date: 8/13/2008	SeqNo: 1200789						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	40.12	24	40.2	5.553	86	30	150	0	0
-----------	-------	----	------	-------	----	----	-----	---	---

Sample ID: 08080269-004BMSD	SampType: MSD	TestCode: TPH	Units: mg/Kg-dry	Prep Date: 8/11/2008	Run ID: GC-FID_080813A						
Client ID: 09SOCFILL001A	Batch ID: 36866	TestNo: SW8015M		Analysis Date: 8/13/2008	SeqNo: 1200790						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	39.02	24	40.19	5.553	83.3	30	150	40.12	2.77	25
-----------	-------	----	-------	-------	------	----	-----	-------	------	----

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW1311/8270C **Matrix:** W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	CLPH2D4	DCBZ12D4	NO2BZD5	PH246BR	PH2F	PHD5	PHEN2F	PHEND14
MB-36921-SVOC	43.9	41.6	50.4	62.7	30.8	26.8	52.8	95.2
LCS-36921-SVOC	74.2	75.4	86.7	88.9	54.2	45.8	89.2	105
LCSD-36921-SVOC	75.4	75.9	88.1	91.3	54.4	45.4	86.1	105
MB-36921-TCLP	73.4	66.3	84.8	87.9	52.7	42.3	84.4	102
08080269-003B	75.2	76.9	89.2	90.7	52.4	43.6	86.8	108
08080269-004B	72.4	71.0	82.9	94.6	52.6	43.6	86.4	113

Acronym	Surrogate	QC Limits
CLPH2D4	= 2-Chlorophenol-d4	33-110
DCBZ12D4	= 1,2-Dichlorobenzene-d4	16-110
NO2BZD5	= Nitrobenzene-d5	35-114
PH246BR	= 2,4,6-Tribromophenol	10-123
PH2F	= 2-Fluorophenol	21-110
PHD5	= Phenol-d5	10-110
PHEN2F	= 2-Fluorobiphenyl	43-116
PHEND14	= 4-Terphenyl-d14	33-141

* Surrogate recovery outside acceptance limits

Prep Start Date: **8/13/2008 1:29:55 P**

Prep End Date:

Prep Factor Units:

Prep Batch **36921**

Prep Code: **3510_SVOC**

Technician: **RDG**

mL / L

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-36921-SVOC			1	0	0	1	1.000	8/13/2008	8/13/2008
LCS-36921-SVOC			1	0	0	1	1.000	8/13/2008	8/13/2008
LCSD-36921-SVOC			1	0	0	1	1.000	8/13/2008	8/13/2008
08080334-001B	Water		0.84	0	0	1	1.190	8/13/2008	8/13/2008
08080334-002B	Water		0.85	0	0	1	1.176	8/13/2008	8/13/2008
08080334-004B	Water		0.84	0	0	1	1.190	8/13/2008	8/13/2008
08080334-005B	Water		0.87	0	0	1	1.149	8/13/2008	8/13/2008
08080379-001B	Water		1	0	0	1	1.000	8/13/2008	8/13/2008
08080269-003B	Soil		0.5	0	0	1	2.000	8/13/2008	8/13/2008
08080269-004B	Soil		0.5	0	0	1	2.000	8/13/2008	8/13/2008
MB-36921-TCLP			0.5	0	0	1	2.000	8/13/2008	8/13/2008
08080334-003B	Water		0.5	0	0	0.5	1.000	8/13/2008	8/13/2008
08080473-009B	Water		1	0	0	1	1.000	8/14/2008	8/14/2008
08080473-010B	Water		1	0	0	1	1.000	8/14/2008	8/14/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36921

Sample ID	MB-36921-TCLP	SampType:	MBLK	TestCode:	SVOC_TCLP	Units:	mg/L	Prep Date:	08/13/08	Run ID:	SVOC-5_080814A			
Client ID:	ZZZZZ	Batch ID:	36921	TestNo:	SW1311/8270			Analysis Date:	08/14/08	SeqNo:	1201759			
Analyte		Result		PQL		SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,4-Dichlorobenzene	ND	0.010
2,4-Dinitrotoluene	ND	0.010
Hexachlorobenzene	ND	0.010
Hexachlorobutadiene	ND	0.010
Hexachloroethane	ND	0.010
Nitrobenzene	ND	0.010
2-methylphenol	ND	0.010
3- & 4-Methylphenol	ND	0.010
Pentachlorophenol	ND	0.050
Pyridine	ND	0.010
2,4,5-Trichlorophenol	ND	0.010
2,4,6-Trichlorophenol	ND	0.010

Sample ID	MB-36921-SVOC	SampType:	MBLK	TestCode:	SVOC_WATE	Units:	mg/L	Prep Date:	08/13/08	Run ID:	SVOC-5_080814A			
Client ID:	ZZZZZ	Batch ID:	36921	TestNo:	SW8270C			Analysis Date:	08/14/08	SeqNo:	1201433			
Analyte		Result		PQL		SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,4-Dichlorobenzene	ND	0.0050
2,4-Dinitrotoluene	ND	0.0050
Hexachlorobenzene	ND	0.0050
Hexachlorobutadiene	ND	0.0050
Hexachloroethane	ND	0.0050
2-Methylphenol	ND	0.0050
4-Methylphenol	ND	0.0050
Nitrobenzene	ND	0.0050
Pentachlorophenol	ND	0.025
Pyridine	ND	0.0050
2,4,5-Trichlorophenol	ND	0.010
2,4,6-Trichlorophenol	ND	0.0050

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36921

Sample ID	LCS-36921-SVOC	SampType: LCS	TestCode: SVOC_WATE	Units: mg/L	Prep Date: 08/13/08	Run ID: SVOC-5_080814A					
Client ID:	ZZZZZ	Batch ID: 36921	TestNo: SW8270C	Analysis Date: 08/14/08	SeqNo: 1201750						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Acenaphthene	0.04104	0.0050	0.05	0	82.1	43	122	0	0		
4-Chloro-3-methylphenol	0.09936	0.0050	0.1	0	99.4	43	113	0	0		
2-Chlorophenol	0.079	0.0050	0.1	0	79	30	97	0	0		
1,4-Dichlorobenzene	0.03268	0.0050	0.05	0	65.4	27	99	0	0		
2,4-Dinitrotoluene	0.04217	0.0050	0.05	0	84.3	44	123	0	0		
4-Nitrophenol	0.06104	0.025	0.1	0	61	10	129	0	0		
N-Nitrosodi-n-propylamine	0.03908	0.0050	0.05	0	78.2	36	104	0	0		
Pentachlorophenol	0.0953	0.025	0.1	0	95.3	50	113	0	0		
Phenol	0.05045	0.0050	0.1	0	50.5	12	101	0	0		
Pyrene	0.04422	0.0050	0.05	0	88.4	54	131	0	0		
1,2,4-Trichlorobenzene	0.03663	0.0050	0.05	0	73.3	31	101	0	0		

Sample ID	LCSD-36921-SVOC	SampType: LCSD	TestCode: SVOC_WATE	Units: mg/L	Prep Date: 08/13/08	Run ID: SVOC-5_080814A					
Client ID:	ZZZZZ	Batch ID: 36921	TestNo: SW8270C	Analysis Date: 08/14/08	SeqNo: 1201751						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Acenaphthene	0.04081	0.0050	0.05	0	81.6	43	122	0.04104	0.562	31	
4-Chloro-3-methylphenol	0.09553	0.0050	0.1	0	95.5	43	113	0.09936	3.93	42	
2-Chlorophenol	0.07892	0.0050	0.1	0	78.9	30	97	0.079	0.101	40	
1,4-Dichlorobenzene	0.0343	0.0050	0.05	0	68.6	27	99	0.03268	4.84	28	
2,4-Dinitrotoluene	0.04325	0.0050	0.05	0	86.5	44	123	0.04217	2.53	38	
4-Nitrophenol	0.06191	0.025	0.1	0	61.9	10	129	0.06104	1.42	50	
N-Nitrosodi-n-propylamine	0.03918	0.0050	0.05	0	78.4	36	104	0.03908	0.256	38	
Pentachlorophenol	0.1007	0.025	0.1	0	101	50	113	0.0953	5.54	50	
Phenol	0.05003	0.0050	0.1	0	50	12	101	0.05045	0.836	42	
Pyrene	0.04474	0.0050	0.05	0	89.5	54	131	0.04422	1.17	31	
1,2,4-Trichlorobenzene	0.03782	0.0050	0.05	0	75.6	31	101	0.03663	3.20	28	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW8081 **Matrix:** S

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	CL10BZ2	XYL2456CLM						
08080283-004BMST	77.8	78.8						
08080283-004BMSD	71.7	57.6						
MB-36845-PP	91.9	87.9						
LCS-36845-PEST	91.9	85.9						
08080269-003B	87.9	59.6						
08080269-004B	88.9	70.7						

Acronym	Surrogate	QC Limits
CL10BZ2	= Decachlorobiphenyl	30-150
XYL2456CLM	= Tetrachloro-m-xylene	30-150

* Surrogate recovery outside acceptance limits

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW8082 **Matrix:** S

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	CL10BZ2	XYL2456CLM						
MB-36845-PP	81.8	92.9						
08080269-003B	64.6	61.6						
08080269-004B	67.7	73.7						
LCS-36845-PCB	83.8	100						

Acronym	Surrogate	QC Limits
CL10BZ2	= Decachlorobiphenyl	30-150
XYL2456CLM	= Tetrachloro-m-xylene	30-150

* Surrogate recovery outside acceptance limits

Prep Start Date: **8/11/2008 11:42:34**
 Prep End Date: **8/13/2008 6:14:18 A**

Prep Factor Units:
 mL / Kg

Prep Batch **36845** Prep Code: **3550_PP** Technician: **PM**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-36845-PP			0.03	0	0	10	333.333	8/11/2008	8/12/2008
LCS-36845-PCB			0.03	0	0	10	333.333	8/11/2008	8/12/2008
LCS-36845-PEST			0.03	0	0	10	333.333	8/11/2008	8/12/2008
08080158-001B	Soil		0.03017	0	0	10	331.455	8/11/2008	8/12/2008
08080249-001A	Soil		0.03081	0	0	10	324.570	8/11/2008	8/12/2008
08080249-002A	Soil		0.03075	0	0	10	325.203	8/11/2008	8/12/2008
08080283-001B	Soil		0.03012	0	0	10	332.005	8/11/2008	8/12/2008
08080283-002B	Soil		0.03023	0	0	10	330.797	8/11/2008	8/12/2008
08080283-003B	Soil		0.03025	0	0	10	330.579	8/11/2008	8/12/2008
08080283-004B	Soil		0.03019	0	0	10	331.236	8/11/2008	8/12/2008
08080283-005B	Soil		0.03026	0	0	10	330.469	8/11/2008	8/12/2008
08080283-006B	Soil		0.03017	0	0	10	331.455	8/11/2008	8/12/2008
08080283-007B	Soil		0.03025	0	0	10	330.579	8/11/2008	8/12/2008
08080283-008B	Soil		0.03021	0	0	10	331.016	8/11/2008	8/12/2008
08080283-009B	Soil		0.03066	0	0	10	326.158	8/11/2008	8/12/2008
08080283-010B	Soil		0.03061	0	0	10	326.691	8/11/2008	8/12/2008
08080283-001BMS	Soil		0.03011	0	0	10	332.116	8/11/2008	8/12/2008
08080283-001BMSD	Soil		0.03012	0	0	10	332.005	8/11/2008	8/12/2008
08080283-004BMST	Soil		0.03019	0	0	10	331.236	8/11/2008	8/12/2008
08080283-004BMSDT	Soil		0.03019	0	0	10	331.236	8/11/2008	8/12/2008
08080269-003B	Soil		0.03058	0	0	10	327.011	8/11/2008	8/12/2008
08080269-004B	Soil		0.03005	0	0	10	332.779	8/11/2008	8/12/2008
08080290-004B	Soil		0.03056	0	0	10	327.225	8/11/2008	8/12/2008
08080290-016B	Soil		0.03049	0	0	10	327.976	8/11/2008	8/12/2008
08080290-018B	Soil		0.03086	0	0	10	324.044	8/11/2008	8/12/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36845

Sample ID: MB-36845-PP	SampType: MBLK	TestCode: PCB_SOIL	Units: mg/Kg	Prep Date: 8/11/2008	Run ID: GC-ECD_080814B
Client ID: ZZZZ	Batch ID: 36845	TestNo: SW8082		Analysis Date: 8/14/2008	SeqNo: 1202537

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.080									
Aroclor 1221	ND	0.080									
Aroclor 1232	ND	0.080									
Aroclor 1242	ND	0.080									
Aroclor 1248	ND	0.080									
Aroclor 1254	ND	0.080									
Aroclor 1260	ND	0.080									

Sample ID: LCS-36845-PCB	SampType: LCS	TestCode: PCB_SOIL	Units: mg/Kg	Prep Date: 8/11/2008	Run ID: GC-ECD_080814B
Client ID: ZZZZ	Batch ID: 36845	TestNo: SW8082		Analysis Date: 8/14/2008	SeqNo: 1202532

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.3443	0.080	0.333	0	103	30	150	0	0		
Aroclor 1260	0.2906	0.080	0.333	0	87.3	30	150	0	0		

Sample ID: MB-36845-PP	SampType: MBLK	TestCode: PEST_SOIL	Units: mg/Kg	Prep Date: 8/11/2008	Run ID: GC-ECD_080814B
Client ID: ZZZZ	Batch ID: 36845	TestNo: SW8081		Analysis Date: 8/14/2008	SeqNo: 1202497

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	ND	0.0016									
4,4'-DDE	ND	0.0016									
4,4'-DDT	ND	0.0016									
alpha-Chlordane	ND	0.0016									
Dieldrin	ND	0.0016									
gamma-Chlordane	ND	0.0016									
Heptachlor	ND	0.0016									

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36845

Sample ID: LCS-36845-PEST	SampType: LCS	TestCode: PEST_SOIL	Units: mg/Kg	Prep Date: 8/11/2008	Run ID: GC-ECD_080814B
Client ID: ZZZZ	Batch ID: 36845	TestNo: SW8081		Analysis Date: 8/14/2008	SeqNo: 1202498

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.007333	0.0016	0.0083	0	88.4	30	150	0	0		
4,4'-DDE	0.007333	0.0016	0.0083	0	88.4	30	150	0	0		
4,4'-DDT	0.008	0.0016	0.0083	0	96.4	30	150	0	0		
alpha-Chlordane	0.007667	0.0016	0.0083	0	92.4	30	150	0	0		
Dieldrin	0.008	0.0016	0.0083	0	96.4	30	150	0	0		
gamma-Chlordane	0.007667	0.0016	0.0083	0	92.4	30	150	0	0		
Heptachlor	0.008	0.0016	0.0083	0	96.4	30	150	0	0		

Sample ID: 08080283-004BMST	SampType: MS	TestCode: PEST_SOIL	Units: mg/Kg-dry	Prep Date: 8/11/2008	Run ID: GC-ECD_080812A
Client ID: ZZZZ	Batch ID: 36845	TestNo: SW8081		Analysis Date: 8/12/2008	SeqNo: 1199698

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.007732	0.0020	0.01013	0	76.3	30	150	0	0		
4,4'-DDE	0.006918	0.0020	0.01013	0	68.3	30	150	0	0		
4,4'-DDT	0.003662	0.0020	0.01013	0	36.1	30	150	0	0		
alpha-Chlordane	0.007325	0.0020	0.01013	0	72.3	30	150	0	0		
Dieldrin	0.007732	0.0020	0.01013	0	76.3	30	150	0	0		
gamma-Chlordane	0.007732	0.0020	0.01013	0	76.3	30	150	0	0		
Heptachlor	0.008138	0.0020	0.01013	0	80.3	30	150	0	0		

Sample ID: 08080283-004BMSD	SampType: MSD	TestCode: PEST_SOIL	Units: mg/Kg-dry	Prep Date: 8/11/2008	Run ID: GC-ECD_080812A
Client ID: ZZZZ	Batch ID: 36845	TestNo: SW8081		Analysis Date: 8/12/2008	SeqNo: 1199699

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.006918	0.0020	0.01013	0	68.3	30	150	0.007732	11.1	25	
4,4'-DDE	0.007732	0.0020	0.01013	0	76.3	30	150	0.006918	11.1	25	
4,4'-DDT	0.004476	0.0020	0.01013	0	44.2	30	150	0.003662	20.0	25	
alpha-Chlordane	0.006511	0.0020	0.01013	0	64.3	30	150	0.007325	11.8	25	
Dieldrin	0.007325	0.0020	0.01013	0	72.3	30	150	0.007732	5.41	25	
gamma-Chlordane	0.006104	0.0020	0.01013	0	60.2	30	150	0.007732	23.5	25	
Heptachlor	0.006104	0.0020	0.01013	0	60.2	30	150	0.008138	28.6	25	R

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW8081 **Matrix:** W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	CL10BZ2	XYL2456CLM						
MB-36954-PEST	80.0	64.0						
MB-36954-TCLP	84.0	67.0						
LCS-36954-PEST	81.0	69.0						
LCSD-36954-PEST	80.0	62.0						
08080269-001A	80.0	67.0						
08080269-002A	86.0	69.0						
08080269-003B	80.0	66.0						
08080269-004B	77.0	62.0						

Acronym	Surrogate	QC Limits
CL10BZ2	= Decachlorobiphenyl	30-150
XYL2456CLM	= Tetrachloro-m-xylene	30-150

* Surrogate recovery outside acceptance limits

Prep Start Date: **8/14/2008 5:39:13 P**

Prep End Date:

Prep Factor Units:

Prep Batch **36954**

Prep Code: **3510_PEST**

Technician: **RDG**

mL / L

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-36954-PEST			1	0	0	10	10.000	8/14/2008	8/14/2008
LCS-36954-PEST			1	0	0	10	10.000	8/14/2008	8/14/2008
LCSD-36954-PEST			1	0	0	10	10.000	8/14/2008	8/14/2008
08080269-001A	Soil		0.25	0	0	10	40.000	8/14/2008	8/14/2008
08080269-002A	Soil		0.5	0	0	10	20.000	8/14/2008	8/14/2008
08080269-003B	Soil		0.5	0	0	10	20.000	8/14/2008	8/14/2008
08080269-004B	Soil		0.5	0	0	10	20.000	8/14/2008	8/14/2008
MB-36954-TCLP			0.5	0	0	10	20.000	8/14/2008	8/14/2008
08080449-001A	Soil		0.5	0	0	10	20.000	8/15/2008	8/15/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36954

Sample ID MB-36954-TCLP	SampType: MBLK	TestCode: PEST_TCLP	Units: mg/L	Prep Date: 08/14/08	Run ID: GC-ECD_080814B						
Client ID: ZZZZZ	Batch ID: 36954	TestNo: SW8081		Analysis Date: 08/14/08	SeqNo: 1202502						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chlordane	ND	0.00010									
Endrin	ND	0.00020									
gamma-BHC	ND	0.0010									
Heptachlor	ND	0.00010									
Heptachlor epoxide	ND	0.00010									
Methoxychlor	ND	0.00010									
Toxaphene	ND	0.0020									

Sample ID MB-36954-PEST	SampType: MBLK	TestCode: PEST_WATE	Units: mg/L	Prep Date: 08/14/08	Run ID: GC-ECD_080814B						
Client ID: ZZZZZ	Batch ID: 36954	TestNo: SW8081		Analysis Date: 08/14/08	SeqNo: 1202501						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chlordane	ND	0.0010									
Endrin	ND	0.000050									
gamma-BHC	ND	0.000050									
Heptachlor	ND	0.000050									
Heptachlor epoxide	ND	0.000050									
Methoxychlor	ND	0.000050									
Toxaphene	ND	0.0010									

Sample ID LCS-36954-PEST	SampType: LCS	TestCode: PEST_WATE	Units: mg/L	Prep Date: 08/14/08	Run ID: GC-ECD_080814B						
Client ID: ZZZZZ	Batch ID: 36954	TestNo: SW8081		Analysis Date: 08/14/08	SeqNo: 1202503						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Endrin	0.0002	0.000050	0.00025	0	80	30	150	0	0		
gamma-BHC	0.00018	0.000050	0.00025	0	72	30	150	0	0		
Heptachlor	0.00019	0.000050	0.00025	0	76	30	150	0	0		
Heptachlor epoxide	0.00019	0.000050	0.00025	0	76	30	150	0	0		
Methoxychlor	0.00022	0.000050	0.00025	0	88	30	150	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36954

Sample ID	LCSD-36954-PEST	SampType:	LCSD	TestCode:	PEST_WATE	Units:	mg/L	Prep Date:	08/14/08	Run ID:	GC-ECD_080814B
Client ID:	ZZZZZ	Batch ID:	36954	TestNo:	SW8081			Analysis Date:	08/14/08	SeqNo:	1202504
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Endrin	0.00019	0.000050	0.00025	0	76	30	150	0.0002	5.13	25	
gamma-BHC	0.00016	0.000050	0.00025	0	64	30	150	0.00018	11.8	25	
Heptachlor	0.00016	0.000050	0.00025	0	64	30	150	0.00019	17.1	25	
Heptachlor epoxide	0.00018	0.000050	0.00025	0	72	30	150	0.00019	5.41	25	
Methoxychlor	0.00025	0.000050	0.00025	0	100	30	150	0.00022	12.8	25	

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL
Test No: SW1311/8321A **Matrix:** W

**QC SUMMARY REPORT
 SURROGATE RECOVERIES**

Sample ID	DCPA							
MB-36936-HERB	117							
LCS-36936-HERB	111							
LCSD-36936-HERB	116							
MB-36936-TCLP	119							
08080269-001A	94.4							
08080269-003B	80.7							
08080269-004B	115							

Acronym	Surrogate	QC Limits
DCPA	= 2,4-Dichlorophenylacetic Acid	50-150

*** Surrogate recovery outside acceptance limits**

Prep Start Date: **8/13/2008 7:42:39 P**

Prep End Date:

Prep Factor Units:

Prep Batch **36936**

Prep Code: **3510_H**

Technician: **RDG**

mL / L

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-36936-HERB			1	0	0	1	1.000	8/13/2008	8/14/2008
LCS-36936-HERB			1	0	0	1	1.000	8/13/2008	8/14/2008
LCSD-36936-HERB			1	0	0	1	1.000	8/13/2008	8/14/2008
MB-36936-TCLP			0.5	0	0	1	2.000	8/13/2008	8/14/2008
08080269-001A	Soil		0.1	0	0	1	10.000	8/13/2008	8/14/2008
08080269-003B	Soil		0.1	0	0	1	10.000	8/13/2008	8/14/2008
08080269-004B	Soil		0.1	0	0	1	10.000	8/13/2008	8/14/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36936

Sample ID MB-36936-TCLP	SampType: MBLK	TestCode: HERB_TCLP	Units: mg/L	Prep Date: 08/13/08	Run ID: HPLC-1_080814A						
Client ID: ZZZZZ	Batch ID: 36936	TestNo: SW1311/8321		Analysis Date: 08/14/08	SeqNo: 1201909						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2,4,5-TP (Silvex)	ND	0.00020
2,4-D	ND	0.00040

Sample ID MB-36936-HERB	SampType: MBLK	TestCode: HERB_W-PP	Units: µg/L	Prep Date: 08/13/08	Run ID: HPLC-1_080814A						
Client ID: ZZZZZ	Batch ID: 36936	TestNo: SW8321A		Analysis Date: 08/14/08	SeqNo: 1201906						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2,4,5-TP (Silvex)	ND	0.10
2,4-D	ND	0.20

Sample ID LCS-36936-HERB	SampType: LCS	TestCode: HERB_W-PP	Units: µg/L	Prep Date: 08/13/08	Run ID: HPLC-1_080814A						
Client ID: ZZZZZ	Batch ID: 36936	TestNo: SW8321A		Analysis Date: 08/14/08	SeqNo: 1201907						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2,4,5-TP (Silvex)	0.866	0.10	1	0	86.6	50	150	0	0
2,4-D	2.008	0.20	2	0	100	50	150	0	0

Sample ID LCSD-36936-HERB	SampType: LCSD	TestCode: HERB_W-PP	Units: µg/L	Prep Date: 08/13/08	Run ID: HPLC-1_080814A						
Client ID: ZZZZZ	Batch ID: 36936	TestNo: SW8321A		Analysis Date: 08/14/08	SeqNo: 1201908						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

2,4,5-TP (Silvex)	0.85	0.10	1	0	85	50	150	0.866	1.86	25
2,4-D	2.012	0.20	2	0	101	50	150	2.008	0.199	25

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

Prep Start Date: **8/12/2008 1:00:00 P**

Prep End Date: **8/12/2008 2:45:00 P**

Prep Factor Units:

mL / mL

Prep Batch **36891**

Prep Code: **M_W_PREP**

Technician: **PN**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
IMBW1 8/12/08			50	0	0	50	1.000	8/12/2008	8/12/2008
ILCSW1 8/12/08			50	0	0	50	1.000	8/12/2008	8/12/2008
IMBSPLP 8/11/08			50	0	0	50	1.000	8/12/2008	8/12/2008
IMBTCLP1 8/11/08			50	0	0	50	1.000	8/12/2008	8/12/2008
08080269-003B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080269-004B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080284-001B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080284-002B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080284-003B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080287-001A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080287-002A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080287-003A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-001A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-003A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-004B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-005A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-007A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-015A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-016B	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-017A	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080345-001A	Water		50	0	0	50	1.000	8/12/2008	8/12/2008
08080358-001A	Oily Water		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-016BMS	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080290-016BMSD	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008
08080269-003BMS	Soil		50	0	0	50	1.000	8/12/2008	8/12/2008

CLIENT: Weston Solutions
 Work Order: 08080269
 Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36891

Sample ID: IMBSPLP 8/11/08	SampType: MBLK	TestCode: M_ICPMS_SP	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: ZZZZ	Batch ID: 36891	TestNo: SW1312/6020		Analysis Date: 8/12/2008	SeqNo: 1200064

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.00176	0.0040									J
Barium	ND	0.0080									
Cadmium	ND	0.0020									
Chromium	ND	0.0040									
Lead	ND	0.0020									
Selenium	0.00618	0.0040									
Silver	ND	0.0040									

Sample ID: 08080290-016BMS	SampType: MS	TestCode: M_ICPMS_SP	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: ZZZZ	Batch ID: 36891	TestNo: SW1312/6020		Analysis Date: 8/12/2008	SeqNo: 1200104

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5012	0.0040	0.5	0	100	75	125	0	0		
Barium	0.5302	0.0080	0.5	0.02597	101	75	125	0	0		
Cadmium	0.5003	0.0020	0.5	0	100	75	125	0	0		
Chromium	0.516	0.0040	0.5	0	103	75	125	0	0		
Lead	0.5162	0.0020	0.5	0	103	75	125	0	0		
Selenium	0.4852	0.0040	0.5	0	97	75	125	0	0		B
Silver	0.2047	0.0040	0.2	0	102	75	125	0	0		

Sample ID: 08080290-016BMSD	SampType: MSD	TestCode: M_ICPMS_SP	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: ZZZZ	Batch ID: 36891	TestNo: SW1312/6020		Analysis Date: 8/12/2008	SeqNo: 1200105

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4861	0.0040	0.5	0	97.2	75	125	0.5012	3.06	20	
Barium	0.5072	0.0080	0.5	0.02597	96.2	75	125	0.5302	4.43	20	
Cadmium	0.4774	0.0020	0.5	0	95.5	75	125	0.5003	4.68	20	
Chromium	0.4965	0.0040	0.5	0	99.3	75	125	0.516	3.85	20	
Lead	0.5049	0.0020	0.5	0	101	75	125	0.5162	2.21	20	
Selenium	0.4748	0.0040	0.5	0	95	75	125	0.4852	2.17	20	B
Silver	0.1946	0.0040	0.2	0	97.3	75	125	0.2047	5.06	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36891

Sample ID: IMBTCLP1 8/11/08	SampType: MBLK	TestCode: M_ICPMS_T+	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: ZZZZ	Batch ID: 36891	TestNo: SW1311/6020		Analysis Date: 8/12/2008	SeqNo: 1200107

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.010									
Barium	0.01027	0.020									J
Cadmium	ND	0.0050									
Chromium	0.00264	0.010									J
Lead	ND	0.0050									
Selenium	ND	0.010									
Silver	ND	0.010									

Sample ID: 08080269-003BMS	SampType: MS	TestCode: M_ICPMS_T+	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: 09S0CTS001A	Batch ID: 36891	TestNo: SW1311/6020		Analysis Date: 8/12/2008	SeqNo: 1200109

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5197	0.010	0.5	0	104	75	125	0	0		
Barium	1.083	0.020	0.5	0.5511	106	75	125	0	0		
Cadmium	0.4878	0.0050	0.5	0	97.6	75	125	0	0		
Chromium	0.552	0.010	0.5	0	110	75	125	0	0		
Lead	0.5398	0.0050	0.5	0	108	75	125	0	0		
Selenium	0.4883	0.010	0.5	0	97.7	75	125	0	0		
Silver	0.2002	0.010	0.2	0	100	75	125	0	0		

Sample ID: IMBW1 8/12/08	SampType: MBLK	TestCode: M_ICPMS_W	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: ZZZZ	Batch ID: 36891	TestNo: SW6020		Analysis Date: 8/12/2008	SeqNo: 1200062

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0040									
Barium	ND	0.0040									
Cadmium	ND	0.0020									
Chromium	ND	0.0040									
Lead	ND	0.0020									
Selenium	ND	0.0040									
Silver	ND	0.0040									

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36891

Sample ID: ILCSW1 8/12/08	SampType: LCS	TestCode: M_ICPMS_W	Units: mg/L	Prep Date: 8/12/2008	Run ID: ICPMS-2_080812B
Client ID: ZZZZ	Batch ID: 36891	TestNo: SW6020		Analysis Date: 8/12/2008	SeqNo: 1200063

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4943	0.0040	0.5	0	98.9	80	120	0	0		
Barium	0.4949	0.0040	0.5	0	99	80	120	0	0		
Cadmium	0.5014	0.0020	0.5	0	100	80	120	0	0		
Chromium	0.5042	0.0040	0.5	0	101	80	120	0	0		
Lead	0.5117	0.0020	0.5	0	102	80	120	0	0		
Selenium	0.4932	0.0040	0.5	0	98.6	80	120	0	0		
Silver	0.2048	0.0040	0.2	0	102	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

Prep Start Date: **8/12/2008 3:00:00 P**

Prep End Date:

Prep Factor Units:

Prep Batch **36895** Prep Code: **M_HG_W_PRE** Technician: **VA**

mL / mL

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
HGMBW1 8/12/08			30	0	0	30	1.000	8/12/2008	8/12/2008
HGLCSW1 8/12/08			30	0	0	30	1.000	8/12/2008	8/12/2008
08080334-001C	Water		30	0	0	30	1.000	8/12/2008	8/12/2008
08080334-002C	Water		30	0	0	30	1.000	8/12/2008	8/12/2008
08080334-003C	Water		30	0	0	30	1.000	8/12/2008	8/12/2008
08080334-004C	Water		30	0	0	30	1.000	8/12/2008	8/12/2008
08080334-005C	Water		30	0	0	30	1.000	8/12/2008	8/12/2008
HGMBTCLP1 8/11/08			30	0	0	30	1.000	8/12/2008	8/12/2008
08080287-001A	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080287-002A	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080287-003A	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080287-003AMS	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080287-003AMSD	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080284-001B	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080284-002B	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080284-003B	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080269-003B	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080269-004B	Soil		30	0	0	30	1.000	8/12/2008	8/12/2008
08080379-001B	Water		30	0	0	30	1.000	8/12/2008	8/12/2008

Prep Start Date: **8/9/2008 3:00:00 PM**

Prep End Date: **8/9/2008 3:30:00 PM**

Prep Factor Units:

mL / g

Prep Batch **36837** Prep Code: **RCNPRP_S** Technician: **KB**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
RCNMBS1 080908			1	0	0	50	50.000	8/9/2008	8/9/2008
RCNLCSS1 080908			1	0	0	50	50.000	8/9/2008	8/9/2008
08080269-003BMS	Soil		1	0	0	50	50.000	8/9/2008	8/9/2008
08080269-003BMSD	Soil		1	0	0	50	50.000	8/9/2008	8/9/2008
08070995-001A	Oil/Water		1	0	0	50	50.000	8/9/2008	8/9/2008
08080269-003B	Soil		1	0	0	50	50.000	8/9/2008	8/9/2008
08080269-004B	Soil		1	0	0	50	50.000	8/9/2008	8/9/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36837

Sample ID: RCNMBS1 080908	SampType: MBLK	TestCode: CN_SRXT	Units: mg/Kg	Prep Date: 8/9/2008	Run ID: LACHAT_080809A						
Client ID: ZZZZ	Batch ID: 36837	TestNo: SW7.3.3.2		Analysis Date: 8/9/2008	SeqNo: 1197175						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Cyanide

ND 1.0

Sample ID: RCNLCSS1 080908	SampType: LCS	TestCode: CN_SRXT	Units: mg/Kg	Prep Date: 8/9/2008	Run ID: LACHAT_080809A						
Client ID: ZZZZ	Batch ID: 36837	TestNo: SW7.3.3.2		Analysis Date: 8/9/2008	SeqNo: 1197176						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Cyanide

7.702 1.0 10 0 77 50 150 0 0

Sample ID: 08080269-003BMS	SampType: MS	TestCode: CN_SRXT	Units: mg/Kg	Prep Date: 8/9/2008	Run ID: LACHAT_080809A						
Client ID: 09S0CTS001A	Batch ID: 36837	TestNo: SW7.3.3.2		Analysis Date: 8/9/2008	SeqNo: 1197178						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Cyanide

5.435 1.0 10 0 54.3 50 150 0 0

Sample ID: 08080269-003BMSD	SampType: MSD	TestCode: CN_SRXT	Units: mg/Kg	Prep Date: 8/9/2008	Run ID: LACHAT_080809A						
Client ID: 09S0CTS001A	Batch ID: 36837	TestNo: SW7.3.3.2		Analysis Date: 8/9/2008	SeqNo: 1197179						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Cyanide

6.128 1.0 10 0 61.3 50 150 5.435 12.0 30

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 * - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank
 E - Value above quantitation range

Prep Start Date: **8/14/2008 12:30:00**

Prep End Date: **8/15/2008 10:30:00**

Prep Factor Units:

Prep Batch **36975**

Prep Code: **RSPRP_S**

Technician: **YZ**

mL / g

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
RSMB51 081408			1	0	0	50	50.000	8/14/2008	8/14/2008
RSLCSS1 081408			1	0	0	50	50.000	8/14/2008	8/14/2008
08080269-003B	Soil		1	0	0	50	50.000	8/14/2008	8/14/2008
08080269-004B	Soil		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-006A	Oil Dry		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-007A	Sludge		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-008A	Sludge		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-009A	Oil Dry		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-010A	Sludge		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-017A	Coke		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-018A	Coke		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-019A	Sludge		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-020A	Sludge		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-025A	Scale		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-026A	Scale		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-027A	Scale		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-028A	Scale		1	0	0	50	50.000	8/14/2008	8/14/2008
08080439-029A	Scale		1	0	0	50	50.000	8/14/2008	8/14/2008
08080449-001A	Soil		1	0	0	50	50.000	8/14/2008	8/14/2008
08080522-001A	Soil		1	0	0	50	50.000	8/15/2008	8/15/2008
08080523-001A	Soil		1	0	0	50	50.000	8/15/2008	8/15/2008
08080523-002A	Soil		1	0	0	50	50.000	8/15/2008	8/15/2008
08080523-003A	Soil		1	0	0	50	50.000	8/15/2008	8/15/2008
08080524-001A	Soil		1	0	0	50	50.000	8/15/2008	8/15/2008
08080449-001AMS	Soil		1	0	0	50	50.000	8/14/2008	8/14/2008

Prep Start Date: **8/14/2008 12:30:00**Prep End Date: **8/15/2008 10:30:00**

Prep Factor Units:

Prep Batch **36975** Prep Code: **RSPRP_S** Technician: **YZ****mL / g**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
08080449-001AMSD	Soil		1	0	0	50	50.000	8/14/2008	8/14/2008

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: 36975

Sample ID: RSMBS1 081408	SampType: MBLK	TestCode: SULF_RXT-S	Units: mg/Kg	Prep Date: 8/14/2008	Run ID: LACHAT_080814C						
Client ID: ZZZZ	Batch ID: 36975	TestNo: SW7.3.4.2		Analysis Date: 8/14/2008	SeqNo: 1202726						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Sulfide

ND 10

Sample ID: RSLCSS1 081408	SampType: LCS	TestCode: SULF_RXT-S	Units: mg/Kg	Prep Date: 8/14/2008	Run ID: LACHAT_080814C						
Client ID: ZZZZ	Batch ID: 36975	TestNo: SW7.3.4.2		Analysis Date: 8/14/2008	SeqNo: 1202727						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Sulfide

426.9 10 500 0 85.4 50 150 0 0

Sample ID: 08080449-001AMS	SampType: MS	TestCode: SULF_RXT-S	Units: mg/Kg	Prep Date: 8/14/2008	Run ID: LACHAT_080814C						
Client ID: ZZZZ	Batch ID: 36975	TestNo: SW7.3.4.2		Analysis Date: 8/14/2008	SeqNo: 1202729						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Sulfide

427.9 10 500 0 85.6 40 120 0 0

Sample ID: 08080449-001AMSD	SampType: MSD	TestCode: SULF_RXT-S	Units: mg/Kg	Prep Date: 8/14/2008	Run ID: LACHAT_080814C						
Client ID: ZZZZ	Batch ID: 36975	TestNo: SW7.3.4.2		Analysis Date: 8/14/2008	SeqNo: 1202730						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Reactive Sulfide

318.5 10 500 0 63.7 40 120 427.9 29.3 30

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46940

Sample ID: PMMBK 8/11/08	SampType: MBLK	TestCode: PMOIST	Units: wt%	Prep Date: 8/11/2008	Run ID: BALANCE_080811A						
Client ID: ZZZZ	Batch ID: R46940	TestNo: D2974		Analysis Date: 8/12/2008	SeqNo: 1199051						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	ND	0.0100									*
------------------	----	--------	--	--	--	--	--	--	--	--	---

Sample ID: PMLCS-S 8/11/08	SampType: LCS	TestCode: PMOIST	Units: wt%	Prep Date: 8/11/2008	Run ID: BALANCE_080811A						
Client ID: ZZZZ	Batch ID: R46940	TestNo: D2974		Analysis Date: 8/12/2008	SeqNo: 1199052						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	4.8	0.0100	5	0	96	80	120	0	0		*
------------------	-----	--------	---	---	----	----	-----	---	---	--	---

Sample ID: PMLCS-W 8/11/08	SampType: LCS	TestCode: PMOIST	Units: wt%	Prep Date: 8/11/2008	Run ID: BALANCE_080811A						
Client ID: ZZZZ	Batch ID: R46940	TestNo: D2974		Analysis Date: 8/12/2008	SeqNo: 1199053						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	99.79	0.0100	99.8	0	100	80	120	0	0		*
------------------	-------	--------	------	---	-----	----	-----	---	---	--	---

Sample ID: 08080248-008A DUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date: 8/11/2008	Run ID: BALANCE_080811A						
Client ID: ZZZZ	Batch ID: R46940	TestNo: D2974		Analysis Date: 8/12/2008	SeqNo: 1199055						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	16.88	0.0100	0	0	0	0	0	18.57	9.53	20	*
------------------	-------	--------	---	---	---	---	---	-------	------	----	---

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

CLIENT: Weston Solutions
Work Order: 08080269
Project: 13676.005.001.0020, SWMU 9, Crane, IL

ANALYTICAL QC SUMMARY REPORT

BatchID: R46913

Sample ID: 08080249-001A DUP	SampType: DUP	TestCode: PH_S	Units: pH Units	Prep Date: 8/11/2008	Run ID: PH_080811A						
Client ID: ZZZZ	Batch ID: R46913	TestNo: SW9045C		Analysis Date: 8/11/2008	SeqNo: 1198087						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.88	0	0	0	0	0	0	7.76	1.53	20	

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
--	---	---

APPENDIX C

**FIXED-BASE LABORATORY ANALYTICAL RESULTS FOR
VERIFICATION SAMPLES (TETRA TECH)**

MEMO TO: S. RUFFING - PAGE 2
DATE: JANUARY 4, 2010

Calibration Verification Results

The continuing calibration percent recovery on 10/12/09 at 17:06 for arsenic was > 110% quality control limit affecting samples 12SOCW011A, 12SOCW012A, 12SOCW013A, 12SOCW014A, 12SOCF001A, 12SOCF002A, 12SOCF003A, 12SOCF004A, 12SOCF005A and 12SOCF006A. The positive results reported for arsenic in the affected samples were qualified as estimated, "J".

ICP Interference

The interfering analyte iron was present in all samples except 12SOCW008A, 12SOCW009A and 12SOCF002A at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, arsenic, chromium, copper, lead and/or zinc were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for arsenic in the affected samples. The positive results reported for arsenic were qualified as estimated, "J".

The interfering analyte iron was present in samples 12SOCW009A and 12SOCF002A at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, arsenic, chromium, copper, lead and zinc were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for arsenic and copper in the affected samples. The positive results reported for arsenic and copper were qualified as estimated, "J".

Laboratory Control Sample Results

The laboratory control sample percent recovery for tin was greater than the 120% quality control limit affecting all samples. The positive results reported for tin were qualified as estimated, "J".

Laboratory Duplicate Results

Laboratory duplicate imprecision (RPD > 35%) was noted for arsenic, copper, lead and zinc affecting samples 12SOCW001A, 12SOCW002A, 12SOCW003A, 12SOCW004A, 12SOCW005A, 12SOCW006A, 12SOCW007A, 12SOCW008A, 12SOCW009A, 12SOCW010A, 12SOCW011A, 12SOCW012A, 12SOCW013A and 12SOCW014A. The positive results reported for arsenic, copper, lead and zinc in the aforementioned samples were qualified as estimated, "J".

Laboratory duplicate imprecision (RPD > 35%) was noted for iron and lead affecting samples 12SOCF001A, 12SOCF002A, 12SOCF003A, 12SOCF004A, 12SOCF005A and 12SOCF006A. The positive results reported for iron and lead in the aforementioned samples were qualified as estimated, "J".

Matrix Spike Results

The matrix spike percent recoveries for antimony were < 30% quality control limit for samples 12SOCW005A and 12SOCF006A. The post digestion spikes were within the quality control limits. Only nondetected antimony results were reported for all samples and results were qualified as estimated, "UJ".

The matrix spike percent recoveries for copper, lead and zinc were > 125% quality control limit for sample 12SOCW005A. The positive results reported for copper, lead and zinc for samples 12SOCW001A, 12SOCW002A, 12SOCW003A, 12SOCW004A, 12SOCW005A, 12SOCW006A, 12SOCW007A, 12SOCW008A, 12SOCW009A, 12SOCW010A, 12SOCW011A, 12SOCW012A, 12SOCW013A and 12SOCW014A were qualified as estimated, "J".

DATE: JANUARY 4, 2010

The matrix spike percent recovery for chromium was > 125% quality control limit for sample 12SOFC006A. The positive results reported for chromium for samples 12SOFC001A, 12SOFC002A, 12SOFC003A, 12SOFC004A, 12SOFC005A and 12SOFC006A were qualified as estimated, "J".

ICP Serial Dilution Results

The ICP serial dilution percent difference was > 10% quality control limit (results > 50X IDL) for iron affecting samples 12SOCW001A, 12SOCW002A, 12SOCW003A, 12SOCW004A, 12SOCW005A, 12SOCW006A, 12SOCW007A, 12SOCW008A, 12SOCW009A, 12SOCW010A, 12SOCW011A, 12SOCW012A, 12SOCW013A and 12SOCW014A. The positive results reported for iron in the affected samples were qualified as estimated, "J".

Notes

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

<u>Analyte</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Iron	52 ug/L	13 mg/kg
Zinc ⁽¹⁾	0.352 mg/kg	1.76 mg/kg

⁽¹⁾ Maximum concentration present in a soil preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No validation actions were warranted as all sample results were greater than the action level.

The interfering analyte iron was present in sample 12SOCW008A at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, arsenic, chromium and copper were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). No interference effects were present for sample 12SOCW008A.

Executive Summary

Laboratory Performance: The continuing calibration percent recovery on 10/12/09 at 17:06 for arsenic was > 110% quality control limit. The laboratory control sample percent recovery for tin was greater than the 120% quality control limit.

Other Factors Affecting Data Quality: The interfering analyte iron was present in all samples. Laboratory duplicate imprecision (RPD > 35%) was noted for arsenic, copper, iron, lead and / or zinc. The matrix spike percent recoveries for arsenic, chromium, copper, lead and / or zinc were outside the quality control limits. The ICP serial dilution percent difference was > 10% quality control limit for iron affecting several samples.

MEMO TO: S. RUFFING - PAGE 4
DATE: JANUARY 4, 2010

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.



Tetra Tech NUS
Terri L. Solomon
Environmental Scientist



Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS-GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $< CRQL$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DOT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01573 SDG: CTOF271_001 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCF001A			12SOCF002A			12SOCF003A			12SOCF004A		
	LAB_ID	0910089-16			0910089-17			0910089-18			0910089-19		
	SAMP_DATE	10/7/2009			10/7/2009			10/7/2009			10/7/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	85.4			91.3			84.7			86.8		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.29	UJ	D	0.275	UJ	D	0.294	UJ	D	0.281	UJ	D	
ARSENIC	2.87	J	CK	5.21	J	CK	6.17	J	CK	6.38	J	CK	
CHROMIUM	13	J	D	20.5	J	D	20.6	J	D	18.4	J	D	
COPPER	14.2			8.41	J	K	91.2			45.6			
IRON	17200	J	F	21300	J	F	21700	J	F	19200	J	F	
LEAD	17.9	J	F	13.5	J	F	294	J	F	104	J	F	
MERCURY	0.0431			0.0129	U		0.0161			0.0418			
SILVER	0.058	U		0.055	U		0.0594			0.0562	U		
TIN	3.98	J	E	2.87	J	E	14.9	J	E	5.92	J	E	
ZINC	89.4			18.6			370			390			

PROJ_NO: 01573 SDG: CTOF271_001 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCF005A			12SOCF006A			12SOCW001A			12SOCW002A		
	LAB_ID	0910089-20			0910089-21			0910089-01			0910089-02		
	SAMP_DATE	10/7/2009			10/7/2009			10/7/2009			10/7/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	88.4			85.1			83.6			82.7		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.284	UJ	D	0.288	UJ	D	0.299	UJ	D	0.302	UJ	D	
ARSENIC	2.58	J	CK	1.87	J	CK	4.99	J	FK	6.87	J	FK	
CHROMIUM	13.8	J	D	13.6	J	D	14.5			16.8			
COPPER	9.58			12.3			15.2	J	DF	32.6	J	DF	
IRON	19900	J	F	14900	J	F	15300	J	I	22200	J	I	
LEAD	12	J	F	14.5	J	F	23.2	J	DF	59	J	DF	
MERCURY	0.0255			0.0148	U		0.0175			0.0326			
SILVER	0.0568	U		0.0576	U		0.0598	U		0.0605	U		
TIN	2.84	U		3.17	J	E	4.25	J	E	5.91	J	E	
ZINC	30.5			48			83.5	J	DF	200	J	DF	

PROJ_NO: 01573 SDG: CTOF271_001 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCW003A			12SOCW004A			12SOCW005A			12SOCW006A		
	LAB_ID	0910089-03			0910089-04			0910089-05			0910089-06		
	SAMP_DATE	10/7/2009			10/7/2009			10/7/2009			10/7/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	84.5			86.8			84.5			85.5		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.296	UJ	D	0.573	UJ	D	0.292	UJ	D	0.292	UJ	D	
ARSENIC	8.89	J	FK	13.1	J	FK	5.99	J	FK	1.5	J	FK	
CHROMIUM	19.3			44.7			18.1			16			
COPPER	46.9	J	DF	17.8	J	DF	9.75	J	DF	24.5	J	DF	
IRON	25500	J	I	40800	J	I	23600	J	I	17100	J	I	
LEAD	81.5	J	DF	35.3	J	DF	13.5	J	DF	35.2	J	DF	
MERCURY	0.0244			0.0173			0.0149	U		0.0226			
SILVER	0.0591	U		0.115	U		0.0583	U		0.0585	U		
TIN	5.81	J	E	4.46	J	E	2.97	J	E	3.26	J	E	
ZINC	254	J	DF	68.7	J	DF	20.8	J	DF	135	J	DF	

PROJ_NO: 01573 SDG: CTOF271_001 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCW007A			12SOCW008A			12SOCW009A			12SOCW010A		
	LAB_ID	0910089-07			0910089-08			0910089-09			0910089-10		
	SAMP_DATE	10/7/2009			10/7/2009			10/7/2009			10/7/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	79.0			84.6			86.1			79.9		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.313	UJ	D	0.297	UJ	D	0.57	UJ	D	0.313	UJ	D	
ARSENIC	4.37	J	FK	5.07	J	F	1.35	J	FK	3	J	FK	
CHROMIUM	16.3			12			17.2			18.4			
COPPER	75.7	J	DF	21	J	DF	13.7	J	DFK	25.3	J	DF	
IRON	13000	J	I	12100	J	I	43400	J	I	14700	J	I	
LEAD	73.4	J	DF	20.3	J	DF	21.6	J	DF	41	J	DF	
MERCURY	0.246			0.0149	U		0.0146	U		0.0176			
SILVER	0.113			0.0594	U		0.114	U		0.0626	U		
TIN	11	J	E	4.22	J	E	2.99	J	E	4.16	J	E	
ZINC	1330	J	DF	300	J	DF	98.8	J	DF	146	J	DF	

PROJ_NO: 01573 SDG: CTOF271_001 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCW011A			12SOCW012A			12SOCW013A			12SOCW014A		
	LAB_ID	0910089-11			0910089-12			0910089-13			0910089-14		
	SAMP_DATE	10/7/2009			10/7/2009			10/7/2009			10/7/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	78.2			78.4			81.4			92.9		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.313	UJ	D	0.314	UJ	D	0.3	UJ	D	0.261	UJ	D	
ARSENIC	3.46	J	CFK	4.35	J	CFK	0.899	J	CFK	5.81	J	CFK	
CHROMIUM	14.1			18.1			12.9			17			
COPPER	14.8	J	DF	104	J	DF	34.2	J	DF	12.5	J	DF	
IRON	12200	J	I	19600	J	I	7140	J	I	21700	J	I	
LEAD	14.2	J	DF	142	J	DF	101	J	DF	24	J	DF	
MERCURY	0.0147	U		0.0241			0.0155	U		0.0208			
SILVER	0.0627	U		1.18			0.127			0.0523	U		
TIN	3.41	J	E	11.3	J	E	12.3	J	E	2.95	J	E	
ZINC	57.2	J	DF	932	J	DF	419	J	DF	83.8	J	DF	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

ANALYSIS DATA SHEET

12SOCF001A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 16:45
 % Solids: 85.38

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-16
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0431	0.0152	0.0386	1		SW7471A	9J09007	10/12/09 11:51
7440-36-0	Antimony		0.290	0.870	1	UN	SW6010B	9J09001	10/12/09 16:19
7440-38-2	Arsenic	2.87	0.174	0.290	1	*	SW6010B	9J09001	10/12/09 16:19
7440-47-3	Chromium	13.0	0.116	0.290	1	N	SW6010B	9J09001	10/12/09 16:19
7440-50-8	Copper	14.2	0.290	0.580	1	*N	SW6010B	9J09001	10/12/09 16:19
7439-89-6	Iron	17200	1.74	5.80	1	*E	SW6010B	9J09001	10/12/09 16:19
7439-92-1	Lead	17.9	0.0870	0.174	1	*N	SW6010B	9J09001	10/12/09 16:19
7440-22-4	Silver		0.0580	0.290	1	U	SW6010B	9J09001	10/12/09 16:19
7440-31-5	Tin	3.98	2.90	5.80	1	J	SW6010B	9J09001	10/12/09 16:19
7440-66-6	Zinc	89.4	0.290	1.16	1	*N	SW6010B	9J09001	10/12/09 16:19

ANALYSIS DATA SHEET

12SOCF002A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910089-17

Sampled: 10/07/09 16:50

Received: 10/08/09 08:30

% Solids: 91.33

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0129	0.0330	1	U	SW7471A	9J09007	10/12/09 11:55
7440-36-0	Antimony		0.275	0.825	1	UN	SW6010B	9J09001	10/12/09 16:24
7440-38-2	Arsenic	5.21	0.165	0.275	1	*	SW6010B	9J09001	10/12/09 16:24
7440-47-3	Chromium	20.5	0.110	0.275	1	N	SW6010B	9J09001	10/12/09 16:24
7440-50-8	Copper	8.41	0.275	0.550	1	*N	SW6010B	9J09001	10/12/09 16:24
7439-89-6	Iron	21300	1.65	5.50	1	*E	SW6010B	9J09001	10/12/09 16:24
7439-92-1	Lead	13.5	0.0825	0.165	1	*N	SW6010B	9J09001	10/12/09 16:24
7440-22-4	Silver		0.0550	0.275	1	U	SW6010B	9J09001	10/12/09 16:24
7440-31-5	Tin	2.87	2.75	5.50	1	J	SW6010B	9J09001	10/12/09 16:24
7440-66-6	Zinc	18.6	0.275	1.10	1	*N	SW6010B	9J09001	10/12/09 16:24

ANALYSIS DATA SHEET

12SOCF003A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 17:00
 % Solids: 84.66

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-18
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0161	0.0154	0.0390	1	J	SW7471A	9J09007	10/12/09 11:56
7440-36-0	Antimony		0.294	0.881	1	UN	SW6010B	9J09001	10/12/09 16:28
7440-38-2	Arsenic	6.17	0.176	0.294	1	*	SW6010B	9J09001	10/12/09 16:28
7440-47-3	Chromium	20.6	0.118	0.294	1	N	SW6010B	9J09001	10/12/09 16:28
7440-50-8	Copper	91.2	0.294	0.588	1	* N	SW6010B	9J09001	10/12/09 16:28
7439-89-6	Iron	21700	1.76	5.88	1	* E	SW6010B	9J09001	10/12/09 16:28
7439-92-1	Lead	294	0.0881	0.176	1	* N	SW6010B	9J09001	10/12/09 16:28
7440-22-4	Silver	0.0594	0.0588	0.294	1	J	SW6010B	9J09001	10/12/09 16:28
7440-31-5	Tin	14.9	2.94	5.88	1		SW6010B	9J09001	10/12/09 16:28
7440-66-6	Zinc	370	0.294	1.18	1	* N	SW6010B	9J09001	10/12/09 16:28

ANALYSIS DATA SHEET

12SOCF004A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 17:10
 % Solids: 86.76

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-19
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0418	0.0145	0.0368	1		SW7471A	9J09007	10/12/09 11:58
7440-36-0	Antimony		0.281	0.843	1	UN	SW6010B	9J09001	10/12/09 16:33
7440-38-2	Arsenic	6.38	0.169	0.281	1	*	SW6010B	9J09001	10/12/09 16:33
7440-47-3	Chromium	18.4	0.112	0.281	1	N	SW6010B	9J09001	10/12/09 16:33
7440-50-8	Copper	45.6	0.281	0.562	1	*N	SW6010B	9J09001	10/12/09 16:33
7439-89-6	Iron	19200	1.69	5.62	1	*E	SW6010B	9J09001	10/12/09 16:33
7439-92-1	Lead	104	0.0843	0.169	1	*N	SW6010B	9J09001	10/12/09 16:33
7440-22-4	Silver		0.0562	0.281	1	U	SW6010B	9J09001	10/12/09 16:33
7440-31-5	Tin	5.92	2.81	5.62	1		SW6010B	9J09001	10/12/09 16:33
7440-66-6	Zinc	390	0.281	1.12	1	*N	SW6010B	9J09001	10/12/09 16:33

ANALYSIS DATA SHEET

12SOCF005A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910089-20

Sampled: 10/07/09 17:25

Received: 10/08/09 08:30

% Solids: 88.39

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0255	0.0134	0.0339	1	J	SW7471A	9J09007	10/12/09 11:59
7440-36-0	Antimony		0.284	0.853	1	U N	SW6010B	9J09001	10/12/09 16:37
7440-38-2	Arsenic	2.58	0.171	0.284	1	*	SW6010B	9J09001	10/12/09 16:37
7440-47-3	Chromium	13.8	0.114	0.284	1	N	SW6010B	9J09001	10/12/09 16:37
7440-50-8	Copper	9.58	0.284	0.568	1	* N	SW6010B	9J09001	10/12/09 16:37
7439-89-6	Iron	19900	1.71	5.68	1	* E	SW6010B	9J09001	10/12/09 16:37
7439-92-1	Lead	12.0	0.0853	0.171	1	* N	SW6010B	9J09001	10/12/09 16:37
7440-22-4	Silver		0.0568	0.284	1	U	SW6010B	9J09001	10/12/09 16:37
7440-31-5	Tin		2.84	5.68	1	U	SW6010B	9J09001	10/12/09 16:37
7440-66-6	Zinc	30.5	0.284	1.14	1	* N	SW6010B	9J09001	10/12/09 16:37

ANALYSIS DATA SHEET

12SOCF006A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 17:35
 % Solids: 85.14

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-21
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0148	0.0375	1	U	SW7471A	9J09007	10/12/09 12:00
7440-36-0	Antimony		0.288	0.864	1	U N	SW6010B	9J09001	10/12/09 16:42
7440-38-2	Arsenic	1.87	0.173	0.288	1	*	SW6010B	9J09001	10/12/09 16:42
7440-47-3	Chromium	13.6	0.115	0.288	1	N	SW6010B	9J09001	10/12/09 16:42
7440-50-8	Copper	12.3	0.288	0.576	1	* N	SW6010B	9J09001	10/12/09 16:42
7439-89-6	Iron	14900	1.73	5.76	1	* E	SW6010B	9J09001	10/12/09 16:42
7439-92-1	Lead	14.5	0.0864	0.173	1	* N	SW6010B	9J09001	10/12/09 16:42
7440-22-4	Silver		0.0576	0.288	1	U	SW6010B	9J09001	10/12/09 16:42
7440-31-5	Tin	3.17	2.88	5.76	1	J	SW6010B	9J09001	10/12/09 16:42
7440-66-6	Zinc	48.0	0.288	1.15	1	* N	SW6010B	9J09001	10/12/09 16:42

ANALYSIS DATA SHEET

12SOCW001A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910089-01

Sampled: 10/07/09 13:55

Received: 10/08/09 08:30

% Solids: 83.59

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0175	0.0150	0.0382	1	J	SW7471A	9J09007	10/12/09 11:28
7440-36-0	Antimony		0.299	0.897	1	U N	SW6010B	9J09001	10/12/09 14:43
7440-38-2	Arsenic	4.99	0.179	0.299	1	*	SW6010B	9J09001	10/12/09 14:43
7440-47-3	Chromium	14.5	0.120	0.299	1	N	SW6010B	9J09001	10/12/09 14:43
7440-50-8	Copper	15.2	0.299	0.598	1	* N	SW6010B	9J09001	10/12/09 14:43
7439-89-6	Iron	15300	1.79	5.98	1	* E	SW6010B	9J09001	10/12/09 14:43
7439-92-1	Lead	23.2	0.0897	0.179	1	* N	SW6010B	9J09001	10/12/09 14:43
7440-22-4	Silver		0.0598	0.299	1	U	SW6010B	9J09001	10/12/09 14:43
7440-31-5	Tin	4.25	2.99	5.98	1	J	SW6010B	9J09001	10/12/09 14:43
7440-66-6	Zinc	83.5	0.299	1.20	1	* N	SW6010B	9J09001	10/12/09 14:43

ANALYSIS DATA SHEET

12SOCW002A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 14:15
 % Solids: 82.68

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-02
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0326	0.0147	0.0374	1	J	SW7471A	9J09007	10/12/09 11:30
7440-36-0	Antimony		0.302	0.907	1	U N	SW6010B	9J09001	10/12/09 14:48
7440-38-2	Arsenic	6.87	0.181	0.302	1	*	SW6010B	9J09001	10/12/09 14:48
7440-47-3	Chromium	16.8	0.121	0.302	1	N	SW6010B	9J09001	10/12/09 14:48
7440-50-8	Copper	32.6	0.302	0.605	1	* N	SW6010B	9J09001	10/12/09 14:48
7439-89-6	Iron	22200	1.81	6.05	1	* E	SW6010B	9J09001	10/12/09 14:48
7439-92-1	Lead	59.0	0.181	0.363	2	D * N	SW6010B	9J09001	10/13/09 09:30
7440-22-4	Silver		0.0605	0.302	1	U	SW6010B	9J09001	10/12/09 14:48
7440-31-5	Tin	5.91	3.02	6.05	1	J	SW6010B	9J09001	10/12/09 14:48
7440-66-6	Zinc	200	0.605	2.42	2	D * N	SW6010B	9J09001	10/13/09 09:30

ANALYSIS DATA SHEET

12SOCW003A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 14:25
 % Solids: 84.54

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-03
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0244	0.0140	0.0355	1	J	SW7471A	9J09007	10/12/09 13:39
7440-36-0	Antimony		0.296	0.887	1	UN	SW6010B	9J09001	10/12/09 14:53
7440-38-2	Arsenic	8.89	0.177	0.296	1	*	SW6010B	9J09001	10/12/09 14:53
7440-47-3	Chromium	19.3	0.118	0.296	1	N	SW6010B	9J09001	10/12/09 14:53
7440-50-8	Copper	46.9	0.296	0.591	1	* N	SW6010B	9J09001	10/12/09 14:53
7439-89-6	Iron	25500	1.77	5.91	1	* E	SW6010B	9J09001	10/12/09 14:53
7439-92-1	Lead	81.5	0.177	0.355	2	D * N	SW6010B	9J09001	10/13/09 09:35
7440-22-4	Silver		0.0591	0.296	1	U	SW6010B	9J09001	10/12/09 14:53
7440-31-5	Tin	5.81	2.96	5.91	1	J	SW6010B	9J09001	10/12/09 14:53
7440-66-6	Zinc	254	0.591	2.37	2	D * N	SW6010B	9J09001	10/13/09 09:35

ANALYSIS DATA SHEET

12SOCW004A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 15:00
 % Solids: 86.83

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-04
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0173	0.0150	0.0380	1	J	SW7471A	9J09007	10/12/09 11:32
7440-36-0	Antimony		0.573	1.72	2	UN	SW6010B	9J09001	10/13/09 09:39
7440-38-2	Arsenic	13.1	0.344	0.573	2	D*	SW6010B	9J09001	10/13/09 09:39
7440-47-3	Chromium	44.7	0.229	0.573	2	DN	SW6010B	9J09001	10/13/09 09:39
7440-50-8	Copper	17.8	0.573	1.15	2	D*N	SW6010B	9J09001	10/13/09 09:39
7439-89-6	Iron	40800	3.44	11.5	2	D*E	SW6010B	9J09001	10/13/09 09:39
7439-92-1	Lead	35.3	0.172	0.344	2	D*N	SW6010B	9J09001	10/13/09 09:39
7440-22-4	Silver		0.115	0.573	2	U	SW6010B	9J09001	10/13/09 09:39
7440-31-5	Tin	4.46	2.86	5.73	1	J	SW6010B	9J09001	10/12/09 14:57
7440-66-6	Zinc	68.7	0.573	2.29	2	D*N	SW6010B	9J09001	10/13/09 09:39

ANALYSIS DATA SHEET

12SOCW005A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 11:15
 % Solids: 84.46

SDG: CTOF271 001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-05
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0149	0.0378	1	U	SW7471A	9J09007	10/12/09 11:33
7440-36-0	Antimony		0.292	0.875	1	UN	SW6010B	9J09001	10/12/09 15:02
7440-38-2	Arsenic	5.99	0.175	0.292	1	*	SW6010B	9J09001	10/12/09 15:02
7440-47-3	Chromium	18.1	0.117	0.292	1	N	SW6010B	9J09001	10/12/09 15:02
7440-50-8	Copper	9.75	0.292	0.583	1	*N	SW6010B	9J09001	10/12/09 15:02
7439-89-6	Iron	23600	1.75	5.83	1	*E	SW6010B	9J09001	10/12/09 15:02
7439-92-1	Lead	13.5	0.0875	0.175	1	*N	SW6010B	9J09001	10/12/09 15:02
7440-22-4	Silver		0.0583	0.292	1	U	SW6010B	9J09001	10/12/09 15:02
7440-31-5	Tin	2.97	2.92	5.83	1	J	SW6010B	9J09001	10/12/09 15:02
7440-66-6	Zinc	20.8	0.292	1.17	1	*N	SW6010B	9J09001	10/12/09 15:02

ANALYSIS DATA SHEET

12SOCW006A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 11:30
 % Solids: 85.50

SDG: CTOF271 001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-06
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0226	0.0143	0.0362	1	J	SW7471A	9J09007	10/12/09 11:40
7440-36-0	Antimony		0.292	0.877	1	UN	SW6010B	9J09001	10/12/09 15:25
7440-38-2	Arsenic	1.50	0.175	0.292	1	*	SW6010B	9J09001	10/12/09 15:25
7440-47-3	Chromium	16.0	0.117	0.292	1	N	SW6010B	9J09001	10/12/09 15:25
7440-50-8	Copper	24.5	0.292	0.585	1	* N	SW6010B	9J09001	10/12/09 15:25
7439-89-6	Iron	17100	1.75	5.85	1	* E	SW6010B	9J09001	10/12/09 15:25
7439-92-1	Lead	35.2	0.0877	0.175	1	* N	SW6010B	9J09001	10/12/09 15:25
7440-22-4	Silver		0.0585	0.292	1	U	SW6010B	9J09001	10/12/09 15:25
7440-31-5	Tin	3.26	2.92	5.85	1	J	SW6010B	9J09001	10/12/09 15:25
7440-66-6	Zinc	135	0.292	1.17	1	* N	SW6010B	9J09001	10/12/09 15:25

ANALYSIS DATA SHEET

12SOCW007A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 11:45
 % Solids: 78.99

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-07
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.246	0.0159	0.0404	1		SW7471A	9J09007	10/12/09 11:41
7440-36-0	Antimony		0.313	0.940	1	UN	SW6010B	9J09001	10/12/09 15:30
7440-38-2	Arsenic	4.37	0.188	0.313	1	*	SW6010B	9J09001	10/12/09 15:30
7440-47-3	Chromium	16.3	0.125	0.313	1	N	SW6010B	9J09001	10/12/09 15:30
7440-50-8	Copper	75.7	0.313	0.627	1	*N	SW6010B	9J09001	10/12/09 15:30
7439-89-6	Iron	13000	1.88	6.27	1	*E	SW6010B	9J09001	10/12/09 15:30
7439-92-1	Lead	73.4	0.0940	0.188	1	*N	SW6010B	9J09001	10/12/09 15:30
7440-22-4	Silver	0.113	0.0627	0.313	1	J	SW6010B	9J09001	10/12/09 15:30
7440-31-5	Tin	11.0	3.13	6.27	1		SW6010B	9J09001	10/12/09 15:30
7440-66-6	Zinc	1330	1.57	6.27	5	D*N	SW6010B	9J09001	10/13/09 09:53

ANALYSIS DATA SHEET

12SOCW008A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 15:25
 % Solids: 84.59

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-08
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0149	0.0378	1	U	SW7471A	9J09007	10/12/09 11:42
7440-36-0	Antimony		0.297	0.891	1	U N	SW6010B	9J09001	10/12/09 15:34
7440-38-2	Arsenic	5.07	0.178	0.297	1	*	SW6010B	9J09001	10/12/09 15:34
7440-47-3	Chromium	12.0	0.119	0.297	1	N	SW6010B	9J09001	10/12/09 15:34
7440-50-8	Copper	21.0	0.297	0.594	1	* N	SW6010B	9J09001	10/12/09 15:34
7439-89-6	Iron	12100	1.78	5.94	1	* E	SW6010B	9J09001	10/12/09 15:34
7439-92-1	Lead	20.3	0.446	0.891	5	D * N	SW6010B	9J09001	10/13/09 15:56
7440-22-4	Silver		0.0594	0.297	1	U	SW6010B	9J09001	10/12/09 15:34
7440-31-5	Tin	4.22	2.97	5.94	1	J	SW6010B	9J09001	10/12/09 15:34
7440-66-6	Zinc	300	1.49	5.94	5	D * N	SW6010B	9J09001	10/13/09 15:56

ANALYSIS DATA SHEET

12SOCW009A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 15:35
 % Solids: 86.06

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-09
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0146	0.0371	1	U	SW7471A	9J09007	10/12/09 11:44
7440-36-0	Antimony		0.570	1.71	2	U N	SW6010B	9J09001	10/13/09 09:57
7440-38-2	Arsenic	1.35	0.342	0.570	2	D *	SW6010B	9J09001	10/13/09 09:57
7440-47-3	Chromium	17.2	0.228	0.570	2	D N	SW6010B	9J09001	10/13/09 09:57
7440-50-8	Copper	13.7	0.570	1.14	2	D * N	SW6010B	9J09001	10/13/09 09:57
7439-89-6	Iron	43400	3.42	11.4	2	D * E	SW6010B	9J09001	10/13/09 09:57
7439-92-1	Lead	21.6	0.171	0.342	2	D * N	SW6010B	9J09001	10/13/09 09:57
7440-22-4	Silver		0.114	0.570	2	U	SW6010B	9J09001	10/13/09 09:57
7440-31-5	Tin	2.99	2.85	5.70	1	J	SW6010B	9J09001	10/12/09 15:39
7440-66-6	Zinc	98.8	0.570	2.28	2	D * N	SW6010B	9J09001	10/13/09 09:57

ANALYSIS DATA SHEET

12SOCW010A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_001

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910089-10

Sampled: 10/07/09 15:50

Received: 10/08/09 08:30

% Solids: 79.90

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0176	0.0144	0.0364	1	J	SW7471A	9J09007	10/12/09 11:45
7440-36-0	Antimony		0.313	0.939	1	UN	SW6010B	9J09001	10/12/09 15:44
7440-38-2	Arsenic	3.00	0.188	0.313	1	*	SW6010B	9J09001	10/12/09 15:44
7440-47-3	Chromium	18.4	0.125	0.313	1	N	SW6010B	9J09001	10/12/09 15:44
7440-50-8	Copper	25.3	0.313	0.626	1	*N	SW6010B	9J09001	10/12/09 15:44
7439-89-6	Iron	14700	1.88	6.26	1	*E	SW6010B	9J09001	10/12/09 15:44
7439-92-1	Lead	41.0	0.0939	0.188	1	*N	SW6010B	9J09001	10/12/09 15:44
7440-22-4	Silver		0.0626	0.313	1	U	SW6010B	9J09001	10/12/09 15:44
7440-31-5	Tin	4.16	3.13	6.26	1	J	SW6010B	9J09001	10/12/09 15:44
7440-66-6	Zinc	146	0.313	1.25	1	*N	SW6010B	9J09001	10/12/09 15:44

ANALYSIS DATA SHEET

12SOCW011A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 15:55
 % Solids: 78.24

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-11
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0147	0.0372	1	U	SW7471A	9J09007	10/12/09 11:46
7440-36-0	Antimony		0.313	0.940	1	UN	SW6010B	9J09001	10/12/09 16:01
7440-38-2	Arsenic	3.46	0.188	0.313	1	*	SW6010B	9J09001	10/12/09 16:01
7440-47-3	Chromium	14.1	0.125	0.313	1	N	SW6010B	9J09001	10/12/09 16:01
7440-50-8	Copper	14.8	0.313	0.627	1	*N	SW6010B	9J09001	10/12/09 16:01
7439-89-6	Iron	12200	1.88	6.27	1	*E	SW6010B	9J09001	10/12/09 16:01
7439-92-1	Lead	14.2	0.0940	0.188	1	*N	SW6010B	9J09001	10/12/09 16:01
7440-22-4	Silver		0.0627	0.313	1	U	SW6010B	9J09001	10/12/09 16:01
7440-31-5	Tin	3.41	3.13	6.27	1	J	SW6010B	9J09001	10/12/09 16:01
7440-66-6	Zinc	57.2	0.313	1.25	1	*N	SW6010B	9J09001	10/12/09 16:01

ANALYSIS DATA SHEET

12SOCW012A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 16:10
 % Solids: 78.37

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-12
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0241	0.0156	0.0395	1	J	SW7471A	9J09007	10/12/09 11:48
7440-36-0	Antimony		0.314	0.943	1	UN	SW6010B	9J09001	10/12/09 16:06
7440-38-2	Arsenic	4.35	0.189	0.314	1	*	SW6010B	9J09001	10/12/09 16:06
7440-47-3	Chromium	18.1	0.126	0.314	1	N	SW6010B	9J09001	10/12/09 16:06
7440-50-8	Copper	104	0.314	0.629	1	* N	SW6010B	9J09001	10/12/09 16:06
7439-89-6	Iron	19600	1.89	6.29	1	* E	SW6010B	9J09001	10/12/09 16:06
7439-92-1	Lead	142	0.0943	0.189	1	* N	SW6010B	9J09001	10/12/09 16:06
7440-22-4	Silver	1.18	0.0629	0.314	1		SW6010B	9J09001	10/12/09 16:06
7440-31-5	Tin	11.3	3.14	6.29	1		SW6010B	9J09001	10/12/09 16:06
7440-66-6	Zinc	932	0.629	2.51	2	D * N	SW6010B	9J09001	10/13/09 10:11

ANALYSIS DATA SHEET

12SOCW013A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 16:25
 % Solids: 81.42

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-13
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0155	0.0392	1	U	SW7471A	9J09007	10/12/09 11:49
7440-36-0	Antimony		0.300	0.899	1	UN	SW6010B	9J09001	10/12/09 16:10
7440-38-2	Arsenic	0.899	0.180	0.300	1	*	SW6010B	9J09001	10/12/09 16:10
7440-47-3	Chromium	12.9	0.120	0.300	1	N	SW6010B	9J09001	10/12/09 16:10
7440-50-8	Copper	34.2	0.300	0.599	1	* N	SW6010B	9J09001	10/12/09 16:10
7439-89-6	Iron	7140	1.80	5.99	1	* E	SW6010B	9J09001	10/12/09 16:10
7439-92-1	Lead	101	0.0899	0.180	1	* N	SW6010B	9J09001	10/12/09 16:10
7440-22-4	Silver	0.127	0.0599	0.300	1	J	SW6010B	9J09001	10/12/09 16:10
7440-31-5	Tin	12.3	3.00	5.99	1		SW6010B	9J09001	10/12/09 16:10
7440-66-6	Zinc	419	0.300	1.20	1	* N	SW6010B	9J09001	10/12/09 16:10

ANALYSIS DATA SHEET

12SOCW014A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/07/09 16:30
 % Solids: 92.87

SDG: CTOF271_001
 Project: NSA Crane CTO F271
 Laboratory ID: 0910089-14
 Received: 10/08/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0208	0.0140	0.0355	1	J	SW7471A	9J09007	10/12/09 11:50
7440-36-0	Antimony		0.261	0.784	1	U N	SW6010B	9J09001	10/12/09 16:15
7440-38-2	Arsenic	5.81	0.157	0.261	1	*	SW6010B	9J09001	10/12/09 16:15
7440-47-3	Chromium	17.0	0.105	0.261	1	N	SW6010B	9J09001	10/12/09 16:15
7440-50-8	Copper	12.5	0.261	0.523	1	* N	SW6010B	9J09001	10/12/09 16:15
7439-89-6	Iron	21700	1.57	5.23	1	* E	SW6010B	9J09001	10/12/09 16:15
7439-92-1	Lead	24.0	0.0784	0.157	1	* N	SW6010B	9J09001	10/12/09 16:15
7440-22-4	Silver		0.0523	0.261	1	U	SW6010B	9J09001	10/12/09 16:15
7440-31-5	Tin	2.95	2.61	5.23	1	J	SW6010B	9J09001	10/12/09 16:15
7440-66-6	Zinc	83.8	0.261	1.05	1	* N	SW6010B	9J09001	10/12/09 16:15

APPENDIX C
SUPPORT DOCUMENTATION



CTOF271_001Metals

PROJECT NO: 112G01573	FACILITY: NSA Crane	PROJECT MANAGER S. Ruffing	PHONE NUMBER 4129218989	LABORATORY NAME AND CONTACT: Janie Empirical Labs/Shilling
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER J. Goerdt	PHONE NUMBER 4129218425	ADDRESS 621 Mainstream Dr #271
CARRIER/WAYBILL NUMBER Fed Ex/8631 2526 4146			CITY, STATE Nashville, TN 37228	

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	COMMENTS
10/7	1355	1250CW001A	w001	0	.5	SO	C	1			0910089-01
	1415	1250CW002A	w002					1			-02
	1425	1250CW003A	w003					1			-03
	1500	1250CW004A	w004					1			-04
	1115	1250CW005A	w005					2			ms -05
	1130	1250CW006A	w006					1			-06
	1145	1250CW007A	w007					1			-07
	1525	1250CW008A	w008					1			-08
	1535	1250CW009A	w009					1			-09
	1550	1250CW010A	w010					1			-10
	1555	1250CW011A	w011					1			-11
	1610	1250CW012A	w012					1			-12
	1625	1250CW013A	w013					1			-13

TYPE OF ANALYSIS
SW-846 60108
3050-1471A
40C G

1. RELINQUISHED BY 	DATE 10/7/09	TIME 2030	1. RECEIVED BY 	DATE 10/8/09	TIME 08:30
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

CTOF271_001Metals

PROJECT NO: 112601573	FACILITY: NSA Crane	PROJECT MANAGER S. Ruffing	PHONE NUMBER 412 921 8989	LABORATORY NAME AND CONTACT: Empirical Lab/SH: 10/20/09
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER J. Goerdt	PHONE NUMBER 412 921 8425	ADDRESS 621 Mainstream Dr
CARRIER/WAYBILL NUMBER Fed Ex / 8631 2526 4196			CITY, STATE Nashville, TN 37228	

STANDARD TAT <input type="checkbox"/>	CONTAINER TYPE PLASTIC (P) or GLASS (G) G
RUSH TAT <input checked="" type="checkbox"/>	PRESERVATIVE USED 4°C
<input checked="" type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day	

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	NO. OF CONTAINERS	TYPE OF ANALYSIS SW-846 6070B 30.50 + 797A	COMMENTS
10/7	1630	1250CW014A	W014	0	15	SO	C	1		
	1745	1250GW015A	W015				G	1		-15 cancelled per client
	1645	1250CF001A	F001				C	1		-16
	1650	1250CF002A	F002					1		-17
	1700	1250CF003A	F003					1		-18
	1710	1250CF004A	F004					1		-19
	1725	1250CF005A	F005					1		-20
	1735	1250CF006A	F006					2		MS -21

1. RELINQUISHED BY 	DATE 10/7/09	TIME 2030	1. RECEIVED BY	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY 	DATE 10/8/09	TIME 08:30

COMMENTS



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: S. RUFFING DATE: NOVEMBER 17, 2009

FROM: TERRI L. SOLOMON COPIES: DV FILE

SUBJECT: INORGANIC DATA VALIDATION –SELECT METALS
CTO F271 NSWC CRANE
SAMPLE DELIVERY GROUP (SDG) – CTO271_002

SAMPLES: 3/Soils/

12SOCF007A

12SOCF008A

12SOCW016A

Overview

The sample set for NSWC Crane, CTO F271, SDG CTO271_002 consists of three (3) soil environmental samples. No field duplicate pairs were included within this SDG.

All samples were analyzed for select metals including antimony, arsenic, chromium, copper, iron, lead, mercury, silver, tin and zinc. The samples were collected on October 15 and 16, 2009 and analyzed by Empirical Laboratories, LLC under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. Metals analyses were conducted using SW-846 method 6010B. Mercury analyses were conducted using SW-846 method 7471A.

These data were evaluated based on the following parameters:

- * • Data Completeness
- * • Holding Times
- Initial and Continuing Calibrations
- Laboratory Method / Preparation Blank Analyses
- ICP Interference Results
- * • Laboratory Control Sample Results
- Laboratory Duplicate Results
- Matrix Spike Results
- * • ICP Serial Dilution Results
- * • Detection Limits
- * • Analyte Quantitation

* - All quality control criteria were met for this parameter.

Calibration Verification Results

The continuing calibration percent recoveries on 10/19/09 at 13:55 and 15:23 for silver were < 90% quality control limit affecting all samples. The nondetected results reported for silver in the affected samples were qualified as estimated, "UJ".

The continuing calibration percent recovery on 10/19/09 at 15:23 for lead was > 110% quality control limit affecting all samples. The positive results reported for lead in the affected samples were qualified as estimated, "J".

ICP Interference

The interfering analyte iron was present in sample 12SOCF008A at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, antimony, arsenic, chromium, copper and lead were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for antimony in the affected sample. The positive result reported for antimony was qualified as estimated, "J".

Laboratory Duplicate Results

Laboratory duplicate imprecision (RPD > 35%) was noted for chromium, copper, lead and zinc affecting all samples. The positive results reported for chromium, copper, lead and zinc were qualified as estimated, "J".

Matrix Spike Results

The matrix spike percent recoveries for antimony were < 30% quality control limit for sample 12SOCF016A. The post digestion spike recovery was within the quality control limits. The positive and nondetected results reported for antimony for all samples were qualified as estimated, "J" and "UJ", respectively.

The matrix spike percent recovery for chromium was < 75% quality control limit for sample 12SOCF016A. The positive results reported for chromium for all samples were qualified as estimated, "J".

Notes

Sample 12SOCW016A was incorrectly identified on the laboratory form I, the laboratory data package and the EDD. The ID for sample 12SOCW016A was amended to match the chain of custody.

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

<u>Analyte</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Iron	54.4 ug/L	13.6 mg/kg

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No validation actions were warranted as all sample results were greater than the action level.

The interfering analyte iron was present in samples 12SOCF007A and 12SOCW016A at a concentration comparable to the concentration of iron in the interference check sample (ICS) solution. Several analytes namely, antimony, arsenic, chromium, copper and lead were present in

MEMO TO: S. RUFFING - PAGE 3

DATE: NOVEMBER 17, 2009

the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). No interference effects were present for samples 12SOCF007A and 12SOCW016A.

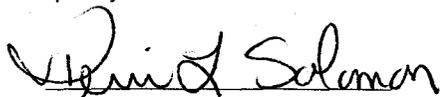
Executive Summary

Laboratory Performance: The continuing calibration percent recoveries on 10/19/09 at 13:55 and 15:23 for silver were < 90% quality control limit. The continuing calibration percent recovery on 10/19/09 at 15:23 for lead was > 110% quality control limit.

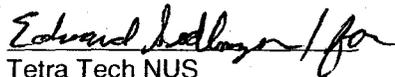
Other Factors Affecting Data Quality: The interfering analyte iron was present in all samples. Laboratory duplicate imprecision (RPD > 35%) was noted for chromium, copper, lead and zinc. The matrix spike percent recoveries for antimony were < 30% quality control limit for sample 12SOCF016A. The matrix spike percent recovery for chromium was < 75% quality control limit for sample 12SOCF016A.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.



Tetra Tech NUS
Terri L. Solomon
Environmental Scientist



Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS-GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DOT and Endrin
- U = % Difference between columns/detectors $>25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $<30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01573 SDG: CTOF271_002 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCF007A			12SOCF008A			12SOCW016A		
	LAB_ID	0910159-01			0910159-02			0910159-03		
	SAMP_DATE	10/15/2009			10/16/2009			10/16/2009		
	QC_TYPE	NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	84.0			81.2			84.1		
	DUP_OF									
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.289	UJ	D	0.933	J	DK	0.29	UJ	D	
ARSENIC	2.87			4.92			5.83			
CHROMIUM	11.7	J	DF	17.4	J	DF	23.7	J	DF	
COPPER	24.4	J	F	74	J	F	38	J	F	
IRON	13200			18400			22500			
LEAD	40.8	J	CF	519	J	CF	86.1	J	CF	
MERCURY	0.015	U		0.108			0.0133	U		
SILVER	0.0578	UJ	C	0.0613	UJ	C	0.058	UJ	C	
TIN	3.3			9.69			4			
ZINC	176	J	F	480	J	F	153	J	F	

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

ANALYSIS DATA SHEET

12SOCF007A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910159-01

Sampled: 10/15/09 11:50

Received: 10/17/09 08:45

% Solids: 84.02

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0150	0.0380	1	U	SW7471A	9J21009	10/21/09 10:51
7440-36-0	Antimony		0.289	0.867	1	UN	SW6010B	9J17001	10/19/09 14:20
7440-38-2	Arsenic	2.87	0.173	0.289	1		SW6010B	9J17001	10/19/09 14:20
7440-47-3	Chromium	11.7	0.116	0.289	1	* N	SW6010B	9J17001	10/19/09 14:20
7440-50-8	Copper	24.4	0.289	0.578	1	*	SW6010B	9J17001	10/19/09 14:20
7439-89-6	Iron	13200	1.73	5.78	1		SW6010B	9J17001	10/19/09 14:20
7439-92-1	Lead	40.8	0.0867	0.173	1	*	SW6010B	9J17001	10/19/09 14:20
7440-22-4	Silver		0.0578	0.289	1	U	SW6010B	9J17001	10/19/09 14:20
7440-31-5	Tin	3.30	2.89	5.78	1	J	SW6010B	9J17001	10/19/09 14:20
7440-66-6	Zinc	176	0.289	1.16	1	*	SW6010B	9J17001	10/19/09 14:20

ANALYSIS DATA SHEET

12SOCF008A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910159-02

Sampled: 10/16/09 12:20

Received: 10/17/09 08:45

% Solids: 81.15

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.108	0.0160	0.0407	1		SW7471A	9J21009	10/21/09 10:52
7440-36-0	Antimony	0.933	0.307	0.920	1	N	SW6010B	9J17001	10/19/09 14:24
7440-38-2	Arsenic	4.92	0.184	0.307	1		SW6010B	9J17001	10/19/09 14:24
7440-47-3	Chromium	17.4	0.123	0.307	1	* N	SW6010B	9J17001	10/19/09 14:24
7440-50-8	Copper	74.0	0.307	0.613	1	*	SW6010B	9J17001	10/19/09 14:24
7439-89-6	Iron	18400	1.84	6.13	1		SW6010B	9J17001	10/19/09 14:24
7439-92-1	Lead	519	0.0920	0.184	1	*	SW6010B	9J17001	10/19/09 14:24
7440-22-4	Silver		0.0613	0.307	1	U	SW6010B	9J17001	10/19/09 14:24
7440-31-5	Tin	9.69	3.07	6.13	1		SW6010B	9J17001	10/19/09 14:24
7440-66-6	Zinc	480	0.307	1.23	1	*	SW6010B	9J17001	10/19/09 14:24

ANALYSIS DATA SHEET

12SOC^W016A
 11-17-09

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_002

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910159-03

Sampled: 10/16/09 12:25

Received: 10/17/09 08:45

% Solids: 84.09

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0133	0.0336	1	U	SW7471A	9J21009	10/21/09 10:53
7440-36-0	Antimony		0.290	0.870	1	UN	SW6010B	9J17001	10/19/09 14:29
7440-38-2	Arsenic	5.83	0.174	0.290	1		SW6010B	9J17001	10/19/09 14:29
7440-47-3	Chromium	23.7	0.116	0.290	1	* N	SW6010B	9J17001	10/19/09 14:29
7440-50-8	Copper	38.0	0.290	0.580	1	*	SW6010B	9J17001	10/19/09 14:29
7439-89-6	Iron	22500	1.74	5.80	1		SW6010B	9J17001	10/19/09 14:29
7439-92-1	Lead	86.1	0.0870	0.174	1	*	SW6010B	9J17001	10/19/09 14:29
7440-22-4	Silver		0.0580	0.290	1	U	SW6010B	9J17001	10/19/09 14:29
7440-31-5	Tin	4.00	2.90	5.80	1	J	SW6010B	9J17001	10/19/09 14:29
7440-66-6	Zinc	153	0.290	1.16	1	*	SW6010B	9J17001	10/19/09 14:29

APPENDIX C
SUPPORT DOCUMENTATION



CTOF271-002 Metals

PROJECT NO: 112G01573	FACILITY: NSA CRANE	PROJECT MANAGER S. RUFFING	PHONE NUMBER (412) 921-8909	LABORATORY NAME AND CONTACT: EMPIRICAL LABS/JANICE SHILLING
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER J. Floyd	PHONE NUMBER (502) 693-1417	ADDRESS 621 MAINSTREAM DRIVE # 270
CARRIER/WAYBILL NUMBER FEDEx / 8631 3888 2932			CITY, STATE NASHVILLE, TN 37228	

STANDARD TAT <input type="checkbox"/>	CONTAINER TYPE PLASTIC (P) or GLASS (G) G
RUSH TAT <input checked="" type="checkbox"/>	PRESERVATIVE USED
<input checked="" type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day	TYPE OF ANALYSIS SW-846 6010 B, 3050, 1471A, ICE 2°C

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS										COMMENTS
10/15	1150	12S0CF007A	F007	2	4	SO	C	1	1										IN 0910155-01
10/16	1220	12S0CF008A	F008	2	4	SO	C	1	1										IN 02
10/16	1225	12S0CW016A	W016	0	2	SO	C	1	1										IN 03

1. RELINQUISHED BY	DATE 10/15/2009	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 10/17/09	TIME 8:45

COMMENTS 1.90C

MEMO TO: S. RUFFING- PAGE 2

DATE: January 14, 2010

Serial dilution for sample 12SOCW019A had a sample result >50X CRDL and a percent difference 10% for iron. Positive results were qualified as estimated (J).

Notes :

The following contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

<u>Analyte</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Iron	37.2 ug/L	9.3 mg/kg

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot, percent solids and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No validation actions were warranted as all sample results were greater than the action level.

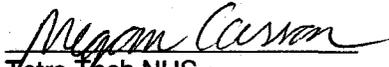
Executive Summary

Laboratory Performance: CCV non-compliances resulted in the qualification of data. Serial dilution noncompliances resulted in the qualification of data.

Other Factors Affecting Data Quality: Matrix spike non-compliances resulted in the qualification of data.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

The text of this report has been formulated to address only those problem areas affecting data quality.


Tetra Tech NUS
Megan Carson
Chemist/Data Validator


Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

PROJ_NO: 01573 SDG: CTOF271_003 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCF009A			12SOCW017A			12SOCW018A			12SOCW019A		
	LAB_ID	0910227-04			0910227-01			0910227-02			0910227-03		
	SAMP_DATE	10/27/2009			10/27/2009			10/27/2009			10/27/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	89.9			89.2			85.3			89.6		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.266	UJ	D	0.28	UJ	D	0.289	UJ	D	0.28	UJ	D	
ARSENIC	2.95			2.73			4.9			1.61			
CHROMIUM	11.6	J	D	18.1	J	D	18.6	J	D	16.7	J	D	
COPPER	7.54			9.67			8.43			9.46			
IRON	19900	J	CI	21400	J	CI	27400	J	CI	27700	J	CI	
LEAD	7.58	J	D	19.8	J	D	10.4	J	D	16	J	D	
MERCURY	0.0318			0.0141	U		0.0147	U		0.0124	U		
SILVER	0.16	U		0.112	U		0.289	U		0.112	U		
TIN	2.66	U		2.8	U		2.89	U		2.8	U		
ZINC	16.7	J	D	30.5	J	D	17.1	J	D	41.8	J	D	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

ANALYSIS DATA SHEET

12SOCF009A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_003

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0910227-04

Sampled: 10/27/09 09:25

Received: 10/28/09 08:30

% Solids: 89.87

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0318	0.0150	0.0380	1	J	SW7471A	9J28925	10/28/09 14:09
7440-36-0	Antimony		0.266	0.799	1	UN	SW6010B	9J28924	10/29/09 04:17
7440-38-2	Arsenic	2.95	0.160	0.266	1		SW6010B	9J28924	10/29/09 04:17
7440-47-3	Chromium	11.6	0.106	0.266	1	N	SW6010B	9J28924	10/29/09 04:17
7440-50-8	Copper	7.54	0.266	0.532	1		SW6010B	9J28924	10/29/09 04:17
7439-89-6	Iron	19900	1.60	5.32	1	E	SW6010B	9J28924	10/29/09 04:17
7439-92-1	Lead	7.58	0.0799	0.160	1	N	SW6010B	9J28924	10/29/09 04:17
7440-22-4	Silver		0.160	0.266	1	U	SW6010B	9J28924	10/29/09 04:17
7440-31-5	Tin		2.66	5.32	1	U	SW6010B	9J28924	10/29/09 04:17
7440-66-6	Zinc	16.7	0.266	1.06	1	N	SW6010B	9J28924	10/29/09 04:17

ANALYSIS DATA SHEET

12SOCW017A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/27/09 09:05
 % Solids: 89.21

SDG: CTOF271_003
 Project: NSA Crane CTO F271
 Laboratory ID: 0910227-01
 Received: 10/28/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0141	0.0358	1	U	SW7471A	9J28925	10/28/09 14:02
7440-36-0	Antimony		0.280	0.841	1	UN	SW6010B	9J28924	10/29/09 03:44
7440-38-2	Arsenic	2.73	0.168	0.280	1		SW6010B	9J28924	10/29/09 03:44
7440-47-3	Chromium	18.1	0.112	0.280	1	N	SW6010B	9J28924	10/29/09 03:44
7440-50-8	Copper	9.67	0.280	0.560	1		SW6010B	9J28924	10/29/09 03:44
7439-89-6	Iron	21400	1.68	5.60	1	E	SW6010B	9J28924	10/29/09 03:44
7439-92-1	Lead	19.8	0.0841	0.168	1	N	SW6010B	9J28924	10/29/09 03:44
7440-22-4	Silver		0.112	0.280	1	U	SW6010B	9J28924	10/29/09 03:44
7440-31-5	Tin		2.80	5.60	1	U	SW6010B	9J28924	10/29/09 03:44
7440-66-6	Zinc	30.5	0.280	1.12	1	N	SW6010B	9J28924	10/29/09 03:44

3

ANALYSIS DATA SHEET

12SOCW018A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/27/09 09:10
 % Solids: 85.33

SDG: CTOF271_003
 Project: NSA Crane CTO F271
 Laboratory ID: 0910227-02
 Received: 10/28/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0147	0.0374	1	U	SW7471A	9J28925	10/28/09 14:04
7440-36-0	Antimony		0.289	0.866	1	U N	SW6010B	9J28924	10/29/09 03:49
7440-38-2	Arsenic	4.90	0.173	0.289	1		SW6010B	9J28924	10/29/09 03:49
7440-47-3	Chromium	18.6	0.115	0.289	1	N	SW6010B	9J28924	10/29/09 03:49
7440-50-8	Copper	8.43	0.289	0.577	1		SW6010B	9J28924	10/29/09 03:49
7439-89-6	Iron	27400	1.73	5.77	1	E	SW6010B	9J28924	10/29/09 03:49
7439-92-1	Lead	10.4	0.0866	0.173	1	N	SW6010B	9J28924	10/29/09 03:49
7440-22-4	Silver		0.289	0.289	1	U	SW6010B	9J28924	10/29/09 03:49
7440-31-5	Tin		2.89	5.77	1	U	SW6010B	9J28924	10/29/09 03:49
7440-66-6	Zinc	17.1	0.289	1.15	1	N	SW6010B	9J28924	10/29/09 03:49

ANALYSIS DATA SHEET

12SOCW019A

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 10/27/09 09:15
 % Solids: 89.58

SDG: CTOF271_003
 Project: NSA Crane CTO F271
 Laboratory ID: 0910227-03
 Received: 10/28/09 08:30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury		0.0124	0.0330	1	U	SW7471A	9J28925	10/28/09 14:05
7440-36-0	Antimony		0.280	0.841	1	UN	SW6010B	9J28924	10/29/09 03:53
7440-38-2	Arsenic	1.61	0.168	0.280	1		SW6010B	9J28924	10/29/09 03:53
7440-47-3	Chromium	16.7	0.112	0.280	1	N	SW6010B	9J28924	10/29/09 03:53
7440-50-8	Copper	9.46	0.280	0.561	1		SW6010B	9J28924	10/29/09 03:53
7439-89-6	Iron	27700	1.68	5.61	1	E	SW6010B	9J28924	10/29/09 03:53
7439-92-1	Lead	16.0	0.0841	0.168	1	N	SW6010B	9J28924	10/29/09 03:53
7440-22-4	Silver		0.112	0.280	1	U	SW6010B	9J28924	10/29/09 03:53
7440-31-5	Tin		2.80	5.61	1	U	SW6010B	9J28924	10/29/09 03:53
7440-66-6	Zinc	41.8	0.280	1.12	1	N	SW6010B	9J28924	10/29/09 03:53

APPENDIX C

SUPPORT DOCUMENTATION



CTOF271 003 Metals

PROJECT NO: 12601573	FACILITY: NSA Crane	PROJECT MANAGER S. Ruffing	PHONE NUMBER 4129218989	LABORATORY NAME AND CONTACT: Empirical / Kim Kostner
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER J. Goertz	PHONE NUMBER 4124430244	ADDRESS 621 Mainstream Dr #270
		CARRIER/WAYBILL NUMBER Fed Ex / 8631 3888 2954	CITY, STATE Nashville, TN 37228	

STANDARD TAT <input type="checkbox"/>	CONTAINER TYPE PLASTIC (P) or GLASS (G)
RUSH TAT <input checked="" type="checkbox"/>	PRESERVATIVE USED
<input checked="" type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day	40C G

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS SW 846 60108 3030 / 2171A					COMMENTS
10/27	0905	1250CW017A	017	0	2	SO	C	1						0910227-01
10/27	0910	1250CW018A	018	↓	↓	↓	↓	1						-02
10/27	0915	1250CW019A	019	↓	↓	↓	↓	1						-07
10/27	0925	1250EF009A	009	↓	↓	↓	↓	1						-04

1. RELINQUISHED BY 	DATE 10/27/09	TIME 1400	1. RECEIVED BY 	DATE 10/28/09	TIME 08.30
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

2.80C

Calibration Verification Results

The continuing calibration percent recoveries on 11/30/09 at 18:56 for copper and iron were > 110% quality control limit affecting sample 12BACKFILL002-C. The positive results reported for copper and iron in sample 12BACKFILL002-C were qualified as estimated, "J".

ICP Interference

The interfering analyte iron was present in all samples except 12SOCF011 at concentrations that were greater than 50% of the iron concentration in the Interference Check Sample (ICS) solution. Several analytes namely, antimony, arsenic, chromium, copper, and/or lead were present in the ICS solution at a concentration that exceeded the absolute value of the instrument detection limit (IDL). Interference effects exist for antimony in sample 12SOCF012. The positive result reported for antimony was qualified as estimated, "J".

Laboratory Duplicate Results

Laboratory duplicate imprecision (RPD > 35%) was noted for lead for sample 12BACKFILL002-C. The positive results for lead reported for all samples were qualified as estimated, "J".

Matrix Spike Results

The matrix spike percent recovery for antimony was < 30% quality control limit for sample 12BACKFILL002-C. The post digestion spike was within the quality control limits. The positive and nondetected antimony results reported for all samples were qualified as estimated, "J" and "UJ", respectively.

The matrix spike percent recovery for lead was <75% quality control limit for sample 12BACKFILL002-C. The post digestion spike was also <75% quality control limits. The positive results for lead reported for all samples were qualified as estimated, "J".

Notes

The continuing calibration percent recovery on 12/01/09 at 12:42 for antimony was > 110% quality control limit affecting sample 12SOCF011. No qualification was necessary as the result for antimony in sample 12SOCF011 was a nondetect.

The following metal contaminants were detected in the laboratory method/preparation blanks at the following maximum concentrations:

<u>Analyte</u>	<u>Maximum Concentration</u>	<u>Action Level</u>
Iron ⁽¹⁾	68.8 ug/L	17.2 mg/kg
Lead ⁽²⁾	1.52 ug/L	0.375 mg/kg

1. Maximum concentration affecting all samples, except 12SOCF011.
2. Maximum concentration affecting samples 12SOCF010, 12SOCF011, and 12SOCF012.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No action was necessary as positive results were greater than the blank action level.

MEMO TO: S. RUFFING - PAGE 3

DATE: DECEMBER 28, 2009

Executive Summary

Laboratory Performance: The continuing calibration percent recoveries for copper and iron were outside the quality control limit. Laboratory duplicate imprecision was noted for lead.

Other Factors Affecting Data Quality: The interfering analyte iron was present in several samples. The matrix spike percent recoveries for antimony and lead were outside the quality control limits.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Validation", October 2004.

The text of this report has been formulated to address only those problem areas affecting data quality.



Tetra Tech NUS
Leanne M. Ganser
Environmental Scientist



Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS-GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $>25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $<30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 01573 SDG: CTOF271_005 FRACTION: M MEDIA: SOIL	NSAMPLE	12BACKFILL001-A			12BACKFILL001-B			12BACKFILL001-C			12BACKFILL002-A		
	LAB_ID	0911178-06			0911178-07			0911178-08			0911178-09		
	SAMP_DATE	11/15/2009			11/15/2009			11/15/2009			11/15/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	88.3			88.5			88.8			87.6		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.284	UJ	D	0.278	UJ	D	0.276	UJ	D	0.288	UJ	D	
ARSENIC	4.51			4.48			4.44			4.48			
CHROMIUM	9.76			9.31			9.81			9.25			
COPPER	8.97			8.29			8.63			8.57			
IRON	12800			12700			12900			12800			
LEAD	10.9	J	DF	7.7	J	DF	8.23	J	DF	7.95	J	DF	
MERCURY	0.0266			0.0151			0.0183			0.019			
SILVER	0.114	U		0.111	U		0.11	U		0.115	U		
TIN	2.84	U		2.78	U		2.76	U		2.88	U		
ZINC	45			41.2			42.3			41.6			

PROJ_NO: 01573 SDG: CTOF271_005 FRACTION: M MEDIA: SOIL	NSAMPLE	12BACKFILL002-B			12BACKFILL002-C			12SOCF010			12SOCF011		
	LAB_ID	0911178-10			0911178-11			0911178-01			0911178-02		
	SAMP_DATE	11/15/2009			11/15/2009			11/15/2009			11/15/2009		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	89.1			87.9			89.3			81.7		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.285	UJ	D	0.287	UJ	D	0.284	UJ	D	0.58	UJ	D	
ARSENIC	3.87			4.28			5.27			11.6			
CHROMIUM	8.28			8.93			11			27.6			
COPPER	7.24			10.5	J	C	15.6			49.5			
IRON	11400			12300	J	C	13600			32500			
LEAD	6.7	J	DF	13.9	J	DF	25.3	J	DF	156	J	DF	
MERCURY	0.0159			0.0149			0.0185			0.0439			
SILVER	0.114	U		0.115	U		0.0568	U		0.116	U		
TIN	2.85	U		2.87	U		2.84	U		7.64			
ZINC	35.4			50			68.3			356			

PROJ_NO: 01573 SDG: CTOF271_005 FRACTION: M MEDIA: SOIL	NSAMPLE	12SOCF012			12SOCF013			12SOCF014		
	LAB_ID	0911178-03			0911178-04			0911178-05		
	SAMP_DATE	11/15/2009			11/15/2009			11/15/2009		
	QC_TYPE	NM			NM			NM		
	UNITS	MG/KG			MG/KG			MG/KG		
	PCT_SOLIDS	87.8			89.7			88.1		
	DUP_OF									
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
ANTIMONY	0.416	J	DK	0.279	UJ	D	0.287	UJ	D	
ARSENIC	6.81			9.19			9.08			
CHROMIUM	13.4			27.1			18.5			
COPPER	33			16.1			17.9			
IRON	15200			26500			21100			
LEAD	90.8	J	DF	33.9	J	DF	45	J	DF	
MERCURY	0.0221			0.0171			0.0301			
SILVER	0.0575	U		0.167	U		0.172	U		
TIN	4.65			2.98			2.87	U		
ZINC	196			61.8			78.5			

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

ANALYSIS DATA SHEET

12BACKFILL001-A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-06

Sampled: 11/15/09 16:20

Received: 11/18/09 08:15

% Solids: 88.32

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0266	0.0147	0.0374	1	J	SW7471A	9K30907	11/30/09 16:50
7440-36-0	Antimony		0.284	0.853	1	UN	SW6010B	9K25001	11/30/09 17:28
7440-38-2	Arsenic	4.51	0.171	0.284	1		SW6010B	9K25001	11/30/09 17:28
7440-47-3	Chromium	9.76	0.114	0.284	1		SW6010B	9K25001	11/30/09 17:28
7440-50-8	Copper	8.97	0.284	0.569	1	*	SW6010B	9K25001	11/30/09 17:28
7439-89-6	Iron	12800	1.71	5.69	1		SW6010B	9K25001	11/30/09 17:28
7439-92-1	Lead	10.9	0.0853	0.171	1	* N	SW6010B	9K25001	11/30/09 17:28
7440-22-4	Silver		0.114	0.284	1	U	SW6010B	9K25001	11/30/09 17:28
7440-31-5	Tin		2.84	5.69	1	U	SW6010B	9K25001	11/30/09 17:28
7440-66-6	Zinc	45.0	0.284	1.14	1	*	SW6010B	9K25001	11/30/09 17:28

ANALYSIS DATA SHEET

12BACKFILL001-B

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-07

Sampled: 11/15/09 16:25

Received: 11/18/09 08:15

% Solids: 88.48

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0151	0.0138	0.0350	1	J	SW7471A	9K30907	11/30/09 16:52
7440-36-0	Antimony		0.278	0.835	1	UN	SW6010B	9K25001	11/30/09 17:33
7440-38-2	Arsenic	4.48	0.167	0.278	1		SW6010B	9K25001	11/30/09 17:33
7440-47-3	Chromium	9.31	0.111	0.278	1		SW6010B	9K25001	11/30/09 17:33
7440-50-8	Copper	8.29	0.278	0.557	1	*	SW6010B	9K25001	11/30/09 17:33
7439-89-6	Iron	12700	1.67	5.57	1		SW6010B	9K25001	11/30/09 17:33
7439-92-1	Lead	7.70	0.0835	0.167	1	* N	SW6010B	9K25001	11/30/09 17:33
7440-22-4	Silver		0.111	0.278	1	U	SW6010B	9K25001	11/30/09 17:33
7440-31-5	Tin		2.78	5.57	1	U	SW6010B	9K25001	11/30/09 17:33
7440-66-6	Zinc	41.2	0.278	1.11	1	*	SW6010B	9K25001	11/30/09 17:33

ANALYSIS DATA SHEET

12BACKFILL001-C

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-08

Sampled: 11/15/09 16:30

Received: 11/18/09 08:15

% Solids: 88.84

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0183	0.0142	0.0359	1	J	SW7471A	9K30907	11/30/09 16:55
7440-36-0	Antimony		0.276	0.828	1	UN	SW6010B	9K25001	11/30/09 17:37
7440-38-2	Arsenic	4.44	0.166	0.276	1		SW6010B	9K25001	11/30/09 17:37
7440-47-3	Chromium	9.81	0.110	0.276	1		SW6010B	9K25001	11/30/09 17:37
7440-50-8	Copper	8.63	0.276	0.552	1	*	SW6010B	9K25001	11/30/09 17:37
7439-89-6	Iron	12900	1.66	5.52	1		SW6010B	9K25001	11/30/09 17:37
7439-92-1	Lead	8.23	0.0828	0.166	1	* N	SW6010B	9K25001	11/30/09 17:37
7440-22-4	Silver		0.110	0.276	1	U	SW6010B	9K25001	11/30/09 17:37
7440-31-5	Tin		2.76	5.52	1	U	SW6010B	9K25001	11/30/09 17:37
7440-66-6	Zinc	42.3	0.276	1.10	1	*	SW6010B	9K25001	11/30/09 17:37

ANALYSIS DATA SHEET

12BACKFILL002-A

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-09

Sampled: 11/15/09 16:45

Received: 11/18/09 08:15

% Solids: 87.64

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0190	0.0127	0.0330	1	J	SW7471A	9K30907	11/30/09 16:57
7440-36-0	Antimony		0.288	0.864	1	UN	SW6010B	9K25001	11/30/09 17:42
7440-38-2	Arsenic	4.48	0.173	0.288	1		SW6010B	9K25001	11/30/09 17:42
7440-47-3	Chromium	9.25	0.115	0.288	1		SW6010B	9K25001	11/30/09 17:42
7440-50-8	Copper	8.57	0.288	0.576	1	*	SW6010B	9K25001	11/30/09 17:42
7439-89-6	Iron	12600	1.73	5.76	1		SW6010B	9K25001	11/30/09 17:42
7439-92-1	Lead	7.95	0.0864	0.173	1	* N	SW6010B	9K25001	11/30/09 17:42
7440-22-4	Silver		0.115	0.288	1	U	SW6010B	9K25001	11/30/09 17:42
7440-31-5	Tin		2.88	5.76	1	U	SW6010B	9K25001	11/30/09 17:42
7440-66-6	Zinc	41.6	0.288	1.15	1	*	SW6010B	9K25001	11/30/09 17:42

ANALYSIS DATA SHEET

12BACKFILL002-B

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 11/15/09 16:50
 % Solids: 89.09

SDG: CTOF271_005
 Project: NSA Crane CTO F271
 Laboratory ID: 0911178-10
 Received: 11/18/09 08:15

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0159	0.0129	0.0330	1	J	SW7471A	9K30907	11/30/09 16:58
7440-36-0	Antimony		0.285	0.855	1	U N	SW6010B	9K25001	11/30/09 17:46
7440-38-2	Arsenic	3.87	0.171	0.285	1		SW6010B	9K25001	11/30/09 17:46
7440-47-3	Chromium	8.28	0.114	0.285	1		SW6010B	9K25001	11/30/09 17:46
7440-50-8	Copper	7.24	0.285	0.570	1	*	SW6010B	9K25001	11/30/09 17:46
7439-89-6	Iron	11400	1.71	5.70	1		SW6010B	9K25001	11/30/09 17:46
7439-92-1	Lead	6.70	0.0855	0.171	1	* N	SW6010B	9K25001	11/30/09 17:46
7440-22-4	Silver		0.114	0.285	1	U	SW6010B	9K25001	11/30/09 17:46
7440-31-5	Tin		2.85	5.70	1	U	SW6010B	9K25001	11/30/09 17:46
7440-66-6	Zinc	35.4	0.285	1.14	1	*	SW6010B	9K25001	11/30/09 17:46

ANALYSIS DATA SHEET

12BACKFILL002-C

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-11

Sampled: 11/15/09 16:55

Received: 11/18/09 08:15

% Solids: 87.89

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0149	0.0143	0.0363	1	J	SW7471A	9K30907	11/30/09 16:59
7440-36-0	Antimony		0.287	0.862	1	UN	SW6010B	9K25001	11/30/09 18:04
7440-38-2	Arsenic	4.28	0.172	0.287	1		SW6010B	9K25001	11/30/09 18:04
7440-47-3	Chromium	8.93	0.115	0.287	1		SW6010B	9K25001	11/30/09 18:04
7440-50-8	Copper	10.5	0.287	0.575	1	*	SW6010B	9K25001	11/30/09 18:04
7439-89-6	Iron	12300	1.72	5.75	1		SW6010B	9K25001	11/30/09 18:04
7439-92-1	Lead	13.9	0.0862	0.172	1	* N	SW6010B	9K25001	11/30/09 18:04
7440-22-4	Silver		0.115	0.287	1	U	SW6010B	9K25001	11/30/09 18:04
7440-31-5	Tin		2.87	5.75	1	U	SW6010B	9K25001	11/30/09 18:04
7440-66-6	Zinc	50.0	0.287	1.15	1	*	SW6010B	9K25001	11/30/09 18:04

ANALYSIS DATA SHEET

12SOCF010

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-01

Sampled: 11/15/09 15:40

Received: 11/18/09 08:15

% Solids: 89.30

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0185	0.0141	0.0358	1	J	SW7471A	9K30907	11/30/09 16:44
7440-36-0	Antimony		0.284	0.853	1	U N	SW6010B	9K25001	11/30/09 17:05
7440-38-2	Arsenic	5.27	0.171	0.284	1		SW6010B	9K25001	11/30/09 17:05
7440-47-3	Chromium	11.0	0.114	0.284	1		SW6010B	9K25001	11/30/09 17:05
7440-50-8	Copper	15.6	0.284	0.568	1	*	SW6010B	9K25001	11/30/09 17:05
7439-89-6	Iron	13600	1.71	5.68	1		SW6010B	9K25001	11/30/09 17:05
7439-92-1	Lead	25.3	0.426	0.853	5	D * N	SW6010B	9K25001	12/01/09 12:28
7440-22-4	Silver		0.0568	0.284	1	U	SW6010B	9K25001	11/30/09 17:05
7440-31-5	Tin		2.84	5.68	1	U	SW6010B	9K25001	11/30/09 17:05
7440-66-6	Zinc	68.3	1.42	5.68	5	D *	SW6010B	9K25001	12/01/09 12:28

ANALYSIS DATA SHEET

12SOCF011

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 11/15/09 15:45
 % Solids: 81.72

SDG: CTOF271_005
 Project: NSA Crane CTO F271
 Laboratory ID: 0911178-02
 Received: 11/18/09 08:15

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0439	0.0140	0.0356	1		SW7471A	9K30907	11/30/09 16:45
7440-36-0	Antimony		0.580	1.74	2	U N	SW6010B	9K25001	12/01/09 12:32
7440-38-2	Arsenic	11.6	0.348	0.580	2	D	SW6010B	9K25001	12/01/09 12:32
7440-47-3	Chromium	27.6	0.232	0.580	2	D	SW6010B	9K25001	12/01/09 16:10
7440-50-8	Copper	49.5	0.580	1.16	2	* D	SW6010B	9K25001	12/01/09 16:10
7439-89-6	Iron	32500	3.48	11.6	2	D	SW6010B	9K25001	12/01/09 16:10
7439-92-1	Lead	156	0.174	0.348	2	D * N	SW6010B	9K25001	12/01/09 12:32
7440-22-4	Silver		0.116	0.580	2	U	SW6010B	9K25001	12/01/09 12:32
7440-31-5	Tin	7.64	2.90	5.80	1		SW6010B	9K25001	11/30/09 17:10
7440-66-6	Zinc	356	0.580	2.32	2	D *	SW6010B	9K25001	12/01/09 12:32

ANALYSIS DATA SHEET

12SOCF012

Laboratory: Empirical Laboratories, LLC
 Client: Tetra Tech NUS, Inc. (T010)
 Matrix: Soil
 Sampled: 11/15/09 15:50
 % Solids: 87.79

SDG: CTOF271_005
 Project: NSA Crane CTO F271
 Laboratory ID: 0911178-03
 Received: 11/18/09 08:15

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0221	0.0131	0.0332	1	J	SW7471A	9K30907	11/30/09 16:47
7440-36-0	Antimony	0.416	0.288	0.863	1	J N	SW6010B	9K25001	11/30/09 17:14
7440-38-2	Arsenic	6.81	0.173	0.288	1		SW6010B	9K25001	11/30/09 17:14
7440-47-3	Chromium	13.4	0.115	0.288	1		SW6010B	9K25001	11/30/09 17:14
7440-50-8	Copper	33.0	0.288	0.575	1	*	SW6010B	9K25001	11/30/09 17:14
7439-89-6	Iron	15200	1.73	5.75	1		SW6010B	9K25001	11/30/09 17:14
7439-92-1	Lead	90.8	0.863	1.73	10	D * N	SW6010B	9K25001	12/01/09 12:37
7440-22-4	Silver		0.0575	0.288	1	U	SW6010B	9K25001	11/30/09 17:14
7440-31-5	Tin	4.65	2.88	5.75	1	J	SW6010B	9K25001	11/30/09 17:14
7440-66-6	Zinc	196	2.88	11.5	10	D *	SW6010B	9K25001	12/01/09 12:37

ANALYSIS DATA SHEET

12SOCF013

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-04

Sampled: 11/15/09 16:00

Received: 11/18/09 08:15

% Solids: 89.68

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0171	0.0114	0.0330	1	J	SW7471A	9K30907	11/30/09 16:48
7440-36-0	Antimony		0.279	0.836	1	U N	SW6010B	9K25001	11/30/09 17:19
7440-38-2	Arsenic	9.19	0.167	0.279	1		SW6010B	9K25001	11/30/09 17:19
7440-47-3	Chromium	27.1	0.112	0.279	1		SW6010B	9K25001	11/30/09 17:19
7440-50-8	Copper	16.1	0.279	0.558	1	*	SW6010B	9K25001	11/30/09 17:19
7439-89-6	Iron	26500	1.67	5.58	1		SW6010B	9K25001	11/30/09 17:19
7439-92-1	Lead	33.9	0.0836	0.167	1	* N	SW6010B	9K25001	11/30/09 17:19
7440-22-4	Silver		0.167	0.279	1	U	SW6010B	9K25001	11/30/09 17:19
7440-31-5	Tin	2.98	2.79	5.58	1	J	SW6010B	9K25001	11/30/09 17:19
7440-66-6	Zinc	61.8	0.279	1.12	1	*	SW6010B	9K25001	11/30/09 17:19

ANALYSIS DATA SHEET

12SOCF014

Laboratory: Empirical Laboratories, LLC

SDG: CTOF271_005

Client: Tetra Tech NUS, Inc. (T010)

Project: NSA Crane CTO F271

Matrix: Soil

Laboratory ID: 0911178-05

Sampled: 11/15/09 16:05

Received: 11/18/09 08:15

% Solids: 88.05

CAS NO.	Analyte	Concentration (mg/Kg dry)	MDL	RL	Dilution Factor	Q	Method	Batch	Analyzed
7439-97-6	Mercury	0.0301	0.0143	0.0363	1	J	SW7471A	9K30907	11/30/09 16:49
7440-36-0	Antimony		0.287	0.860	1	UN	SW6010B	9K25001	11/30/09 17:23
7440-38-2	Arsenic	9.08	0.172	0.287	1		SW6010B	9K25001	11/30/09 17:23
7440-47-3	Chromium	18.5	0.115	0.287	1		SW6010B	9K25001	11/30/09 17:23
7440-50-8	Copper	17.9	0.287	0.574	1	*	SW6010B	9K25001	11/30/09 17:23
7439-89-6	Iron	21100	1.72	5.74	1		SW6010B	9K25001	11/30/09 17:23
7439-92-1	Lead	45.0	0.0860	0.172	1	*N	SW6010B	9K25001	11/30/09 17:23
7440-22-4	Silver		0.172	0.287	1	U	SW6010B	9K25001	11/30/09 17:23
7440-31-5	Tin		2.87	5.74	1	U	SW6010B	9K25001	11/30/09 17:23
7440-66-6	Zinc	78.5	0.287	1.15	1	*	SW6010B	9K25001	11/30/09 17:23

APPENDIX C
SUPPORT DOCUMENTATION



PROJECT NO: 112601573	FACILITY: NSA Crane	PROJECT MANAGER S. Ruffing	PHONE NUMBER 4129218989	LABORATORY NAME AND CONTACT: Empirical Laboratories
SAMPLERS (SIGNATURE) 		FIELD OPERATIONS LEADER J. Goerdts	PHONE NUMBER 4124430244	ADDRESS 621 Mainstream Dr #270
CARRIERWAYBILL NUMBER Fed Ex / 8631 38882965			CITY, STATE Nashville, TN 37228	

STANDARD TAT <input checked="" type="checkbox"/>	CONTAINER TYPE PLASTIC (P) or GLASS (G)
RUSH TAT <input type="checkbox"/>	PRESERVATIVE USED 40C G
<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr. <input type="checkbox"/> 72 hr. <input type="checkbox"/> 7 day <input type="checkbox"/> 14 day	

DATE YEAR	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS	COMMENTS
11/15	1540	12S0CF010	010	0	1	SO	C	1	TYPE OF ANALYSIS SELECTED BY SW/SL/6/0108/30501 74714	0911178-01
	1545	12S0CF011	011	0	1			1		-02
	1550	12S0CF012	012	0	1			1		-03
	1600	12S0CF013	013	0	1			1		-04
	1605	12S0CF014	014	0	1			1		-05
	1620	12BACKFILL001-A001A		0	.5			1		-06
	1625	12BACKFILL001-B001B		0	.5			1		*Hold -07
	1630	12BACKFILL001-C001C		0	.5			1		*Hold -08
	1645	12BACKFILL002-A002A		1	2			1		-09
	1650	12BACKFILL002-B002B		1	2			1		*Hold -10
	1655	12BACKFILL002-C002C		1	2			1		*Hold -11

1. RELINQUISHED BY 	DATE 11/17/09	TIME 18:30	1. RECEIVED BY 	DATE 11/18/09	TIME 08:15
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: Do not analyze samples marked as hold until instructed to do so.

APPENDIX D

**FIXED-BASE LABORATORY ANALYTICAL RESULTS FOR
WASTE CHARACTERIZATION SAMPLES (NORTH WIND)**

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, TEST REPORTS, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE	DATE 8-25-09	TRANSMITTAL NO. 4
---	-----------------	----------------------

SECTION I - TRANSMITTAL INFORMATION *(To be completed by Contractor)*

TO: NAVFAC MW PWD Crane NSA Building 2516 Crane, IN 47522-5082 ATTN: Tom Brent	FROM: Todd Carmichael North Wind Remediation 433 Kitty Hawk Rd Universal City, TX 78148	CONTRACT NO. N40083-05-D-4016 DELIVERY ORDER NO. FC51	CHECK ONE <i>(Use a separate form for each category):</i> <input checked="" type="checkbox"/> This is a new transmittal <input type="checkbox"/> This is a resubmittal of transmittal <input type="checkbox"/> This is an addition to transmittal _____
---	--	--	--

SPECIFICATION SECTION NO. <i>(Use a separate form for each specification section)</i>	PROJECT TITLE AND LOCATION FC51 SWMU 12
---	--

CHECK ONE *(Use a separate form for each category):* This transmittal is Contractor Approved (For Information Only) for Government Approval Variation for Government Approval

ITEM NO. <i>a.</i>	SUBMITTAL DESCRIPTION (SD) NUMBER AND TYPE <i>b.</i>	DESCRIPTION OF ITEM SUBMITTED <i>(Type, size, model no., etc.)</i> <i>c.</i>	NO. OF COPIES <i>d.</i>	SPEC. PAR. # OR DRAWING # <i>e.</i>	ACTION CODE <i>(Designer/ROICC Use Only)</i> <i>f.</i>
1	TCLP Pb data SWMU #12		1		

CONTRACTOR REMARKS: <div style="background-color: yellow; padding: 2px;">All TCLP lead data is less than the hazardous level of 5.0 mg/L. Highest hit was 1.6 mg/L.</div>	I hereby certify that the <input type="checkbox"/> Equipment <input type="checkbox"/> Material <input checked="" type="checkbox"/> Article shown and marked in this submittal is that proposed to be incorporated in the Contract identified above, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces. Proposed variations, if d on each submittal, and are recommended for Government approval. 8-25-09 <div style="text-align: right;"> _____ Signature of QC Manager Date </div>
---	--

SECTION II - GOVERNMENT APPROVAL ACTION *(To be completed by Designer/ROICC)*

DATE RECEIVED FROM KTR:	DATE SENT TO REVIEWER:	ACTION CODES: The following Action Codes are given to items submitted:
The submittals listed above have been reviewed, and are returned with actions taken as indicated in Section I, Column <i>f</i> above. Approval of the listed items does not indicate approval of variations, if any, unless the variations are clearly marked on each submittal and are supported by the contractor; furthermore, approval of items does not relieve the contractor from complying with all requirements of the contract plans and specifications.		A - Approved as submitted AN - Approved as noted, resubmission not required AR - Approved as noted, resubmission required, see Sec. II Remarks D - Disapproved, resubmission required, see Sec. II Remarks E - Will be returned by separate cover F - Receipt acknowledged FX - Receipt acknowledged, does not comply with Contract Requirements, see Sec. II Remarks G - Other, see Sec. II Remarks NR - Not reviewed, see Sec. II Remarks
NAME, TITLE & SIGNATURE OF REVIEWER		DATE

REMARKS (Attach additional sheets as necessary):

DATE RECEIVED FROM REVIEWER	NAME, TITLE & SIGNATURE OF APPROVING AUTHORITY	DATE	DATE RETURNED TO KTR
-----------------------------	--	------	----------------------

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-

August 25, 2009

Weston Solutions
20 North Wacker Drive
Suite 1210
Chicago, IL 60606
Telephone: (312) 424-3304
Fax: (312) 424-3330

RE: SWMU IZ Lead Remediation, Crane, IN

STAT Project No 09080694

Dear Todd Carmichael:

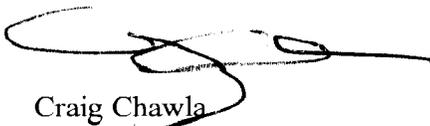
STAT Analysis received 14 samples for the referenced project on 8/19/2009 5:45:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Craig Chawla
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

Client: Weston Solutions
Project: SWMU IZ Lead Remediation, Crane, IN
Lab Order: 09080694

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
09080694-001A	125B086C0002		8/19/2009 10:20:00 AM	8/19/2009
09080694-002A	125B087C0002		8/19/2009 10:30:00 AM	8/19/2009
09080694-003A	125B088C0002		8/19/2009 10:40:00 AM	8/19/2009
09080694-004A	125B089C0002		8/19/2009 10:45:00 AM	8/19/2009
09080694-005A	125B090C0002		8/19/2009 11:00:00 AM	8/19/2009
09080694-006A	125B091C0002		8/19/2009 11:10:00 AM	8/19/2009
09080694-007A	125B092C0002		8/19/2009 11:15:00 AM	8/19/2009
09080694-008A	125B093C0002		8/19/2009 11:20:00 AM	8/19/2009
09080694-009A	125B094C0002		8/19/2009 11:30:00 AM	8/19/2009
09080694-010A	125B095C0002		8/19/2009 11:35:00 AM	8/19/2009
09080694-011A	125B096C0002		8/19/2009 11:45:00 AM	8/19/2009
09080694-012A	125B097C0002		8/19/2009 11:50:00 AM	8/19/2009
09080694-013A	125B098C0002		8/19/2009 12:00:00 PM	8/19/2009
09080694-014A	125B099C0002		8/19/2009 12:10:00 PM	8/19/2009

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 25, 2009

Date Printed: August 25, 2009

Client: Weston Solutions

Project: SWMU IZ Lead Remediation, Crane, IN

Lab Order: 09080694

Lab ID: 09080694-001

Collection Date 8/19/2009 10:20:00 AM

Client Sample ID:125B086C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.088

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-002

Collection Date 8/19/2009 10:30:00 AM

Client Sample ID:125B087C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.021

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-003

Collection Date 8/19/2009 10:40:00 AM

Client Sample ID:125B088C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.063

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-004

Collection Date 8/19/2009 10:45:00 AM

Client Sample ID:125B089C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

ND

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-005

Collection Date 8/19/2009 11:00:00 AM

Client Sample ID:125B090C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

1.6

0.005

mg/L

5

8/24/2009

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 25, 2009

Date Printed: August 25, 2009

Client: Weston Solutions

Project: SWMU IZ Lead Remediation, Crane, IN

Lab Order: 09080694

Lab ID: 09080694-006

Collection Date 8/19/2009 11:10:00 AM

Client Sample ID:125B091C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.0096

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-007

Collection Date 8/19/2009 11:15:00 AM

Client Sample ID:125B092C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

ND

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-008

Collection Date 8/19/2009 11:20:00 AM

Client Sample ID:125B093C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.0065

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-009

Collection Date 8/19/2009 11:30:00 AM

Client Sample ID:125B094C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.76

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-010

Collection Date 8/19/2009 11:35:00 AM

Client Sample ID:125B095C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

ND

0.005

mg/L

5

8/24/2009

Qualifiers:
 ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 HT - Sample received past holding time
 * - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range
 H - Holding time exceeded

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Date Reported: August 25, 2009

Date Printed: August 25, 2009

Client: Weston Solutions

Project: SWMU IZ Lead Remediation, Crane, IN

Lab Order: 09080694

Lab ID: 09080694-011

Collection Date 8/19/2009 11:45:00 AM

Client Sample ID:125B096C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.0069

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-012

Collection Date 8/19/2009 11:50:00 AM

Client Sample ID:125B097C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

ND

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-013

Collection Date 8/19/2009 12:00:00 PM

Client Sample ID:125B098C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

ND

0.005

mg/L

5

8/24/2009

Lab ID: 09080694-014

Collection Date 8/19/2009 12:10:00 PM

Client Sample ID:125B099C0002

Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
----------	--------	----	-----------	-------	----	---------------

TCLP Metals by ICP/MS

SW1311/6020 (SW3005A)

Prep Date: 8/24/2009

Analyst: JG

Lead

0.1

0.005

mg/L

5

8/24/2009

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

Sample Receipt Checklist

Client Name WESTON CHICAGO

Date and Time Received: 8/19/2009 5:45:00 PM

Work Order Number 09080694

Received by: JJM

Checklist completed by:

[Signature] 8/19/09
Signature Date

Reviewed by:

MAK 8/20/09
Initials Date

Matrix: Carrier name STAT Analysis

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels/containers? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container or Temp Blank temperature in compliance? Yes No Temperature 2.1 °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - Samples pH checked? Yes No Checked by: _____
- Water - Samples properly preserved? Yes No pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments: _____

Client / Person contacted: _____

Date contacted: _____

Contacted by: _____

Response: _____

APPENDIX E

SOIL SAMPLE LOG SHEETS



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF004A
Sample Location: 12SOCF004
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2128

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1710	0-6 inches	tan	clayey, moist
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

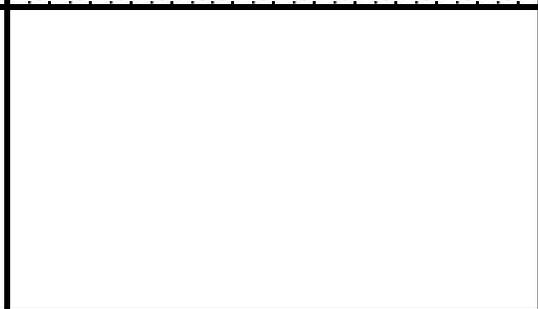
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 83 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the Floor of the Initial Excavation (Round 1)
Based on lab analysis, no further excavation necessary.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF005A
Sample Location: 12SOCF005
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2128

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1725	0-6 inches	tan	clayey, slightly damp
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 23 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site in the deeper excavation
Based on lab analysis, no further excavation necessary.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW001A
Sample Location: 12SOCW001
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2127

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1355	0-6 inches	peppered	clayey
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

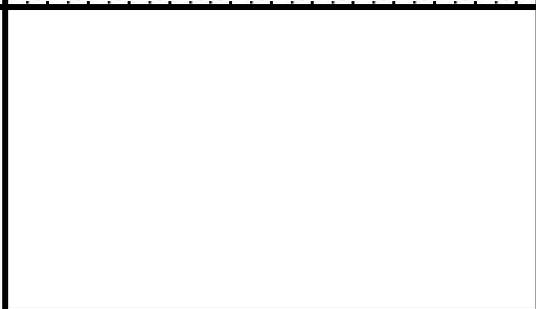
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 62 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the initial excavation (round 1)
Based on lab analysis, no further excavation necessary.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW003A
Sample Location: 12SOCW003
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2127

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1425	0-6 inches	tan	clayey, damp
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

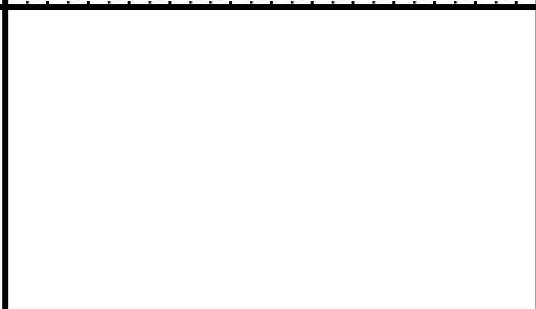
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 152 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the initial excavation (round 1)
Based on lab analysis, no further excavation necessary.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW006A
Sample Location: 12SOCW006
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2127

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1130	0-6 inches	tan	organic clay, moist
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

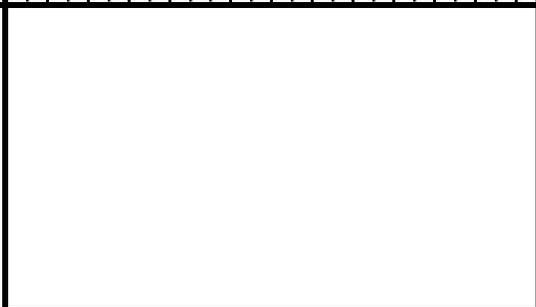
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 49 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the initial excavation (round 1)
Based on lab analysis, no further excavation was required.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD NO	Duplicate ID No.: NA
--------------	-------------------------

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW007A
Sample Location: 12SOCW007
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2127

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1145	0-6 inches	tan	organic clay, wet
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 79 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the initial excavation (round 1)
Based on lab analysis, no further excavation was required.
Results are in Table 2-1

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW013A
Sample Location: 12SOCW013
Sampled By: J. Floyd/J. Goerd
C.O.C. No.: 2127

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1625	0-6 inches	tan/black	clayey, wet
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 121 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the initial excavation (round 1)
Based on lab analysis, no further excavation was required.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW014A
Sample Location: 12SOCW014
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2128

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/7/2009	1630	0-6 inches	tan	clayey, slightly wet
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

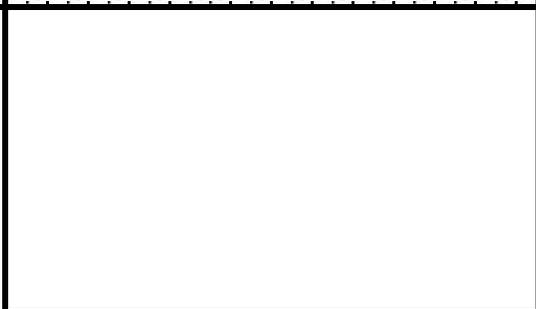
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 29 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the deeper excavation (round 1)
Based on lab analysis, no further excavation was required.
Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOGW015A
Sample Location: 12SOGW015
Sampled By: J. Floyd/J. Goerd
C.O.C. No.: 2128

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	10/7/2009	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:	1745	0-6 inches	black	seam of material in bottom of pit
Method:	plastic trowel			
Monitor Reading (ppm):	NA			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for Lead	None	YES	
Result			
Field Analysis (Lead) 3023 ppm			
Sample not analyzed by lab			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the deeper excavation (round 1)
Based on XRF analysis, further excavation was required.
Results are in Table 2-1

**Sample collected from "black seam" at bottom of deeper excavation

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF007A
Sample Location: 12SOCF007
Sampled By: J. Floyd
C.O.C. No.: 4304

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/15/2009	1150	0-6 inches	tan	clayey, slightly wet
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the floor of the round 2 excavation after sample 12GW015A was excavated further. No further excavation necessary at this location. Results are in Table 2-1

**No XRF done for this sample

MAP:

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF008A
Sample Location: 12SOCF008
Sampled By: J. Floyd
C.O.C. No.: 4304

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/16/2009	1220	0-6 inches	tan	clayey, slightly wet
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the floor of the round 2 excavation after sample 12GW015A was excavated further. Based on the lab results (lead=519 ppm), further excavation necessary at this location. Results are in Table 2-1

**No XRF done for this sample

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW016A
Sample Location: 12SOCW016
Sampled By: J. Floyd
C.O.C. No.: 4304

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/16/2009	1225	0-6 inches	tan	clayey, slightly wet
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the round 2 excavation after sample 12SOCW004A was excavated further. No further excavation necessary at this location. Results are in Table 2-1

**No XRF done for this sample

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF009A
Sample Location: 12SOCF009
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2129

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/27/2009	925	0-6 inches	brown/orange	clayey, dry
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 30 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the Floor of the Round 3 excavation after 12SOCF008A was excavated (it was high for lead). Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCW019A
Sample Location: 12SOCW019
Sampled By: J. Floyd/J. Goerdts
C.O.C. No.: 2129

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
10/27/2009	915	0-6 inches	brown/orange	clayey, dry
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
XRF Field Analysis for lead	None	YES	
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Field Analysis (Lead) 15 ppm			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site on the wall of the Round 3 excavation after 12SOCF008A was excavated (it was high for lead). Results are in Table 2-1

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF010A
Sample Location: 12SOCF010
Sampled By: J. Floyd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1540	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a support site sample after excavation activities. Collected at the excavator location. Results are in Table 2-1

MAP:



Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF011A
Sample Location: 12SOCF011
Sampled By: J. Floyd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1545	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a support site sample after excavation activities. Collected at the truck loading area. Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF012A
Sample Location: 12SOCF012
Sampled By: J. Floyd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1550	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a support site sample after excavation activities. Collected at the gravel access road. Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF013A
Sample Location: 12SOCF013
Sampled By: J. Floyd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1600	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a support site sample after excavation activities. Collected at the gravel access road. Results are in Table 2-1

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12SOCF014A
Sample Location: 12SOCF014
Sampled By: J. Floyd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

Type of Sample:
 Low Concentration
 High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1605	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a support site sample after excavation activities. Collected at the gravel access road.
Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12BACKFILL001-A
Sample Location: 12BACKFILL001
Sampled By: J. Goerd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1620	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a topsoil sample

Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------

Signature(s):



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12BACKFILL001-B
Sample Location: 12BACKFILL001
Sampled By: J. Goerd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1625	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a topsoil sample

Results are in Table 2-1

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12BACKFILL001-C
Sample Location: 12BACKFILL001
Sampled By: J. Goerd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1630	0-6 inches		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a topsoil sample

Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------

Signature(s):



Project Site Name:	NSA Crane SWMU 12 Battery Dump Site	Sample ID No.:	12BACKFILL002-A
Project No.:	112G01573	Sample Location:	12BACKFILL002
		Sampled By:	J. Goerd
		C.O.C. No.:	2133
<input checked="" type="checkbox"/> Surface Soil <input type="checkbox"/> Subsurface Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other: _____ <input type="checkbox"/> QA Sample Type: _____		Type of Sample: <input type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration	

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1645	1-2 feet		
Method:				
plastic trowel				
Monitor Readings (Range in ppm):				
NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a backfill sample Results are in Table 2-1	MAP:
---	-----------------------------

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA	Signature(s):
--------------	-------------------------	---------------



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12BACKFILL002-B
Sample Location: 12BACKFILL002
Sampled By: J. Goerd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1650	1-2 feet		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a backfill sample

Results are in Table 2-1

MAP:

Signature(s):

Circle if Applicable:

MS/MSD No	Duplicate ID No.: NA
--------------	-------------------------



Project Site Name: NSA Crane SWMU 12 Battery Dump Site
Project No.: 112G01573

Sample ID No.: 12BACKFILL002-C
Sample Location: 12BACKFILL002
Sampled By: J. Goerd
C.O.C. No.: 2133

- Surface Soil
- Subsurface Soil
- Sediment
- Other: _____
- QA Sample Type: _____

- Type of Sample:
- Low Concentration
 - High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
11/15/2009	1655	1-2 feet		
Method: plastic trowel				
Monitor Readings (Range in ppm): NA				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
Metals Analysis SW 846-6010B, 3050, 7471A	Glass	YES	
Result			
Lab Analysis (metals) See Table 2-1			

OBSERVATIONS / NOTES:

Collected at the Battery Dump Site as a backfill sample

Results are in Table 2-1

MAP:

Circle if Applicable:

MS/MSD No
Duplicate ID No.: NA

Signature(s):

APPENDIX F

DAILY FIELD LOGS (TETRA TECH)

10-6-09

Shift 1
Initial
Excavating

AM: Clouds mid 40's

PM: Clouds/Rain mid 60's

0830 - Arrived at NVA

Exam Visitors Office to
pick up pass.0900 - met up with John
Flynn @ B-3395. Travelled
to Summ 12 (Bailey Site)to check on excavation
activities. met with Tom
Brent of ~~Summ 12~~ ^{PA} ~~contractor~~ ^{contractor}?
w/ Northwind (contractor).1000 - met up w/ Tom Brent
who informed us the NVAexam scales were not working
& he wanted to make sure the
trucks leaving Summ 12 were
not over their weight limit.
He asked us to use a portable
scale(s) to weigh each truck.
We set the scales up at the
main buildings at Summ 12

Sampling

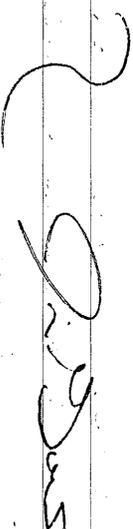
10-6-09

So we had power to run the
scales. We were able to
weigh the 4 trucks as they
left Summ 12. All weights
were recorded by Tom Brent
in his log book. A manifest
was prepared by Lewis & a
copy was given to each truck
driver.

1330 - Returned to B-3395.

We are having some trouble
w/ one of the portable scales.
Determined there was a
loose connection to one of
the scales. Remainder of
afternoon was spent
cleaning new field scale
and rearing supplies/equip
from B-3395 to the trailer

End of Day



10-7-09

AM: Clear, Upper 40s

PM: Clear, Mid 60s

0800 - At Monards picking up field supplies.

0930 - Arrived at Crane, B-3245. John Floyd on site. Loaded sampling equip into vehicles.

1030 - Arrived at the Summu 12 Battery Site. Met up w/ Lance who informed us the first truck loads were on their way to the landfill and that the northern portion of the excavation was ready to be sampled. Sample aliquots for 12S0C005, 006, and 007 were laid out & collected. Six aliquots per 25 linear feet on the sidewalls comprised a composite sample. Individual aliquots were

10-7-09

collected in 1-gal Ziploc baggies. All samples were taken back to B-3245 for processing & field analyzing w/ the XRF. Portions from each of the six aliquots was placed in a 1-gallon Ziploc baggie which was then thoroughly homogenized. A portion of the composite sample was then placed in a small aluminum baking pan & placed in the drying oven. The sample was left in the oven until visibly dry (15-30 minutes). The sample material was then crushed/rolled into fine particles & then transferred to a small thin-walled sandwich baggie. Each corner of the baggie & center were analyzed w/ the XRF.

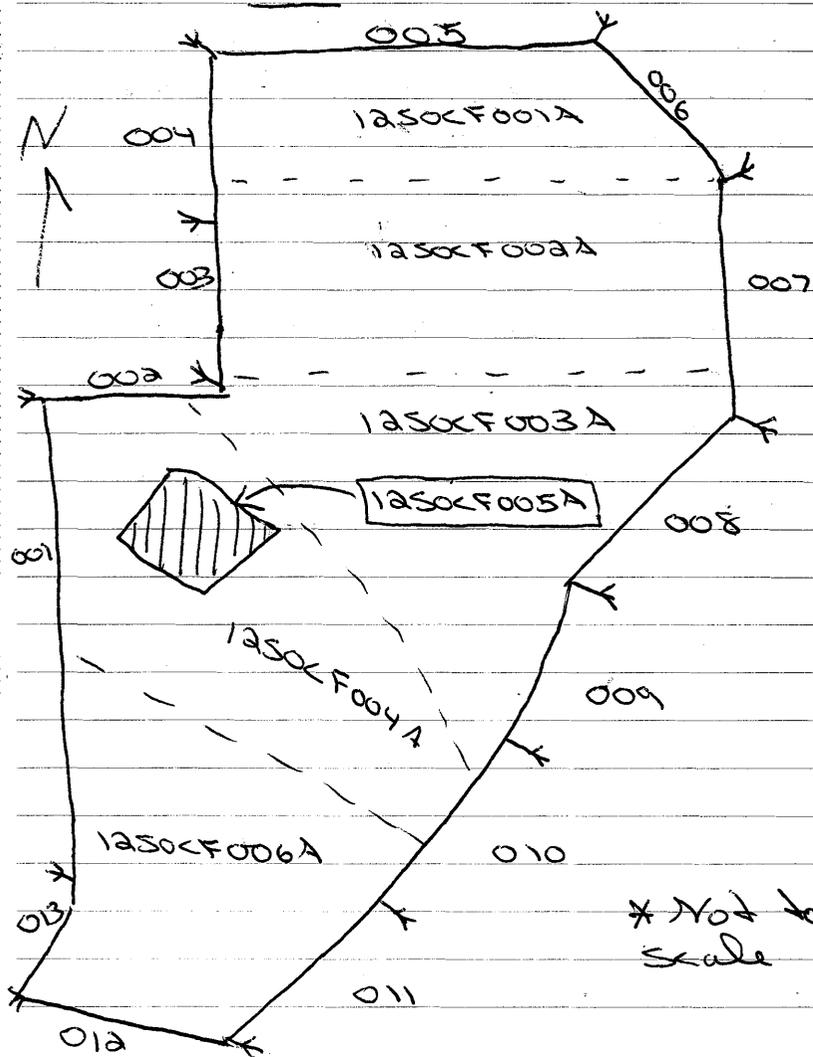
1500

1300 - Returned to the Battery

9/5

10-7-09

Site to lay out remaining
sample locations & to
collect the samples.
1250CWXXXA



10-7-09

1730- Returned to B-3245 to
continue w/ XRF analyses.
Since the last drop-off time
was getting close (1900 hrs),
& so far all XRF lead levels
were pretty low (<200 mg/kg)
we decided to go ahead and
send all ~~the~~ samples to the
lab today & then finish XRF
analyses in the morning &
if any high lead was detected
w/ the XRF we would call
the lab & have them not
analyze that particular sample.
Filled sample jars & attached
labels. ~~for~~

1900- I left Crane enroute to
Fed Ex in Indianapolis since
we had missed Express
Drop off times for all other
locations.

1945- Observed a Fed Ex
truck while travelling

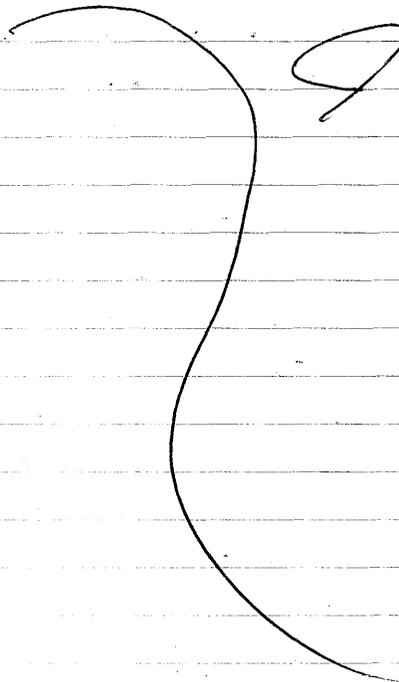
10-7-09

through Bloomington. I followed them until their next stop & asked if he could take the samples - he accommodated the request.

Samples were received by lab the following day.

End of Day

Jim Dow



10-8-09

AM: Rain, low 50's

PM: Rain, low 60's

0800 - Arrived at B-3245 & began preparations to continue w/ XRF analyses. Tom Brent stopped by to discuss results. The only lead concentration above 200mg/kg was found in the soil that was collected in the area of the deeper excavation (in the area of 1250KFOOST - pg 6). In this area, a dark seam of soil was observed running through from end to end. This sample was not composited. A composite sample was also collected w/in this deeper excavation but did not include the "seam" material. The composite sample did not have an XRF lead

concentration greater than 200 mg/kg.

1030 - Phoned Janice Shilling at Empirical Laboratories & asked her to omit sample 1250GW015A from analysis, this location would undergo additional excavation & sampling. The XRF lead concentration for this grab sample was around 3,000 ppm. Janice indicated they would not be able to do a 24-hr turn-around on these samples as marked on the COCs. She said the SOW is for 72 hrs & she is planning to have results by late Monday, but most likely Tuesday.

1350 - Arrived at the Battery Site to collect GPS coordinates of sample locations. Periods of heavy rain during this

time. GPS coordinates were collected at each of the initial nodes (11). They were logged in as 12EX01-11. GPS coordinates for the individual wall samples were collected as follows:

W001A & W001B indicate the span in which the 6 aliquots were collected for sample 1250CW001. GPS coordinates for the floor samples were collected as follows: F4-6 E indicates the eastern point of the line that separated floor sample 004 from floor sample 006. "M" indicates the middle or center of that line & "W" indicates the western point of the line.

GPS coordinates were also collected at the location where the excavator was

sitting (LD-1); where the trucks parked during the loading process (LD-2); & the temporary road leading out of Swamp 12 (LD-3)

1530 - Returned to B-3245. Packed up all equipment for shipping back to vendor. Remainder of day spent cleaning & moving supplies/equip. to field trailer.

Jim Dyer

Shift 2

Additional excavating & sampling in area of black seam

(John Floyd)

Three samples were collected in the area of the "black seam" that underwent additional excavation.

Samples include:

1250CF007A

1250CF008A

1250CW016A

Shift 3

Final Excavating in
area of black seam.

10-27-09

J. Goardt

AM: Cloudy/drizzle mid 40s

PM: Cloudy/rain - mid 50's

0650 - At Menards picking
up field supplies.

0750 - Arrived at VSA
Crane. Set up the XRF
analyzer and ran
standardizations & NISTs.

Std = 212 (passed)

Blank = ND (<6 ppm)

NIST 2702 = 133 ppm

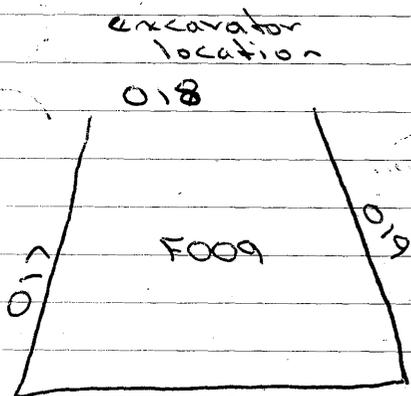
NIST 2781 = 197 ppm

0830 - Arrived at the
Sumnu 12 Battery Site.
Met with Tom Brent
(Crane) & Lance (Northwind).
Two dump trucks were

10-27-09

filled w/ excavated soil from the area sampled during the previous shift by John Floyd in which lab analyses showed exceedences for certain metals.

0905 - The excavation was approximately 10-foot wide & 15-foot long. Composite samples were collected along 3 walls & the floor.



10-27-09

0950 - Returned to the field trailer to begin processing samples for XRF analysis. Initially ran all individual aliquots unprocessed (not dried) and all lead results were less than 30 mg/kg. Samples were then composited, dried, and crushed/rolled into finer material.

	Avg Lead
1250CW017A =	18 mg/kg
" 018A =	22 "
" 019A =	15 "
1250FW009A =	30 "

1120 - Called Betsy Collins in PGH to make sur. I was using correct sample IDs. Also decided that all 4 samples should be shipped to the FBI for analysis.

10-27-09

1210 - Called Tom Brent & informed him that all samples had been scanned w/ the XRF & that all were less than 35 mg/kg. He would contact Northwind to relay the information.

1220 - Placed samples in vans & prepared for shipping. Called Fed Ex for pick up at B-3295.

1330 - Returned to Battery Site & called GPS coordinators at sample locations.

1430 - Finished for the day.

Jim Bus

SHIFT 4

11-15-09
John Floyd collected both support ~~area~~ ^{area} samples as well as back fill samples.

Support Area
Five samples collected

1250 < F010

- Excavator location

1250 < F011

- Truck loading area

1250 < F012-014

- Gravel access road

Examining fence

Gravel access road

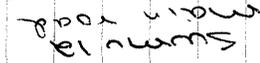
F010

F013

F011

F012

F014



11-15-09 (cont'd)

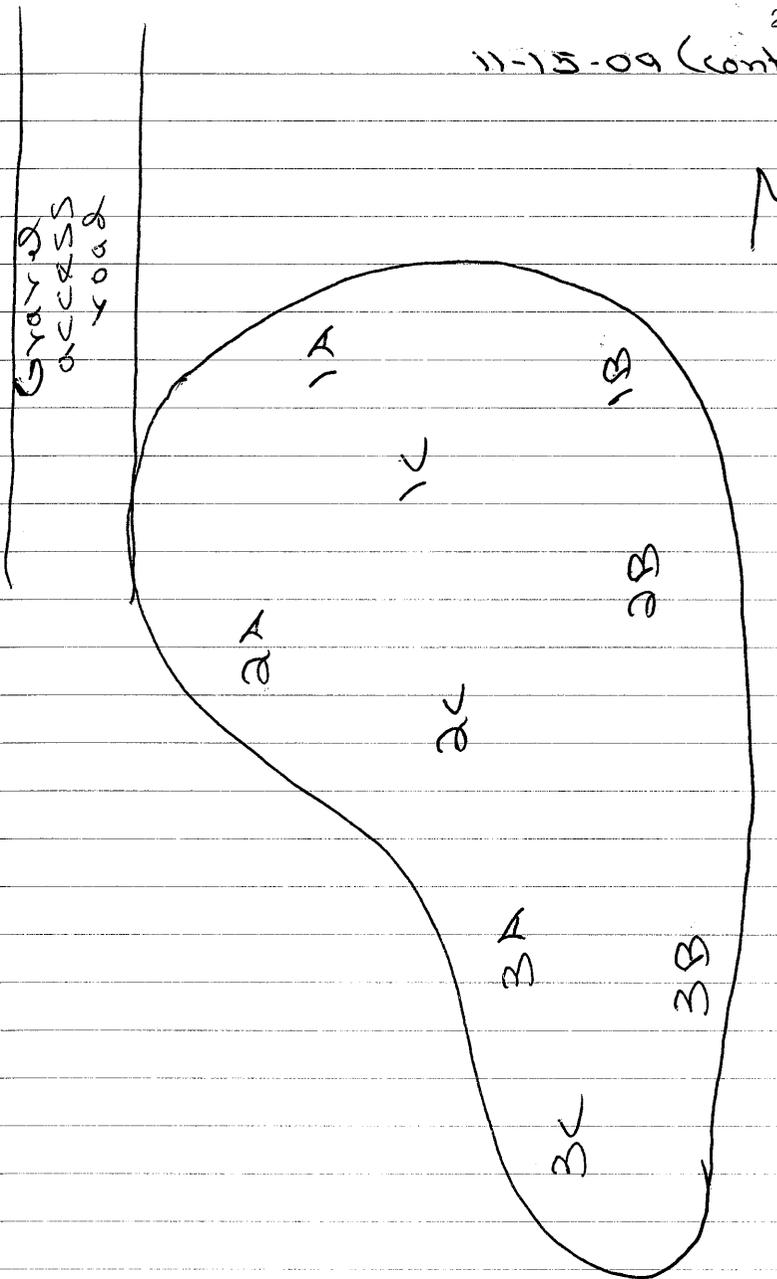
Backfill & Topfill samples

Topfill samples were collected from 0-0.5' bgs.
12BACKFILL001-A, B, C

Backfill samples were collected from 1-2' bgs.
12BACKFILL002-A, B, C

The lab was instructed to only analyze the 001A & 002A samples, the other four (B, C) were labeled for extract & hold and only to be analyzed if instructed by Tetra Tech to do so.

11-15-09 (cont'd)



APPENDIX G

SWMU 12 BATTERY DUMP SITE RISK EVALUATION

SWMU 12 Battery Dump Site Risk Evaluation

1.0 Introduction

As stated in the Solid Waste Management unit (SWMU) 12 Battery Dump Site Sampling and Analysis Plan, if the concentration of any of the ten chemicals of concern (COCs) exceeds the PRG for that chemical in any verification sample, then the project team will evaluate site-wide risk for the selected COCs (Tetra Tech, 2009). Based on the confirmation sampling conducted following soil excavation at SWMU 12, multiple sample results exceeded their respective preliminary remediation goals (PRGs) for chromium, copper, iron, tin, and zinc. As a result, this analysis has been completed as the first step in the site-wide risk evaluation to determine whether leaving this soil in place would cause unacceptable human health or ecological risk at the SWMU 12 Battery Dump Site.

2.0 Methodology

All Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) and Interim Measures (IM) confirmation sampling occurred within a 1-acre exposure unit. Based on RFI data, contamination was greatest near the center of the exposure unit and decreased in an outward direction. Three nested areas of significantly different COC concentration levels were evident. Excavations proceeded in stages within the most contaminated area.

Human health and ecological risks were computed for various combinations of sample results representing the nested areas of contamination. Prior to excavation, the inner area (Inner Ring) was the most contaminated, and the outer area (Outer Ring) was the least contaminated. Clean backfill and topsoil were used to replace soil removed from the excavation (which only occurred in the Inner Ring). After excavation, but prior to backfilling, confirmation samples were collected along excavation walls and floors. Therefore, to conduct the risk calculations, the available RFI and confirmation data were combined, as appropriate, along with backfill and topsoil data. The risk calculations were based on calculating an average COC concentration for each of the rings then combining these averages into a weighted average COC concentration representing the 1-acre exposure unit. The weighting factors were the fractional areas represented by each ring compared to the total exposure unit area.

Some sampling locations were on a boundary separating the nested areas of different contamination levels. For example, the Outer and Middle Rings share a boundary formed by connecting sampling locations with a dashed green line on Figure 1. The samples collected along this line could be used to represent either one of the adjacent areas, or both areas. The risk calculations could, therefore, either exclude or include the border samples collected from sampling locations along the dashed green line. To account for these possible variations in estimating risks, three different risk scenarios were devised. Each scenario incorporates different groups of sample data according to where those sampling locations were situated. Figures 1, 2, and 3 identify the three nested areas and the exposure unit boundary. On each of these figures, different colored highlighting is used to depict the set of samples used in calculating average COC concentrations for each ring.

The mathematical calculations of average COC concentrations are presented in Attachment A. Because human health and ecological risks are incurred through different exposures, separate concentrations were calculated for evaluating human health and ecological risks. These are discussed

in Attachment A. Attachment A lists the samples used to calculate area-weighted average concentrations for ecological receptors.

The area-weighted averages were used to determine whether residual COC concentrations exceed human health or ecological risk levels for any of the three scenarios. The methodology used to calculate human health and ecological risks is described in detail in the approved SWMU 12 Battery Dump Site sampling and analysis plan (SAP) in sections 11.2.4 and 11.2.5, respectively. Attachment B presents the bioaccumulation factors and toxicity reference values and Attachment C presents the exposure parameters that were used to calculate the ecological risks. Attachment D presents the food chain models and all associated equations that were used to calculate ecological effects quotients (EEQs) for each of the three scenarios for ecological risks.

3.0 Results/Conclusions

Based on calculations for each of the risk scenarios, the concentrations of COCs remaining in soil at the SWMU 12 Battery Dump Site after the IM do not pose unacceptable human health or ecological risk. Tables 1-1 through 1-3 summarize the human health area-weighted COC concentration averages and preliminary remediation goals (PRGs) for scenarios 1 through 3. The PRGs were used as cleanup goals. Tables 2-1 through 2-3 summarize the ecological area-weighted averages, PRGs, and screening levels for scenarios 1 through 3. Tables 3-1 through 3-3 present the calculated EEQs based on the lowest observed adverse effects levels (LOAELs) for ecological risk for each of the three scenarios.

Area-weighted averages for each of the four chemicals identified as human health COCs were less than their PRGs for each of the three scenarios (Tables 1-1 through 1-3). Therefore, no further calculations are necessary to show that these four COCs do not represent an unacceptable level of human health risk at the SWMU 12 Battery Dump Site.

The area-weighted average concentration for zinc exceeded the zinc PRG in one scenario (see Table 2-1), and the area-weighted average concentrations for chromium, copper, and zinc exceeded their respective PRGs in two of the three scenarios (Tables 2-2 and 2-3). These exceedances triggered a need for further evaluation. The ecological risks were evaluated further using a food chain analysis to calculate EEQs for receptors at the SWMU 12 Battery Dump Site. The EEQs (using the LOAELs) were less than 1.0 for all COCs in each scenario. Also, each area-weighted average concentration was less than twice the plants and invertebrate screening levels. None of the nine constituents identified as COCs for ecological risk present an unacceptable risk to ecological receptors at the SWMU 12 Battery Dump Site.

Based on this analysis, human health and ecological risks are acceptable and no further excavation to remove soil contaminated with the SWMU 12 Battery Dump Site COCs is necessary at the SWMU 12 Battery Dump Site.

**Table 1-1
Area Weighted Averages
Human Health Risk Scenario 1**

Inorganics (mg/kg)	Inner ring average	Middle ring average	Outer ring average	Inner ring average (area)	Middle ring average (area)	Outer ring average (area)	Area weighted average	PRGs in Report
Antimony	NA	0.49	0.33	NA	0.12	0.22	0.33	31
Arsenic	5.42	4.37	4.94	0.54	1.04	3.27	4.85	10.2
Chromium	22.86	27.93	25.43	2.28	6.64	16.85	25.76	-
Copper	15.62	25.64	11.94	1.56	6.09	7.91	15.56	-
Iron	31903.57	33690.95	22387.27	3177.60	8004.97	14836.05	26018.61	55,000
Lead	28.92	40.88	19.93	2.88	9.71	13.21	25.80	400
Mercury	0.02	0.03	0.16	0.00	0.01	0.10	0.11	-
Silver	0.04	0.11	0.04	0.00	0.03	0.03	0.06	-
Tin	3.35	3.37	NA	0.33	0.80	NA	1.14	-
Zinc	72.18	190.10	49.05	7.19	45.17	32.50	84.86	-

	Human Health risks were identified in the IMWP for these parameters
NA	Could not calculate an average because all results were non-detect. Not added in to the area weighted average.
-	No Human Health risks are associated with these parameters; therefore, there are no Human Health PRGs for these.

**Table 1-2
Area Weighted Averages
Human Health Risk Scenario 2**

Inorganics (mg/kg)	Inner ring average	Middle ring average	Outer ring average	Inner ring average (area)	Middle ring average (area)	Outer ring average (area)	Area weighted average	PRGs in Report
Antimony	NA	0.49	0.67	NA	0.12	0.44	0.56	31
Arsenic	5.42	4.37	4.52	0.54	1.04	2.99	4.57	10.2
Chromium	22.86	27.93	30.42	2.28	6.64	20.16	29.07	-
Copper	15.62	25.64	19.79	1.56	6.09	13.12	20.76	-
Iron	31903.57	33690.95	28801.29	3177.60	8004.97	19086.62	30269.18	55,000
Lead	28.92	40.88	34.80	2.88	9.71	23.06	35.65	400
Mercury	0.02	0.03	0.09	0.00	0.01	0.06	0.07	-
Silver	0.04	0.11	0.09	0.00	0.03	0.06	0.09	-
Tin	3.35	3.37	NA	0.33	0.80	NA	1.14	-
Zinc	72.18	190.10	121.67	7.19	45.17	80.63	132.99	-

Human Health risks were identified in the IMWP for these parameters

NA Could not calculate an average because all results were non-detect. Not added in to the area weighted average.

- No Human Health risks are associated with these parameters; therefore, there are no Human Health PRGs for these.

**Table 1-3
Area Weighted Averages
Human Health Risk Scenario 3**

Inorganics (mg/kg)	Inner ring average	Middle ring average	Outer ring average	Inner ring average (area)	Middle ring average (area)	Outer ring average (area)	Area weighted average	PRGs in Report
Antimony	NA	0.15	0.67	NA	0.04	0.44	0.48	31
Arsenic	5.42	4.46	4.52	0.54	1.06	2.99	4.59	10.2
Chromium	22.86	23.17	30.42	2.28	5.50	20.16	27.94	-
Copper	15.62	27.03	19.79	1.56	6.42	13.12	21.10	-
Iron	31903.57	34929.09	28801.29	3177.60	8299.15	19088.34	30565.09	55,000
Lead	28.92	38.98	34.80	2.88	9.26	23.06	35.20	400
Mercury	0.02	0.03	0.09	0.00	0.01	0.06	0.07	-
Silver	0.04	0.09	0.09	0.00	0.02	0.06	0.09	-
Tin	3.35	4.49	NA	0.33	1.07	NA	1.40	-
Zinc	72.18	216.00	121.67	7.19	51.32	80.64	139.15	-

Human Health risks were identified in the IMWP for these parameters

NA Could not calculate an average because all results were non-detect. Not added in to the area weighted average.

- No Human Health risks are associated with these parameters; therefore, there are no Human Health PRGs for these.

Table 2-1
Area Weighted Averages
Ecological Risk Scenario 1

Inorganics (mg/kg)	Inner ring average	Middle ring average	Outer ring average	Inner ring average (area)	Middle ring average (area)	Outer ring average (area)	Area weighted average	PRGs in Report	2 times plant screening level	2 times invert screening level
Antimony	NA	0.77	NA	NA	0.18	NA	0.18	31	NC	156
Arsenic	4.50	5.04	4.32	0.45	1.20	2.86	4.51	10.2	36	NC
Chromium	9.51	25.54	26.30	0.95	6.07	17.43	24.44	26	NC	NC
Copper	8.77	35.74	13.30	0.87	8.49	8.81	18.18	28	140	160
Iron	12700.00	23088.70	20272.00	1264.92	5485.87	13434.25	20185.05	-	NC	NC
Lead	9.43	60.10	26.48	0.94	14.28	17.55	32.77	400	240	3400
Mercury	0.02	0.03	0.02	0.00	0.01	0.02	0.03	2.1	NC	NC
Silver	NA	0.16	0.04	NA	0.04	0.03	0.06	4.2	1120	NC
Tin	NA	5.07	NA	NA	1.20	NA	1.20	10	NC	NC
Zinc	43.30	285.47	56.94	4.31	67.83	37.73	109.87	60.2**	320	240

Ecological risks were identified in the IMWP for these parameters

** PRG was 46 mg/kg in the report but 60.2 mg/kg is the background concentration

NA Could not calculate an average because all results were non-detect. Not added in to the area weighted average

NC No Criteria

- No Ecological risks are associated with this parameter; therefore, there no PRG is presented.

109.87

Area weighted average exceeded the PRG

**Table 2-2
Area Weighted Averages
Ecological Risk Scenario 2**

Inorganics (mg/kg)	Inner ring average	Middle ring average	Outer ring average	Inner ring average (area)	Middle ring average (area)	Outer ring average (area)	Area weighted average	PRGs in Report	2 times plant screening level	2 times invert screening level
Antimony	NA	0.77	1.10	NA	0.18	0.73	0.91	31	NC	156
Arsenic	4.50	5.04	5.40	0.45	1.20	3.58	5.23	10.2	36	NC
Chromium	9.51	25.54	33.41	0.95	6.07	22.14	29.16	26	NC	NC
Copper	8.77	35.74	28.85	0.87	8.49	19.12	28.49	28	140	160
Iron	12700.00	23088.70	25590.67	1264.92	5485.87	16960.47	23711.26	-	NC	NC
Lead	9.43	60.10	53.60	0.94	14.28	35.52	50.74	400	240	3400
Mercury	0.02	0.03	0.02	0.00	0.01	0.01	0.02	2.1	NC	NC
Silver	NA	0.16	0.14	NA	0.04	0.09	0.13	4.2	1120	NC
Tin	NA	5.07	NA	NA	1.20	NA	1.2	10	NC	NC
Zinc	43.30	285.47	181.53	4.31	67.83	120.31	192.45	62**	320	240

Ecological risks were identified in the IMWP for these parameters

** PRG was 46 mg/kg in the report but 60.2 mg/kg is the background concentration

NA Could not calculate an average because all results were non-detect. Not added in to the area weighted average

NC No Criteria

- No Ecological risks are associated with this parameter; therefore, there no PRG is presented.

29.16 Area weighted average exceeded the PRG

**Table 2-3
Area Weighted Averages
Ecological Risk Scenario 3**

Inorganics (mg/kg)	Inner ring average	Middle ring average	Outer ring average	Inner ring average (area)	Middle ring average (area)	Outer ring average (area)	Area weighted average	PRGs in Report	2 times plant screening level	2 times invert screening level
Antimony	NA	NA	1.10	NA	NA	0.73	0.73	31	NC	156
Arsenic	4.50	4.35	5.40	0.45	1.03	3.58	5.06	10.2	36	NC
Chromium	9.51	16.75	33.41	0.95	3.98	22.14	27.07	26	NC	NC
Copper	8.77	35.05	28.85	0.87	8.33	19.12	28.32	28	140	160
Iron	12700.00	19118.46	25590.67	1264.92	4542.55	16958.93	22766.4	-	NC	NC
Lead	9.43	54.66	53.60	0.94	12.99	35.52	49.45	400	240	3400
Mercury	0.02	0.04	0.02	0.00	0.01	0.01	0.02	2.1	NC	NC
Silver	NA	0.14	0.14	NA	0.03	0.09	0.13	4.2	1120	NC
Tin	NA	5.81	NA	NA	1.38	NA	1.38	10	NC	NC
Zinc	43.30	317.50	181.53	4.31	75.44	120.30	200.05	62**	320	240

Ecological risks were identified in the IMWP for these parameters

** PRG was 46 mg/kg in the report but 60.2 mg/kg is the background concentration

NA Could not calculate an average because all results were non-detect. Not added in to the area weighted average

NC No Criteria

- No Ecological risks are associated with this parameter; therefore, there no PRG is presented.

29.16 Area weighted average exceeded the PRG

TABLE 3-1

**SCENARIO 1
TERRESTRIAL WILDLIFE FOOD CHAIN MODEL LOAEL EEQS**

Chemical	Meadow Vole	Bobwhite Quail	Short-Tailed Shrew	American Woodcock
	LOAEL EEQ	LOAEL EEQ	LOAEL EEQ	LOAEL EEQ
Inorganics				
ANTIMONY	3.21E-04	#VALUE!	6.52E-03	#VALUE!
ARSENIC	4.20E-03	5.87E-03	1.59E-02	2.92E-02
CHROMIUM	1.92E-03	9.33E-03	1.29E-02	7.72E-02
COPPER	7.33E-03	6.87E-03	1.13E-02	4.02E-02
IRON	4.03E-02	1.02E-01	1.77E-01	2.69E-01
LEAD	6.69E-03	2.15E-02	4.44E-02	2.13E-01
MERCURY	1.03E-02	8.35E-03	1.92E-01	6.59E-01
SILVER	1.06E-06	5.67E-06	1.09E-04	3.01E-04
TIN	3.31E-03	2.05E-03	3.33E-03	9.91E-03
ZINC	2.16E-02	1.25E-02	1.31E-01	3.17E-01

Cells are shaded if the EEQ > 1.0

EEQ = Ecological Effects Quotient

#VALUE! = Value not able to be calculated

TABLE 3-2

SCENARIO 2
 TERRESTRIAL WILDLIFE FOOD CHAIN MODEL LOAEL EEQS

Chemical	Meadow Vole	Bobwhite Quail	Short-Tailed Shrew	American Woodcock
	LOAEL EEQ	LOAEL EEQ	LOAEL EEQ	LOAEL EEQ
Inorganics				
ANTIMONY	1.47E-03	#VALUE!	3.27E-02	#VALUE!
ARSENIC	4.87E-03	6.81E-03	1.77E-02	3.28E-02
CHROMIUM	2.30E-03	1.11E-02	1.54E-02	9.20E-02
COPPER	8.80E-03	9.16E-03	1.76E-02	6.31E-02
IRON	4.74E-02	1.20E-01	2.08E-01	3.16E-01
LEAD	8.72E-03	3.20E-02	6.33E-02	3.07E-01
MERCURY	8.73E-03	7.10E-03	1.82E-01	6.23E-01
SILVER	2.16E-06	1.15E-05	2.22E-04	6.11E-04
TIN	3.31E-03	2.05E-03	3.33E-03	9.91E-03
ZINC	2.95E-02	1.83E-02	1.58E-01	3.84E-01

Cells are shaded if the EEQ > 1.0

EEQ = Ecological Effects Quotient

#VALUE! = Value not able to be calculated

TABLE 3-3

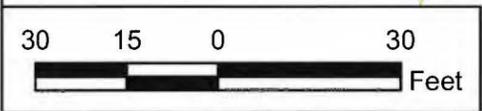
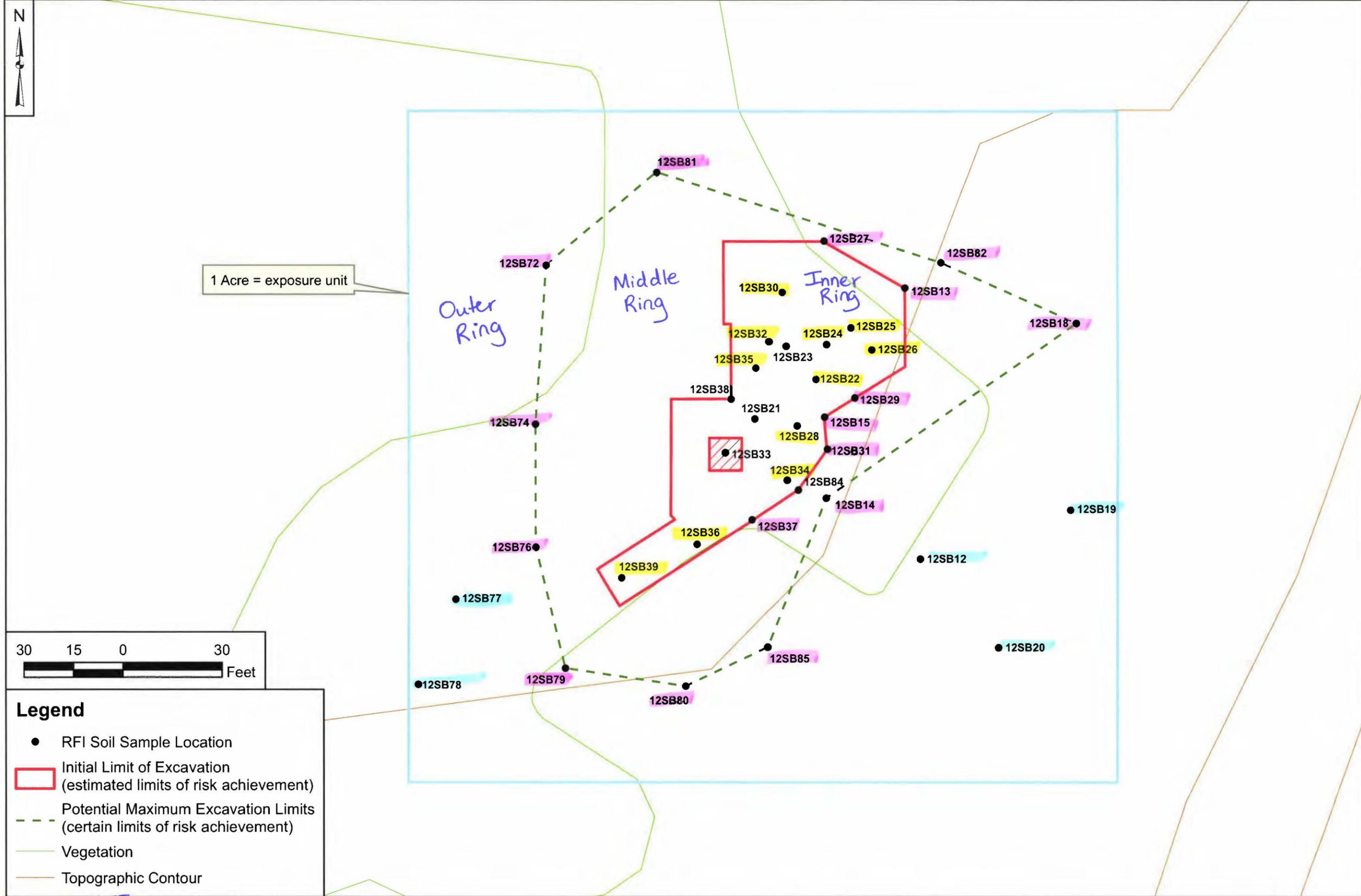
**SCENARIO 3
TERRESTRIAL WILDLIFE FOOD CHAIN MODEL LOAEL EEQS**

Chemical	Meadow Vole	Bobwhite Quail	Short-Tailed Shrew	American Woodcock
	LOAEL EEQ	LOAEL EEQ	LOAEL EEQ	LOAEL EEQ
Inorganics				
ANTIMONY	1.19E-03	#VALUE!	2.61E-02	#VALUE!
ARSENIC	4.72E-03	6.60E-03	1.73E-02	3.20E-02
CHROMIUM	2.13E-03	1.03E-02	1.43E-02	8.54E-02
COPPER	8.78E-03	9.13E-03	1.75E-02	6.27E-02
IRON	4.55E-02	1.15E-01	2.00E-01	3.04E-01
LEAD	8.59E-03	3.12E-02	6.20E-02	3.01E-01
MERCURY	9.09E-03	7.40E-03	1.84E-01	6.32E-01
SILVER	2.07E-06	1.10E-05	2.13E-04	5.85E-04
TIN	3.79E-03	2.35E-03	3.81E-03	1.14E-02
ZINC	3.01E-02	1.88E-02	1.60E-01	3.89E-01

Cells are shaded if the EEQ > 1.0

EEQ = Ecological Effects Quotient

#VALUE! = Value not able to be calculated



Legend

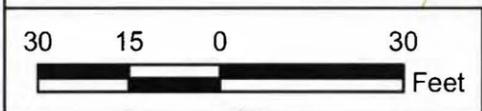
- RFI Soil Sample Location
- ▭ Initial Limit of Excavation (estimated limits of risk achievement)
- - - Potential Maximum Excavation Limits (certain limits of risk achievement)
- Vegetation
- Topographic Contour

● RFI Sample Included in Inner Ring
● RFI Sample Included in Middle Ring
● RFI Sample Included in Outer Ring

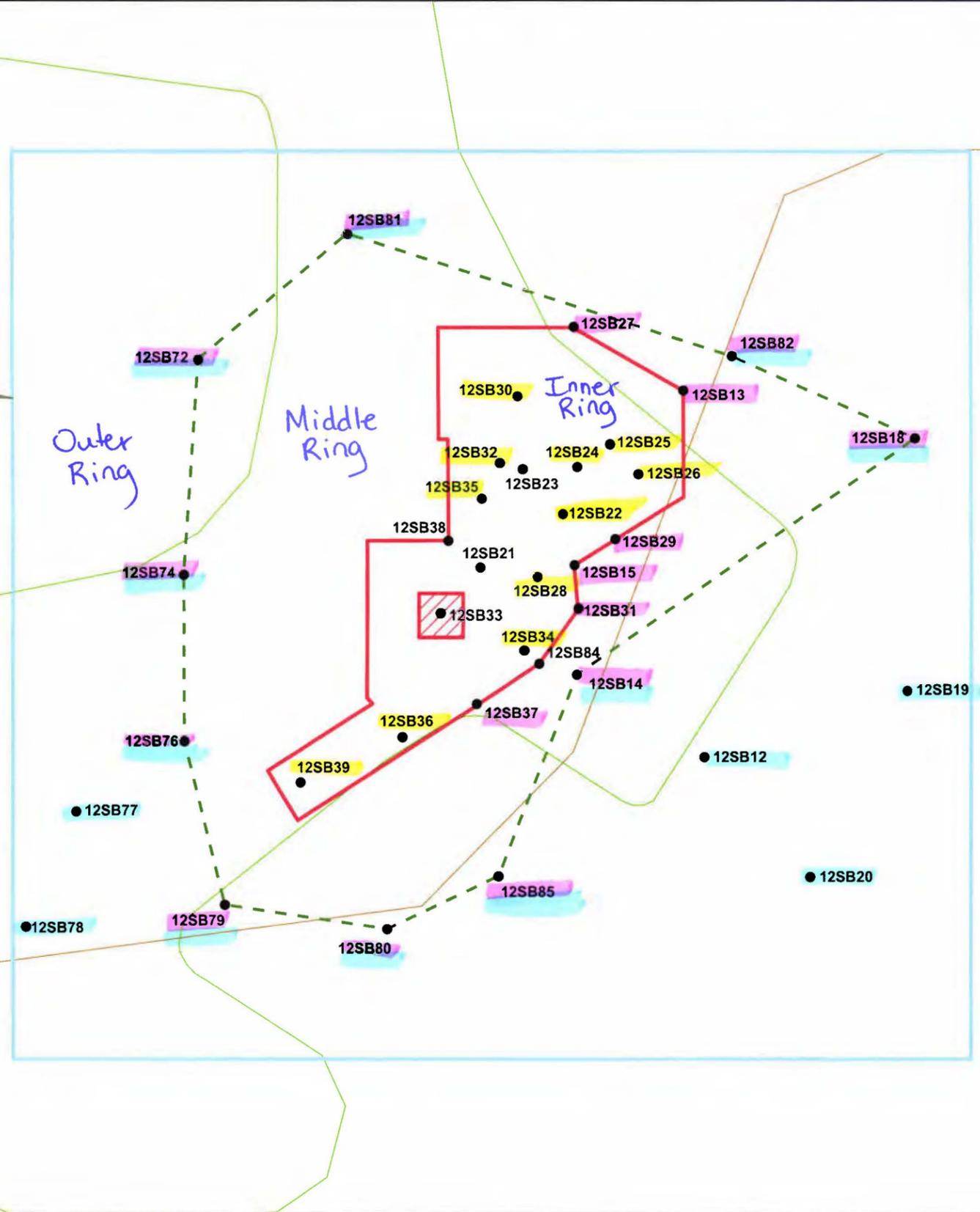
CONTRACT NUMBER CTO F271	DATE	FIGURE NO. FIGURE 1	REV 0	
APPROVED BY	DATE		APPROVED BY	DATE
Scenario 1 - RFI Samples RISK CALCULATION SWMU 12 - BATTERY DUMP SITE NWSC CRANE CRANE, INDIANA				
		SCALE AS NOTED		
DRAWN BY T. WHEATON	DATE 11/10/09	CHECKED BY B. COLLINS	DATE 12/4/09	
COST/SCHEDULE-AREA		AS NOTED		



1 Acre = exposure unit



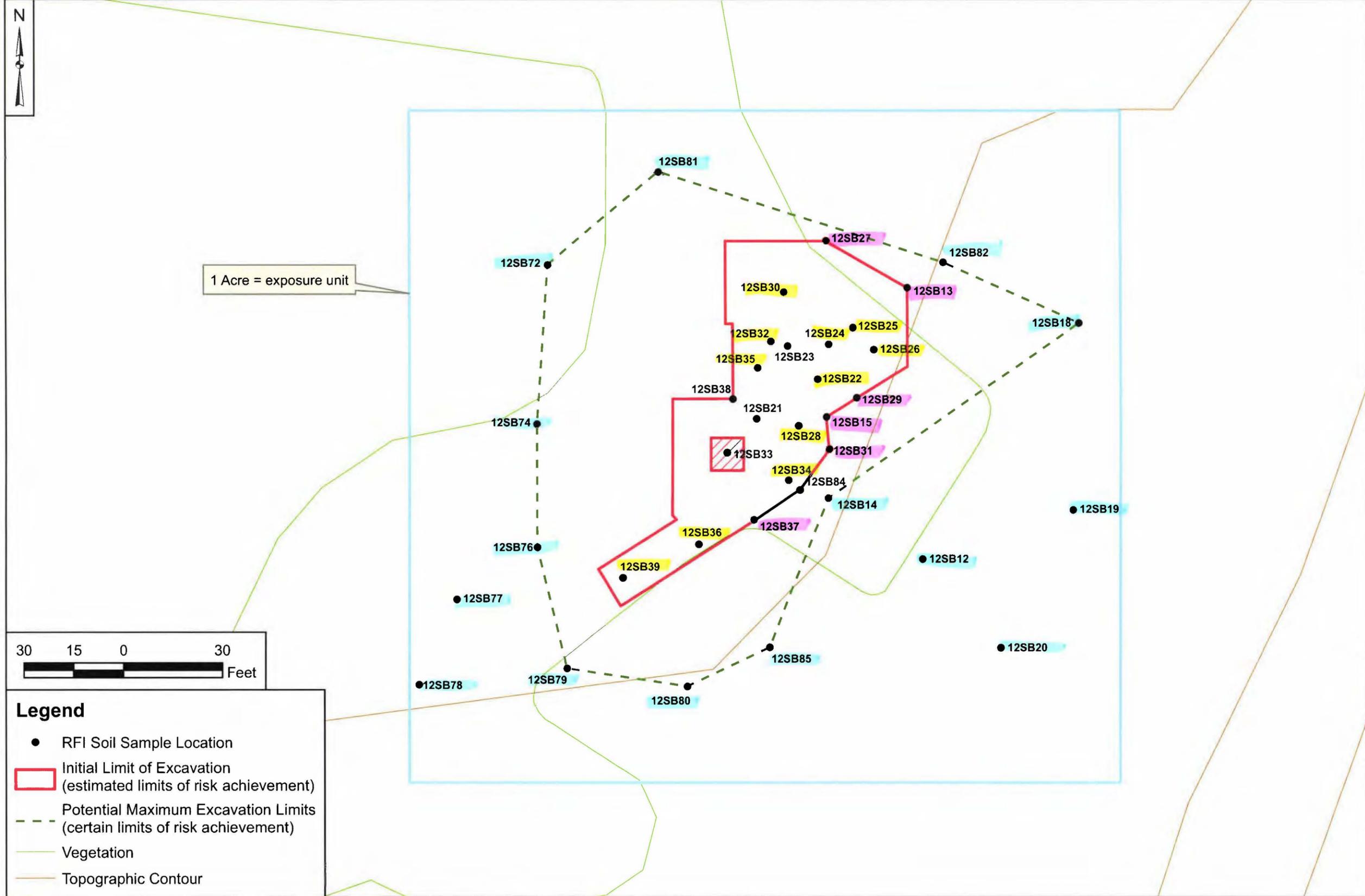
- Legend**
- RFI Soil Sample Location
 - Initial Limit of Excavation (estimated limits of risk achievement)
 - - - Potential Maximum Excavation Limits (certain limits of risk achievement)
 - Vegetation
 - Topographic Contour



- RFI Sample Included in Inner Ring
- RFI Sample Included in Middle Ring
- RFI Sample Included in Outer Ring

CONTRACT NUMBER CTO F271	APPROVED BY DATE	APPROVED BY DATE	REV 0
FIGURE NO. 2			
Scenario 2 - RFI Samples RISK CALCULATION SWMU 12 - BATTERY DUMP SITE NWSC CRANE CRANE, INDIANA			
DRAWN BY T. WHEATON	DATE 11/10/09	CHECKED BY B. COLLINS	DATE 12/4/09 COST/SCHEDULE-AREA
SCALE AS NOTED			NAIFAC





RFI Sample Included in Inner Ring
 RFI Sample Included in Middle Ring
 RFI Sample Included in Outer Ring

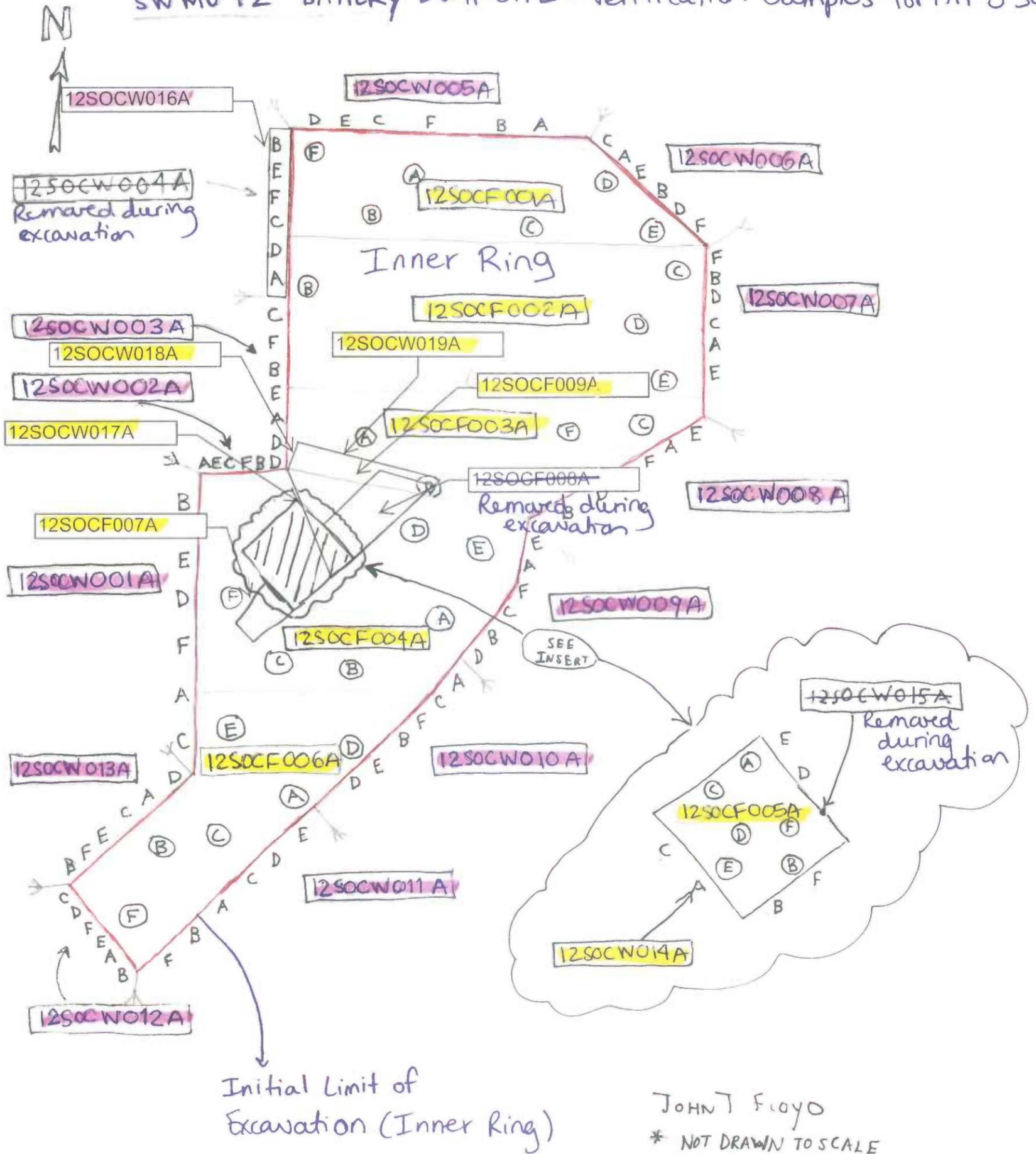
DRAWN BY T. WHEATON CHECKED BY B. COLLINS COST/SCHEDULE-AREA DATE 11/10/09 DATE 12/4/09	CONTRACT NUMBER CTO F271 APPROVED BY APPROVED BY DATE DATE DATE	RISK CALCULATION SWMU 12 - BATTERY DUMP SITE NWSC CRANE CRANE, INDIANA	FIGURE NO. 3 REV 0
---	---	---	---------------------------------



SCALE
AS NOTED

Figure 4

SW MU 12 BATTERY DUMP SITE - Verification Samples for All 3 Scenarios



Note: No verification samples were collected in the outer ring. All samples in the outer ring are shown on Figures 1-3 (RFI samples for each scenario).

ATTACHMENT A
AREA WEIGHTED AVERAGE CONCENTRATION CALCULATION

ATTACHMENT A

Area-Weighted Average Calculations

Samples associated with three nested areas (Inner, Middle, and Outer Rings) were used to calculate the area-weighted average concentration of each COC for each scenario described in Appendix G Sections 1.0 through 3.0. These rings are shown on Figures 1 through 3. The Inner Ring is the area (0.0996 acres) inside the solid red line, the Middle Ring is the area (0.2376 acres) between the solid red and dashed green lines, and the Outer Ring is the area (0.6627 acres) between the dashed green and solid blue lines. The 1-acre exposure unit for the Battery Dump Site is represented as a solid blue rectangle on the figures.

The following is a summary of samples included in the area-weighted average calculations for each human health and ecological scenario. Only surface samples (0-2 feet bgs) were used to calculate area-weighted average concentrations for ecological risk scenarios. This means that the samples used for ecological scenarios only included data associated with backfill and topsoil samples, RFI surface soil samples, and IM verification surface soil samples collected from the excavation walls that extended from ground surface to two feet below ground surface. COC concentrations from RFI samples taken at a depth of 1 to 3 feet below ground surface (soils that remained following excavations) were included in the Inner and Middle Ring human health risk area-weighted average calculation. Figures 1 through 3 present the RFI sample locations and the RFI samples associated with data included in each scenario. Figure 4 presents the locations of all verification samples and identifies the verification samples included in each of the three scenarios.

Area-weighted average concentrations were calculated using the following equation:

$$C_{a-w} = [(C_I * A_I) + (C_M * A_M) + (C_O * A_O)] / \text{Total Exposure Unit Area}$$

Where:

C_{a-w} = Area-Weighted Average Concentration for the 1-acre exposure unit (mg/kg)

C_X = COC Concentration in Inner (I), Middle (M), or Outer (O) Rings (mg/kg)

A_X = Acreage for Inner (I), Middle (M), or Outer (O) area (acres)

Total Area = Total Exposure Unit Area (i.e., 1 acre)

Scenario 1:

Samples Associated With Data Used In Inner Ring Calculations (same in each scenario)

- **Subsurface** RFI soil samples located inside the inner ring (human health risk). Corresponding soil boring locations are highlighted yellow on Figure 1. **Surface** RFI samples inside the inner ring were not included because they were excavated.
- Verification **subsurface** soil samples located inside the inner ring (except for sample 12SOCF008A, which was removed), highlighted yellow on Figure 4 (human health risk).
- Backfill and topsoil sample results, not shown on figures (human health and ecological risk).

Samples Associated With Data Used In Middle Ring Calculations

- RFI *subsurface* soil samples located on the solid red line from soil borings highlighted pink on Figure 1 (human health risk).
- Verification *surface* soil samples located on the solid red line (except sample 12SOCW004A, which was excavated), highlighted pink on Figure 4, which replace the RFI *surface* soil samples collected on the red line on Figure 1 (human health and ecological risk).
- RFI *surface* soil samples located on the dashed green line from soil borings highlighted pink on Figure 1 (human health and ecological risk).
- RFI *subsurface* soil samples located on the green line from soil borings highlighted pink on Figure 1 (human health risk).

Samples Associated With Data Used In Outer Ring Calculations

- RFI *surface* soil samples located between the solid blue and dashed green lines from soil borings highlighted blue on Figure 1 (human health and ecological risk).
- RFI *subsurface* soil samples located between the solid blue and dashed green lines from soil borings highlighted blue on Figure 1 (human health risk).

Scenario 2:

Samples Associated With Data Used In Inner Ring Calculations (same in each scenario)

- *Subsurface* RFI soil samples located inside the inner ring (human health risk). Corresponding soil boring locations are highlighted yellow on Figure 1. *Surface* RFI samples inside the inner ring were not included because they were excavated.
- Verification *subsurface* soil samples located inside the inner ring (except for sample 12SOCF008A, which was removed), highlighted yellow on Figure 4 (human health risk).
- Backfill and topsoil sample results, not shown on figures (human health and ecological risk).

Samples Associated With Data Used In Middle Ring Calculations

- RFI *subsurface* soil samples located on the solid red line from soil borings highlighted pink on Figure 1 (human health risk).
- Verification *surface* soil samples located on the solid red line (except sample 12SOCW004A, which was excavated), highlighted pink on Figure 4, which replace the

RFI *surface* soil samples collected on the red line on Figure 1 (human health and ecological risk).

- RFI *surface* soil samples located on the dashed green line from soil borings highlighted pink and blue on Figure 2 (human health and ecological risk).
- RFI *subsurface* soil samples located on the dashed green line from soil borings highlighted pink and blue on Figure 2 (human health risk).

Samples Associated With Data Used In Outer Ring Calculations

- RFI *surface* soil samples located on the dashed green line from soil borings highlighted pink and blue on Figure 2 (human health and ecological risk).
- RFI *subsurface* soil samples located on the dashed green line from soil borings highlighted pink and blue on Figure 2 (human health risk).
- RFI *surface* soil samples located between the solid blue and dashed green lines. Corresponding soil borings are highlighted blue on Figure 2 (human health and ecological risk).
- RFI *subsurface* soil samples located between the solid blue and dashed green lines. Corresponding soil borings are highlighted blue on Figure 2 (human health risk).

Scenario 3:

Samples Associated With Data Used In Inner Ring Calculations (same in each scenario)

- *Subsurface* RFI soil samples located inside the inner ring (human health risk). Corresponding soil boring locations are highlighted yellow on Figure 1. *Surface* RFI samples inside the inner ring were not included because they were excavated.
- Verification *subsurface* soil samples located inside the inner ring (except for sample 12SOCF008A, which was removed), highlighted yellow on Figure 4 (human health risk).
- Backfill and topsoil sample results, not shown on figures (human health and ecological risk).

Samples Associated With Data Used In Middle Ring Calculations

- RFI *subsurface* soil samples located on the solid red line from soil borings highlighted pink on Figure 1 (human health risk).
- Verification *surface* soil samples located on the solid red line (except sample 12SOCW004A, which was excavated), highlighted pink on Figure 4, which replace the

RFI *surface* soil samples collected on the red line on Figure 1 (human health and ecological risk).

Samples Associated With Data Used In Outer Ring Calculations

- RFI *surface* soil samples located on the dashed green line on Figure 3. Corresponding soil borings are highlighted blue on Figure 3 (human health and ecological risk).
- RFI *subsurface* soil samples located on the dashed green line on Figure 3. Corresponding soil borings are highlighted blue on Figure 3 (human health risk).
- RFI *surface* soil samples located between the solid blue and dashed green lines. Corresponding soil borings are highlighted blue on Figure 3 (human health and ecological risk).
- RFI *subsurface* soil samples located between the solid blue and dashed green lines. Corresponding soil borings are highlighted blue on Figure 3 (human health risk).

Table A-1.1
Inner Ring Samples - Scenario 1

Sample Location	Backfill material	Topsoil
Sample Number	12BACKFILL001-A	12BACKFILL002-A
Sample Date	11/15/2009	11/15/2009
Sample Interval (feet)	1-2 ft	0-0.5 ft

Inorganics (mg/kg)

ANTIMONY	0.284 U	0.288 U
ARSENIC	4.51	4.48
CHROMIUM	9.76	9.25
COPPER	8.97	8.57
IRON	12800	12600
LEAD	10.9	7.95
MERCURY	0.0266	0.019
SILVER	0.114 U	0.115 U
TIN	2.84 U	2.88 U
ZINC	45	41.6

Notes

Excavation was filled in with backfill and topsoil with the above concentrations

Area of inner ring=0.0996

**Table A-1.2
Middle Ring Samples - Scenario 1**

Sample Location	12SOCW001	12SOCW002	12SOCW003	12SOCW005	12SOCW006	12SOCW007
Sample Number	12SOCW001A	12SOCW002A	12SOCW003A	12SOCW005A	12SOCW006A	12SOCW007A
Sample Date	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.299 U	0.302 U	0.296 U	0.292 U	0.292 U	0.313 U
ARSENIC	4.99	6.87	8.89	5.99	1.5	4.37
CHROMIUM	14.5	16.8	19.3	18.1	16	16.3
COPPER	15.2	32.6	46.9	9.75	24.5	75.7
IRON	15300	22200	25500	23600	17100	13000
LEAD	23.2	59.3	81.8	13.5	35.2	73.4
MERCURY	0.0175	0.0326	0.0244	0.0149 U	0.0226	0.246
SILVER	0.0598 U	0.0605 U	0.0591 U	0.0583 U	0.0585 U	0.113
TIN	4.25	5.91	5.81	2.97	3.26	11
ZINC	83.5	199	254	20.8	135	1330

**Table A-1.2
Middle Ring Samples - Scenario 1**

Sample Location	12SOCW008	12SOCW009	12SOCW010	12SOCW011	12SOCW012	12SOCW013
Sample Number	12SOCW008A	12SOCW009A	12SOCW010A	12SOCW011A	12SOCW012A	12SOCW013A
Sample Date	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.297 U	0.57 U	0.313 U	0.313 U	0.314 U	0.3 U
ARSENIC	5.07	1.35	3	3.46	4.35	0.899
CHROMIUM	12	17.2	18.4	14.1	18.5	12.9
COPPER	21	13.7	25.3	14.8	104	34.2
IRON	12100	43400	14700	12200	19800	7140
LEAD	20.3	21.6	41	14.2	140	101
MERCURY	0.0149 U	0.0146 U	0.0176	0.0147 U	0.0241	0.0155 U
SILVER	0.0594 U	0.114 U	0.0626 U	0.0627 U	1.2	0.127
TIN	4.22	2.99 U	4.16	3.41	11.3	12.3
ZINC	300	98	146	57.2	932	419

**Table A-1.2
Middle Ring Samples - Scenario 1**

Sample Location	12SOCW016	12SS140002	12SS180002	12SS720002	12SS740002	12SS760002
Sample Number	12SOCW016A	12SB14	12SB18	12SB72	12SB74	12SB76
Sample Date	10/7/2009	08/13/04	08/15/04	10/10/06	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.29 U	0.12 U	0.95 U	2.2	1.5	0.67 U
ARSENIC	5.83	2.6 J	7.1 J	12.2	10.3	2.47
CHROMIUM	23.7	36.1 J	20.0 J	49.6	32.2	26.1
COPPER	38	9.8 J	10.6 J	46.3	34	28
IRON	22500	16700 J	16800 J	39100	27100	20100
LEAD	86.1	8.3 J	15.6 J	143 J	82.7 J	105 J
MERCURY	0.127 U	0.007 U	0.014 J			
SILVER	0.058 U	0.045 U	0.08 U	0.186	0.219	0.25
TIN	4	0.46 U	0.49 U			
ZINC	153	41.2 J	52.1 J	204	222	237

**Table A-1.2
Middle Ring Samples - Scenario 1**

Sample Location	12SS790002	12SS800002	12SS810002	12SS820002	12SS850002
Sample Number	12SB79	12SB80	12SB81	12SB82	12SB85
Sample Date	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	1.9	0.14 U	8.7	0.59 U	0.11 U
ARSENIC	4.17	2.55	13.6	3.23	1.23
CHROMIUM	37.4	27.4	69.5	38.3	33
COPPER	86.4	20.1	56.7	57.7	16.7
IRON	39400	23900	57500	19800	22100
LEAD	75.4 J	12.6 J	165 J	44.4 J	19.6 J
MERCURY					
SILVER	0.603	0.0715	0.269	0.185	0.068
TIN					
ZINC	364	133	288	761	136

Notes

The method detection limit (MDL) (with a qualifier of U added) was used for non-detects for the 2009 results.

The reported numbers with qualifiers were used for all other non-detect results.

Samples included in the middle ring: All confirmation samples collected on walls (that were not excavated) in 2009, all RFI samples collected on the green line

(RFI samples collected on the red line were replaced with the verification samples)

Total Area of middle ring=10,350 square feet or 0.2376 acres

**Table A-1.3
Outer Ring Samples - Scenario 1**

Sample Location	12SB12	12SB19	12SB20	12SB77	12SB78
Sample Number	12SS120002	12SS190002	12SS200002	12SS770002	12SS780002
Sample Date	08/13/04	08/15/04	08/15/04	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.20 U	0.51 U	0.35 U	0.73 U	0.15 U
ARSENIC	2.8 J	9.2 J	5.7 J	2.12	1.76
CHROMIUM	22.4 J	22.5 J	19.6 J	33.4	33.6
COPPER	8.7 J	15.8 J	9.1 J	16	16.9
IRON	7160 J	23200 J	16500 J	25900	28600
LEAD	10.6 J	15.6 J	14.1 J	71.6 J	20.5 J
MERCURY	0.007 U	0.034 J	0.032 J		
SILVER	0.042 U	0.042 U	0.043 U	0.086	0.0515
TIN	0.77 U	0.56 U	0.46 U		
ZINC	102 J	63.9 J	35.5 J	38.1	45.2

Notes

Outer ring only includes samples between blue and green lines (not samples directly on the green line).

Area of outer ring=0.66276 acres

Table A-2.1
Inner Ring Samples - Scenario 2

Sample Location	Backfill material	Topsoil
Sample Number	12BACKFILL001-A	12BACKFILL002-A
Sample Date	11/15/2009	11/15/2009
Sample Interval (feet)	1-2 ft	0-0.5 ft

Inorganics (mg/kg)

ANTIMONY	0.284 U	0.288 U
ARSENIC	4.51	4.48
CHROMIUM	9.76	9.25
COPPER	8.97	8.57
IRON	12800	12600
LEAD	10.9	7.95
MERCURY	0.0266	0.019
SILVER	0.114 U	0.115 U
TIN	2.84 U	2.88 U
ZINC	45	41.6

Notes

Excavation was filled in with backfill and topsoil with the above concentrations
Area of inner ring=0.0996

Table A-2.2
Middle Ring Samples -Scenario 2

Sample Location	12SOCW001	12SOCW002	12SOCW003	12SOCW005	12SOCW006	12SOCW007
Sample Number	12SOCW001A	12SOCW002A	12SOCW003A	12SOCW005A	12SOCW006A	12SOCW007A
Sample Date	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.299 U	0.302 U	0.296 U	0.292 U	0.292 U	0.313 U
ARSENIC	4.99	6.87	8.89	5.99	1.5	4.37
CHROMIUM	14.5	16.8	19.3	18.1	16	16.3
COPPER	15.2	32.6	46.9	9.75	24.5	75.7
IRON	15300	22200	25500	23600	17100	13000
LEAD	23.2	59.3	81.8	13.5	35.2	73.4
MERCURY	0.0175	0.0326	0.0244	0.0149 U	0.0226	0.246
SILVER	0.0598 U	0.0605 U	0.0591 U	0.0583 U	0.0585 U	0.113
TIN	4.25	5.91	5.81	2.97	3.26	11
ZINC	83.5	199	254	20.8	135	1330

**Table A-2.2
Middle Ring Samples -Scenario 2**

Sample Location	12SOCW008	12SOCW009	12SOCW010	12SOCW011	12SOCW012	12SOCW013
Sample Number	12SOCW008A	12SOCW009A	12SOCW010A	12SOCW011A	12SOCW012A	12SOCW013A
Sample Date	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.297 U	0.57 U	0.313 U	0.313 U	0.314 U	0.3 U
ARSENIC	5.07	1.35	3	3.46	4.35	0.899
CHROMIUM	12	17.2	18.4	14.1	18.5	12.9
COPPER	21	13.7	25.3	14.8	104	34.2
IRON	12100	43400	14700	12200	19800	7140
LEAD	20.3	21.6	41	14.2	140	101
MERCURY	0.0149 U	0.0146 U	0.0176	0.0147 U	0.0241	0.0155 U
SILVER	0.0594 U	0.114 U	0.0626 U	0.0627 U	1.2	0.127
TIN	4.22	2.99 U	4.16	3.41	11.3	12.3
ZINC	300	98	146	57.2	932	419

Table A-2.2
Middle Ring Samples -Scenario 2

Sample Location	12SOCW016	12SS140002	12SS180002	12SS720002	12SS740002	12SS760002
Sample Number	12SOCW016A	12SB14	12SB18	12SB72	12SB74	12SB76
Sample Date	10/7/2009	08/13/04	08/15/04	10/10/06	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.29 U	0.12 U	0.95 U	2.2	1.5	0.67 U
ARSENIC	5.83	2.6 J	7.1 J	12.2	10.3	2.47
CHROMIUM	23.7	36.1 J	20.0 J	49.6	32.2	26.1
COPPER	38	9.8 J	10.6 J	46.3	34	28
IRON	22500	16700 J	16800 J	39100	27100	20100
LEAD	86.1	8.3 J	15.6 J	143 J	82.7 J	105 J
MERCURY	0.127 U	0.007 U	0.014 J			
SILVER	0.058 U	0.045 U	0.08 U	0.186	0.219	0.25
TIN	4	0.46 U	0.49 U			
ZINC	153	41.2 J	52.1 J	204	222	237

**Table A-2.2
Middle Ring Samples -Scenario 2**

Sample Location	12SS790002	12SS800002	12SS810002	12SS820002	12SS850002
Sample Number	12SB79	12SB80	12SB81	12SB82	12SB85
Sample Date	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	1.9	0.14 U	8.7	0.59 U	0.11 U
ARSENIC	4.17	2.55	13.6	3.23	1.23
CHROMIUM	37.4	27.4	69.5	38.3	33
COPPER	86.4	20.1	56.7	57.7	16.7
IRON	39400	23900	57500	19800	22100
LEAD	75.4 J	12.6 J	165 J	44.4 J	19.6 J
MERCURY					
SILVER	0.603	0.0715	0.269	0.185	0.068
TIN					
ZINC	364	133	288	761	136

Notes

The method detection limit (MDL) (with a qualifier of U added) was used for non-detects for the 2009 results.

The reported values with qualifiers were used for all other non-detect results.

Samples included in the middle ring: All confirmation samples collected on walls (that were not excavated) in 2009, all RFI samples collected on the green line (RFI samples collected on the red line were replaced with the verification samples).

Total Area of middle ring=10,350 square feet or 0.2376 acres

Table A-2.3
Outer Ring Samples - Scenario 2

Sample Location	12SB12	12SB19	12SB20	12SB77	12SB78	12SB14	12SB18	12SB72
Sample Number	12SS120002	12SS190002	12SS200002	12SS770002	12SS780002	12SS140002	12SS180002	12SS720002
Sample Date	08/13/04	08/15/04	08/15/04	10/10/06	10/10/06	08/13/04	08/15/04	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.20 U	0.51 U	0.35 U	0.73 U	0.15 U	0.12 U	0.95 U	2.2
ARSENIC	2.8 J	9.2 J	5.7 J	2.12	1.76	2.6 J	7.1 J	12.2
CHROMIUM	22.4 J	22.5 J	19.6 J	33.4	33.6	36.1 J	20.0 J	49.6
COPPER	8.7 J	15.8 J	9.1 J	16	16.9	9.8 J	10.6 J	46.3
IRON	7160 J	23200 J	16500 J	25900	28600	16700 J	16800 J	39100
LEAD	10.6 J	15.6 J	14.1 J	71.6 J	20.5 J	8.3 J	15.6 J	143 J
MERCURY	0.007 U	0.034 J	0.032 J			0.007 U	0.014 J	
SILVER	0.042 U	0.042 U	0.043 U	0.086	0.0515	0.045 U	0.08 U	0.186
TIN	0.77 U	0.56 U	0.46 U			0.46 U	0.49 U	
ZINC	102 J	63.9 J	35.5 J	38.1	45.2	41.2 J	52.1 J	204

Table A-2.3
Outer Ring Samples - Scenario 2

Sample Location	12SB74	12SB76	12SB79	12SB80	12SB81	12SB82	12SB85
Sample Number	12SS740002	12SS760002	12SS790002	12SS800002	12SS810002	12SS820002	12SS850002
Sample Date	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	1.5	0.67 U	1.9	0.14 U	8.7	0.59 U	0.11 U
ARSENIC	10.3	2.47	4.17	2.55	13.6	3.23	1.23
CHROMIUM	32.2	26.1	37.4	27.4	69.5	38.3	33
COPPER	34	28	86.4	20.1	56.7	57.7	16.7
IRON	27100	20100	39400	23900	57500	19800	22100
LEAD	82.7 J	105 J	75.4 J	12.6 J	165 J	44.4 J	19.6 J
MERCURY							
SILVER	0.219	0.25	0.603	0.0715	0.269	0.185	0.068
TIN							
ZINC	222	237	364	133	288	761	136

Notes

Outer ring includes both green line samples and samples between blue and green lines.
Area of outer ring=0.66276 acres

Table A-3.1
Inner Ring Samples - Scenario 3

Sample Location	Backfill material	Topsoil
Sample Number	12BACKFILL001-A	12BACKFILL002-A
Sample Date	11/15/2009	11/15/2009
Sample Interval (feet)	1-2 ft	0-0.5 ft

Inorganics (mg/kg)

ANTIMONY	0.284 U	0.288 U
ARSENIC	4.51	4.48
CHROMIUM	9.76	9.25
COPPER	8.97	8.57
IRON	12800	12600
LEAD	10.9	7.95
MERCURY	0.0266	0.019
SILVER	0.114 U	0.115 U
TIN	2.84 U	2.88 U
ZINC	45	41.6

Notes

Excavation was filled in with backfill and topsoil with the above concentrations
 Area of inner ring=0.0996

Table A-3.2
Middle Ring Samples - Scenario 3

Sample Location	12SOCW001	12SOCW002	12SOCW003	12SOCW005	12SOCW006	12SOCW007	12SOCW008
Sample Number	12SOCW001A	12SOCW002A	12SOCW003A	12SOCW005A	12SOCW006A	12SOCW007A	12SOCW008A
Sample Date	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.299 U	0.302 U	0.296 U	0.292 U	0.292 U	0.313 U	0.297 U
ARSENIC	4.99	6.87	8.89	5.99	1.5	4.37	5.07
CHROMIUM	14.5	16.8	19.3	18.1	16	16.3	12
COPPER	15.2	32.6	46.9	9.75	24.5	75.7	21
IRON	15300	22200	25500	23600	17100	13000	12100
LEAD	23.2	59.3	81.8	13.5	35.2	73.4	20.3
MERCURY	0.0175	0.0326	0.0244	0.0149 U	0.0226	0.246	0.0149 U
SILVER	0.0598 U	0.0605 U	0.0591 U	0.0583 U	0.0585 U	0.113	0.0594 U
TIN	4.25	5.91	5.81	2.97	3.26	11	4.22
ZINC	83.5	199	254	20.8	135	1330	300

**Table A-3.2
Middle Ring Samples - Scenario 3**

Sample Location	12SOCW009	12SOCW010	12SOCW011	12SOCW012	12SOCW013	12SOCW016
Sample Number	12SOCW009A	12SOCW010A	12SOCW011A	12SOCW012A	12SOCW013A	12SOCW016A
Sample Date	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009	10/7/2009
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.57 U	0.313 U	0.313 U	0.314 U	0.3 U	0.29 U
ARSENIC	1.35	3	3.46	4.35	0.899	5.83
CHROMIUM	17.2	18.4	14.1	18.5	12.9	23.7
COPPER	13.7	25.3	14.8	104	34.2	38
IRON	43400	14700	12200	19800	7140	22500
LEAD	21.6	41	14.2	140	101	86.1
MERCURY	0.0146 U	0.0176	0.0147 U	0.0241	0.0155 U	0.127 U
SILVER	0.114 U	0.0626 U	0.0627 U	1.2	0.127	0.058 U
TIN	2.99 U	4.16	3.41	11.3	12.3	4
ZINC	98	146	57.2	932	419	153

Notes

The method detection limit (MDL) (with a qualifier of U added) was used for non-detects for the 2009 results. The reported values with qualifiers were used for all other non-detect results.

Samples included in the middle ring: All confirmation samples collected on walls (that were not excavated) in 2009 (RFI samples collected on the red line were replaced with the verification samples).

Total Area of middle ring=10,350 square feet or 0.2376 acres

Table A-3.3
Outer Ring Samples - Scenario 3

Sample Location	12SB12	12SB19	12SB20	12SB77	12SB78	12SB14	12SB18	12SB72
Sample Number	12SS120002	12SS190002	12SS200002	12SS770002	12SS780002	12SS140002	12SS180002	12SS720002
Sample Date	08/13/04	08/15/04	08/15/04	10/10/06	10/10/06	08/13/04	08/15/04	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	0.20 U	0.51 U	0.35 U	0.73 U	0.15 U	0.12 U	0.95 U	2.2
ARSENIC	2.8 J	9.2 J	5.7 J	2.12	1.76	2.6 J	7.1 J	12.2
CHROMIUM	22.4 J	22.5 J	19.6 J	33.4	33.6	36.1 J	20.0 J	49.6
COPPER	8.7 J	15.8 J	9.1 J	16	16.9	9.8 J	10.6 J	46.3
IRON	7160 J	23200 J	16500 J	25900	28600	16700 J	16800 J	39100
LEAD	10.6 J	15.6 J	14.1 J	71.6 J	20.5 J	8.3 J	15.6 J	143 J
MERCURY	0.007 U	0.034 J	0.032 J			0.007 U	0.014 J	
SILVER	0.042 U	0.042 U	0.043 U	0.086	0.0515	0.045 U	0.08 U	0.186
TIN	0.77 U	0.56 U	0.46 U			0.46 U	0.49 U	
ZINC	102 J	63.9 J	35.5 J	38.1	45.2	41.2 J	52.1 J	204

Table A-3.3
Outer Ring Samples - Scenario 3

Sample Location	12SB74	12SB76	12SB79	12SB80	12SB81	12SB82	12SB85
Sample Number	12SS740002	12SS760002	12SS790002	12SS800002	12SS810002	12SS820002	12SS850002
Sample Date	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06	10/10/06
Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2

Inorganics (mg/kg)

ANTIMONY	1.5	0.67 U	1.9	0.14 U	8.7	0.59 U	0.11 U
ARSENIC	10.3	2.47	4.17	2.55	13.6	3.23	1.23
CHROMIUM	32.2	26.1	37.4	27.4	69.5	38.3	33
COPPER	34	28	86.4	20.1	56.7	57.7	16.7
IRON	27100	20100	39400	23900	57500	19800	22100
LEAD	82.7 J	105 J	75.4 J	12.6 J	165 J	44.4 J	19.6 J
MERCURY							
SILVER	0.219	0.25	0.603	0.0715	0.269	0.185	0.068
TIN							
ZINC	222	237	364	133	288	761	136

Notes

Outer ring includes both green line samples and samples between blue and green lines.
Area of outer ring=0.66276 acres

ATTACHMENT B
BIOACCUMULATION FACTORS AND TOXICITY REFERENCE VALUES

TABLE B-1

TERRESTRIAL FOOD CHAIN MODEL - BIOACCUMULATION FACTORS
SWMU 12
NSWC CRANE
CRANE, INDIANA

Chemical	Plant Bioaccumulation Factors		Earthworm Bioaccumulation Factors	
	Average		Average	
Metals				
Antimony	$EXP(0.938*LN(C)-3.233)$	(1)	1	(1)
Arsenic	0.03752	(1)	$EXP(0.706*LN(C)-1.421)$	(1)
Chromium	0.041	(1)	0.306	(1)
Copper	$EXP(0.394*LN(C)+0.668)$	(1)	0.515	(1)
Iron	0.00425	(2)	0.036	(3)
Lead	$EXP(0.561*LN(C)-1.328)$	(1)	$EXP(0.807*LN(C)-0.218)$	(1)
Mercury	0.652	(2)	$EXP(0.3369*LN(C)+0.0781)$	(3)
Silver	0.014	(1)	2.045	(1)
Tin	1		1	
Zinc	$EXP(0.554*LN(C)+1.575)$	(1)	$EXP(0.328*LN(C)+4.449)$	(1)

Notes:

A default value of 1.0 was assigned to chemicals with unknown BAFs. No footnotes are listed by these values.

Footnotes:

1 - USEPA (2007). Attachment 4-1, Tables 4a (for inorganics).

2 - ORNL (September, 1998) for all chemicals; conservative value is 90th percentile; average value is median value.

3 - Sample et al., (February, 1998) conservative value is 90th percentile; average value is median value.

Sources:

ORNL (Oak Ridge National Laboratory). 1998. Empirical Model for the Uptake of Inorganic Chemicals from Soil by Plants. BJC/OR-133. September.

Sample, B.E., J.J. Beauchamp, R.A. Efroymsen, G.W., Suter II, and T.L. Ashwood. 1998. Development and Validation of Bioaccumulation Models for Earthworms. Oak Ridge National Laboratory. February. ES/ER/TM-220.

USEPA, 2007. Guidance for Developing Ecological Soil Screening Level, Attachment 4-1, Exposure Factors and Bioaccumulation Models for Derivation of Wildlife Eco-SSLs. Office of Solid Waste and Emergency and Response. OSWER

TABLE B-2
SOURCES AND ENDPOINTS FOR NOAELS AND LOAELS FOR TERRESTRIAL WILDLIFE
SWMU 12
NSWC CRANE
CRANE, INDIANA

Parameters	Concentration (mg/kg-day)	Endpoint	Effect	Chronic/ Subchronic	Species	Primary Reference	Source of Reference
Inorganics							
Antimony	2.76	LOAEL	reproduction & growth	chronic	mammals	USEPA, 2005	
Antimony	0.059	NOAEL	reproduction & growth	chronic	rat	USEPA, 2005	
Arsenic	4.51	LOAEL	reproduction & growth	chronic	birds	USEPA, 2005	
Arsenic	4.55	LOAEL	reproduction & growth	chronic	mammals	USEPA, 2005	
Arsenic	2.24	NOAEL	reproduction & growth	chronic	chicken	USEPA, 2005	
Arsenic	1.04	NOAEL	reproduction & growth	chronic	dog	USEPA, 2005	
Chromium(III)	15.63	LOAEL	reproduction & growth	chronic	birds	USEPA, 2008	
Chromium(III)	58.17	LOAEL	reproduction & growth	chronic	mammals	USEPA, 2008	
Chromium(III)	2.66	NOAEL	reproduction & growth	chronic	birds	USEPA, 2008	
Chromium(III)	2.4	NOAEL	reproduction & growth	chronic	mammals	USEPA, 2008	
Copper	34.87	LOAEL	reproduction & growth	chronic	birds	USEPA, 2007	
Copper	82.7	LOAEL	reproduction & growth	chronic	mammals	USEPA, 2007	
Copper	4.05	NOAEL	reproduction & growth	chronic	chicken	USEPA, 2007	
Copper	5.6	NOAEL	reproduction & growth	chronic	pig	USEPA, 2007	
Iron	500	LOAEL	unknown	chronic	rabbit	NAS, 1980	
Iron	1000	LOAEL	unknown	chronic	poultry	NAS, 1980	
Lead	9.7	LOAEL	reproduction & growth	chronic	birds	Spec Pro, Inc and Exponent, Inc., 2009	
Lead	30.2	LOAEL	reproduction & growth	chronic	mammals	Spec Pro, Inc and Exponent, Inc., 2009	
Lead	1.63	NOAEL	reproduction & growth	chronic	chicken	USEPA, 2005	
Lead	4.7	NOAEL	reproduction & growth	chronic	rat	USEPA, 2005	
Mercury	0.064	LOAEL	reproductive	chronic	mallard duck	Heinz, 1979	Sample et al., 1996
Mercury	0.16	LOAEL	reproductive	chronic	rat	Verschuuren et al., 1976	Sample et al., 1996
Mercury	0.032	NOAEL	reproductive	chronic	rat	Verschuuren et al., 1976	Sample et al., 1996
Silver	60.47	LOAEL	reproduction & growth	chronic	birds	USEPA, 2006	
Silver	118.62	LOAEL	reproduction & growth	subchronic*	mammals	USEPA, 2006	
Silver	2.02	NOAEL	reproduction & growth	subchronic*	turkey	USEPA, 2006	
Silver	6.02	NOAEL	reproduction & growth	chronic	pig	USEPA, 2006	
Tin	23.4	NOAEL	reproductive	chronic	mouse	Davis et al., 1987	Sample et al., 1996
Tin	35	LOAEL	reproductive	chronic	mouse	Davis et al., 1987	Sample et al., 1996
Tin	6.76	NOAEL	reproductive	chronic	Japanese quail	Schlatterer et al., 1993	Sample et al., 1996
Tin	16.9	LOAEL	reproductive	chronic	Japanese quail	Schlatterer et al., 1993	Sample et al., 1996
Zinc	297.58	LOAEL	reproduction & growth	chronic	mammals	USEPA, 2007	
Zinc	171.44	LOAEL	reproduction & growth	chronic	birds	USEPA, 2007	
Zinc	75.4	NOAEL	reproduction & growth	chronic	mammals	USEPA, 2007	
Zinc	66.1	NOAEL	reproduction & growth	chronic	birds	USEPA, 2007	

Notes:

NOAEL = No Observed Adverse Effects Level

LOAEL = Lowest Observed Adverse Effects Level

The LOAELs used for some parameters were calculated as the geometric mean of growth and reproduction data from the Ecological Soil Screening Levels (U.S. EPA, 2005, 2006, 2007, 2008).

References for the NOAELs and LOAELs are presented in this Attachment and Titled "NOAELs and LOAELs Source and Endpoint References".

NOELS AND LOELS SOURCE AND ENDPOINT REFERENCES

Davis, A., R. Barale, G. Brun et al., 1987. Evaluation of the genetic and embryotoxic effects of bis(tri-n-butyltin)oxide (TBTO), a broad-spectrum pesticide, in multiple in vivo and in vitro short-term tests. *Muta. Res.* 188:65-95.

Heinz, G. H. 1979. "Methyl Mercury: Reproductive and Behavioral Effects on Three Generations of Mallard Ducks." *J. Wildl. Mgmt.* 43: 394-401.

National Academy of Sciences (NAS). 1980. Mineral Tolerance of Domestic Animals. National Research Council, Commission on Natural Resources, Committee on Animal Nutrition.

Sample, B.E., D.M. Opresko, and G.W. Suter II. 1996. Toxicological Benchmarks for Wildlife: 1996 Revision. Oak Ridge National Laboratory. June. ES/ER/TM-86/R3.

Schlatterer, B., T. M. M. Coenen, E. Ebert, R. Grau, V. Hilbig, and R. Munk. 1993. "Effects of Bis(Tri-n-butyltin)Oxide in Japanese Quail Exposed During Egg Laying Period: an Interlaboratory Comparison Study." *Arch. Environ. Contam. Toxicol.* 24: 440-448.

Spec Pro, Inc. and Exponent, Inc. 2009. Baseline Ecological Assessment Settling Ponds and Spoils Disposal Areas Site, Badger Army Ammunition Plant, Baraboo, Wisconsin. Appendix E3 – Selection of Toxicity Reference Values. October.

USEPA (U.S. Environmental Protection Agency), 2005. Ecological Soil Screening Level for Antimony, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-61. February.

USEPA, 2005. Ecological Soil Screening Level for Arsenic, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-62. March.

USEPA, 2005. Ecological Soil Screening Level for Lead, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-70. March.

USEPA, 2006. Ecological Soil Screening Level for Silver, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-77. October

USEPA, 2007. Ecological Soil Screening Level for Copper, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-68. February.

USEPA, 2007. Ecological Soil Screening Level for Zinc, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-73. June.

USEPA, 2008. Ecological Soil Screening Level for Chromium, Interim Final. Office of Emergency and Remedial Response. OSWER Directive 9285.7-66. April.

Verschuuren, H. G., R. Kroes, E. M. Den Tonkelaar, J. M. Berkvens, P. W. Helleman, A. G. Rauws, P. L. Schuller, and G. J. Van Esch. 1976. "Toxicity of Methyl Mercury Chloride in Rats. II. Reproduction Study." *Toxicol.* 6: 97-106.

ATTACHMENT C
EXPOSURE ASSUMPTIONS

TABLE C-1

EXPOSURE PARAMETERS FOR THE TERRESTRIAL WILDLIFE MODEL
SWMU 12
NSWC CRANE
CRANE, INDIANA

Species/Exposure Inputs	Conservative Inputs		Average Inputs		Source
	Values	Units	Values	Units	
<i>Meadow Vole</i>					
Body Weight = BW	3.290E-02	kg	3.663E-02	kg	USEPA, 1993
Food Ingestion Rate = If	1.920E-03	kg/day	1.785E-03	kg/day	USEPA, 1993
Soil Ingestion Rate - Is	6.144E-05	kg/day	2.142E-05	kg/day	USEPA, 2007
Home Range = HR	Assume 100% on site		1.640E-01	acres	USEPA, 1993
<i>Short-Tailed Shrew</i>					
Body Weight = BW	1.525E-02	kg	1.687E-02	kg	USEPA, 1993
Food Ingestion Rate = If	2.592E-03	kg/day	1.648E-03	kg/day	USEPA, 1993
Soil Ingestion Rate - Is	7.776E-05	kg/day	1.483E-05	kg/day	USEPA, 2007
Home Range = HR	Assume 100% on site		9.700E-01	acres	USEPA, 1993
<i>American Woodcock</i>					
Body Weight = BW	1.660E-01	kg	1.895E-01	kg	USEPA, 1993
Food Ingestion Rate = If	3.032E-02	kg/day	2.526E-02	kg/day	USEPA, 1993
Soil Ingestion Rate - Is	4.972E-03	kg/day	1.617E-03	kg/day	USEPA, 2007
Home Range = HR	Assume 100% on site		6.133E+01	acres	USEPA, 1993
<i>Bobwhite Quail</i>					
Body Weight = BW	1.620E-01	kg	1.770E-01	kg	USEPA, 1993
Food Ingestion Rate = If	1.640E-02	kg/day	1.440E-02	kg/day	USEPA, 1993
Soil Ingestion Rate - Is	2.280E-03	kg/day	8.784E-04	kg/day	USEPA, 2007
Home Range = HR	Assume 100% on site		2.860E+01	acres	USEPA, 1993

Notes:

The exposure factors were derived as presented in Table C-2.

The soil ingestion rates were calculated by multiplying the food ingestion rates by the following incidental soil ingestion rates:

Receptor	Conservative	Average	Source
Bobwhite quail	13.9%	6.1%	1, 2
Meadow Vole	3.2%	1.2%	1
American woodcock	16.4%	6.4%	1
Short-tailed Shrew	3%	0.9%	1

1 - USEPA (U.S. Environmental Protection Agency), 2007. Ecological Soil Screening Level Guidance, Office of Emergency and Remedial Response. February.

2 - Based on the mourning dove.

USEPA (U.S. Environmental Protection Agency), 1993. Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency. Office of Research and Development. Washington, D.C. December 1993. EPA/600/R-93/187a.

TABLE C-2

**CALCULATION OF EXPOSURE PARAMETERS FOR SURROGATE WILDLIFE RECEPTORS
SWMU 12
NSWC CRANE
CRANE, INDIANA**

Exposure Parameters	Meadow Vole		Short-Tailed Shrew		American Woodcock	Bobwhite Quail	
	Body Weights (g)	32.9	17.61	16.87	168	180	181
	39.1	17.33	15.58	209	168	183	
	35.5	19.21	15.7	166	162	179	
	39	17.4	15.25	212	175	175	
				169	178	183.2	
				213	179	185.5	
					180	173	
					162.8	180.4	
Minimum	32.9	15.25		166	162		
Maximum	39.1	19.21		213	186		
Average	36.6	16.87		190	177		
Food Ingestion Rate (g/g-day) ⁽¹⁾	0.3	0.49	0.77	1.0	0.067	0.079	
	0.35	0.62	0.55	0.77	0.072	0.093	
		0.43	0.96	0.73	0.09	0.089	
		0.52	0.54				
Minimum	0.3	0.43		0.73	0.067		
Maximum	0.35	0.96		1.0	0.093		
Average	0.325	0.61		0.8	0.082		
Food Ingestion Rate (kg/day)							
Conservative	1.28E-02	1.62E-02		1.90E-01	1.64E-02		
Average	1.19E-02	1.03E-02		1.58E-01	1.44E-02		
Conversion from wet weight to dry weight	0.15⁽²⁾	0.16⁽³⁾		0.16⁽³⁾	None⁽⁴⁾		
Home Range (Ha)	0.43	0.1	0.3925	4.5	7.6		
	0.02	0.04		32.4	16.7		
	0.01	0.03		3.1	6.4		
	0.01	0.01		73.6	15.6		
	0.04	0.06		10.5			
	0.02	0.03					
	0.05	0.08					
	0.06	0.06					
Minimum (acres)	0.0297	0.97		7.7	16		
Maximum (acres)	1.06	0.97		182	41		
Average (acres)	0.16	0.97		61	29		

Notes:

Source of data is USEPA (1993). If values from several studies are available, they are given. The minimum, maximum, and average values are derived from these studies.

Footnotes:

- (1) - Ingestion Rates (kg/day or L/day) (if more than 1 ingestion rate is available)
 - Conservative value = Max Ingestion Rate (g/g-day) * Avg. Body Weight
 - Average value = Avg. Ingestion Rate (g/g-day) * Avg. Body Weight
- (2) - Percent solids in vegetation
- (3) - Percent solids in earthworms
- (4) - Food items on dry weight basis

ATTACHMENT D
FOOD CHAIN MODELS

ATTACHMENT D-1
FOOD CHAIN MODEL FOR SCENARIO 1

CHEMICAL CONCENTRATIONS IN SURFACE SOIL AND TISSUE - SCENARIO 1
SWMU 12
NSWC CRANE
CRANE, INDIANA

Chemical	Average Surface Soil Concentrations (mg/kg)	Earthworm Bioaccumulation Factors	Earthworm Concentrations (mg/kg)	Plant Bioaccumulation Factors	Plant Concentrations (mg/kg)
		Average	Average	Average	Average
Inorganics					
ANTIMONY	1.83E-01	1.00E+00	1.83E-01	Regression from Eco SSL	8.01E-03
ARSENIC	4.51E+00	Regression or BAF from Eco SSL	6.99E-01	Regression or BAF from Eco SSL	1.69E-01
CHROMIUM	2.44E+01	Regression or BAF from Eco SSL	7.48E+00	Regression or BAF from Eco SSL	1.00E+00
COPPER	1.82E+01	Regression or BAF from Eco SSL	9.36E+00	Regression or BAF from Eco SSL	6.11E+00
IRON	2.02E+04	3.60E-02	7.27E+02	4.25E-03	8.58E+01
LEAD	3.28E+01	Regression or BAF from Eco SSL	1.34E+01	Regression or BAF from Eco SSL	1.88E+00
MERCURY	2.56E-02	Regression - Sample et al., (1998)	3.14E-01	6.52E-01	1.67E-02
SILVER	6.47E-02	Regression or BAF from Eco SSL	1.32E-01	Regression or BAF from Eco SSL	9.05E-04
TIN	1.18E+00	1.00E+00	1.18E+00	1.00E+00	1.18E+00
ZINC	1.10E+02	Regression or BAF from Eco SSL	4.00E+02	Regression or BAF from Eco SSL	6.53E+01

The following equation was used to calculate chemical concentrations in plants or invertebrates when BAFs were used⁽¹⁾: $C_f = C_s * BAF$

Where:

C_f = Chemical concentration in food (mg/kg)

C_s = Chemical concentration in surface soil (mg/kg)

BAF = Biota-soil bioaccumulation factor (unitless) (soil to plant or soil to earthworm)

1 - Regression equations using the chemical concentration in surface soil were used for some chemicals.

MEADOW VOLE - AVERAGE INPUTS, SCENARIO 1
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Vegetation Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Vegetation					
Inorganics											
ANTIMONY	1.83E-01	0.00E+00	8.01E-03	1.07E-04	0.00E+00	7.80E-04	8.87E-04	5.90E-02	2.76E+00	1.50E-02	3.21E-04
ARSENIC	4.51E+00	0.00E+00	1.69E-01	2.64E-03	0.00E+00	1.65E-02	1.91E-02	1.04E+00	4.55E+00	1.84E-02	4.20E-03
CHROMIUM	2.44E+01	0.00E+00	1.00E+00	1.43E-02	0.00E+00	9.77E-02	1.12E-01	2.40E+00	5.82E+01	4.66E-02	1.92E-03
COPPER	1.82E+01	0.00E+00	6.11E+00	1.06E-02	0.00E+00	5.96E-01	6.07E-01	5.60E+00	8.27E+01	1.08E-01	7.33E-03
IRON	2.02E+04	0.00E+00	8.58E+01	1.18E+01	0.00E+00	8.36E+00	2.02E+01	5.00E+01	5.00E+02	4.03E-01	4.03E-02
LEAD	3.28E+01	0.00E+00	1.88E+00	1.92E-02	0.00E+00	1.83E-01	2.02E-01	4.70E+00	3.02E+01	4.30E-02	6.69E-03
MERCURY	2.56E-02	0.00E+00	1.67E-02	1.50E-05	0.00E+00	1.63E-03	1.64E-03	3.20E-02	1.60E-01	5.13E-02	1.03E-02
SILVER	6.47E-02	0.00E+00	9.05E-04	3.78E-05	0.00E+00	8.82E-05	1.26E-04	6.02E+00	1.19E+02	2.09E-05	1.06E-06
TIN	1.18E+00	0.00E+00	1.18E+00	6.91E-04	0.00E+00	1.15E-01	1.16E-01	2.34E+01	3.50E+01	4.95E-03	3.31E-03
ZINC	1.10E+02	0.00E+00	6.53E+01	6.43E-02	0.00E+00	6.36E+00	6.42E+00	7.54E+01	2.98E+02	8.52E-02	2.16E-02

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 3.663E-02 kg
 Food Ingestion Rate = (If) 3.570E-03 kg/day
 Water Ingestion Rate = (Iw) 6.400E-03 L/day
 Soil Ingestion Rate = (Is) 2.142E-05 kg/day
 Home Range = (HR) 1.640E-01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Cv = Contaminant conc. in vegetation (=soil conc. * Biotransfer Factor)

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (vegetation) = (Cv * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (vegetation)

BOBWHITE QUAIL - AVERAGE INPUTS, SCENARIO 1
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Vegetation Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Vegetation					
Inorganics											
ANTIMONY	1.83E-01	0.00E+00	8.01E-03	9.07E-04	0.00E+00	1.95E-04	1.10E-03	NV	NV	#VALUE!	#VALUE!
ARSENIC	4.51E+00	0.00E+00	1.69E-01	2.24E-02	0.00E+00	4.13E-03	2.65E-02	2.24E+00	4.51E+00	1.18E-02	5.87E-03
CHROMIUM	2.44E+01	0.00E+00	1.00E+00	1.21E-01	0.00E+00	2.45E-02	1.46E-01	2.66E+00	1.56E+01	5.48E-02	9.33E-03
COPPER	1.82E+01	0.00E+00	6.11E+00	9.02E-02	0.00E+00	1.49E-01	2.39E-01	4.05E+00	3.49E+01	5.91E-02	6.87E-03
IRON	2.02E+04	0.00E+00	8.58E+01	1.00E+02	0.00E+00	2.09E+00	1.02E+02	1.00E+02	1.00E+03	1.02E+00	1.02E-01
LEAD	3.28E+01	0.00E+00	1.88E+00	1.63E-01	0.00E+00	4.58E-02	2.08E-01	1.63E+00	9.70E+00	1.28E-01	2.15E-02
MERCURY	2.56E-02	0.00E+00	1.67E-02	1.27E-04	0.00E+00	4.07E-04	5.34E-04	6.40E-03	6.40E-02	8.35E-02	8.35E-03
SILVER	6.47E-02	0.00E+00	9.05E-04	3.21E-04	0.00E+00	2.21E-05	3.43E-04	2.02E+00	6.05E+01	1.70E-04	5.67E-06
TIN	1.18E+00	0.00E+00	1.18E+00	5.86E-03	0.00E+00	2.88E-02	3.47E-02	6.76E+00	1.69E+01	5.13E-03	2.05E-03
ZINC	1.10E+02	0.00E+00	6.53E+01	5.45E-01	0.00E+00	1.59E+00	2.14E+00	6.61E+01	1.71E+02	3.23E-02	1.25E-02

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.770E-01 kg
 Food Ingestion Rate = (If) 4.320E-03 kg/day
 Water Ingestion Rate = (Iw) 1.840E-02 L/day
 Soil Ingestion Rate = (Is) 8.784E-04 kg/day
 Home Range = (HR) 2.860E+01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Cv = Contaminant conc. in vegetation (=soil conc. * Biotransfer Factor)
 #VALUE! = Value not able to be calculated

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (vegetation) = (Cv * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (vegetation)

SHORT-TAILED SHREW - AVERAGE INPUTS, SCENARIO 1
 TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
 SWMU 12
 NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Invertebrate Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Inverts.					
Inorganics											
ANTIMONY	1.83E-01	0.00E+00	1.83E-01	1.61E-04	0.00E+00	1.78E-02	1.80E-02	5.90E-02	2.76E+00	3.05E-01	6.52E-03
ARSENIC	4.51E+00	0.00E+00	6.99E-01	3.96E-03	0.00E+00	6.83E-02	7.22E-02	1.04E+00	4.55E+00	6.95E-02	1.59E-02
CHROMIUM	2.44E+01	0.00E+00	7.48E+00	2.15E-02	0.00E+00	7.31E-01	7.52E-01	2.40E+00	5.82E+01	3.13E-01	1.29E-02
COPPER	1.82E+01	0.00E+00	9.36E+00	1.60E-02	0.00E+00	9.15E-01	9.31E-01	5.60E+00	8.27E+01	1.66E-01	1.13E-02
IRON	2.02E+04	0.00E+00	7.27E+02	1.77E+01	0.00E+00	7.10E+01	8.87E+01	5.00E+01	5.00E+02	1.77E+00	1.77E-01
LEAD	3.28E+01	0.00E+00	1.34E+01	2.88E-02	0.00E+00	1.31E+00	1.34E+00	4.70E+00	3.02E+01	2.85E-01	4.44E-02
MERCURY	2.56E-02	0.00E+00	3.14E-01	2.25E-05	0.00E+00	3.07E-02	3.07E-02	3.20E-02	1.60E-01	9.61E-01	1.92E-01
SILVER	6.47E-02	0.00E+00	1.32E-01	5.68E-05	0.00E+00	1.29E-02	1.30E-02	6.02E+00	1.19E+02	2.16E-03	1.09E-04
TIN	1.18E+00	0.00E+00	1.18E+00	1.04E-03	0.00E+00	1.15E-01	1.16E-01	2.34E+01	3.50E+01	4.97E-03	3.33E-03
ZINC	1.10E+02	0.00E+00	4.00E+02	9.66E-02	0.00E+00	3.90E+01	3.91E+01	7.54E+01	2.98E+02	5.19E-01	1.31E-01

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.687E-02 kg
 Food Ingestion Rate = (If) 1.648E-03 kg/day
 Water Ingestion Rate = (Iw) 3.800E-03 L/day
 Soil Ingestion Rate = (Is) 1.483E-05 kg/day
 Home Range = (HR) 9.700E-01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Ci = Contaminant conc. in soil invertebrates (=soil conc. * Biotransfer Factor)

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (invertebrates) = (Ci * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (invertebrates)

AMERICAN WOODCOCK - AVERAGE INPUTS, SCENARIO 1
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Invertebrate Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Inverts.					
Inorganics											
ANTIMONY	1.83E-01	0.00E+00	1.83E-01	1.56E-03	0.00E+00	2.44E-02	2.59E-02	NV	NV	#VALUE!	#VALUE!
ARSENIC	4.51E+00	0.00E+00	6.99E-01	3.85E-02	0.00E+00	9.32E-02	1.32E-01	2.24E+00	4.51E+00	5.88E-02	2.92E-02
CHROMIUM	2.44E+01	0.00E+00	7.48E+00	2.09E-01	0.00E+00	9.97E-01	1.21E+00	2.66E+00	1.56E+01	4.54E-01	7.72E-02
COPPER	1.82E+01	0.00E+00	9.36E+00	1.55E-01	0.00E+00	1.25E+00	1.40E+00	4.05E+00	3.49E+01	3.46E-01	4.02E-02
IRON	2.02E+04	0.00E+00	7.27E+02	1.72E+02	0.00E+00	9.69E+01	2.69E+02	1.00E+02	1.00E+03	2.69E+00	2.69E-01
LEAD	3.28E+01	0.00E+00	1.34E+01	2.80E-01	0.00E+00	1.79E+00	2.07E+00	1.63E+00	9.70E+00	1.27E+00	2.13E-01
MERCURY	2.56E-02	0.00E+00	3.14E-01	2.18E-04	0.00E+00	4.19E-02	4.21E-02	6.40E-03	6.40E-02	6.59E+00	6.59E-01
SILVER	6.47E-02	0.00E+00	1.32E-01	5.52E-04	0.00E+00	1.76E-02	1.82E-02	2.02E+00	6.05E+01	9.00E-03	3.01E-04
TIN	1.18E+00	0.00E+00	1.18E+00	1.01E-02	0.00E+00	1.57E-01	1.68E-01	6.76E+00	1.69E+01	2.48E-02	9.91E-03
ZINC	1.10E+02	0.00E+00	4.00E+02	9.37E-01	0.00E+00	5.33E+01	5.42E+01	6.61E+01	1.71E+02	8.20E-01	3.17E-01

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.895E-01 kg
 Food Ingestion Rate = (If) 2.526E-02 kg/day
 Water Ingestion Rate = (Iw) 1.900E-02 L/day
 Soil Ingestion Rate = (Is) 1.617E-03 kg/day
 Home Range = (HR) 6.133E+01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Ci = Contaminant conc. in soil invertebrates (=soil conc. * Biotransfer Factor)
 #VALUE! = Value not able to be calculated

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (invertebrates) = (Ci * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (invertebrates)

ATTACHMENT D-2
FOOD CHAIN MODEL FOR SCENARIO 2

CHEMICAL CONCENTRATIONS IN SURFACE SOIL AND TISSUE - SCENARIO 2
SWMU 12
NSWC CRANE
CRANE, INDIANA

Chemical	Average Surface Soil Concentrations (mg/kg)	Earthworm Bioaccumulation Factors	Earthworm Concentrations (mg/kg)	Plant Bioaccumulation Factors	Plant Concentrations (mg/kg)
		Average	Average	Average	Average
Inorganics					
ANTIMONY	9.14E-01	1.00E+00	9.14E-01	Regression from Eco SSL	3.63E-02
ARSENIC	5.23E+00	Regression or BAF from Eco SSL	7.76E-01	Regression or BAF from Eco SSL	1.96E-01
CHROMIUM	2.92E+01	Regression or BAF from Eco SSL	8.92E+00	Regression or BAF from Eco SSL	1.20E+00
COPPER	2.85E+01	Regression or BAF from Eco SSL	1.47E+01	Regression or BAF from Eco SSL	7.30E+00
IRON	2.37E+04	3.60E-02	8.54E+02	4.25E-03	1.01E+02
LEAD	5.07E+01	Regression or BAF from Eco SSL	1.91E+01	Regression or BAF from Eco SSL	2.40E+00
MERCURY	2.18E-02	Regression - Sample et al., (1998)	2.98E-01	6.52E-01	1.42E-02
SILVER	1.31E-01	Regression or BAF from Eco SSL	2.69E-01	Regression or BAF from Eco SSL	1.84E-03
TIN	1.18E+00	1.00E+00	1.18E+00	1.00E+00	1.18E+00
ZINC	1.92E+02	Regression or BAF from Eco SSL	4.80E+02	Regression or BAF from Eco SSL	8.90E+01

The following equation was used to calculate chemical concentrations in plants or invertebrates when BAFs were used⁽¹⁾: $C_f = C_s * BAF$

Where:

C_f = Chemical concentration in food (mg/kg)

C_s = Chemical concentration in surface soil (mg/kg)

BAF = Biota-soil bioaccumulation factor (unitless) (soil to plant or soil to earthworm)

1 - Regression equations using the chemical concentration in surface soil were used for some chemicals.

MEADOW VOLE - AVERAGE INPUTS , SCENARIO 2
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Vegetation Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Vegetation					
Inorganics											
ANTIMONY	9.14E-01	0.00E+00	3.63E-02	5.35E-04	0.00E+00	3.53E-03	4.07E-03	5.90E-02	2.76E+00	6.90E-02	1.47E-03
ARSENIC	5.23E+00	0.00E+00	1.96E-01	3.06E-03	0.00E+00	1.91E-02	2.22E-02	1.04E+00	4.55E+00	2.13E-02	4.87E-03
CHROMIUM	2.92E+01	0.00E+00	1.20E+00	1.70E-02	0.00E+00	1.17E-01	1.34E-01	2.40E+00	5.82E+01	5.56E-02	2.30E-03
COPPER	2.85E+01	0.00E+00	7.30E+00	1.67E-02	0.00E+00	7.11E-01	7.28E-01	5.60E+00	8.27E+01	1.30E-01	8.80E-03
IRON	2.37E+04	0.00E+00	1.01E+02	1.39E+01	0.00E+00	9.82E+00	2.37E+01	5.00E+01	5.00E+02	4.74E-01	4.74E-02
LEAD	5.07E+01	0.00E+00	2.40E+00	2.97E-02	0.00E+00	2.34E-01	2.63E-01	4.70E+00	3.02E+01	5.61E-02	8.72E-03
MERCURY	2.18E-02	0.00E+00	1.42E-02	1.27E-05	0.00E+00	1.38E-03	1.40E-03	3.20E-02	1.60E-01	4.36E-02	8.73E-03
SILVER	1.31E-01	0.00E+00	1.84E-03	7.69E-05	0.00E+00	1.79E-04	2.56E-04	6.02E+00	1.19E+02	4.26E-05	2.16E-06
TIN	1.18E+00	0.00E+00	1.18E+00	6.91E-04	0.00E+00	1.15E-01	1.16E-01	2.34E+01	3.50E+01	4.95E-03	3.31E-03
ZINC	1.92E+02	0.00E+00	8.90E+01	1.13E-01	0.00E+00	8.68E+00	8.79E+00	7.54E+01	2.98E+02	1.17E-01	2.95E-02

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 3.663E-02 kg
 Food Ingestion Rate = (If) 3.570E-03 kg/day
 Water Ingestion Rate = (Iw) 6.400E-03 L/day
 Soil Ingestion Rate = (Is) 2.142E-05 kg/day
 Home Range = (HR) 1.640E-01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Cv = Contaminant conc. in vegetation (=soil conc. * Biotransfer Factor)

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (vegetation) = (Cv * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (vegetation)

BOBWHITE QUAIL - AVERAGE INPUTS, SCENARIO 2
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Vegetation Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Vegetation					
Inorganics											
ANTIMONY	9.14E-01	0.00E+00	3.63E-02	4.54E-03	0.00E+00	8.85E-04	5.42E-03	NV	NV	#VALUE!	#VALUE!
ARSENIC	5.23E+00	0.00E+00	1.96E-01	2.59E-02	0.00E+00	4.79E-03	3.07E-02	2.24E+00	4.51E+00	1.37E-02	6.81E-03
CHROMIUM	2.92E+01	0.00E+00	1.20E+00	1.45E-01	0.00E+00	2.92E-02	1.74E-01	2.66E+00	1.56E+01	6.54E-02	1.11E-02
COPPER	2.85E+01	0.00E+00	7.30E+00	1.41E-01	0.00E+00	1.78E-01	3.20E-01	4.05E+00	3.49E+01	7.89E-02	9.16E-03
IRON	2.37E+04	0.00E+00	1.01E+02	1.18E+02	0.00E+00	2.46E+00	1.20E+02	1.00E+02	1.00E+03	1.20E+00	1.20E-01
LEAD	5.07E+01	0.00E+00	2.40E+00	2.52E-01	0.00E+00	5.85E-02	3.10E-01	1.63E+00	9.70E+00	1.90E-01	3.20E-02
MERCURY	2.18E-02	0.00E+00	1.42E-02	1.08E-04	0.00E+00	3.46E-04	4.55E-04	6.40E-03	6.40E-02	7.10E-02	7.10E-03
SILVER	1.31E-01	0.00E+00	1.84E-03	6.52E-04	0.00E+00	4.49E-05	6.97E-04	2.02E+00	6.05E+01	3.45E-04	1.15E-05
TIN	1.18E+00	0.00E+00	1.18E+00	5.86E-03	0.00E+00	2.88E-02	3.47E-02	6.76E+00	1.69E+01	5.13E-03	2.05E-03
ZINC	1.92E+02	0.00E+00	8.90E+01	9.55E-01	0.00E+00	2.17E+00	3.13E+00	6.61E+01	1.71E+02	4.73E-02	1.83E-02

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.770E-01 kg
 Food Ingestion Rate = (If) 4.320E-03 kg/day
 Water Ingestion Rate = (Iw) 1.840E-02 L/day
 Soil Ingestion Rate = (Is) 8.784E-04 kg/day
 Home Range = (HR) 2.860E+01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Cv = Contaminant conc. in vegetation (=soil conc. * Biotransfer Factor)
 #VALUE! = Value not able to be calculated

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (vegetation) = (Cv * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (vegetation)

SHORT-TAILED SHREW - AVERAGE INPUTS, SCENARIO 2
 TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
 SWMU 12
 NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Invertebrate Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Inverts.					
Inorganics											
ANTIMONY	9.14E-01	0.00E+00	9.14E-01	8.04E-04	0.00E+00	8.93E-02	9.01E-02	5.90E-02	2.76E+00	1.53E+00	3.27E-02
ARSENIC	5.23E+00	0.00E+00	7.76E-01	4.60E-03	0.00E+00	7.58E-02	8.04E-02	1.04E+00	4.55E+00	7.73E-02	1.77E-02
CHROMIUM	2.92E+01	0.00E+00	8.92E+00	2.56E-02	0.00E+00	8.72E-01	8.97E-01	2.40E+00	5.82E+01	3.73E-01	1.54E-02
COPPER	2.85E+01	0.00E+00	1.47E+01	2.50E-02	0.00E+00	1.43E+00	1.46E+00	5.60E+00	8.27E+01	2.60E-01	1.76E-02
IRON	2.37E+04	0.00E+00	8.54E+02	2.08E+01	0.00E+00	8.34E+01	1.04E+02	5.00E+01	5.00E+02	2.08E+00	2.08E-01
LEAD	5.07E+01	0.00E+00	1.91E+01	4.46E-02	0.00E+00	1.87E+00	1.91E+00	4.70E+00	3.02E+01	4.07E-01	6.33E-02
MERCURY	2.18E-02	0.00E+00	2.98E-01	1.91E-05	0.00E+00	2.91E-02	2.91E-02	3.20E-02	1.60E-01	9.10E-01	1.82E-01
SILVER	1.31E-01	0.00E+00	2.69E-01	1.16E-04	0.00E+00	2.63E-02	2.64E-02	6.02E+00	1.19E+02	4.38E-03	2.22E-04
TIN	1.18E+00	0.00E+00	1.18E+00	1.04E-03	0.00E+00	1.15E-01	1.16E-01	2.34E+01	3.50E+01	4.97E-03	3.33E-03
ZINC	1.92E+02	0.00E+00	4.80E+02	1.69E-01	0.00E+00	4.69E+01	4.71E+01	7.54E+01	2.98E+02	6.24E-01	1.58E-01

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.687E-02 kg
 Food Ingestion Rate = (If) 1.648E-03 kg/day
 Water Ingestion Rate = (Iw) 3.800E-03 L/day
 Soil Ingestion Rate = (Is) 1.483E-05 kg/day
 Home Range = (HR) 9.700E-01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Ci = Contaminant conc. in soil invertebrates (=soil conc. * Biotransfer Factor)

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (invertebrates) = (Ci * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (invertebrates)

AMERICAN WOODCOCK - AVERAGE INPUTS, SCENARIO 2
 TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
 SWMU 12
 NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Invertebrate Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Inverts.					
Inorganics											
ANTIMONY	9.14E-01	0.00E+00	9.14E-01	7.80E-03	0.00E+00	1.22E-01	1.30E-01	NV	NV	#VALUE!	#VALUE!
ARSENIC	5.23E+00	0.00E+00	7.76E-01	4.46E-02	0.00E+00	1.03E-01	1.48E-01	2.24E+00	4.51E+00	6.61E-02	3.28E-02
CHROMIUM	2.92E+01	0.00E+00	8.92E+00	2.49E-01	0.00E+00	1.19E+00	1.44E+00	2.66E+00	1.56E+01	5.41E-01	9.20E-02
COPPER	2.85E+01	0.00E+00	1.47E+01	2.43E-01	0.00E+00	1.96E+00	2.20E+00	4.05E+00	3.49E+01	5.43E-01	6.31E-02
IRON	2.37E+04	0.00E+00	8.54E+02	2.02E+02	0.00E+00	1.14E+02	3.16E+02	1.00E+02	1.00E+03	3.16E+00	3.16E-01
LEAD	5.07E+01	0.00E+00	1.91E+01	4.33E-01	0.00E+00	2.55E+00	2.98E+00	1.63E+00	9.70E+00	1.83E+00	3.07E-01
MERCURY	2.18E-02	0.00E+00	2.98E-01	1.86E-04	0.00E+00	3.97E-02	3.99E-02	6.40E-03	6.40E-02	6.23E+00	6.23E-01
SILVER	1.31E-01	0.00E+00	2.69E-01	1.12E-03	0.00E+00	3.58E-02	3.70E-02	2.02E+00	6.05E+01	1.83E-02	6.11E-04
TIN	1.18E+00	0.00E+00	1.18E+00	1.01E-02	0.00E+00	1.57E-01	1.68E-01	6.76E+00	1.69E+01	2.48E-02	9.91E-03
ZINC	1.92E+02	0.00E+00	4.80E+02	1.64E+00	0.00E+00	6.40E+01	6.57E+01	6.61E+01	1.71E+02	9.93E-01	3.84E-01

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.895E-01 kg
 Food Ingestion Rate = (If) 2.526E-02 kg/day
 Water Ingestion Rate = (Iw) 1.900E-02 L/day
 Soil Ingestion Rate = (Is) 1.617E-03 kg/day
 Home Range = (HR) 6.133E+01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Ci = Contaminant conc. in soil invertebrates (=soil conc. * Biotransfer Factor)
 #VALUE! = Value not able to be calculated

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (invertebrates) = (Ci * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (invertebrates)

ATTACHMENT D-3
FOOD CHAIN MODEL FOR SCENARIO 3

CHEMICAL CONCENTRATIONS IN SURFACE SOIL AND TISSUE - SCENARIO 3
SWMU 12
NSWC CRANE
CRANE, INDIANA

Chemical	Average Surface Soil Concentrations (mg/kg)	Earthworm Bioaccumulation Factors	Earthworm Concentrations (mg/kg)	Plant Bioaccumulation Factors	Plant Concentrations (mg/kg)
		Average	Average	Average	Average
Inorganics					
ANTIMONY	7.32E-01	1.00E+00	7.32E-01	Regression from Eco SSL	2.94E-02
ARSENIC	5.06E+00	Regression or BAF from Eco SSL	7.59E-01	Regression or BAF from Eco SSL	1.90E-01
CHROMIUM	2.71E+01	Regression or BAF from Eco SSL	8.28E+00	Regression or BAF from Eco SSL	1.11E+00
COPPER	2.83E+01	Regression or BAF from Eco SSL	1.46E+01	Regression or BAF from Eco SSL	7.28E+00
IRON	2.28E+04	3.60E-02	8.20E+02	4.25E-03	9.68E+01
LEAD	4.94E+01	Regression or BAF from Eco SSL	1.87E+01	Regression or BAF from Eco SSL	2.36E+00
MERCURY	2.27E-02		3.02E-01	6.52E-01	1.48E-02
SILVER	1.26E-01	Regression or BAF from Eco SSL	2.57E-01	Regression or BAF from Eco SSL	1.76E-03
TIN	1.35E+00	1.00E+00	1.35E+00	1.00E+00	1.35E+00
ZINC	2.00E+02	Regression or BAF from Eco SSL	4.86E+02	Regression or BAF from Eco SSL	9.10E+01

The following equation was used to calculate chemical concentrations in plants or invertebrates when BAFs were used⁽¹⁾: $C_f = C_s * BAF$

Where:

C_f = Chemical concentration in food (mg/kg)

C_s = Chemical concentration in surface soil (mg/kg)

BAF = Biota-soil bioaccumulation factor (unitless) (soil to plant or soil to earthworm)

1 - Regression equations using the chemical concentration in surface soil were used for some chemicals.

MEADOW VOLE - AVERAGE INPUTS, SCENARIO 3
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Vegetation Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Vegetation					
Inorganics											
ANTIMONY	7.32E-01	0.00E+00	2.94E-02	4.28E-04	0.00E+00	2.87E-03	3.30E-03	5.90E-02	2.76E+00	5.58E-02	1.19E-03
ARSENIC	5.06E+00	0.00E+00	1.90E-01	2.96E-03	0.00E+00	1.85E-02	2.15E-02	1.04E+00	4.55E+00	2.06E-02	4.72E-03
CHROMIUM	2.71E+01	0.00E+00	1.11E+00	1.58E-02	0.00E+00	1.08E-01	1.24E-01	2.40E+00	5.82E+01	5.16E-02	2.13E-03
COPPER	2.83E+01	0.00E+00	7.28E+00	1.66E-02	0.00E+00	7.10E-01	7.26E-01	5.60E+00	8.27E+01	1.30E-01	8.78E-03
IRON	2.28E+04	0.00E+00	9.68E+01	1.33E+01	0.00E+00	9.43E+00	2.27E+01	5.00E+01	5.00E+02	4.55E-01	4.55E-02
LEAD	4.94E+01	0.00E+00	2.36E+00	2.89E-02	0.00E+00	2.30E-01	2.59E-01	4.70E+00	3.02E+01	5.52E-02	8.59E-03
MERCURY	2.27E-02	0.00E+00	1.48E-02	1.33E-05	0.00E+00	1.44E-03	1.45E-03	3.20E-02	1.60E-01	4.54E-02	9.09E-03
SILVER	1.26E-01	0.00E+00	1.76E-03	7.35E-05	0.00E+00	1.72E-04	2.45E-04	6.02E+00	1.19E+02	4.07E-05	2.07E-06
TIN	1.35E+00	0.00E+00	1.35E+00	7.92E-04	0.00E+00	1.32E-01	1.33E-01	2.34E+01	3.50E+01	5.67E-03	3.79E-03
ZINC	2.00E+02	0.00E+00	9.10E+01	1.17E-01	0.00E+00	8.87E+00	8.98E+00	7.54E+01	2.98E+02	1.19E-01	3.01E-02

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 3.663E-02 kg
 Food Ingestion Rate = (If) 3.570E-03 kg/day
 Water Ingestion Rate = (Iw) 6.400E-03 L/day
 Soil Ingestion Rate = (Is) 2.142E-05 kg/day
 Home Range = (HR) 1.640E-01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Cv = Contaminant conc. in vegetation (=soil conc. * Biotransfer Factor)

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (vegetation) = (Cv * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (vegetation)

BOBWHITE QUAIL - AVERAGE INPUTS, SCENARIO 3
TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
SWMU 12
NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Vegetation Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Vegetation					
Inorganics											
ANTIMONY	7.32E-01	0.00E+00	2.94E-02	3.63E-03	0.00E+00	7.18E-04	4.35E-03	NV	NV	#VALUE!	#VALUE!
ARSENIC	5.06E+00	0.00E+00	1.90E-01	2.51E-02	0.00E+00	4.64E-03	2.98E-02	2.24E+00	4.51E+00	1.33E-02	6.60E-03
CHROMIUM	2.71E+01	0.00E+00	1.11E+00	1.34E-01	0.00E+00	2.71E-02	1.61E-01	2.66E+00	1.56E+01	6.07E-02	1.03E-02
COPPER	2.83E+01	0.00E+00	7.28E+00	1.41E-01	0.00E+00	1.78E-01	3.18E-01	4.05E+00	3.49E+01	7.86E-02	9.13E-03
IRON	2.28E+04	0.00E+00	9.68E+01	1.13E+02	0.00E+00	2.36E+00	1.15E+02	1.00E+02	1.00E+03	1.15E+00	1.15E-01
LEAD	4.94E+01	0.00E+00	2.36E+00	2.45E-01	0.00E+00	5.77E-02	3.03E-01	1.63E+00	9.70E+00	1.86E-01	3.12E-02
MERCURY	2.27E-02	0.00E+00	1.48E-02	1.13E-04	0.00E+00	3.61E-04	4.73E-04	6.40E-03	6.40E-02	7.40E-02	7.40E-03
SILVER	1.26E-01	0.00E+00	1.76E-03	6.24E-04	0.00E+00	4.30E-05	6.67E-04	2.02E+00	6.05E+01	3.30E-04	1.10E-05
TIN	1.35E+00	0.00E+00	1.35E+00	6.72E-03	0.00E+00	3.30E-02	3.98E-02	6.76E+00	1.69E+01	5.88E-03	2.35E-03
ZINC	2.00E+02	0.00E+00	9.10E+01	9.93E-01	0.00E+00	2.22E+00	3.21E+00	6.61E+01	1.71E+02	4.86E-02	1.88E-02

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.770E-01 kg
 Food Ingestion Rate = (If) 4.320E-03 kg/day
 Water Ingestion Rate = (Iw) 1.840E-02 L/day
 Soil Ingestion Rate = (Is) 8.784E-04 kg/day
 Home Range = (HR) 2.860E+01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Cv = Contaminant conc. in vegetation (=soil conc. * Biotransfer Factor)
 #VALUE! = Value not able to be calculated

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (vegetation) = (Cv * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (vegetation)

SHORT-TAILED SHREW - AVERAGE INPUTS, SCENARIO 3
 TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
 SWMU 12
 NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Invertebrate Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Inverts.					
Inorganics											
ANTIMONY	7.32E-01	0.00E+00	7.32E-01	6.43E-04	0.00E+00	7.15E-02	7.21E-02	5.90E-02	2.76E+00	1.22E+00	2.61E-02
ARSENIC	5.06E+00	0.00E+00	7.59E-01	4.45E-03	0.00E+00	7.41E-02	7.86E-02	1.04E+00	4.55E+00	7.55E-02	1.73E-02
CHROMIUM	2.71E+01	0.00E+00	8.28E+00	2.38E-02	0.00E+00	8.09E-01	8.33E-01	2.40E+00	5.82E+01	3.47E-01	1.43E-02
COPPER	2.83E+01	0.00E+00	1.46E+01	2.49E-02	0.00E+00	1.42E+00	1.45E+00	5.60E+00	8.27E+01	2.59E-01	1.75E-02
IRON	2.28E+04	0.00E+00	8.20E+02	2.00E+01	0.00E+00	8.01E+01	1.00E+02	5.00E+01	5.00E+02	2.00E+00	2.00E-01
LEAD	4.94E+01	0.00E+00	1.87E+01	4.35E-02	0.00E+00	1.83E+00	1.87E+00	4.70E+00	3.02E+01	3.99E-01	6.20E-02
MERCURY	2.27E-02	0.00E+00	3.02E-01	1.99E-05	0.00E+00	2.95E-02	2.95E-02	3.20E-02	1.60E-01	9.22E-01	1.84E-01
SILVER	1.26E-01	0.00E+00	2.57E-01	1.11E-04	0.00E+00	2.51E-02	2.52E-02	6.02E+00	1.19E+02	4.19E-03	2.13E-04
TIN	1.35E+00	0.00E+00	1.35E+00	1.19E-03	0.00E+00	1.32E-01	1.33E-01	2.34E+01	3.50E+01	5.70E-03	3.81E-03
ZINC	2.00E+02	0.00E+00	4.86E+02	1.76E-01	0.00E+00	4.75E+01	4.77E+01	7.54E+01	2.98E+02	6.32E-01	1.60E-01

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.687E-02 kg
 Food Ingestion Rate = (If) 1.648E-03 kg/day
 Water Ingestion Rate = (Iw) 3.800E-03 L/day
 Soil Ingestion Rate = (Is) 1.483E-05 kg/day
 Home Range = (HR) 9.700E-01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Ci = Contaminant conc. in soil invertebrates (=soil conc. * Biotransfer Factor)

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (invertebrates) = (Ci * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (invertebrates)

AMERICAN WOODCOCK - AVERAGE INPUTS, SCENARIO 3
 TERRESTRIAL WILDLIFE MODEL ECOLOGICAL EFFECTS QUOTIENT CALCULATION
 SWMU 12
 NSWC CRANE, INDIANA

Parameter	Avg Soil Concentration (mg/kg)	Avg SW Concentration (mg/L)	Invertebrate Concentration (mg/kg)	Dose (mg/kg/day) from:			Total Dose (mg/kg/day)	NOAEL (mg/kg/day)	LOAEL (mg/kg/day)	NOAEL EEQ	LOAEL EEQ
				Surface Soil	Surface Water	Inverts.					
Inorganics											
ANTIMONY	7.32E-01	0.00E+00	7.32E-01	6.24E-03	0.00E+00	9.75E-02	1.04E-01	NV	NV	#VALUE!	#VALUE!
ARSENIC	5.06E+00	0.00E+00	7.59E-01	4.32E-02	0.00E+00	1.01E-01	1.44E-01	2.24E+00	4.51E+00	6.44E-02	3.20E-02
CHROMIUM	2.71E+01	0.00E+00	8.28E+00	2.31E-01	0.00E+00	1.10E+00	1.34E+00	2.66E+00	1.56E+01	5.02E-01	8.54E-02
COPPER	2.83E+01	0.00E+00	1.46E+01	2.42E-01	0.00E+00	1.94E+00	2.19E+00	4.05E+00	3.49E+01	5.40E-01	6.27E-02
IRON	2.28E+04	0.00E+00	8.20E+02	1.94E+02	0.00E+00	1.09E+02	3.04E+02	1.00E+02	1.00E+03	3.04E+00	3.04E-01
LEAD	4.94E+01	0.00E+00	1.87E+01	4.22E-01	0.00E+00	2.50E+00	2.92E+00	1.63E+00	9.70E+00	1.79E+00	3.01E-01
MERCURY	2.27E-02	0.00E+00	3.02E-01	1.93E-04	0.00E+00	4.03E-02	4.04E-02	6.40E-03	6.40E-02	6.32E+00	6.32E-01
SILVER	1.26E-01	0.00E+00	2.57E-01	1.07E-03	0.00E+00	3.43E-02	3.54E-02	2.02E+00	6.05E+01	1.75E-02	5.85E-04
TIN	1.35E+00	0.00E+00	1.35E+00	1.16E-02	0.00E+00	1.81E-01	1.92E-01	6.76E+00	1.69E+01	2.84E-02	1.14E-02
ZINC	2.00E+02	0.00E+00	4.86E+02	1.71E+00	0.00E+00	6.48E+01	6.65E+01	6.61E+01	1.71E+02	1.01E+00	3.89E-01

Cells are shaded if the EEQ is greater than 1.0.

Body Weight = (BW) 1.895E-01 kg
 Food Ingestion Rate = (If) 2.526E-02 kg/day
 Water Ingestion Rate = (Iw) 1.900E-02 L/day
 Soil Ingestion Rate = (Is) 1.617E-03 kg/day
 Home Range = (HR) 6.133E+01 acres
 Contaminated Area = (CA) Assume equal to home range
 H=HR/CA (Assume = to 1 for maximum exposure)

Definitions:
 EEQ - Ecological Effects Quotient
 NOAEL - No Observed Adverse Effects Level
 LOAEL - Lowest Observed Adverse Effects Level
 Cs = Contaminant concentration in soil
 Cw = Contaminant concentration in water
 Ci = Contaminant conc. in soil invertebrates (=soil conc. * Biotransfer Factor)
 #VALUE! = Value not able to be calculated

Dose (surface soil) = (Cs * Is)(H)/BW
 Dose (surface water) = (Cw * Iw)(H)/BW
 Dose (invertebrates) = (Ci * If)(H)/BW
 Total Dose = Dose (surface soil) + Dose (surface water) + Dose (invertebrates)