OhioEPA
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Northeast District Office

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Ted Strickland, Governor
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March 4, 2010

RE: RAVENNA ARMY AMMUNITION PLANT, PORTAGE/TRUMBULL COUNTIES, FINAL MULTI-INCREMENT SAMPLING AND ANALYSIS OF SOILS BELOW FLOOR SLABS AT RVAAP-09 LOAD LINE 2, RVAAP-10 LOAD LINE 3 AND RVAAP-11 LOAD LINE 4

Mr. Mark Patterson
Environmental Program Manager
Ravenna Army Ammunition Plant
8451 State Route 5
Ravenna, OH 44266

CERTIFIED MAIL
7008 3230 0003 5419 9949

Dear Mr. Patterson:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Emergency and Remedial Response (DERR) has received and reviewed the document entitled "Final Multi-Increment Sampling and Analysis of Soils Below Floor Slabs at RVAAP-09 Load Line # 2, RVAAP-10 Load Line # 3, and RVAAP-11 Load Line # 4 at the Ravenna Army Ammunition Plant, Ravenna, Ohio." This document, dated and received December 4, 2009 at Ohio EPA, was prepared for the U.S. Army Corps of Engineers, Louisville District, by URS Group, Inc.

On February 10, 2010, Ohio EPA gave comments on this document. All the comments have been adequately addressed and Ohio EPA has found no further deficiencies. As a result, the "Final Multi-Increment Sampling and Analysis of Soils Below Floor Slabs at RVAAP-09 Load Line # 2, RVAAP-10 Load Line # 3, and RVAAP-11 Load Line # 4" has been accepted and filed.

If you have any questions or concerns, please do not hesitate to contact me at (330) 963-1249.

Sincerely,

Andrew C. Kocher
Site Coordinator
Division of Emergency and Remedial Response

ACK/kss

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REPORT DOCUMENTATION PAGE

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W912QR-04-D-0025

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13. SUPPLEMENTARY NOTES

None

14. ABSTRACT

The Final Report documents the collection of confirmatory MI sampling of sub-slab soil at building footprints within Load Lines 2, 3, and 4 at the Ravenna Army Ammunition Plant.

15. SUBJECT TERMS

RVAAP; Sub-Slab Sampling
RVAAP-09, RVAAP-10, RVAAP-11

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE	SAR	1022	Jo Ann Bartsch
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Final

Multi-Increment Sampling and Analysis of Soils Below Floor Slabs at RVAAP-09 Load Line 2, RVAAP-10 Load Line 3, and RVAAP-11 Load Line 4

Ravenna Army Ammunition Plant
8451 St. Route 5
Ravenna, OH 44266-9297

Contract No. W912QR-04-D-0025
Delivery Order No. 0006



Prepared for:
U.S. Army Corps of Engineers
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Prepared by:
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December 4, 2009

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Technical Project Manager URS Group, Inc.	1	--

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Acronyms and Abbreviations

%D	Percent Difference
ADR	Automatic Data Review
bgs	Below ground surface
BRACD	Base Realignment and Closure Division
CLIN	Contract Line Item
CUG	Cleanup Goal
DNT	Dinitrotoluene, also 2,4-Dinitrotoluene
EPC	Exposure Point Concentration
HMX	Octohydro-1,3,5,7-tetranitro-1,3,5,7-tetraocine
IROD	Interim Record of Decision
LCG5	Louisville Chemical Guideline, Version 5
LCS	Laboratory Control Sample
LUC	Land Use Control
MARC	Multiple Award Remediation Contract
MI	Multi-increment
MKM	MKM Engineers, Inc.
MRL	Method Reporting Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
Ohio EPA	Ohio Environmental Protection Agency
OMZA	Outside the Mixing Zone Average
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
QA	Quality Assurance

QAPP	Quality Assurance Project Plan
QC	Quality Control
RDX	Royal Demolition Explosive also Hexahydro-1,3,5-trinitro-1,3,5-triazine
RL	Reporting Limit
RSD	Relative Standard Deviation
RSL	Regional Screening Level
RVAAP	Ravenna Army Ammunition Plant
SOW	Scope of Work
SVOC	Semivolatile Organic Compound
TNT	Trinitrotoluene, also 2,4,6-Trinitrotoluene
URS	URS Group, Inc.
USACE	United States Army Corps of Engineers
USEPA	US Environmental Protection Agency
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound

The U.S. Army Corps of Engineers (USACE) Louisville District has awarded URS Group, Inc. (URS) a Firm Fixed-Price contract for sampling of soils below floor slabs of demolished buildings at Load Lines 2, 3, and 4, and excavation and transportation of contaminated soils to Load Line 4 (Buildings G-1, G-1A, and G-3) at the Ravenna Army Ammunition Plant, (RVAAP), Ravenna, Ohio. The work is a delivery order under the URS Multiple Award Remediation Contract (MARC) (W912QR-04-D-0025, Delivery Order 0006).

The removal of the buildings down to the floor slabs has been completed by MKM Engineers, Inc. (MKM) under a contract from the Base Realignment and Closure Division (BRACD). The BRACD exercised a Contract Line Item (CLIN) to remove floor slabs and any associated foundation walls to grade at these buildings. Floor slab removal by the BRACD contractor began in March 2008 and was completed in June 2008. Work was sequenced so that the areas thought to represent the least potential for residual contamination were addressed first. Work began at Load Line 4 and progressed to Load Lines 3 and 2. Within each load line, work was staged, in general, from one end of the load line to the other.

URS' Scope of Work (SOW) was to conduct stockpile sampling, pre-slab removal field screening, post-slab removal field screening, and final confirmatory sampling. This report addresses the final confirmatory sampling conducted after the slabs were removed at Load Lines 2, 3, and 4 and the evaluation of that data. The objective of the final confirmatory sampling was to determine if additional excavation, beyond that determined with the field screening for explosives, will be required at any of the building locations. This work was completed in accordance with the Work Plan approved by the Ohio Environmental Protection Agency (Ohio EPA) on June 9, 2008 (URS, 2008).

This section of the report describes the purpose and objectives of the sampling as well as the collection and analyses of the multi-increment (MI) and discrete samples.

2.1 PURPOSE AND OBJECTIVES

The purpose of the final confirmatory sampling was to determine if additional excavation will be required at any of the building locations beyond that already determined by the field screening effort. Additional excavation based on the final sampling is warranted if the sampling results indicate an exceedance of cleanup goals established either within the Interim Record of Decision (IROD) (Shaw, 2007) or by procedures established in the Work Plan (URS, 2008).

The sampling was conducted at Load Lines 2, 3, and 4 following the field screening sampling and analysis. Figures 2-1 through 2-3 show the locations of the former building footprints at each load line. Figures 2-4 through 2-6 provide the primary sample identifiers at each building footprint.

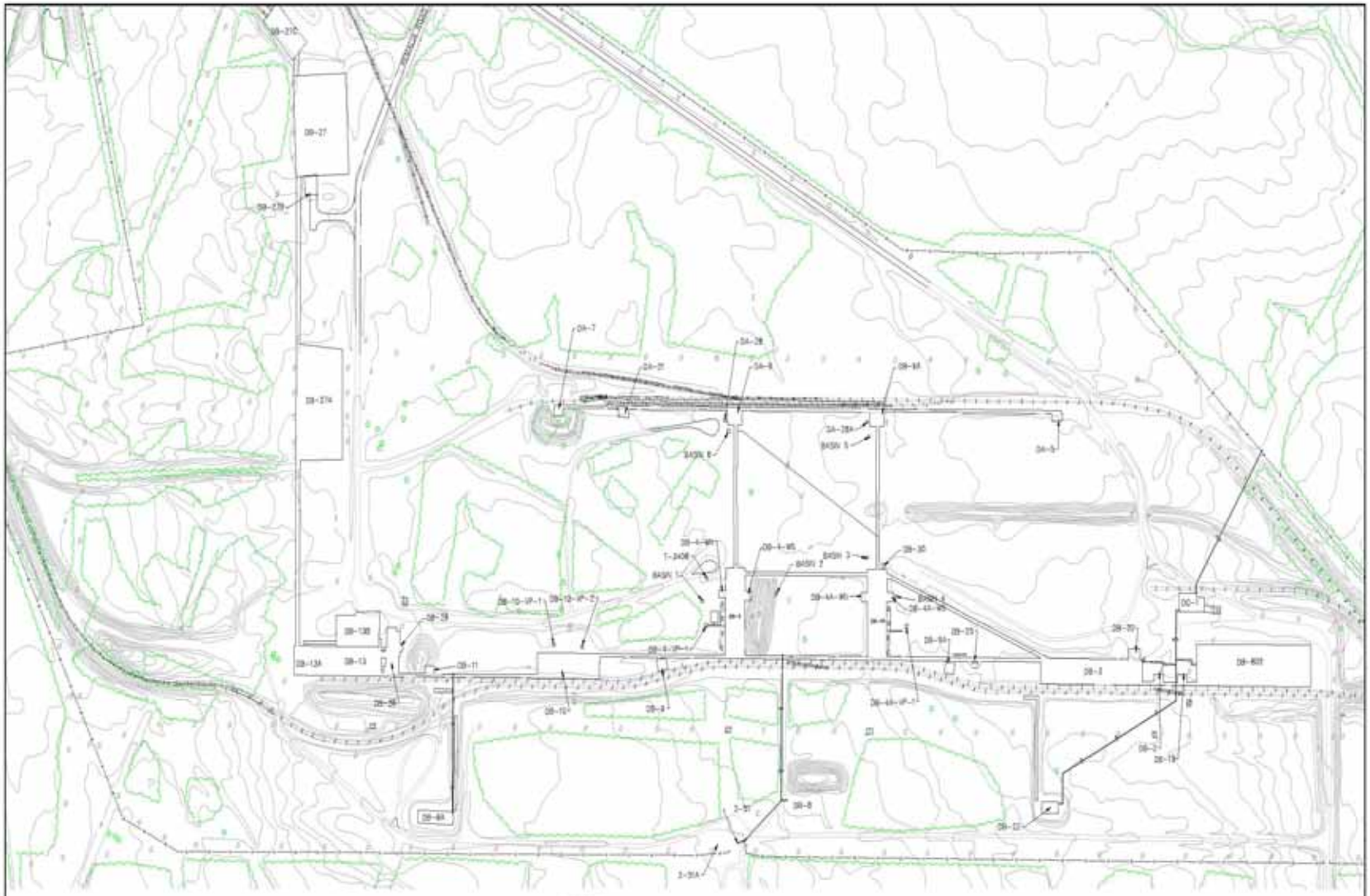
Areas at Load Lines 2 and 3, where trinitrotoluene (TNT) levels exceeded the cleanup goal (established in the IROD) during the field screening investigation, were covered with plastic. In accordance with the approved Work Plan, final sampling will be conducted at these areas after excavation of the contaminated soil is completed.

2.2 SAMPLE COLLECTION

The sampling was conducted in accordance with the *Facility-Wide Sampling and Analysis Plan* for the RVAAP (SAIC, 2001) and the approved Work Plan (URS, 2008). The soil samples were collected in two field efforts. The first occurred between June 17 and July 2, 2008; the second occurred October 28 and 29, 2008.

The MI samples were collected from surficial earth fill or soil. The samples were aggregated from random locations within each of the designated sample areas (or decision units). In general, each building footprint was considered a single MI decision unit. Where building footprints were large (i.e., greater than approximately 10,000 square feet), multiple MIs were collected. In some cases the MI sampling units for some low potential buildings were combined based on their proximity and similarity of former use. Tables 2-1 through 2-3 summarize the MI sampling locations at each load line.

Thirty subsamples were collected at each MI location to provide a representative, repeatable approximation of the average concentration of a particular constituent within a designated area (i.e., the decision unit). The sample aliquots were collected using a small-diameter (7/8" inside diameter) step probe. The individual aliquots were obtained by pushing the step probe sampler from 0 – 12" in depth below ground surface (bgs) or refusal. The sub slab materials encountered at the load lines were, in many cases, represented by a large percentage of large cobbles of rock and concrete. These cobbles variably affected the sampling efforts by restricting the depth of sampling and recovery. At locations where refusal was encountered at depths less than 1.0 foot bgs, at least five separate attempts were made to achieve the full sample depth. In all cases,



LEGEND

- BUILDING AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- CONTOUR (2 FT. INTERVAL)
- CONTOUR (10 FT. INTERVAL)
- TREE OR TREELINE
- STEAM STANCHION
- OVERHEAD STEAM LINE

US Army Corps of Engineers

0 75 150 300

SCALE 1" = 300'

URS

RAVENNA ARMY AMMUNITION PLANT

RAVENNA, OHIO

SOIL SAMPLING UNDER FLOOR SLABS LOAD LINE 2 PLAN VIEW

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- BUILDING AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- CONTOUR (2 FT. INTERVAL)
- CONTOUR (10 FT. INTERVAL)
- TREE OR TREELINE
- STEAM STANCHION
- OVERHEAD STEAM LINE

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SCALE 1" = 300'

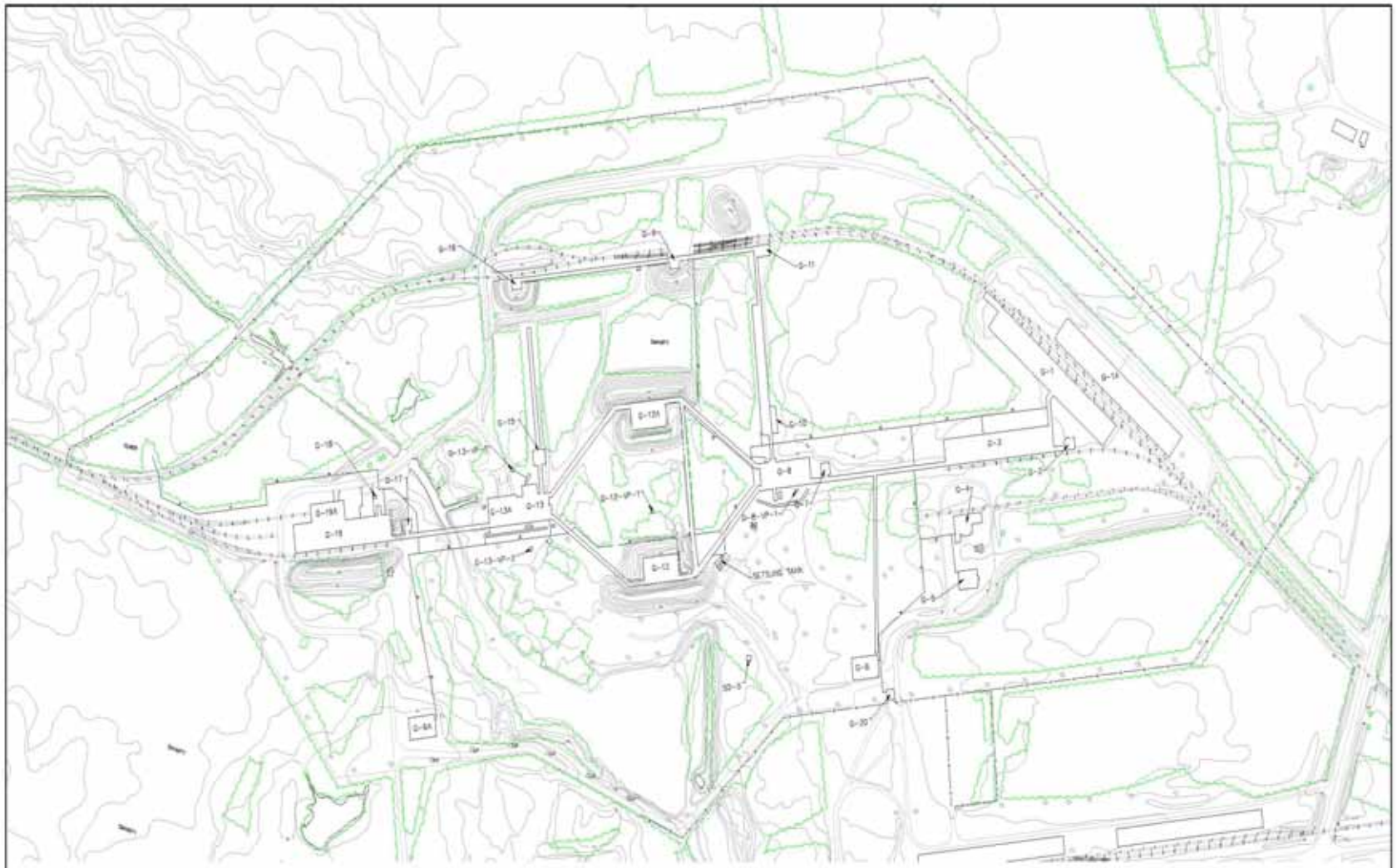
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RAVENNA, OHIO

SOIL SAMPLING UNDER FLOOR SLABS
LOAD LINE 3 PLAN VIEW

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LEGEND

- BUILDING AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- CONTOUR (2 FT. INTERVAL)
- CONTOUR (10 FT. INTERVAL)
- TREE OR TREELINE
- STEAM STANCHION
- OVERHEAD STEAM LINE

US Army Corps of Engineers

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SCALE 1" = 300'

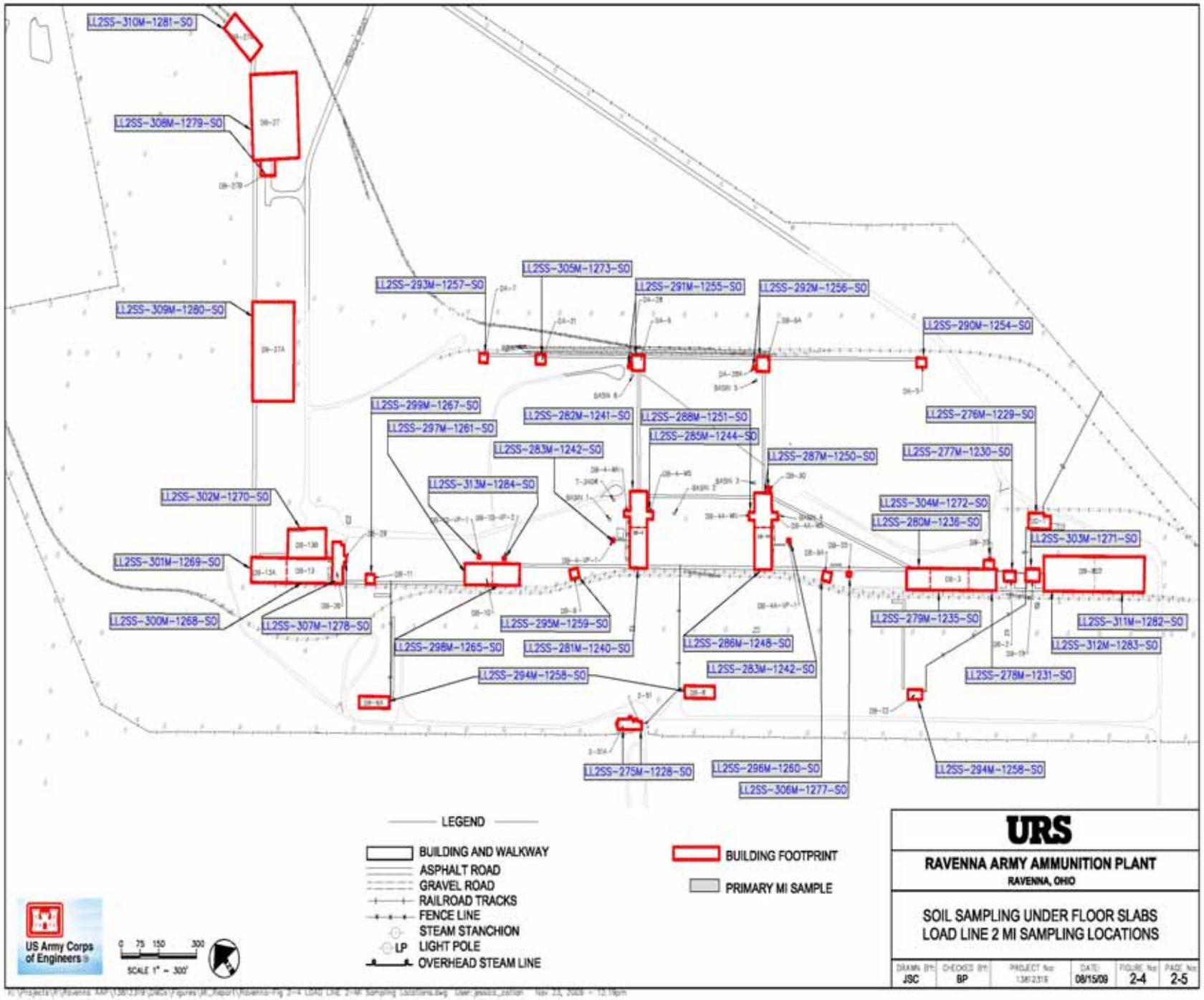
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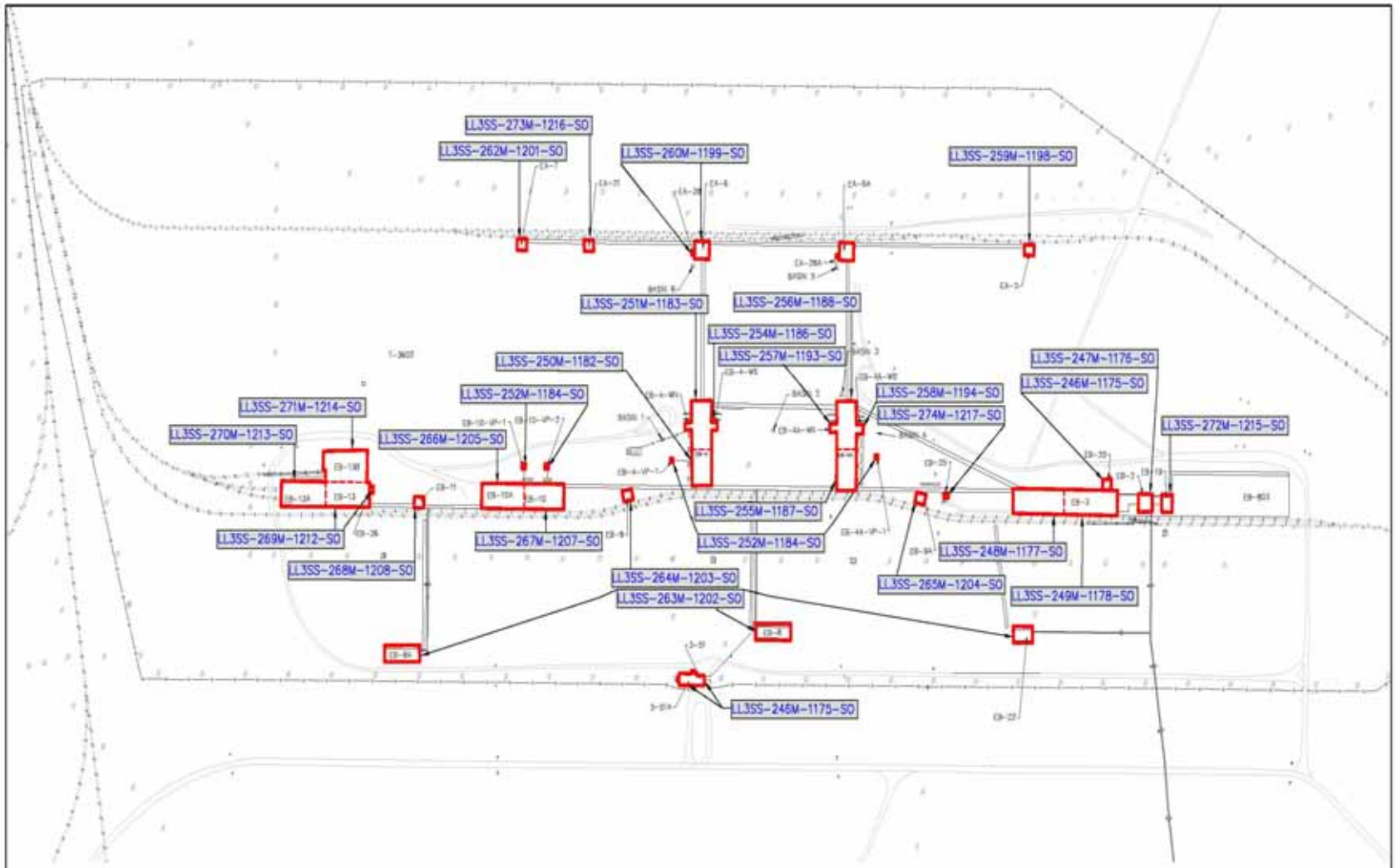
RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

SOIL SAMPLING UNDER FLOOR SLABS
LOAD LINE 4 PLAN VIEW

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LL2SS-300M-1268-S0
LL2SS-307M-1278-S0
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LL2SS-288M-1251-S0
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LL2SS-313M-1284-S0
LL2SS-287M-1250-S0
LL2SS-276M-1229-S0
LL2SS-277M-1230-S0
LL2SS-304M-1272-S0
LL2SS-280M-1236-S0
LL2SS-303M-1271-S0
LL2SS-279M-1235-S0
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LL2SS-278M-1231-S0
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LL2SS-281M-1240-S0
LL2SS-286M-1248-S0
LL2SS-283M-1242-S0
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LL2SS-306M-1277-S0
LL2SS-294M-1258-S0
LEGEND
BUILDING AND WALKWAY
ASPHALT ROAD
GRAVEL ROAD
RAILROAD TRACKS
FENCE LINE
STEAM STANCHION
LP LIGHT POLE
OVERHEAD STEAM LINE
BUILDING FOOTPRINT
PRIMARY MI SAMPLE
US Army Corps of Engineers
0 75 150 300
SCALE 1" = 300'
URS
RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO
SOIL SAMPLING UNDER FLOOR SLABS
LOAD LINE 2 MI SAMPLING LOCATIONS
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PAGE No: 2-5



LEGEND

- BUILDING AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- STEAM STANCHION
- LP LIGHT POLE
- OVERHEAD STEAM LINE
- BUILDING FOOTPRINT
- PRIMARY MI SAMPLE

US Army Corps of Engineers

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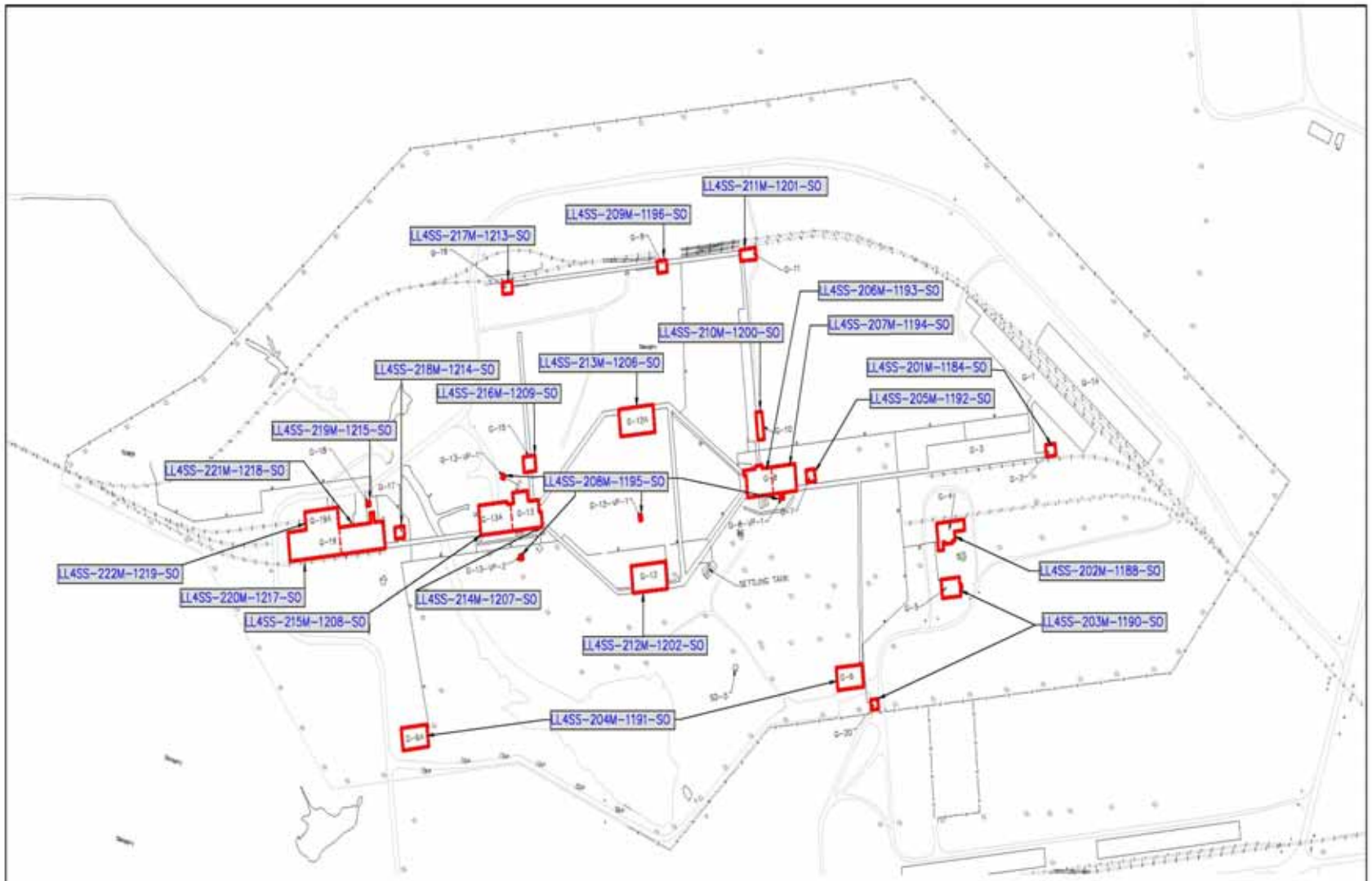
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RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

SOIL SAMPLING UNDER FLOOR SLABS
LOAD LINE 3 MI SAMPLING LOCATIONS

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LEGEND

- BUILDING AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- STEAM STANCHION
- LP LIGHT POLE
- OVERHEAD STEAM LINE
- BUILDING FOOTPRINT
- PRIMARY MI SAMPLE

US Army Corps of Engineers

0 75 150 300

SCALE 1" = 300'

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RAVENNA ARMY AMMUNITION PLANT

RAVENNA, OHIO

SOIL SAMPLING UNDER FLOOR SLABS
LOAD LINE 4 MI SAMPLING LOCATIONS

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Table 2-1
MI Sampling Summary - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Description					Sq. Ft.			ANALYSES REQUIRED						
SAMP TYPE	Building	Date	Time	Building Utilization	Slab Area	MI Area	Sample ID	EXPL	PROP	MET	SVOCs	VOCs	PCBs	PEST
	2-51	6/18/08	1130	Clock Alley	1980	2120	LL2SS-275M-1228-SO	X		X				
	2-51A	6/18/08	1130	Line Office	140									
	DC-1	6/20/2008	0945	Power House #2	90	45	LL2SS-276M-1229-SO	X		X	X			
	DB-2	6/17/2008	1200	Service Building	1200	1200	LL2SS-277M-1230-SO	X		X				
	DB-3	6/18/2008	1745	Shell Receiving Building	24700	8233	LL2SS-278M-1231-SO	X		X	X		X	X
QA Sample	DB-3	6/18/2008	1745	"	"	"	LL2SS-278M-1232-QA	X		X	X		X	X
Field MI Duplicate	DB-3	6/18/2008	1745	"	"	"	LL2SS-278M-1233-SO	X		X	X		X	X
Blind Duplicate	DB-3	6/18/2008	1750	"	"	"	LL2SS-278M-1234-SO	X		X	X		X	X
	DB-3	6/18/2008	1810	"	"	8233	LL2SS-279M-1235-SO	X		X	X		X	
	DB-3	6/18/2008	1815	"	"	8233	LL2SS-280M-1236-SO	X	X	X	X		X	X
VOC Sample	DB-3	6/18/2008	1830	Shell Receiving Building	24700	NA	LL2SS-280D-1237-SO					X		
VOC QA Sample	DB-3	6/18/2008	1833	"	"	"	LL2SS-280D-1238-QA					X		
VOC Blind Duplicate	DB-3	6/18/2008	1835	"	"	"	LL2SS-280D-1239-SO					X		
	DB-4	6/23/2008	1430	Melt Pour Loading and SPCC Building	16200	8100	LL2SS-281M-1240-SO	X		X				
	DB-4	6/23/2008	1545	"	"	8100	LL2SS-282M-1241-SO	X		X				
	DB-4-VP1	10/28/2008	1530	Vacuum Pump House	100	200	LL2SS-283M-1242-SO	X		X				
	DB-4A-VP1	10/28/2008	1530	Vacuum Pump House	100									
	DB-10-VP1	10/28/2008	1450	Vacuum Pump House	138	276	LL2SS-313M-1284-SO	X		X				
	DB-10-VP2	10/28/2008	1450	Vacuum Pump House	138									
MS	DB-10-VP1/ DB-10-VP2	10/28/2008	1450	Vacuum Pump House	276	276	LL2SS-313M-1284-MS	X		X				
MSD		10/28/2008	1450		276	276	LL2SS-313M-1284-MSD	X		X				
	DB-4-WN	NS		Washout Annex	300	300	LL2SS-284M-1243-SO	X		X			X	
	DB-4-WS	6/20/2008	0900	Washout Annex	300	300	LL2SS-285M-1244-SO	X		X	X		X	
QA Sample	DB-4-WS	6/20/2008	0900	"	"	"	LL2SS-285M-1245-QA	X		X	X		X	
Field MI Duplicate	DB-4-WS	6/20/2008	0900	"	"	"	LL2SS-285M-1246-SO	X		X	X		X	
Blind Duplicate	DB-4-WS	6/20/2008	0910	"	"	"	LL2SS-285M-1247-SO	X		X	X		X	
	DB-4A	6/24/2008	0920	Melt Pour Loading and SPCC Building	16200	8100	LL2SS-286M-1248-SO	X	X	X	X		X	X
VOC Sample	DB-4A	6/24/2008	1020	Melt Pour Loading and SPCC Building	16200	NA	LL2SS-286D-1249-SO					X		
	DB-4A	6/24/2008	0915	Melt Pour Loading and SPCC Building	16200	8228	LL2SS-287M-1250-SO	X		X	X		X	
	DB-30	6/24/2008	0915	Elevator Machine House	128									
	DB-4A-WN	6/18/2008	1530	Washout Annex	300	300	LL2SS-288M-1251-SO	X	X	X	X		X	X
MS	DB-4A-WN	6/18/2008	1530	"	"	"	LL2SS-288M-1251-MS	X	X	X	X		X	X
MSD	DB-4A-WN	6/18/2008	1530	"	"	"	LL2SS-288M-1251-MSD	X	X	X	X		X	X
VOC Sample	DB-4A-WN	6/18/2008	1600	Washout Annex	300	NA	LL2SS-288D-1252-SO					X		
VOC MS	DB-4A-WN	6/18/2008	1603	"	"	"	LL2SS-288D-1252-MS					X		
VOC MSD	DB-4A-WN	6/18/2008	1605	"	"	"	LL2SS-288D-1252-MSD					X		
	DB-4A-WS	NS		Washout Annex	300	300	LL2SS-289M-1253-SO	X		X	X		X	
	DA-5	6/20/2008	1055	Service Building	1200	1200	LL2SS-290M-1254-SO	X		X				
	DA-6	6/20/2008	1255	Explosive Preparation Building	2500	2564	LL2SS-291M-1255-SO	X		X				
	DA-28	6/20/2008	1255	Elevator Machine House	64									
	DA-6A	6/20/2008	1245	Explosive Preparation Building	2500	2564	LL2SS-292M-1256-SO	X		X				
	DA-28A	6/20/2008	1245	Elevator Machine House	64									
MS	DA-6A / DA-28A	6/20/2008	1245	Explosive Preparation Building / Elevator Machine House	2564	2564	LL2SS-292M-1256-MS	X		X				
MSD		6/20/2008	1245		2564	2564	LL2SS-292M-1256-MSD	X		X				
	DA-7	6/20/2008	1305	Service Building	950	950	LL2SS-293M-1257-SO	X		X				
	DB-8	6/17/2008	1505	Change House	6770	16988	LL2SS-294M-1258-SO	X		X				
	DB-8A	6/17/2008	1505	Change House	6770									
	DB-22	6/17/2008	1505	Change House	3448									
	DB-9	6/19/2008	1350	Service Building	950	950	LL2SS-295M-1259-SO	X		X				
	DB-9A	6/18/2008	1050	Service Building	950	950	LL2SS-296M-1260-SO	X		X				
	DB-10	6/24/2008	1045	Drilling and Assembly Building	15100	7550	LL2SS-297M-1261-SO	X	X	X				
QA Sample	DB-10	6/24/2008	1045	"	"	"	LL2SS-297M-1262-QA	X	X	X				
Field MI Duplicate	DB-10	6/24/2008	1045	"	"	"	LL2SS-297M-1263-SO	X	X	X				
Blind Duplicate	DB-10	6/24/2008	1050	"	"	"	LL2SS-297M-1264-SO	X	X	X				
	DB-10	6/24/2008	1120	Drilling and Assembly Building	"	7550	LL2SS-298M-1265-SO	X	X	X	X		X	X
VOC Sample	DB-10	6/24/2008	1125	Drilling and Assembly Building	15100	NA	LL2SS-298D-1266-SO					X		
	DB-11	6/19/2008	1410	Service Building	950	950	LL2SS-299M-1267-SO	X		X				
	DB-13	6/19/2008	1430	Packing and Shipping	10998	10998	LL2SS-300M-1268-SO	X		X				
	DB-13A	6/19/2008	1440	Barricade Shipping	13795	13795	LL2SS-301M-1269-SO	X		X				
	DB-13B	6/19/2008	1450	Shipping Warehouse Annex	12211	12211	LL2SS-302M-1270-SO	X		X				
	DB-19	6/17/2008	1115	Service Building	1200	1200	LL2SS-303M-1271-SO	X		X				
	DB-20	6/20/2008	1000	Service Building	1300	1300	LL2SS-304M-1272-SO	X		X				
	DA-21	6/17/2008	1630	Service Building	950	950	LL2SS-305M-1273-SO	X		X				
QA Sample	DA-21	6/17/2008	1630	"	"	"	LL2SS-305M-1274-QA	X		X				
Field MI Duplicate	DA-21	6/17/2008	1630	"	"	"	LL2SS-305M-1275-SO	X		X				
Blind Duplicate	DA-21	6/17/2008	1645	"	"	"	LL2SS-305M-1276-SO	X		X				
	DB-25	6/18/2008	1045	Washout Building	120	120	LL2SS-306M-1277-SO	X		X				
	DB-26	6/19/2008	1420	Radiographic Building	9500	9628	LL2SS-307M-1278-SO	X		X				
	DB-29	6/19/2008	1420	Elevator Machine House	128									
	DB-27	6/19/2008	1030	Cyclic Heat Bldg. #2	19350	19550	LL2SS-308M-1279-SO	X		X				
	DB-27B	6/19/2008	1030	Boiler Plant	200									
	DB-27A	6/19/2008	1110	Cyclic Heat Bldg. #1	19350	19350	LL2SS-309M-1280-SO	X		X	X			
	DB-27C	6/19/2008	1015	Shipping Building	10625	10625	LL2SS-310M-1281-SO	X		X				
	DB-802	10/28/2008	1115	Inert Storage	41213	20607	LL2SS-311M-1282-SO	X		X	X			
	DB-802	6/19/2008	1000	"	"	20607	LL2SS-312M-1283-SO	X		X	X			

Primary MI Sample
Quality Assurance
Field MI Duplicate
Blind Duplicate
MS/MSD Pair
Discrete Primary

This table mirrors the sampling table in the approved Workplan
NA = Not applicable
NS = Not sampled, footprint covered with plastic

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Table 2-2
MI Sampling Summary - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Description					Sq. Ft.			ANALYSES REQUIRED						
SAMP TYPE	Building	Date	Time	Building Utilization	Slab Area	MI Area	Sample ID	EXPL	PROP	MET	SVOCs	VOCs	PCBs	PEST
	3-51	6/25/2008	1200	Clock Alley	1980	5234	LL3SS-246M-1175-SO	X		X				
	3-51A	6/25/2008	1200	Line Office	2040									
	EB-20	6/25/2008	1200	Line Office	1214									
	EB-2	6/24/2008	1345	Service Building	500	500	LL3SS-247M-1176-SO	X		X				
	EB-3	6/24/2008	1415	Shell Receiving Building	16700	8350	LL3SS-248M-1177-SO	X		X	X			
	EB-3	6/24/2008	1430	"	"	8350	LL3SS-249M-1178-SO	X	X	X	X		X	X
MS	EB-3	6/24/2008	1430	"	"	"	LL3SS-249M-1178-MS	X	X	X	X		X	X
MSD	EB-3	6/24/2008	1430	"	"	"	LL3SS-249M-1178-MSD	X	X	X	X		X	X
VOC	EB-3	6/24/2008	1445	Shell Receiving Building	16700	NA	LL3SS-249D-1179-SO					X		
VOC QA	EB-3	6/24/2008	1450	"	"	"	LL3SS-249D-1180-QA					X		
VOC BLIND DUP	EB-3	6/24/2008	1455	"	"	"	LL3SS-249D-1181-SO					X		
	EB-4	6/24/2008	1555	Melt Pour Loading Building	12000	6000	LL3SS-250M-1182-SO	X		X			X	
	EB-4	6/24/2008	1600	"	"	6000	LL3SS-251M-1183-SO	X		X			X	
	EB-4-VP1	6/26/2008	0945	Vacuum Pump House	100	476	LL3SS-252M-1184-SO	X		X				
	EB-4A-VP1	6/26/2008	0945	Vacuum Pump House	100									
	EB-10-VP1	6/26/2008	0945	Vacuum Pump House	138									
	EB-10-VP2	6/26/2008	0945	Vacuum Pump House	138									
	EB-4-WN	NS		Washout Annex	1000	1000	LL3SS-253M-1185-SO	X		X				
	EB-4-WS	6/25/2008	1515	Washout Annex	360	360	LL3SS-254M-1186-SO	X		X				
	EB-4-A	6/26/2008	1045	Melt Pour Loading Building	12000	6000	LL3SS-255M-1187-SO	X		X			X	
	EB-4-A	6/26/2008	1100	"	"	6000	LL3SS-256M-1188-SO	X	X	X	X		X	X
QA SAMPLE	EB-4-A	6/26/2008	1100	"	"	"	LL3SS-256M-1189-QA	X	X	X	X		X	X
Field MI Duplicate	EB-4-A	6/26/2008	1100	"	"	"	LL3SS-256M-1190-SO	X	X	X	X		X	X
Blind Duplicate	EB-4-A	6/26/2008	1110	"	"	"	LL3SS-256M-1191-SO	X	X	X	X		X	X
VOC	EB-4-A	6/26/2008	1105	Melt Pour Loading Building	12000	NA	LL3SS-256D-1192-SO					X		
	EB-4A-WN	6/27/2008	0930	Washout Annex	1000	1000	LL3SS-257M-1193-SO	X		X				
	EB-4A-WS	6/27/2008	0910	Washout Annex	1000	1000	LL3SS-258M-1194-SO	X		X	X			
QA SAMPLE	EB-4A-WS	6/27/2008	0910	"	"	"	LL3SS-258M-1195-QA	X		X	X			
Field MI Duplicate	EB-4A-WS	6/27/2008	0910	"	"	"	LL3SS-258M-1196-SO	X		X	X			
Blind Duplicate	EB-4A-WS	6/27/2008	0920	"	"	"	LL3SS-258M-1197-SO	X		X	X			
	EA-5	6/27/2008	1025	Service Building	360	360	LL3SS-259M-1198-SO	X		X				
	EA-6	6/27/2008	1040	Explosives Preparation Building	1775	1843	LL3SS-260M-1199-SO	X		X	X		X	
	EA-28	6/27/2008	1040	Elevator Machine House	68									
	EA-6A	NS		Explosives Preparation Building	1775	1843	LL3SS-261M-1200-SO	X		X				
	EA-28A	NS		Elevator Machine House	68									
	EA-7	6/26/2008	1620	Service Building	500	500	LL3SS-262M-1201-SO	X		X				
	EB-8	6/26/2008	1520	Change House	6770	16988	LL3SS-263M-1202-SO	X		X				
	EB-8A	6/26/2008	1520	Change House	6770									
	EB-22	6/26/2008	1520	Change House	3448									
	EB-9	6/26/2008	1455	Service Building	1200	1200	LL3SS-264M-1203-SO	X		X				
	EB-9A	6/24/2008	1505	Service Building	900	900	LL3SS-265M-1204-SO	X		X				
	EB-10/10A	6/25/2008	0930	Drilling and Assembly Building	12400	6200	LL3SS-266M-1205-SO	X	X	X	X		X	X
VOC	EB-10/10A	6/24/2008	1700	Drilling and Assembly Building	12400	NA	LL3SS-266D-1206-SO					X		
VOC MS	EB-10/10A	6/24/2008	1705	"	"	"	LL3SS-266D-1206-MS					X		
VOC MSD	EB-10/10A	6/24/2008	1710	"	"	"	LL3SS-266D-1206-MSD					X		
	EB-10/10A	6/25/2008	0935	Drilling and Assembly Building	12400	6200	LL3SS-267M-1207-SO	X		X			X	
	EB-11	6/25/2008	1100	Service Building	500	500	LL3SS-268M-1208-SO	X		X			X	
QA SAMPLE	EB-11	6/25/2008	1100	"	"	"	LL3SS-268M-1209-QA	X		X			X	
Field MI Duplicate	EB-11	6/25/2008	1100	"	"	"	LL3SS-268M-1210-SO	X		X			X	
Blind Duplicate	EB-11	6/25/2008	1110	"	"	"	LL3SS-268M-1211-SO	X		X			X	
	EB-13	6/25/2008	1010	Packing and Shipping	11068	11212	LL3SS-269M-1212-SO	X		X				
	EB-26	6/25/2008	1010	Elevator Machine House	144									
	EB-13A	6/25/2008	0955	Barricade Shipping	9849	9849	LL3SS-270M-1213-SO	X		X				
	EB-13B	6/25/2008	1000	Shipping Warehouse Annex	11906	11906	LL3SS-271M-1214-SO	X		X				
	EB-19	6/24/2008	1400	Service Building	500	500	LL3SS-272M-1215-SO	X		X				
	EA-21	6/26/2008	1605	Service Building	500	500	LL3SS-273M-1216-SO	X	X	X			X	
	EB-25	6/24/2008	1510	Washout Building	120	120	LL3SS-274M-1217-SO	X		X				

Primary MI Sample
Quality Assurance
Field MI Duplicate
Blind Duplicate
MS/MSD Pair
Primary Discrete

This table mirrors the sampling table in the approved Workplan
NA = Not applicable
NS = Not sampled, footprint covered with plastic

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Table 2-3
MI Sampling - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Description					Sq. Ft.			ANALYSES REQUIRED						
SAMP TYPE	Building	Date	Time	Building Utilization	Slab Area	MI Area	Sample ID	EXPL	PROP	MET	SVOCs	VOCs	PCBs	PEST
	G-2	6/27/2008	1130	Paint Storage	710	710	LL4SS-201M-1184-SO	X	X	X	X		X	X
VOC	G-2	6/27/2008	1135	Paint Storage	710	NA	LL4SS-201D-1185-SO					X		
VOC QA SAMPLE	G-2	6/27/2008	1130	"	"	"	LL4SS-201D-1186-QA					X		
VOC BLIND DUP	G-2	6/27/2008	1140	"	"	"	LL4SS-201D-1187-SO					X		
	G-4	6/27/2008	1200	Power House No. 7	100	55	LL4SS-202M-1188-SO	X	X	X	X		X	X
MS	G-4	6/27/2008	1200	"	"	"	LL4SS-202M-1188-MS	X	X	X	X		X	X
MSD	G-4	6/27/2008	1200	"	"	"	LL4SS-202M-1188-MSD	X	X	X	X		X	X
VOC	G-4	6/27/2008	1205	Power House No. 7	100	NA	LL4SS-202D-1189-SO					X		
VOC MS	G-4	6/27/2008	1210	"	"	"	LL4SS-202D-1189-MS					X		
VOC MSD	G-4	6/27/2008	1215	"	"	"	LL4SS-202D-1189-MSD					X		
	G-5	6/30/2008	1530	Line Office	3294	3954	LL4SS-203M-1190-SO	X		X				
	G-20	6/30/2008	1530	TIme Clock Alley	660									
	G-6	6/30/2008	1600	Change House	8018	16036	LL4SS-204M-1191-SO	X		X				
	G-6A	6/30/2008	1600	Change House	8018									
	G-7	6/30/2008	1620	Booster Service	976	976	LL4SS-205M-1192-SO	X		X				
	G-14	**Footprint covered by G-13A, no sample collected**												
	G-8	7/1/2008	0850	Melt Pour Loading Building	11700	5850	LL4SS-206M-1193-SO	X		X	X			
	G-8	7/1/2008	0855	"	"	5850	LL4SS-207M-1194-SO	X		X	X			
	G-8-VP1	6/30/2008	1715	Vacuum Pump House	162	462	LL4SS-208M-1195-SO	X		X				
	G-12-VP1	6/30/2008	1715	Vacuum Pump House	100									
	G-13-VP1	6/30/2008	1715	Vacuum Pump House	100									
	G-13-VP2	6/30/2008	1715	Vacuum Pump House	100									
	G-9	7/1/2008	1010	Explosive Screening Building	180	170	LL4SS-209M-1196-SO	X		X				X
QA SAMPLE	G-9	7/1/2008	1010	"	"	"	LL4SS-209M-1197-QA	X		X				X
Field MI Duplicate	G-9	7/1/2008	1010	"	"	"	LL4SS-209M-1198-SO	X		X				X
Blind Duplicate	G-9	7/1/2008	1015	"	"	"	LL4SS-209M-1199-SO	X		X				X
	G-10	7/1/2008	1600	Nitrate Screening	10064	10064	LL4SS-210M-1200-SO	X		X				
	G-11	10/28/2008	1700	Magazine	180	170	LL4SS-211M-1201-SO	X		X				
	G-12	7/1/2008	0915	Explosives Cooling Building	9775	9775	LL4SS-212M-1202-SO	X		X	X		X	
QA SAMPLE	G-12	7/1/2008	0915	"	"	"	LL4SS-212M-1203-QA	X		X	X		X	
Field MI Duplicate	G-12	7/1/2008	0915	"	"	"	LL4SS-212M-1204-SO	X		X	X		X	
Blind Duplicate	G-12	7/1/2008	0920	"	"	"	LL4SS-212M-1205-SO	X		X	X		X	
	G-12A	7/1/2008	1410	Explosives Cooling Building	9775	9772	LL4SS-213M-1206-SO	X		X				
	G-13	7/1/2008	1350	Funnel & Face Off Building	18200	9100	LL4SS-214M-1207-SO	X		X				
	G-13A	7/1/2008	1400	X-Ray	18200	9100	LL4SS-215M-1208-SO	X		X				
	G-15	10/28/2008	1650	Explosives Preparation Building	1400	1400	LL4SS-216M-1209-SO	X	X	X				
	G-16	7/1/2008	1025	TNT Receiving	710	710	LL4SS-217M-1213-SO	X		X				
MS	G-16	7/1/2008	1025	"	"	"	LL4SS-217M-1213-MS	X		X				
MSD	G-16	7/1/2008	1025	"	"	"	LL4SS-217M-1213-MSD	X		X				
	G-17	7/2/2008	1050	Supplemental Charges Magazin	710	710	LL4SS-218M-1214-SO	X		X				
	G-18	6/27/2008	1230	Paint Storage	60	60	LL4SS-219M-1215-SO	X	X	X	X		X	X
VOC	G-18	6/27/2008	1235	Paint Storage	60	NA	LL4SS-219D-1216-SO					X		
	G-19	7/2/2008	0950	Packing and Assembly Building	10700	5350	LL4SS-220M-1217-SO	X	X	X				
	G-19	7/2/2008	0955	"	"	"	LL4SS-221M-1218-SO	X	X	X				
QA SAMPLE	G-19	7/2/2008	1530	"	"	"	LL4SS-220M-1220-QA	X	X	X				
Field MI Duplicate	G-19	7/2/2008	1530	"	"	"	LL4SS-220M-1221-SO	X	X	X				
Blind Duplicate	G-19	7/2/2008	1535	"	"	"	LL4SS-220M-1222-SO	X	X	X				
	G-19A	7/2/2008	0945	Shipping	10105	10105	LL4SS-222M-1219-SO	X		X				

Primary MI Sample
Quality Assurance
Field MI Duplicate
Blind Duplicate
MS/MSD Pair
Primary Discrete

This table mirrors the sampling table in the approved Workplan
NA = Not applicable

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multiple attempts were taken to collect each aliquot to depth and for recovery as needed. The attempts were generally conducted within close proximity to the intended location, but the radius was expanded if refusals continued in an attempt to achieve the intended 1.0 foot bgs. The entire volume of all aliquots was aggregated into a single field sample by placing the samples in a plastic-lined bucket. The entire sample was placed in a sealable plastic bag, secured, labeled, and then double bagged to increase the probability the sample would arrive at the lab intact. The sample was delivered to the analytical laboratory where the laboratory provided MI sample preparation, consisting of air-drying, sieving, and grinding.

Samples collected for volatile organic compound (VOC) analyses were collected as discrete samples. The discrete locations at selected buildings were to be selected based upon any field observations or any elevated readings noted with a photo ionization detector (PID). None of the PID readings taken at any time during the field investigation were above background (Appendix A). Since no evidence of the presence of volatiles was noted, the discrete samples were collected from the approximate middle of the building footprint. The samples were collected using TerraCore® sampling kits.

Three types of duplicate samples were collected for quality control (QC) purposes: an MI duplicate, a Quality Assurance (QA) laboratory sample, and a blind duplicate. The MI and QA duplicates were two separate samples that were comprised of 30 subsample increments from the same locations as the primary MI sample. The blind duplicate was a separate sample comprised of 30 subsample increments from different locations within the same sampling area as the primary MI sample. The blind duplicate was collected after collecting the primary, MI duplicate, and QA laboratory samples. All duplicate samples were collected at a frequency of one per ten primary samples.

Matrix spike and matrix spike duplicate sample analyses were also requested from the laboratory at a frequency of one per 20 primary samples.

Soil samples designated for QA/QC are also noted on Tables 2-1 through 2-3. No surface water QA samples were collected.

During the field investigation several unforeseen circumstances occurred that included the flooding of the footprints and the observation of product on one footprint. The MI samples at several locations within Load Lines 2 and 4 could not be initially collected because the building footprints were under water. At these locations, the MI samples were collected through the standing water, and a collocated surface water sample was collected. These samples were collected on October 28, 2008 in accordance with Technical Change Memo #4 (Appendix E).

At Load Lines 2 and 4, the following building footprints were sampled under water:

- Load Line 2: DB4-VP1 and DB4A-VP1,
- Load Line 2: DB-802 (southern portion), and
- Load Line 4: G-11 and G-15.

Buildings DB10-VP1 and DB10-VP2 were initially under water during the June-July sampling event, however, no standing water was present by the October sampling event. These samples were collected without deviating from the Work Plan. However, building footprints DB4-VP1 and DB4A-VP1 remained 25% and 95% under water respectively, with a maximum water depth of 6 inches at DB4-VP1 and 2 feet at DB4A-VP1. The building G-11 footprint was 40% under water with a maximum water depth of 10 inches, and the G-15 footprint was completely covered with 6 to 10 inches of water.

The MI soil samples for the building footprints under water were collected as stated in the sampling plan; however, the sample was collected by pushing the step probe through the standing water. The URS unexploded ordnance (UXO) representative was on site to assess the sampling locations for staining and pink water prior to sampling. Where sufficient surface water was present, a representative, discrete surface water sample was collected prior to the MI sampling. The surface water sample was collected by the direct fill method, submerging the sampling container until filled.

Building DB-802 (southern portion) was completely inundated with approximately 2 to 3 feet of water from initial access after slab removal. The soil MI sample and collocated surface water sample were collected using a boat secured on both ends by a manned rope. The boat was pulled, using the manned ropes, along the footprint to 30 random locations within the footprint. The MI samples were collected by using an extended step probe from the boat.

On June 24, 2008, the MI sample at Building EB-25 could not initially be collected since explosive product was observed on the surface of the sub-slab footprint. The URS UXO representative informed the RVAAP BRACD representative who arranged for the RVAAP operating contractor (PIKA) to mobilize to the Site for assessment and removal of the material. The MI sampling commenced after the material was transported to the designated RVAAP storage igloo. As a precautionary measure, the building footprint at EB-25 was covered with plastic immediately after the sampling increments were collected.

Field sampling collection forms documenting each MI sample collected are included in Appendix A. Appendix C contains copies of the Chains of Custody and freight bills for these sampling events.

2.3 LABORATORY ANALYSES

Analytical support for this work was assigned to Microbac Laboratories, Inc. (Microbac) of Marietta, Ohio. The QA laboratory, contracted through the Louisville USACE, was CT Laboratories, Baraboo, Wisconsin.

The analytical laboratory dried, processed, and analyzed each sample for explosives and metals (U.S. Environmental Protection Agency's Target Analyte List (TAL) metals and hexavalent chromium). At selected buildings, analyses for propellants, VOCs, semivolatile organic compounds (SVOCs), and polychlorinated biphenyls (PCBs) were also done. These additional parameters were based on the actual operations at an individual building and whether those operations would be indicative of contamination other than explosives or metals based on a

review of historical data collected outside the building footprints. In accordance with the *Facility-Wide Sampling and Analysis Plan* (SAIC, 2001), 10% of the samples collected at each load line were analyzed for these additional parameters and pesticides (i.e., the full analytical suite).

The surface water samples were analyzed for the same analytical parameters as for the soil, except that hexavalent chromium was not included in the metal analyses.

This section presents the verification of the analytical data from the sampling at the three load lines as well as the results. Summaries of detected chemicals are presented in Tables 3-1 through 3-4. Analytical data tables for all analyses are included in Appendix B.

3.1 DATA VERIFICATION AND VALIDATION

Data verification was conducted in accordance with Part II of the *Facility-Wide Sampling and Analysis Plan,* i.e., the Quality Assurance Project Plan (QAPP) (SAIC, 2001), the addendum to the QAPP in the approved Work Plan (URS, 2008), and the *Louisville Chemistry Guideline*, *Version 5* (LCG5) (USACE, 2002). The verification was conducted in two stages using both an automated data review application and a manual review process. The Automated Data Review (ADR) software application was obtained from Laboratory Data Consultants, Inc. upon authorization from USACE and was used for the first stage of data verification. The ADR software evaluated the analytical data provided in laboratory electronic deliverable files by comparing project-specific method quality objectives for the following elements and applying data qualifiers as appropriate:

- Cooler temperature,
- Holding times (extraction and analysis),
- Units of measure and detection limits,
- Analyte lists,
- Method blank, trip blank, and equipment blank results,
- Laboratory data qualifiers,
- Laboratory Control Sample (LCS) results,
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) results,
- Lab Duplicate sample results,
- Field Duplicate sample results, and
- Surrogate recoveries (where applicable).

Subsequent to the automated review, URS chemists performed the second stage of data verification: confirming that data qualifiers were applied appropriately and manually evaluating information not checked by ADR. The information reviewed in this second stage included:

- Chain-of-Custody and sample login documents,
- Any nonconformances or analytical problems noted in the report narratives,
- Concentration of spikes relative to the parent sample concentrations,
- Concentration of duplicate samples relative to the sample reporting limits,
- Method Reporting Limit (MRL) standard recoveries,
- Initial and Continuing Calibration Verification standards,
- Initial and Continuing Calibration Blank results,
- Second column confirmation analyses, and
- Sample dilutions.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Volatiles:

Parameter	Units	DB-3 Primary LL2SS-280D-1237-SO 06/18/08	DB-3 Blind Duplicate LL2SS-280D-1239-SO 06/18/08	DB-4A LL2SS-286D-1249-SO 06/24/08	DB-4A-WM LL2SS-288D-1252-SO 06/18/08	DB-10 LL2SS-298D-1266-SO 06/24/08
NO VOLATILE ORGANICS DETECTED						

Pesticides and PCBs:

Parameter	Units	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08
NO PESTICIDES DETECTED									
Aroclor-1254	ug/kg	**106**	**121**	**97.4**	**184**	**115**	**74.3**	**120**	**308**
Aroclor-1260	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	**39.6**	**50.6**	**127**

Parameter	Units	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08
NO PESTICIDES DETECTED					
Aroclor-1254	ug/kg	**437 J**	**250 J**	**240 J**	**2240**
Aroclor-1260	ug/kg	**191 J**	**427 J**	**164 J**	**785**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

Bold = The analyte was detected at the concentration shown.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Semivolatiles:

Parameter	Units	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08
2,4-Dinitrotoluene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U
Anthracene	ug/kg	81.7 U	82 U	83.8 U	**137 J**	81.3 U	91.6 U	88.4 U	83.3 U
Benzo(a)anthracene	ug/kg	**118 J**	**160 J**	**178**	**371**	**392**	**157 J**	**164 J**	83.3 U
Benzo(a)pyrene	ug/kg	**104 J**	**148 J**	**175**	**316**	**402**	**155 J**	**167 J**	83.3 U
Benzo(b)fluoranthene	ug/kg	81.7 U	**109 J**	**127 J**	**240**	**285**	**110 J**	**128 J**	83.3 U
Benzo(g,h,i)perylene	ug/kg	81.7 UJ	82 UJ	83.8 UJ	**137 J**	**153 J**	R	R	83.3 UJ
Benzo(k)fluoranthene	ug/kg	**144 J**	**175**	**202**	**340**	**458**	**187**	**197**	83.3 U
Chrysene	ug/kg	**112 J**	**145 J**	**165 J**	**367**	**356**	**149 J**	**169 J**	83.3 U
Fluoranthene	ug/kg	**236**	**294**	**320**	**930**	**573**	**142 J**	**254**	83.3 U
Indeno(1,2,3-cd)pyrene	ug/kg	81.7 UJ	82 UJ	**83.8 J**	**150 J**	**169 J**	91.6 UJ	88.4 UJ	83.3 UJ
Phenanthrene	ug/kg	**96.2 J**	**106 J**	**95.9 J**	**536**	**125 J**	91.6 U	**93.6 J**	83.3 U
Pyrene	ug/kg	**185**	**230**	**252**	**657**	**491**	**143 J**	**219**	83.3 U

Parameter	Units	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08	DC-1 LL2SS-276M-1229-SO 06/20/08
2,4-Dinitrotoluene	ug/kg	89 U	91 U	**231**	175 U	85.6 U	84 U	82.9 UJ	433 U
Anthracene	ug/kg	**175 J**	**147 J**	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U
Benzo(a)anthracene	ug/kg	**427**	**238**	**141 J**	**445**	85.6 U	84 U	82.9 UJ	433 U
Benzo(a)pyrene	ug/kg	**379**	**219**	**124 J**	**406**	85.6 U	84 U	82.9 UJ	433 U
Benzo(b)fluoranthene	ug/kg	**301**	**150 J**	**103 J**	**339 J**	85.6 U	84 U	82.9 UJ	433 U
Benzo(g,h,i)perylene	ug/kg	**237 J**	**100 J**	87.6 UJ	**R**	85.6 UJ	84 UJ	82.9 UJ	433 UJ
Benzo(k)fluoranthene	ug/kg	**382**	**183**	**113 J**	**469**	85.6 U	84 U	82.9 UJ	433 U
Chrysene	ug/kg	**477 J**	**251 J**	**157 J**	**431**	85.6 U	84 U	82.9 UJ	433 U
Fluoranthene	ug/kg	**1090 J**	**638 J**	**377 J**	**966**	85.6 U	84 U	82.9 UJ	**547 J**
Indeno(1,2,3-cd)pyrene	ug/kg	**201 J**	91 UJ	87.6 UJ	175 UJ	85.6 UJ	84 UJ	82.9 UJ	433 UJ
Phenanthrene	ug/kg	**885 J**	**633**	**365 J**	**406**	85.6 U	84 U	82.9 UJ	433 U
Pyrene	ug/kg	**978 J**	**555 J**	**337 J**	**742**	85.6 U	84 U	82.9 UJ	**538 J**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Explosives and Propellants:

Parameter	Units	2-51, 2-51A LL2SS-275M-1228-SO 06/18/08	DA-5 LL2SS-290M-1254-SO 06/20/08	DA-6, DA-28 LL2SS-291M-1255-SO 06/20/08	DA-6A, DA-28A LL2SS-292M-1256-SO 06/20/08	DA-7 LL2SS-293M-1257-SO 06/20/08	DA-21 Primary LL2SS-305M-1273-SO 06/17/08	DA-21 MI Duplicate LL2SS-305M-1275-SO 06/17/08	DA-21 Blind Duplicate LL2SS-305M-1276-SO 06/17/08	DB-2 LL2SS-277M-1230-SO 06/17/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2,4,6-Trinitrotoluene	mg/kg	0.0994 U	**0.208 J**	0.0996 U	**24.6 J**	**4.74**	**5.81 J**	**8.22 J**	**11.8 J**	0.0995 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	**0.263 J**	0.0996 U	**0.327**	**0.345**	**0.379**	0.0995 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	**0.513 J**	**0.19 J**	**0.607**	**0.667**	**0.656**	0.0995 U
HMX	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
RDX	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
Nitrocellulose	mg/kg	--	--	--	--	--	--	--	--	--

Parameter	Units	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4 (#1) LL2SS-281M-1240-SO 06/24/08	DB-4 (#2) LL2SS-282M-1241-SO 06/24/08	DB-4-VP1, -4A-VP1 LL2SS-283M-1242-SO 10/28/08	DB-4A LL2SS-286M-1248-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
2,4,6-Trinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	**3.19**	**0.624**	0.1 UJ	0.1 U
2,4-Dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	**0.119 J**	0.1 UJ	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	**0.267**	0.1 UJ	0.1 U
HMX	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
RDX	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
Nitrocellulose	mg/kg	--	--	--	--	2 U	--	--	--	2 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Explosives and Propellants (cont'd):

Parameter	Units	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-8, DB-8A, DB-22 LL2SS-294M-1258-SO 06/17/08	DB-9 LL2SS-295M-1259-SO 06/19/08	DB-9A LL2SS-296M-1260-SO 06/18/08	DB-10 (#1) Primary LL2SS-297M-1261-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	**0.213 J**	**1.25**	**0.821 J**	**0.383 J**	**0.855**	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2,4,6-Trinitrotoluene	mg/kg	**2.68**	**66.6**	**125 J**	**215 J**	**339 J**	0.0996 U	0.0994 U	0.0995 U	0.0997 UJ
2,4-Dinitrotoluene	mg/kg	0.0998 U	0.0992 U	**0.111 J**	**0.182 J**	**0.211 J**	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2-Amino-4,6-dinitrotoluene	mg/kg	**0.178 J**	**0.538**	**1.75**	**2.05**	**3.39**	0.0996 U	0.0994 U	0.0995 U	0.0997 U
4-Amino-2,6-dinitrotoluene	mg/kg	**0.389**	**1.17**	**3.07**	**3.73**	**4.84**	0.0996 U	0.0994 U	0.0995 U	0.0997 U
HMX	mg/kg	0.0998 U	**0.133 J**	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
RDX	mg/kg	**0.212 J**	**0.477**	**0.441 J**	**0.259**	**0.362**	0.0996 U	0.0994 U	0.0995 U	0.0997 U
Nitrocellulose	mg/kg	**--**	**36.2 J**	**--**	**--**	**--**	**--**	**--**	**--**	2 U

Parameter	Units	DB-10 (#1) MI Duplicate LL2SS-297M-1263-SO 06/24/08	DB-10 (#1) Blind Duplicate LL2SS-297M-1264-SO 06/24/08	DB-10 (#2) LL2SS-298M-1265-SO 06/24/08	DB-10-VP1, -VP2 LL2SS-313M-284-SO 10/28/08	DB-11 LL2SS-299M-1267-SO 06/19/08	DB-13 LL2SS-300M-1268-SO 06/19/08	DB-13A LL2SS-301M-1269-SO 06/19/08	DB-13B LL2SS-302M-1270-SO 06/19/08	DB-19 LL2SS-303M-1271-SO 06/17/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,4,6-Trinitrotoluene	mg/kg	0.0994 U	**0.438 J**	**4.93**	**1.24 J**	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0994 U	0.0996 U	**0.268**	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0994 U	**0.107 J**	**0.648**	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
HMX	mg/kg	0.0994 U	0.0996 U	**0.269**	**0.369 J**	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
RDX	mg/kg	0.0994 U	**0.212 J**	**0.192 J**	**1.27 J**	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
Nitrocellulose	mg/kg	1.99 U	1.99 U	**5.61**	**--**	**--**	**--**	**--**	**--**	**--**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Explosives and Propellants (cont'd):

Parameter	Units	DB-20 LL2SS-304M-1272-SO 06/20/08	DB-25 LL2SS-306M-1277-SO 06/18/08	DB-26, DB-29 LL2SS-307M-1278-SO 06/19/08	DB-27, DB-27B LL2SS-308M-1279-SO 06/19/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-27C LL2SS-310M-1281-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
2,4,6-Trinitrotoluene	mg/kg	**3.68**	**0.105 J**	0.1 U	**26.7**	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2-Amino-4,6-dinitrotoluene	mg/kg	**0.115 J**	0.0992 U	0.1 U	**0.191 J**	0.0991 U	0.0997 U	0.0997 U	0.0981 U
4-Amino-2,6-dinitrotoluene	mg/kg	**0.229 J**	0.0992 U	0.1 U	**0.443**	0.0991 U	0.0997 U	0.0997 U	0.0981 U
HMX	mg/kg	0.0994 U	**0.405**	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
RDX	mg/kg	0.0994 U	**0.244 J**	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
Nitrocellulose	mg/kg	--	--	--	--	--	--	--	--

Parameter	Units	DC-1 LL2SS-276M-1229-SO 06/20/08
1,3,5-Trinitrobenzene	mg/kg	0.0995 U
2,4,6-Trinitrotoluene	mg/kg	**4.99**
2,4-Dinitrotoluene	mg/kg	0.0995 U
2-Amino-4,6-dinitrotoluene	mg/kg	**0.438**
4-Amino-2,6-dinitrotoluene	mg/kg	**0.741**
HMX	mg/kg	0.0995 U
RDX	mg/kg	0.0995 U
Nitrocellulose	mg/kg	--

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals:

Parameter	Units	2-51, 2-51A LL2SS-275M-1228-SO 06/18/08	DA-5 LL2SS-290M-1254-SO 06/20/08	DA-6, DA-28 LL2SS-291M-1255-SO 06/20/08	DA-6A, DA-28A LL2SS-292M-1256-SO 06/20/08	DA-7 LL2SS-293M-1257-SO 06/20/08	DA-21 Primary LL2SS-305M-1273-SO 06/17/08	DA-21 MI Duplicate LL2SS-305M-1275-SO 06/17/08	DA-21 Blind Duplicate LL2SS-305M-1276-SO 06/17/08
Aluminum	mg/kg	**8000**	**6900**	**6720**	**7850**	**9650**	**8280**	**9180**	**7980**
Arsenic	mg/kg	**9.89 J**	**10 J**	**9.27 J**	**12.8 J**	**10.7 J**	**11.5**	**10.4**	**10.8**
Barium	mg/kg	**48.1**	**49.4**	**44.1**	**47.3**	**66**	**51.5**	**50**	**43.7**
Beryllium	mg/kg	**0.383**	**0.429 J**	**0.36 J**	**0.456 J**	**0.532 J**	**0.417**	**0.424**	**0.386**
Cadmium	mg/kg	**0.349**	**0.469 J**	**0.428 J**	**0.441 J**	**0.518 J**	**0.432 J**	**0.475 J**	**0.459 J**
Calcium	mg/kg	**5640**	**3970**	**4940**	**3640**	**3680**	**4180**	**4230**	**3580**
Chromium, Trivalent[(1)]	mg/kg	**49.3 J**	**12.7**	**12.5**	**12.4**	**13.8**	**17.5**	**21.2**	**17.9**
Cobalt	mg/kg	**5.6 J**	**7.06**	**4.29**	**6.45**	**7.58**	**5.88 J**	**6.38 J**	**5.96 J**
Copper	mg/kg	**15.3**	**17.1 J**	**17.2 J**	**19.2 J**	**20.8 J**	**17.6 J**	**17.8 J**	**17.9 J**
Iron	mg/kg	**16400 J**	**20200**	**17600**	**20000**	**23100**	**18900 J**	**22800 J**	**19600 J**
Lead	mg/kg	**30.4**	**13.7**	**20.5**	**18.1**	**16.2**	**22.9 J**	**19.5 J**	**17.9 J**
Magnesium	mg/kg	**1680**	**2280**	**1950**	**2250**	**2520**	**2280**	**2330**	**2110**
Manganese	mg/kg	**345 J**	**393**	**247**	**372**	**316**	**345 J**	**327 J**	**299 J**
Mercury	mg/kg	**0.0163 J**	**0.0146 J**	**0.0214 J**	**0.0216 J**	**0.0228 J**	**0.0141 J**	**0.0139 J**	0.0106 U
Nickel	mg/kg	**30.7 J**	**264**	**26**	**19.9**	**118**	**41.9 J**	**37.8 J**	**84.9 J**
Potassium	mg/kg	**703 J**	**476**	**500**	**566**	**652**	**664 J**	**812 J**	**652 J**
Selenium	mg/kg	**0.295**	**0.198 J**	**0.216 J**	**0.383 J**	**0.203 J**	**0.206 J**	**0.238**	**0.253**
Silver	mg/kg	0.176 U	**0.273 J**	**0.26 J**	**0.246 J**	**0.254 J**	0.202 UJ	0.197 UJ	0.197 UJ
Sodium	mg/kg	**45.3**	**30.7**	**35.9**	**56.3**	**41.1**	**40.8**	**44.2**	**36.8**
Thallium	mg/kg	**0.108**	**0.119**	**0.117**	**0.119**	**0.156**	**0.13**	**0.119**	**0.124**
Vanadium	mg/kg	**14.1**	**12**	**10.4**	**12.6**	**15.2**	**12.7 J**	**14.3 J**	**12.4 J**
Zinc	mg/kg	**73.2**	**56.3**	**58**	**63**	**73.5**	**59.5 J**	**60.9 J**	**60.4 J**
Chromium, Hexavalent	mg/kg	0.101 U	0.256 U	0.252 U	0.0518 U	0.0522 U	0.0972 U	0.103 U	0.102 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

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UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	DB-2 LL2SS-277M-1230-SO 06/17/08	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4 (#1) LL2SS-281M-1240-SO 06/24/08	DB-4 (#2) LL2SS-282M-1241-SO 06/24/08	DB-4-VP1, -4A-VP1 LL2SS-283M-1242-SO 10/28/08
Aluminum	mg/kg	**8380**	**8190**	**7940**	**8550**	**9670**	**8460**	**5030**	**6090**	**8310**
Arsenic	mg/kg	**9.49**	**12.1 J**	**12.4 J**	**10.4 J**	**12.4 J**	**11.3 J**	**8.72**	**10.2**	**9.37**
Barium	mg/kg	**48.3**	**44.9**	**46.2**	**51.5**	**49.1**	**43.7**	**28.7**	**33.5**	**71.1**
Beryllium	mg/kg	**0.481**	**0.491**	**0.513**	**0.542**	**0.544**	**0.434**	**0.247**	**0.308**	**0.544 J**
Cadmium	mg/kg	**0.388 J**	**0.386**	**0.407**	**0.472**	**0.396**	**0.374**	**0.281**	**0.311**	**2.42**
Calcium	mg/kg	**3600**	**5020**	**6490**	**3310**	**4160**	**1760**	**7110**	**3790**	**5420**
Chromium, Trivalent(1)	mg/kg	**19.3**	**27.2 J**	**23.4227 J**	**22.1 J**	**18.8 J**	**18.1 J**	**7.13**	**8.31**	**15.2**
Cobalt	mg/kg	**6.78 J**	**7.41 J**	**8.12 J**	**8 J**	**8.25 J**	**6.68 J**	**4.82**	**5.87**	**5.03**
Copper	mg/kg	**21.3 J**	**21**	**22.6**	**22.5**	**21.4**	**20.8**	**12.9 J**	**17.1 J**	**11.6 J**
Iron	mg/kg	**18600 J**	**20200 J**	**20600 J**	**21100 J**	**22400 J**	**20700 J**	**14600**	**17500**	**19200**
Lead	mg/kg	**19.3 J**	**23.8**	**22.7**	**22.4**	**24.9**	**19.6**	**11.4 J**	**13 J**	**28.5**
Magnesium	mg/kg	**2150**	**2980**	**3050**	**2590**	**3060**	**2200**	**2010**	**2100**	**2040**
Manganese	mg/kg	**333 J**	**324 J**	**368 J**	**338 J**	**337 J**	**333 J**	**278**	**320**	**283**
Mercury	mg/kg	**0.0113 J**	**0.015 J**	**0.012 J**	**0.0142 J**	**0.014 J**	**0.0167 J**	0.0106 U	0.0107 U	**0.0329 J**
Nickel	mg/kg	**53.5 J**	**28.2 J**	**180 J**	**35.4 J**	**34.7 J**	**33 J**	**14.2**	**17.1**	**20.8**
Potassium	mg/kg	**824 J**	**934 J**	**878 J**	**966 J**	**1020 J**	**743 J**	**428**	**472**	**622**
Selenium	mg/kg	**0.259**	**0.191 J**	**0.316**	**0.2**	**0.253**	**0.322**	**0.211 J**	**0.219 J**	**0.53**
Silver	mg/kg	0.195 UJ	0.179 U	**0.236 J**	**0.714**	0.197 U	0.189 U	**0.24 J**	0.184 U	0.192 U
Sodium	mg/kg	**58**	**58.6**	**63.3**	**62.7**	**66.7**	**43.3**	**31.5**	**34.7**	38.3 U
Thallium	mg/kg	**0.138**	**0.129**	**0.136**	**0.143**	**0.138**	**0.138**	**0.0919**	**0.106**	**0.168 J**
Vanadium	mg/kg	**13.6 J**	**12.3**	**12.3**	**13.5**	**14.5**	**13.2**	**8.95 J**	**10.5 J**	**17.5**
Zinc	mg/kg	**59.4 J**	**62.4**	**66.4**	**61.3**	**68.2**	**68.3**	**45.3**	**57.9**	**74.2**
Chromium, Hexavalent	mg/kg	0.106 U	0.0464 U	**0.0773 J**	0.0457 U	0.0501 U	0.192 U	0.524 UJ	0.528 UJ	0.103 U

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Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-8, DB-8A, DB-22 LL2SS-294M-1258-SO 06/17/08	DB-9 LL2SS-295M-1259-SO 06/19/08	DB-9A LL2SS-296M-1260-SO 06/18/08
Aluminum	mg/kg	**8770**	**8120**	**10700**	**7840**	**7640**	**8600**	**7670**	**6840**	**8980**
Arsenic	mg/kg	**14.5**	**12.3**	**15 J**	**9.75 J**	**9.95 J**	**10 J**	**9.94**	**9.12 J**	**10.5 J**
Barium	mg/kg	**42**	**45.8**	**58.7**	**57.8**	**56.3**	**68.1**	**45.9**	**37.8**	**41.1**
Beryllium	mg/kg	**0.502**	**0.454**	**0.547**	**0.476 J**	**0.449 J**	**0.529 J**	**0.418**	**0.362 J**	**0.447**
Cadmium	mg/kg	**0.424**	**0.46**	**0.535**	**0.865 J**	**0.647 J**	**0.735 J**	**0.464 J**	**0.541 J**	**0.409**
Calcium	mg/kg	**10400**	**8170**	**11000**	**5350**	**4730**	**3930**	**3160**	**2960**	**5010**
Chromium, Trivalent[(1)]	mg/kg	**12.7**	**12.1**	**16.281 J**	**14**	**12.2**	**13.7**	**29.5**	**27.1**	**37.6 J**
Cobalt	mg/kg	**9.14**	**7.38**	**8.74 J**	**7.25**	**7.49**	**8.25**	**5.91 J**	**5.45**	**7.37 J**
Copper	mg/kg	**22.5 J**	**21.4 J**	**23.2**	**20.5 J**	**18.4 J**	**18.7 J**	**17.9 J**	**18.2 J**	**21**
Iron	mg/kg	**28800**	**21300**	**23800 J**	**21200**	**21300**	**22900**	**18400 J**	**18200**	**21000 J**
Lead	mg/kg	**17.6 J**	**18.6 J**	**19**	**38.7 J**	**1170 J**	**29.8 J**	**21.4 J**	**21**	**16.1**
Magnesium	mg/kg	**4250**	**3500**	**4740**	**2170**	**1970**	**2200**	**1920**	**1840**	**3140**
Manganese	mg/kg	**372**	**350**	**349 J**	**405**	**374**	**384**	**372 J**	**308**	**312 J**
Mercury	mg/kg	0.0109 U	0.011 U	0.0102 U	**0.0346 J**	**0.035 J**	**0.0527 J**	**0.0181 J**	**0.0159 J**	0.0104 U
Nickel	mg/kg	**31.5**	**59.4**	**71.6 J**	**22**	**21.9**	**27.5**	**340 J**	**33.5**	**40.8 J**
Potassium	mg/kg	**898**	**818**	**1360 J**	**540**	**494**	**605**	**735 J**	**439**	**1160 J**
Selenium	mg/kg	**0.241 J**	**0.242 J**	**0.241**	**0.174 J**	**0.209 J**	**0.238 J**	**0.265**	**0.202 J**	**0.196 J**
Silver	mg/kg	**0.306 J**	**0.214 J**	**0.19 J**	**0.216 J**	**0.229 J**	**0.23 J**	0.188 UJ	**0.608**	**0.282 J**
Sodium	mg/kg	**62.4**	**63.3**	**92**	**43**	**35**	**35.4**	**41.1**	**24.6**	**52.9**
Thallium	mg/kg	**0.131**	**0.109**	**0.144**	**0.111**	**0.0973**	**0.117**	**0.113**	**0.114**	**0.111**
Vanadium	mg/kg	**12.9 J**	**12.1 J**	**15.7**	**13.4**	**13.6**	**15**	**12.3 J**	**11.5**	**14.4**
Zinc	mg/kg	**75.2**	**75.5**	**74**	**93**	**102**	**92.6**	**60.7 J**	**56.4**	**68**
Chromium, Hexavalent	mg/kg	0.274 UJ	0.272 UJ	**0.119 J**	0.262 U	0.275 U	0.278 U	0.214 U	0.249 U	0.0522 U

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Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	DB-10 (#1) Primary LL2SS-297M-1261-SO 06/24/08	DB-10 (#1) MI Duplicate LL2SS-297M-1263-SO 06/24/08	DB-10 (#1) Blind Duplicate LL2SS-297M-1264-SO 06/24/08	DB-10 (#2) LL2SS-298M-1265-SO 06/24/08	DB-10-VP1, -VP2 LL2SS-313M-1284-SO 10/28/08	DB-11 LL2SS-299M-1267-SO 06/19/08	DB-13 LL2SS-300M-1268-SO 06/19/08	DB-13A LL2SS-301M-1269-SO 06/19/08	DB-13B LL2SS-302M-1270-SO 06/19/08
Aluminum	mg/kg	**7360**	**7320**	**7250**	**6990**	**7920**	**8190**	**5700**	**5460**	**7730**
Arsenic	mg/kg	**17**	**11.3**	**11.6**	**10.8**	**8.34**	**9.6 J**	**9.92 J**	**9.46 J**	**8.64 J**
Barium	mg/kg	**44.7**	**50.1**	**45.9**	**50.5**	**77.8**	**57**	**33.6**	**33.8**	**68.4**
Beryllium	mg/kg	**0.382**	**0.428**	**0.403**	**0.412**	**0.815 J**	**0.473 J**	**0.324 J**	**0.345 J**	**0.763 J**
Cadmium	mg/kg	**0.453**	**0.454**	**0.508**	**0.603**	**1.03**	**0.704 J**	**0.473 J**	**0.526 J**	**0.536 J**
Calcium	mg/kg	**3700**	**6740**	**4270**	**10200**	**18500**	**4850**	**5440**	**5320**	**17400**
Chromium, Trivalent[(1)]	mg/kg	**9.8**	**9.58**	**11.5**	**9.61**	**32.7**	**15.8**	**10.6**	**11.7**	**14.4**
Cobalt	mg/kg	**6.44**	**6.08**	**6.79**	**6.04**	**4.35**	**6.14**	**5.02**	**4.99**	**5.8**
Copper	mg/kg	**22.6 J**	**22.7 J**	**24.8 J**	**23.6 J**	**21 J**	**24.7 J**	**17 J**	**15.9 J**	**19.3 J**
Iron	mg/kg	**21400**	**19300**	**21500**	**19200**	**14400**	**22200**	**16600**	**17100**	**17700**
Lead	mg/kg	**23.5 J**	**28.9 J**	**27 J**	**28.4 J**	**72.9**	**19.9**	**15.2**	**12.1**	**33**
Magnesium	mg/kg	**2130**	**2260**	**2150**	**2790**	**3400**	**2270**	**1970**	**2050**	**4000**
Manganese	mg/kg	**428**	**457**	**447**	**447**	**486**	**357**	**318**	**289**	**516**
Mercury	mg/kg	0.0106 U	0.0106 U	**0.0118 J**	**0.0148 J**	**0.0214 J**	**0.015 J**	**0.0219 J**	**0.015 J**	**0.0257 J**
Nickel	mg/kg	**20.3**	**17.6**	**27.8**	**21**	**55.2**	**29.1**	**22.2**	**21.9**	**37.6**
Potassium	mg/kg	**711**	**679**	**627**	**659**	**879**	**639**	**517**	**518**	**760**
Selenium	mg/kg	**0.312 J**	**0.308 J**	**0.357 J**	**0.279 J**	**0.629**	**0.25 J**	**0.179 J**	**0.152 J**	**0.33 J**
Silver	mg/kg	0.192 UJ	0.2 U	**0.504 J**	**0.311 J**	0.173 U	**1.5**	**0.507**	**0.275 J**	**3.34**
Sodium	mg/kg	**48.1**	**58.3**	**44.4**	**62**	**108**	**41.7**	**37.6**	**42.3**	**114**
Thallium	mg/kg	**0.125**	**0.126**	**0.157**	**0.119**	**0.105 J**	**0.122**	**0.103**	**0.0889**	**0.116**
Vanadium	mg/kg	**12.6 J**	**11.9 J**	**12.4 J**	**11.2 J**	**12.9**	**14.1**	**9.6**	**9.36**	**11**
Zinc	mg/kg	**80.9**	**86.8**	**88.2**	**87.7**	**88.1**	**84.2**	**59.3**	**60.7**	**81.7**
Chromium, Hexavalent	mg/kg	0.542 UJ	0.54 UJ	0.514 UJ	0.521 UJ	0.1 U	0.257 U	0.103 U	0.0511 U	0.0524 U

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Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-1
Chemicals Detected in Soil at Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	DB-19 LL2SS-303M-1271-SO 06/17/08	DB-20 LL2SS-304M-1272-SO 06/20/08	DB-25 LL2SS-306M-1277-SO 06/18/08	DB-26, DB-29 LL2SS-307M-1278-SO 06/19/08	DB-27, DB-27B LL2SS-308M-1279-SO 06/19/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-27C LL2SS-310M-1281-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08	DC-1 LL2SS-276M-1229-SO 06/20/08
Aluminum	mg/kg	**5820**	**6980**	**12800**	**5510**	**4750**	**6250**	**4820**	**10200**	**11300**	**6860**
Arsenic	mg/kg	**10**	**8.4 J**	**14.4 J**	**10.2 J**	**8.37 J**	**8.38 J**	**8.09 J**	**10.7 J**	**10.5**	**9.94 J**
Barium	mg/kg	**28.8**	**41.4**	**86.5**	**28.7**	**23.2**	**38.5**	**23.2**	**60.1**	**88.4**	**63.6**
Beryllium	mg/kg	**0.303**	**0.382 J**	**0.664**	**0.297 J**	**0.255 J**	**0.326 J**	**0.268 J**	**0.535**	**0.895 J**	**0.441 J**
Cadmium	mg/kg	**0.534 J**	**0.428 J**	**0.87**	**0.365 J**	**0.38 J**	**0.455 J**	**0.355 J**	**0.4**	**0.527**	**0.511 J**
Calcium	mg/kg	**2520**	**2890**	**8450**	**2060**	**1540**	**2890**	**2620**	**7660**	**18300**	**7450**
Chromium, Trivalent[(1)]	mg/kg	**8.44**	**11.1**	**29.6 J**	**9.59**	**9.85**	**11.5**	**6.52**	**56.7 J**	**46.3**	**12.1**
Cobalt	mg/kg	**5.33 J**	**5.68**	**9.34 J**	**4.38**	**3.93**	**5.35**	**3.44**	**7.03 J**	**7.31**	**5.89**
Copper	mg/kg	**24.2 J**	**18.1 J**	**33.3**	**12.7 J**	**13.9 J**	**19.4 J**	**12.7 J**	**41.1**	**53.2 J**	**20.2 J**
Iron	mg/kg	**16500 J**	**18400**	**28500 J**	**14000**	**14400**	**17300**	**13000**	**19300 J**	**22300**	**18800**
Lead	mg/kg	**16.1 J**	**18.8**	**74.8**	**89.2**	**9.04**	**9.06**	**8.59**	**17.9**	**21.8**	**26.5**
Magnesium	mg/kg	**1790**	**2060**	**4470**	**1260**	**1150**	**1790**	**1380**	**2580**	**3770**	**2560**
Manganese	mg/kg	**272 J**	**362**	**332 J**	**276**	**206**	**329**	**209**	**426 J**	**945**	**402**
Mercury	mg/kg	**0.0105 J**	**0.0173 J**	0.0105 U	**0.0204 J**	0.00991 U	**0.0123 J**	0.01 U	**0.0276 J**	**0.0278 J**	**0.114**
Nickel	mg/kg	**48.3 J**	**25.7**	**38.9 J**	**23.3**	**14**	**25.2**	**14.6**	**40.9 J**	**20.9**	**95.3**
Potassium	mg/kg	**567 J**	**436**	**1750 J**	**321**	**303**	**443**	**320**	**1260 J**	**1410**	**587**
Selenium	mg/kg	**0.165 J**	**0.206 J**	**0.215**	**0.277 J**	**0.135 J**	**0.19 J**	**0.132 J**	**0.368**	**0.502**	**0.286 J**
Silver	mg/kg	0.195 UJ	0.181 U	**0.29 J**	**0.31 J**	0.176 U	0.189 U	**0.23 J**	**0.206 J**	0.181 U	**0.208 J**
Sodium	mg/kg	**55.2**	**48.5**	**76.9**	**22.9**	**21.4**	**27.8**	**27.1**	**89.3**	**136**	**70.7**
Thallium	mg/kg	**0.0978**	**0.103**	**0.143**	**0.0998**	**0.064**	**0.075**	**0.0609**	**0.119**	**0.144 J**	**0.121**
Vanadium	mg/kg	**9.49 J**	**11.3**	**18.7**	**9.23**	**8.06**	**10.4**	**7.84**	**17.1**	**19.9**	**12.3**
Zinc	mg/kg	**57.2 J**	**57.6**	**157**	**50.8**	**52**	**60.9**	**44.7**	**68.1**	**70.8**	**81.8**
Chromium, Hexavalent	mg/kg	0.506 U	0.0501 U	0.107 U	0.0527 U	0.494 U	0.521 U	0.0508 U	0.0991 U	0.103 U	0.104 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Volatiles:

Parameter	Units	EB-3 Primary LL3SS-249D-1181-SO 06/24/08	EB-3 Blind Duplicate LL3SS-249D-1179-SO 06/24/08	EB-4-A LL3SS-256D-1192-SO 06/26/08	EB-10/10A LL3SS-266D-1206-SO 06/24/08
NO VOLATILE ORGANICS DETECTED					

Pesticides and PCBs:

Parameter	Units	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-3 LL3SS-249M-1178-SO 06/24/08	EB-4 (#1) LL3SS-250M-1182-SO 06/24/08	EB-4 (#2) LL3SS-251M-1183-SO 06/24/08	EB-4-A (#1) LL3SS-255M-1187-SO 06/26/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08
NO PESTICIDES DETECTED										
Aroclor-1254	ug/kg	**117**	8.25 U	**21.6 J**	**611**	**672 J**	**1070**	**1380 J**	**1390**	**1290**
Aroclor-1260	ug/kg	**53.2**	8.25 U	8.57 UJ	**233**	**253 J**	89.4 U	84.3 U	85.7 U	85.4 U

Parameter	Units	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08	EB-10/10A (#2) LL3SS-267M-1207-SO 06/25/08	EB-11 Primary LL3SS-268M-1208-SO 06/25/08	EB-11 MI Duplicate LL3SS-268M-1210-SO 06/25/08	EB-11 Blind Duplicate LL3SS-268M-1211-SO 06/25/08
NO PESTICIDES DETECTED						
Aroclor-1254	ug/kg	**42.4**	**169**	**49.8**	**49.9**	**63.8**
Aroclor-1260	ug/kg	**21.9**	8.54 U	8.51 U	8.66 U	8.36 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

Bold = The analyte was detected at the concentration shown.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Semivolatiles:

Parameter	Units	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EB-3 (#1) LL3SS-248M-1177-SO 06/24/08	EB-3 (#2) LL3SS-249M-1178-SO 06/24/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08	EB-4A-WS Primary LL3SS-258M-1194-SO 06/27/08	EB-4A-WS MI Duplicate LL3SS-258M-1196-SO 06/27/08	EB-4A-WS Blind Duplicate LL3SS-258M-1197-SO 06/27/08	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08
Acenaphthene	ug/kg	**238**	84.1 UJ	86 U	**225 J**	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Anthracene	ug/kg	**693**	84.1 UJ	86 U	**648**	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Benzo(a)anthracene	ug/kg	**2380**	84.1 UJ	86 U	**772**	**151 J**	**120 J**	81 U	**100 J**	**94.7 J**	**286**
Benzo(a)pyrene	ug/kg	**1820**	84.1 UJ	86 U	**622**	**140 J**	**112 J**	81 U	**97.7 J**	**92.4 J**	**268**
Benzo(b)fluoranthene	ug/kg	**1590 J**	84.1 UJ	86 U	**478**	**139 J**	**111 J**	81 UJ	**79.8 J**	85.3 UJ	**223**
Benzo(g,h,i)perylene	ug/kg	**820 J**	R	R	**218 J**	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 UJ
Benzo(k)fluoranthene	ug/kg	**1690**	84.1 UJ	86 U	**696**	**138 J**	**115 J**	81 U	**81.2 J**	85.3 UJ	**262**
Carbazole	ug/kg	**439**	84.1 UJ	86 U	**289 J**	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Chrysene	ug/kg	**2290**	84.1 UJ	86 U	**753**	**168 J**	**132 J**	81 U	**101 J**	**92.9 J**	**271**
Dibenzo(a,h)anthracene	ug/kg	**291 J**	84.1 UJ	86 UJ	172 UJ	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 UJ
Dibenzofuran	ug/kg	**91.8 J**	84.1 UJ	86 U	**189 J**	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Fluoranthene	ug/kg	**5570 J**	84.1 UJ	86 U	**2030**	**347**	**275 J**	**135 J**	**231 J**	**204 J**	**504**
Fluorene	ug/kg	**177**	84.1 UJ	86 U	**333 J**	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Indeno(1,2,3-cd)pyrene	ug/kg	**873 J**	84.1 UJ	86 UJ	**231 J**	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	**88 J**
Naphthalene	ug/kg	**143 J**	84.1 UJ	86 UJ	**176 J**	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Phenanthrene	ug/kg	**2270**	84.1 UJ	86 U	**2240**	**260**	**166 J**	**83.5 J**	**192**	**129 J**	**246**
Pyrene	ug/kg	**3930**	84.1 UJ	86 U	**1610**	**301**	**221 J**	**111 J**	**191**	**160 J**	**409**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Explosives and Propellants:

Parameter	Units	3-51, 3-51A, EB-20 LL3SS-246M-1175-SO 06/25/08	EA-5 LL3SS-259M-1198-SO 06/27/08	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-7 LL3SS-262M-1201-SO 06/26/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-2 LL3SS-247M-1176-SO 06/24/08	EB-3 (#1) LL3SS-248M-1177-SO 06/24/08	EB-3 (#2) LL3SS-249M-1178-SO 06/24/08	EB-4 (#1) LL3SS-250M-1182-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2,4,6-Trinitrotoluene	mg/kg	0.0997 U	0.0994 U	**0.628**	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	**0.842**
2,4-Dinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2,6-Dinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0997 U	0.0994 U	**0.196 J**	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0997 U	0.0994 U	**0.414**	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	**0.166 J**
HMX	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
RDX	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	**0.197 J**
Nitrocellulose	mg/kg	--	--	--	--	1.99 U	--	--	1.99 UJ	--

Parameter	Units	EB-4 (#2) LL3SS-251M-1183-SO 06/24/08	EB-4-A (#1) LL3SS-255M-1187-SO 06/26/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08	EB-4A-WN LL3SS-257M-1193-SO 06/27/08	EB-4A-WS Primary LL3SS-258M-1194-SO 06/27/08	EB-4A-WS MI Duplicate LL3SS-258M-1196-SO 06/27/08	EB-4A-WS Blind Duplicate LL3SS-258M-1197-SO 06/27/08
1,3,5-Trinitrobenzene	mg/kg	0.0997 U	0.1 U	2 U	10 U	0.993 U	**0.29**	0.1 U	0.0989 U	0.1 U
2,4,6-Trinitrotoluene	mg/kg	**1.8**	**6.62**	**51**	**295**	**28.7**	**52.1**	**40.9 J**	**5.25 J**	**20.5 J**
2,4-Dinitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	10 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2,6-Dinitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	**0.139 J**	**0.273**	2 U	10 U	0.993 U	**0.794**	**0.473 J**	**0.358 J**	**0.722 J**
4-Amino-2,6-dinitrotoluene	mg/kg	**0.279**	**0.705**	2 U	10 U	0.993 U	**1.93**	**1.37**	**1.03**	**1.74**
HMX	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
RDX	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
Nitrocellulose	mg/kg	--	--	**16**	**65.2**	**19.1**	--	--	--	--

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

NA = No CUG is available for this chemical.

-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Explosives and Propellants (cont'd):

Parameter	Units	EB-4-VP1, -4A-VP1, -10-VP1, -10-VP2 LL3SS-252M-1184-SO 06/26/08	EB-4-WS LL3SS-254M-1186-SO 06/25/08	EB-8, -8A, -22 LL3SS-263M-1202-SO 06/26/08	EB-9 LL3SS-264M-1203-SO 06/26/08	EB-9A LL3SS-265M-1204-SO 06/24/08	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08	EB-10/10A (#2) LL3SS-267M-1207-SO 06/25/08	EB-11 Primary LL3SS-268M-1208-SO 06/25/08	EB-11 MI Duplicate LL3SS-268M-1210-SO 06/25/08
1,3,5-Trinitrobenzene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	**0.219 J**	0.0996 U	0.1 U	0.0998 U	0.101 U
2,4,6-Trinitrotoluene	mg/kg	**0.277**	**0.989**	0.0993 U	0.099 U	**700**	0.0996 U	0.1 U	0.0998 U	0.101 U
2,4-Dinitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	**0.284**	0.0996 U	0.1 U	0.0998 U	0.101 U
2,6-Dinitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U	0.101 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	**1.76**	0.0996 U	0.1 U	0.0998 U	0.101 U
4-Amino-2,6-dinitrotoluene	mg/kg	**0.147 J**	**0.554**	0.0993 U	0.099 U	**4.55**	0.0996 U	0.1 U	0.0998 U	0.101 U
HMX	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	**0.854**	0.0996 U	0.1 U	0.0998 U	0.101 U
RDX	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	**6.42**	**0.449**	0.1 U	0.0998 U	0.101 U
Nitrocellulose	mg/kg	--	--	--	--	--	2 U	--	--	--

Parameter	Units	EB-11 Blind Duplicate LL3SS-268M-1211-SO 06/25/08	EB-13, EB-26 LL3SS-269M-1212-SO 06/25/08	EB-13A LL3SS-270M-1213-SO 06/25/08	EB-13B LL3SS-271M-1214-SO 06/25/08	EB-19 LL3SS-272M-1215-SO 06/24/08	EB-25 LL3SS-274M-1217-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**3.07**
2,4,6-Trinitrotoluene	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**3340**
2,4-Dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**1.72**
2,6-Dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**0.185 J**
2-Amino-4,6-dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**2.66**
4-Amino-2,6-dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**9.54**
HMX	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**73.4**
RDX	mg/kg	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	**831**
Nitrocellulose	mg/kg	--	--	--	--	--	--

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NA = No CUG is available for this chemical.

-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals:

Parameter	Units	3-51, 3-51A, EB-20 LL3SS-246M-1175-SO 06/25/08	EA-5 LL3SS-259M-1198-SO 06/27/08	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-7 LL3SS-262M-1201-SO 06/26/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-2 LL3SS-247M-1176-SO 06/24/08	EB-3 (#1) LL3SS-248M-1177-SO 06/24/08	EB-3 (#2) LL3SS-249M-1178-SO 06/24/08	EB-4 (#1) LL3SS-250M-1182-SO 06/24/08
Aluminum	mg/kg	**9100**	**9770**	**8330**	**6850**	**5950**	**5810**	**7140**	**5500**	**6410**
Antimony	mg/kg	**0.266 J**	R	R	R	R	R	R	R	R
Arsenic	mg/kg	**9.31 J**	**11.9 J**	**10.5 J**	**11.5 J**	**10.9 J**	**11.8**	**11.1**	**10.1**	**10.4**
Barium	mg/kg	**94.4**	**51.5**	**40.9**	**35.3**	**32.1**	**32.3**	**38.7**	**29.4**	**41.7**
Beryllium	mg/kg	**0.767**	**0.485**	**0.439**	**0.354**	**0.314**	**0.327**	**0.37**	**0.298**	**0.363**
Cadmium	mg/kg	**0.569**	**0.442**	**0.535**	**0.329**	**0.354**	**0.403**	**0.366**	**0.318**	**0.479**
Calcium	mg/kg	**20100**	**2490**	**3710**	**2400**	**3710**	**5620**	**3280**	**2120**	**8490**
Chromium, Trivalent[(1)]	mg/kg	**10.7**	**13.5 J**	**12.2 J**	**13**	**9.89**	**8.11**	**10.4**	**8.12**	**11.8**
Cobalt	mg/kg	**4.7**	**7.95 J**	**7.51 J**	**6.01**	**6.05**	**5.86**	**6.45**	**5.15**	**5.91**
Copper	mg/kg	**14.1 J**	**17.3**	**18.7**	**17.8 J**	**20.5 J**	**20.7 J**	**18.6 J**	**17.8 J**	**20.7 J**
Iron	mg/kg	**15600**	**20800 J**	**19700 J**	**17500**	**17200**	**18000**	**18500**	**16300**	**17800**
Lead	mg/kg	**21.8 J**	**25.8**	**16.3**	**14.9 J**	**12.7 J**	**18 J**	**27.6 J**	**14 J**	**32.5 J**
Magnesium	mg/kg	**3740**	**2620**	**2470**	**2100**	**2240**	**2230**	**2460**	**1600**	**2320**
Manganese	mg/kg	**1060 J**	**396 J**	**370 J**	**320 J**	**338 J**	**351**	**318**	**278**	**363**
Mercury	mg/kg	**0.0264 J**	**0.0191 J**	**0.0173 J**	**0.0141 J**	**0.0175 J**	0.0107 U	**0.0148 J**	0.0105 U	0.01 U
Nickel	mg/kg	**13.9 J**	**25.5 J**	**21.7 J**	**18.4 J**	**26.9 J**	**17.3**	**25.3**	**23.7**	**18**
Potassium	mg/kg	**783 J**	**825 J**	**776 J**	**655 J**	**654 J**	**392**	**566**	**484**	**686**
Selenium	mg/kg	**0.344 J**	**0.235 J**	**0.258 J**	**0.217 J**	**0.297 J**	**0.262 J**	**0.282 J**	**0.22 J**	**0.199 J**
Silver	mg/kg	**0.961**	**0.375 J**	**0.247 J**	**0.223 J**	**0.251 J**	0.2 U	0.191 U	**0.285 J**	**0.21 J**
Sodium	mg/kg	**130**	**38.5**	**50.8**	**33.9**	**33.8**	**31.6**	**29.9**	**31.2**	**62.1**
Thallium	mg/kg	**0.0927**	**0.137**	**0.131**	**0.104**	**0.121**	**0.11**	**0.149**	**0.112**	**0.109**
Vanadium	mg/kg	**12.8**	**15.7**	**13.1**	**12**	**10.7**	**9.52 J**	**11.4 J**	**9.33 J**	**10.3 J**
Zinc	mg/kg	**71.4**	**66.5 J**	**67.8 J**	**57**	**69**	**78.8**	**61.2**	**58.7**	**73.5**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	EB-4 (#2) LL3SS-251M-1183-SO 06/24/08	EB-4-A (#1) LL3SS-255M-1187-SO 06/26/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08	EB-4A-WN LL3SS-257M-1193-SO 06/27/08	EB-4A-WS Primary LL3SS-258M-1194-SO 06/27/08	EB-4A-WS MI Duplicate LL3SS-258M-1196-SO 06/27/08	EB-4A-WS Blind Duplicate LL3SS-258M-1197-SO 06/27/08
Aluminum	mg/kg	**5850**	**12500**	**9700**	**10800**	**12100**	**13600**	**9340**	**7160**	**10200**
Antimony	mg/kg	R	R	R	R	R	R	R	R	**0.0662 J**
Arsenic	mg/kg	**10.4**	**9.22 J**	**9.26 J**	**9.38 J**	**10.1 J**	**10.7 J**	**9.77 J**	**9.79 J**	**10.5 J**
Barium	mg/kg	**35.5**	**87.1**	**65.6**	**71.9**	**79.9**	**72.3**	**46.8**	**37**	**50.2**
Beryllium	mg/kg	**0.334**	**0.779**	**0.581**	**0.647**	**0.772**	**0.776**	**0.534**	**0.411**	**0.538**
Cadmium	mg/kg	**0.398**	**1.04**	**0.837**	**0.887**	**0.968**	**0.959**	**0.678**	**0.573**	**0.78**
Calcium	mg/kg	**6080**	**21900**	**10400**	**12100**	**17400**	**6080**	**4790**	**3340**	**5930**
Chromium, Trivalent[(1)]	mg/kg	**8.32**	**17.2**	**13.4**	**15.7**	**16.1**	**19.4 J**	**12.8 J**	**10.4 J**	**14.8 J**
Cobalt	mg/kg	**5.23**	**7.39**	**6.57**	**6.63**	**8.3**	**9.49 J**	**6.56 J**	**5.65 J**	**6.68 J**
Copper	mg/kg	**17.4 J**	**22.6 J**	**24 J**	**22.3 J**	**24.9 J**	**24.4**	**19.5**	**17.8**	**21.1**
Iron	mg/kg	**15300**	**22100**	**19600**	**19800**	**22100**	**25700 J**	**19500 J**	**17800 J**	**25000 J**
Lead	mg/kg	**16.8 J**	**33.9 J**	**33.7 J**	**76.2 J**	**30.2 J**	**34.5**	**28.3**	**20.4**	**33.4**
Magnesium	mg/kg	**2170**	**3930**	**2980**	**3310**	**4370**	**3530**	**2530**	**1980**	**2810**
Manganese	mg/kg	**337**	**464 J**	**357 J**	**380 J**	**445 J**	**369 J**	**304 J**	**285 J**	**305 J**
Mercury	mg/kg	0.0101 U	**0.0303 J**	**0.0194 J**	**0.0307 J**	**0.025 J**	**0.0386 J**	**0.0172 J**	**0.0119 J**	**0.0259 J**
Nickel	mg/kg	**17.8**	**22.2 J**	**18.8 J**	**18 J**	**21.8 J**	**30.4 J**	**21.2 J**	**19.7 J**	**20.8 J**
Potassium	mg/kg	**616**	**1220 J**	**1040 J**	**1210 J**	**1340 J**	**1600 J**	**889 J**	**632 J**	**1090 J**
Selenium	mg/kg	**0.216 J**	**0.305 J**	**0.332 J**	**0.325 J**	**0.365 J**	**0.223 J**	**0.173 J**	**0.177 J**	**0.218 J**
Silver	mg/kg	0.205 U	**0.337 J**	**0.259 J**	**0.308 J**	**0.315 J**	**0.324 J**	**0.352 J**	0.19 U	**0.291 J**
Sodium	mg/kg	**49.2**	**222**	**114**	**131**	**168**	**83**	**60.4**	**43.9**	**73.6**
Thallium	mg/kg	**0.103**	**0.106**	**0.106**	**0.0935**	**0.108**	**0.156**	**0.103**	**0.0881**	**0.103**
Vanadium	mg/kg	**9.06 J**	**17.2**	**14.5**	**15.7**	**16.8**	**20.1**	**14.3**	**11.4**	**16**
Zinc	mg/kg	**58.9**	**87**	**104**	**86.8**	**89.9**	**94.5 J**	**74.1 J**	**70 J**	**88.2 J**

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R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	EB-4-VP1, -4A-VP1, -10-VP1, -10-VP2 LL3SS-252M-1184-SO 06/26/08	EB-4-WS LL3SS-254M-1186-SO 06/25/08	EB-8, -8A, -22 LL3SS-263M-1202-SO 06/26/08	EB-9 LL3SS-264M-1203-SO 06/26/08	EB-9A LL3SS-265M-1204-SO 06/24/08	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08	EB-10/10A (#2) LL3SS-267M-1207-SO 06/25/08	EB-11 Primary LL3SS-268M-1208-SO 06/25/08
Aluminum	mg/kg	**5950**	**9460**	**9910**	**5700**	**10200**	**5060**	**6660**	**10900**
Antimony	mg/kg	R	R	R	R	R	R	R	R
Arsenic	mg/kg	**7.87 J**	**11.4 J**	**10.1 J**	**8.54 J**	**10.3**	**10.9 J**	**12.4 J**	**9.42 J**
Barium	mg/kg	**39.5**	**74.9**	**63.5**	**28.7**	**67.9**	**22.5**	**39.1**	**65.6**
Beryllium	mg/kg	**0.362**	**0.545**	**0.516**	**0.287**	**0.636**	**0.272**	**0.366**	**0.571**
Cadmium	mg/kg	**0.452**	**0.841**	**0.465**	**0.327**	**0.628**	**0.285**	**0.416**	**0.553**
Calcium	mg/kg	**4620**	**11400**	**5300**	**2290**	**4020**	**1500**	**4770**	**2920**
Chromium, Trivalent(1)	mg/kg	**8.14**	**16.4**	**13.3**	**10.7**	**19.6**	**8.58**	**11.3**	**15.6**
Cobalt	mg/kg	**4.35**	**8.73**	**7.45**	**5.39**	**8.31**	**4.49**	**6.06**	**8.16**
Copper	mg/kg	**14.7 J**	**22 J**	**18.6 J**	**17.6 J**	**17.4 J**	**17.4 J**	**20.8 J**	**17.6 J**
Iron	mg/kg	**14800**	**20800**	**19400**	**15900**	**22600**	**16400**	**17800**	**21700**
Lead	mg/kg	**17.8 J**	**53.2**	**33.5 J**	**11.7 J**	**31.7 J**	**12.8 J**	**19.5 J**	**22.4 J**
Magnesium	mg/kg	**1650**	**3510**	**2620**	**1920**	**2360**	**1300**	**2030**	**2380**
Manganese	mg/kg	**307 J**	**361 J**	**416 J**	**304 J**	**454**	**300 J**	**366 J**	**455 J**
Mercury	mg/kg	**0.0161 J**	**0.0142 J**	**0.0288 J**	**0.0165 J**	**0.034 J**	**0.0164 J**	**0.0226 J**	**0.036 J**
Nickel	mg/kg	**14.6 J**	**26.7 J**	**22.2 J**	**14.3 J**	**21.5**	**30.2 J**	**24.8 J**	**31.2 J**
Potassium	mg/kg	**494 J**	**1040 J**	**1130 J**	**519 J**	**831**	**416 J**	**747 J**	**934 J**
Selenium	mg/kg	**0.387 J**	**0.323 J**	**0.456 J**	**0.218 J**	**0.332 J**	**0.228 J**	**0.585 J**	**0.384 J**
Silver	mg/kg	0.193 U	**0.263 J**	**0.274 J**	**0.715**	**0.296 J**	**3.77**	**3.73**	**0.36 J**
Sodium	mg/kg	**36.8**	**70.1**	**70.4**	**26**	**49**	**25.6**	**49.5**	**40.1**
Thallium	mg/kg	**0.0898**	**0.11**	**0.123**	**0.0959**	**0.131**	**0.0825**	**0.112**	**0.122**
Vanadium	mg/kg	**9.86**	**14**	**15.5**	**9.75**	**16.8 J**	**8.85**	**11**	**18.4**
Zinc	mg/kg	**62**	**104**	**77.2**	**58.4**	**83.7**	**55.2**	**71.5**	**70.6**

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Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-2
Chemicals Detected in Soil at Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	EB-11 MI Duplicate LL3SS-268M-1210-SO 06/25/08	EB-11 Blind Duplicate LL3SS-268M-1211-SO 06/25/08	EB-13, EB-26 LL3SS-269M-1212-SO 06/25/08	EB-13A LL3SS-270M-1213-SO 06/25/08	EB-13B LL3SS-271M-1214-SO 06/25/08	EB-19 LL3SS-272M-1215-SO 06/24/08	EB-25 LL3SS-274M-1217-SO 06/24/08
Aluminum	mg/kg	**11300**	**11400**	**6400**	**7360**	**4780**	**7250**	**7890**
Antimony	mg/kg	R	R	R	R	R	R	R
Arsenic	mg/kg	**10.3 J**	**9.22 J**	**9.3 J**	**11.2 J**	**7.09 J**	**10.9**	**9.96**
Barium	mg/kg	**61.7**	**62.2**	**32.7**	**83.1**	**56.6**	**43.7**	**54.9**
Beryllium	mg/kg	**0.55**	**0.582**	**0.334**	**0.509**	**0.408**	**0.471**	**0.594**
Cadmium	mg/kg	**0.491**	**0.483**	**0.327**	**0.526**	**0.605**	**0.479**	**0.558**
Calcium	mg/kg	**2710**	**2920**	**1450**	**7830**	**6530**	**4300**	**6910**
Chromium, Trivalent[(1)]	mg/kg	**17.7**	**15.6**	**9.21**	**12.1**	**9.52**	**11.4**	**28.4**
Cobalt	mg/kg	**7.98**	**8.04**	**6.18**	**5.64**	**4.78**	**6.19**	**6.98**
Copper	mg/kg	**17.7 J**	**17.9 J**	**19.6 J**	**17.3 J**	**14.2 J**	**20.2 J**	**26.4 J**
Iron	mg/kg	**20500**	**21600**	**17000**	**17000**	**13500**	**18500**	**19500**
Lead	mg/kg	**23.7 J**	**26.9 J**	**20.9 J**	**77.9**	**20.4 J**	**30 J**	**154 J**
Magnesium	mg/kg	**2480**	**2480**	**1730**	**2180**	**1810**	**2110**	**2260**
Manganese	mg/kg	**428 J**	**429 J**	**334 J**	**434 J**	**413 J**	**338**	**470**
Mercury	mg/kg	**0.0284 J**	**0.0311 J**	**0.0207 J**	**0.0495 J**	**0.0741 J**	**0.0113 J**	**0.0572 J**
Nickel	mg/kg	**28.3 J**	**28.2 J**	**15 J**	**14.8 J**	**15.5 J**	**42.2**	**30.6**
Potassium	mg/kg	**1090 J**	**1030 J**	**543 J**	**686 J**	**506 J**	**573**	**601**
Selenium	mg/kg	**0.334 J**	**0.331 J**	**0.335 J**	**0.392 J**	**0.27 J**	**0.261 J**	**0.316 J**
Silver	mg/kg	**0.196 J**	**0.353**	0.189 U	**0.251 J**	**0.287 J**	**0.322 J**	**0.254 J**
Sodium	mg/kg	**44.5**	**42.8**	**28.2**	**74.6**	**65.2**	**41.4**	**57.3**
Thallium	mg/kg	**0.126**	**0.132**	**0.108**	**0.0804**	**0.0586**	**0.114**	**0.104**
Vanadium	mg/kg	**18.8**	**19**	**10.8**	**11.6**	**8.05**	**11.2 J**	**12.6 J**
Zinc	mg/kg	**66.4**	**68.7**	**59.4**	**93.9**	**79.2**	**75.4**	**98.2**

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Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-3
Chemicals Detected in Soil at Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Volatiles:

Parameter	Units	G-2 Primary LL4SS-201D-1185-SO 06/27/08	G-2 Blind Duplicate LL4SS-201D-1187-SO 06/27/08	G-4 LL4SS-202D-1189-SO 06/27/08	G-18 LL4SS-219D-1216-SO 06/27/08
NO VOLATILE ORGANICS DETECTED					

Pesticides and PCBs:

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-9 Primary LL4SS-209M-1196-SO 07/01/08	G-9 MI Duplicate LL4SS-209M-1198-SO 07/01/08	G-9 Blind Duplicate LL4SS-209M-1199-SO 07/01/08	G-12 Primary LL4SS-212M-1202-SO 07/01/08	G-12 MI Duplicate LL4SS-212M-1204-SO 07/01/08	G-12 Blind Duplicate LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08
4,4'-DDT	ug/kg	0.333 U	0.336 U	**2.54 J**	1.64 U	1.64 U	--	--	--	0.333 U
alpha Chlordane	ug/kg	0.333 U	0.336 U	**43.8 J**	**14.7 J**	**20 J**	--	--	--	0.333 U
alpha-BHC	ug/kg	0.333 U	**1.1 J**	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U
gamma Chlordane	ug/kg	0.333 U	0.336 U	**23.1 J**	**10.7 J**	**13 J**	--	--	--	0.333 U
Heptachlor epoxide	ug/kg	0.333 U	0.336 U	**2.8 J**	1.64 U	1.64 U	--	--	--	0.333 U
Aroclor-1254	ug/kg	**23.5**	**54.6**	--	--	--	**45.3 J**	**21.9 J**	**26.9**	**129**
Aroclor-1260	ug/kg	**10.6 J**	**19.3**	--	--	--	**51.7 J**	**29.4**	**32.3**	**44.5**

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-3
Chemicals Detected in Soil at Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Semivolatiles:

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-8 (#1) LL4SS-206M-1193-SO 07/01/08	G-8 (#2) LL4SS-207M-1194-SO 07/01/08	G-12 Primary LL4SS-212M-1202-SO 07/01/08	G-12 MI Duplicate LL4SS-212M-1204-SO 07/01/08	G-12 Blind Duplicate LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08
Acenaphthene	ug/kg	80.8 U	84.2 U	**568 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Anthracene	ug/kg	80.8 U	84.2 U	**1400 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Benzo(a)anthracene	ug/kg	80.8 U	**111 J**	**2020 J**	82.3 UJ	82.6 UJ	**153 J**	81.7 UJ	**382**
Benzo(a)pyrene	ug/kg	80.8 U	**109 J**	**2000 J**	82.3 UJ	82.6 UJ	**163 J**	81.7 UJ	**325 J**
Benzo(b)fluoranthene	ug/kg	80.8 UJ	**93.2 J**	**1940 J**	82.3 UJ	**86.7 J**	**178 J**	**82.9 J**	**291 J**
Benzo(g,h,i)perylene	ug/kg	80.8 UJ	84.2 UJ	**796 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	**182 J**
Benzo(k)fluoranthene	ug/kg	80.8 U	**95.4 J**	**2040 J**	82.3 UJ	82.6 UJ	**182 J**	81.7 UJ	**319 J**
Carbazole	ug/kg	80.8 U	84.2 U	**809 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Chrysene	ug/kg	80.8 U	**119 J**	**2080 J**	82.3 UJ	82.6 UJ	**177 J**	81.7 UJ	**353**
Dibenzo(a,h)anthracene	ug/kg	80.8 UJ	84.2 UJ	**327 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ
Diethylphthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	**196 J**	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Fluoranthene	ug/kg	80.8 U	**223 J**	**5330 J**	82.3 UJ	**82.7 J**	**387 J**	**154 J**	**717 J**
Fluorene	ug/kg	80.8 U	84.2 U	**597 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Indeno(1,2,3-cd)pyrene	ug/kg	80.8 UJ	84.2 UJ	**799 J**	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	**187 J**
Phenanthrene	ug/kg	80.8 U	**138 J**	**4010 J**	82.3 UJ	82.6 UJ	**182 J**	81.7 UJ	**190 J**
Pyrene	ug/kg	80.8 U	**187**	**4220 J**	82.3 UJ	82.6 UJ	**308 J**	**125 J**	**590**

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

Bold = The analyte was detected at the concentration shown.

Table 3-3
Chemicals Detected in Soil at Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Explosives and Propellants:

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-18 LL4SS-219M-1215-SO 06/27/08	G-11 LL4SS-211M-1201-SO 10/28/08	G-15 LL4SS-216M-1209-SO 10/28/08	G-19 (#1) Primary LL4SS-220M-1217-SO 07/02/08	G-19 (#1) MI Duplicate LL4SS-220M-1221-SO 07/02/08	G-19 (#1) Blind Duplicate LL4SS-220M-1222-SO 07/02/08	G-19 (#2) LL4SS-221M-1218-SO 07/02/08
NO EXPLOSIVES DETECTED										
Nitrocellulose	mg/kg	**7.06**	**2.3**	1.95 U	**--**	**5.01**	2 U	1.97 U	1.99 U	1.99 U

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-- = Analysis not requested.

Bold = The analyte was detected at the concentration shown.

Table 3-3
Chemicals Detected in Soil at Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals:

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-5, G-20 LL4SS-203M-1190-SO 06/30/08	G-6, G-6A LL4SS-204M-1191-SO 06/30/08	G-7, G-14 LL4SS-205M-1192-SO 06/30/08	G-8 (#1) LL4SS-206M-1193-SO 07/01/08	G-8 (#2) LL4SS-207M-1194-SO 07/01/08	G-8-VP1, -12-VP1, -13-VP1, -13-VP2 LL4SS-208M-1195-SO 06/30/08	G-9 Primary LL4SS-209M-1196-SO 07/01/08	G-9 MI Duplicate LL4SS-209M-1198-SO 07/01/08
Aluminum	mg/kg	**6700**	**10800**	**12900**	**9630**	**9840**	**6510**	**7930**	**5560**	**11000**	**8630**
Antimony	mg/kg	R	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	**10.9 J**	**10.3 J**	**9.36 J**	**8.86 J**	**11.2 J**	**10 J**	**10.5 J**	**5.06 J**	**10.7 J**	**10.9 J**
Barium	mg/kg	**43.3**	**53.7**	**78.4**	**56.4**	**54.9**	**41.4**	**49**	**40.2**	**73.2**	**60.5**
Beryllium	mg/kg	**0.36**	**0.518**	**0.724**	**0.555**	**0.525**	**0.392**	**0.46**	**0.315**	**0.666**	**0.551**
Cadmium	mg/kg	**0.698**	**0.541**	**0.533 J**	**0.581 J**	**0.46 J**	**0.544 J**	**0.545 J**	**1.64 J**	**0.543 J**	**0.496 J**
Calcium	mg/kg	**6970**	**13000 J**	**12500**	**23300**	**8560**	**21800**	**25700**	**8310**	**9900**	**8580**
Chromium, Trivalent(1)	mg/kg	**10.7 J**	**15.7 J**	**15.8**	**12.4**	**14.8**	**11.3**	**11.9**	**7.75**	**14.8**	**13.2**
Cobalt	mg/kg	**5.64 J**	**6.68 J**	**5.96**	**6.03**	**8.95**	**5.91**	**6.9**	**4.27**	**7.71**	**7.39**
Copper	mg/kg	**22.6**	**19.8**	**15.9**	**19.8**	**23.3**	**21.3**	**21**	**14.5**	**22.9**	**19.2**
Iron	mg/kg	**18900 J**	**24300 J**	**22700**	**24400**	**24500**	**19400**	**21100**	**12900**	**22200**	**19500**
Lead	mg/kg	**36.5**	**25.7**	**29**	**27.2**	**14.9**	**36**	**19.2**	**15.9**	**17.6**	**20.1**
Magnesium	mg/kg	**3090**	**5110**	**3820**	**7240**	**4470**	**4600**	**6560**	**2100**	**3820**	**3230**
Manganese	mg/kg	**346 J**	**343 J**	**460**	**421**	**306**	**327**	**373**	**254**	**512**	**458**
Mercury	mg/kg	**0.0276 J**	**0.0644 J**	**0.0318 J**	**0.0203 J**	0.00994 UJ	**0.0168 J**	**0.0125 J**	**0.0164 J**	**0.0217 J**	**0.0204 J**
Nickel	mg/kg	**20.5 J**	**28.3 J**	**27.8**	**23.9**	**26**	**20.1**	**31.6**	**12.8**	**29.2**	**32.3**
Potassium	mg/kg	**853 J**	**1000 J**	**1060**	**963**	**1160**	**715**	**879**	**483**	**1150**	**838**
Selenium	mg/kg	**0.221 J**	**0.203 J**	**0.33 J**	**0.219 J**	**0.104 J**	**0.159 J**	**0.145 J**	**0.195 J**	**0.265 J**	**0.309 J**
Silver	mg/kg	0.193 U	**0.336 J**	**0.397**	**0.399**	**0.369 J**	**0.301 J**	**0.45**	**0.215 J**	**0.589**	**0.623**
Sodium	mg/kg	**39.5**	**90.4**	72.6 U	85.3 U	54.8 U	46 U	54.3 U	41.2 U	71.9 U	53.3 U
Thallium	mg/kg	**0.116**	**0.138**	**0.141**	**0.128**	**0.14**	**0.116**	**0.118**	**0.0753**	**0.139**	**0.136**
Vanadium	mg/kg	**12**	**18**	**20.2**	**15.8**	**14.6**	**11.3**	**13.2**	**8.89**	**16.8**	**13.1**
Zinc	mg/kg	**89.4 J**	**77.4 J**	**88.6**	**75.6**	**69.6**	**90**	**67.8**	**72**	**86.8**	**70.2**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-3
Chemicals Detected in Soil at Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	G-9 Blind Duplicate LL4SS-209M-1199-SO 07/01/08	G-10 LL4SS-210M-1200-SO 07/01/08	G-11 LL4SS-211M-1201-SO 10/28/08	G-12 Primary LL4SS-212M-1202-SO 07/01/08	G-12 MI Duplicate LL4SS-212M-1204-SO 07/01/08	G-12 Blind Duplicate LL4SS-212M-1205-SO 07/01/08	G-12A LL4SS-213M-1206-SO 07/01/08	G-13 LL4SS-214M-1207-SO 07/01/08	G-13A LL4SS-215M-1208-SO 07/01/08	G-15 LL4SS-216M-1209-SO 10/28/08
Aluminum	mg/kg	**11700**	**8190**	**7740**	**6610**	**6330**	**7290**	**7540**	**6540**	**6910**	**11000**
Antimony	mg/kg	R	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	**9.02 J**	**15.1 J**	**16.3**	**17.2 J**	**14.5 J**	**15 J**	**14.3 J**	**7.19 J**	**7.26 J**	**10.9**
Barium	mg/kg	**82.8**	**46.5**	**44.9**	**37**	**37.8**	**39.1**	**38.7**	**43**	**40.3**	**76.2**
Beryllium	mg/kg	**0.738**	**0.416**	**0.399 J**	**0.354**	**0.35**	**0.396**	**0.367**	**0.361**	**0.375**	**0.687 J**
Cadmium	mg/kg	**0.502 J**	**0.581 J**	**0.497**	**0.474 J**	**0.446 J**	**0.458 J**	**0.534 J**	**0.412 J**	**0.417 J**	**0.57**
Calcium	mg/kg	**12000**	**5690**	**5340**	**6280**	**9990**	**6940**	**1610**	**11100**	**4650**	**2820**
Chromium, Trivalent(1)	mg/kg	**13.5**	**11.3**	**16.3**	**10.3**	**9.12**	**11.5**	**11.1**	**9.45**	**10.1**	**16.4**
Cobalt	mg/kg	**7.53**	**7.28**	**5.99**	**7.16**	**6.96**	**7.95**	**6.65**	**5.11**	**5.69**	**9.7**
Copper	mg/kg	**18.6**	**26.3**	**20.8 J**	**24.3**	**24.2**	**23.9**	**22.2**	**18.4**	**16.3**	**20.8 J**
Iron	mg/kg	**20700**	**22000**	**19000**	**20600**	**19500**	**21600**	**23100**	**15000**	**17900**	**25000**
Lead	mg/kg	**16.2**	**22.1**	**25.1**	**24.2**	**25.8**	**21.9**	**21.4**	**16.1**	**12.6**	**16.5**
Magnesium	mg/kg	**3960**	**2760**	**2940**	**3530**	**3390**	**3330**	**2040**	**2910**	**2230**	**3610**
Manganese	mg/kg	**535**	**462**	**329**	**402**	**376**	**449**	**381**	**284**	**261**	**317**
Mercury	mg/kg	**0.0172 J**	**0.0131 J**	**0.0163 J**	**0.0156 J**	**0.0162 J**	**0.0126 J**	**0.0113 J**	**0.0119 J**	**0.0151 J**	**0.0109 J**
Nickel	mg/kg	**24.4**	**26.3**	**34.3**	**26 J**	**27.2**	**73.6 J**	**85.6**	**20.7**	**16.3**	**34**
Potassium	mg/kg	**1160**	**670 J**	**853**	**713**	**678**	**766**	**697 J**	**688 J**	**646 J**	**1320**
Selenium	mg/kg	**0.284 J**	**0.292 J**	**0.366**	**0.23 J**	**0.261 J**	**0.236 J**	**0.301 J**	**0.192 J**	**0.16 J**	**0.362**
Silver	mg/kg	**0.429**	**0.367 J**	0.188 U	**0.512**	**0.227 J**	**0.348 J**	**0.24 J**	**1.64**	**0.218 J**	0.184 U
Sodium	mg/kg	83.3 U	**30**	36.6 U	32.9 U	31.7 U	36.9 U	**23.6**	**43.9**	**46.9**	37.8 U
Thallium	mg/kg	**0.121**	**0.154**	**0.164 J**	**0.164**	**0.165**	**0.149**	**0.156**	**0.0916**	**0.0981**	**0.161 J**
Vanadium	mg/kg	**16.4**	**12.9**	**14.8**	**11.5**	**10.9**	**12.9**	**12.4**	**10.5**	**11**	**21.1**
Zinc	mg/kg	**67.5**	**95**	**72.2**	**91.2**	**84.7**	**91.6**	**84.4**	**62.4**	**70.6**	**70.3**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could nc be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-3
Chemicals Detected in Soil at Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Metals (cont'd):

Parameter	Units	G-16 LL4SS-217M-1213-SO 07/01/08	G-17 LL4SS-218M-1214-SO 07/02/08	G-18 LL4SS-219M-1215-SO 06/27/08	G-19 (#1) Primary LL4SS-220M-1217-SO 07/02/08	G-19 (#1) MI Duplicate LL4SS-220M-1221-SO 07/02/08	G-19 (#1) Blind Duplicate LL4SS-220M-1222-SO 07/02/08	G-19 (#2) LL4SS-221M-1218-SO 07/02/08	G-19A LL4SS-222M-1219-SO 07/02/08
Aluminum	mg/kg	**15400**	**12100**	**9710**	**5330**	**5400**	**5270**	**5550**	**5260**
Antimony	mg/kg	R	R	R	R	R	R	R	**0.0526 J**
Arsenic	mg/kg	**10.3 J**	**8.23**	**5.41 J**	**7.99**	**7.85**	**7.98**	**5.93**	**7.68 J**
Barium	mg/kg	**81.1**	**58.4**	**45.5**	**19**	**19.4**	**17.9**	**18**	**18.8**
Beryllium	mg/kg	**0.771**	**0.514**	**0.433**	**0.231**	**0.232**	**0.226**	**0.218**	**0.224**
Cadmium	mg/kg	**0.482 J**	**0.551**	**0.352**	**0.331**	**0.346**	**0.329**	**0.263**	**0.335**
Calcium	mg/kg	**4890**	**5220**	**5370**	**1000**	**820**	**824**	**2130**	**2510**
Chromium, Trivalent(1)	mg/kg	**19.8**	**15.2**	**13.8 J**	**6.67**	**6.86**	**6.61**	**7.05**	**6.88**
Cobalt	mg/kg	**9.01**	**6.18**	**5.6 J**	**3.23**	**3.39**	**3.2**	**2.95**	**3.09**
Copper	mg/kg	**21.2**	**17.9**	**18.1**	**16.8**	**17.5**	**17.6**	**14.8**	**15.8**
Iron	mg/kg	**27400**	**21700**	**17500 J**	**12900**	**13400**	**12900**	**10900**	**12500**
Lead	mg/kg	**19**	**26.7**	**39.6**	**11.6**	**12**	**12.4**	**11.3**	**11.2**
Magnesium	mg/kg	**3790**	**2860 J**	**2680**	**1170 J**	**1110 J**	**1090 J**	**1370 J**	**1310 J**
Manganese	mg/kg	**332**	**267**	**214 J**	**131**	**134**	**122**	**110**	**154**
Mercury	mg/kg	**0.0198 J**	**0.0333 J**	**0.0146 J**	0.01 U	**0.0125 J**	0.0104 U	**0.0168 J**	0.0101 U
Nickel	mg/kg	**24.3**	**82.5**	**20.4 J**	**12.4**	**12.4**	**19**	**16.2**	**15.2**
Potassium	mg/kg	**1820 J**	**1120**	**800 J**	**427**	**370**	**326**	**475**	**470**
Selenium	mg/kg	**0.28 J**	**0.323**	**0.19 J**	**0.138 J**	**0.166 J**	**0.18 J**	**0.167 J**	0.101 U
Silver	mg/kg	**0.349 J**	**0.192 J**	**0.22 J**	0.193 U	0.187 U	0.198 U	**0.199 J**	0.188 U
Sodium	mg/kg	**59.6**	46.2 U	**44.4**	23.1 U	21 U	19.8 U	27.2 U	26.9 U
Thallium	mg/kg	**0.172**	**0.136**	**0.112**	**0.0741**	**0.0777**	**0.0738**	**0.0809**	**0.0662**
Vanadium	mg/kg	**22.7 J**	**18.9 J**	**13.7**	**8.43 J**	**8.4 J**	**7.84 J**	**7.9 J**	**8.2 J**
Zinc	mg/kg	**77**	**68.5**	**68.8 J**	**48.7**	**49.7**	**47.6**	**38.4**	**45.8**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Bold = The analyte was detected at the concentration shown.

(1) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 3-4
Chemicals Detected in Surface Water Samples
Ravenna Army Ammunition Plant
Ravenna, Ohio

			Load Line 2			Load Line 4
		DB-4-VP1	DB-4A-VP1	DB-802	G-11	G-15
		LL2SS-283D-1286-SW	LL2SS-283D-1287-SW	LL2SS-311D-1285-SW	LL4SS-211D-1289-SW	LL4SS-216D-1288-SW
Parameter	**Units**	**10/28/08**	**10/28/08**	**10/28/08**	**10/28/08**	**10/28/08**
Explosives:						
HMX	ug/L	0.25 UJ	**3.44**	**0.512 J**	0.25 U	0.258 U
RDX	ug/L	0.25 UJ	**2.49**	0.25 U	0.25 U	0.258 U
Metals:						
Aluminum	ug/L	**39,100**	**4,470**	**980**	**1,750**	**3,640**
Antimony	ug/L	**3.42 J**	**1.9 J**	**2.93 J**	**1.42 J**	**1.44 J**
Arsenic	ug/L	**112 J**	**58.3 J**	**61 J**	**51.4 J**	**45.7 J**
Barium	ug/L	**347**	**62.5**	**45**	**24.6**	**47.2**
Beryllium	ug/L	**2.24**	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	ug/L	**2.68**	**0.298 J**	**0.38 J**	0.25 U	0.25 U
Calcium	ug/L	**63,000**	**47,300**	**31,300**	**41,600**	**23,700**
Chromium	ug/L	**44**	**4.86 J**	**14.9**	2.5 U	**3.43 J**
Cobalt	ug/L	**21.8**	2.5 U	2.5 U	2.5 U	2.5 U
Copper	ug/L	**46**	**13.4**	**18.5**	2.5 U	**5 J**
Iron	ug/L	**56,600**	**6,920**	**1,050**	**2,050**	**4,410**
Lead	ug/L	**169 J**	**9.99 J**	**4.33 J**	**3.92 J**	**4.8 J**
Magnesium	ug/L	**12,800**	**5,460**	**529**	**4,780**	**2,590**
Manganese	ug/L	**2,870**	**81.9**	**35.4**	**60.5**	**48.5**
Mercury	ug/L	**0.152 J**	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	ug/L	**82.8**	**9.09**	**3.78 J**	**4.02**	**5.55**
Potassium	ug/L	**33,900**	**11,500**	**79,900**	**8,840**	**4,860**
Selenium	ug/L	**3.44**	**1.11**	**3.55**	**0.564 J**	**0.635 J**
Sodium	ug/L	**1,460**	**15,900**	**45,900**	**1,510**	**948**
Thallium	ug/L	**0.798**	**0.0668 J**	**0.0553 J**	**0.0505 J**	**0.0675 J**
Vanadium	ug/L	**62.6**	5 U	**8.41 J**	5 U	5 U
Zinc	ug/L	**368**	**36.1**	**15.6 J**	**10.8 J**	**15.7 J**

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not

Bold = The analyte was detected at the concentration shown.

Based on the ADR and manual reviews, some sample results were qualified as estimated due to minor exceedances of various QC criteria (e.g., holding time, LCS recovery limits, MS/MSD recovery or precision limits, duplicate precision limits, initial or continuing calibration criteria, etc.). These results are flagged "J" or "UJ" (estimated) and are considered useable for meeting project objectives.

A number of QC nonconformances were severe enough to warrant the qualification of associated results as unuseable (flagged "R"). In most cases, excessively low responses or recoveries for specific analytes in calibration standards, LCSs, MS/MSDs, or MRL standards indicated that the presence or absence of the analyte could not be confirmed for results reported as nondetect. A relatively small number of volatile organic (13 of 455 data points) and explosive (3 out of 1,696 data points) soil results were also flagged "R" due to initial calibrations exceeding the method linearity criteria. Specifically, soil sample results for the following parameters were rejected due to a QC criteria failure:

Parameter Group	Number of Data Points	Number of Rejections	Description of QC Failure(s)	Percent Rejected
Volatile Organics	455	15	MRL standard recoveries <60% (lower limit for sporadic marginal failures) for 4-methyl-2-pentanone and carbon disulfide. Initial calibration Relative Standard Deviations (RSDs) >15% for acetone and styrene.	3.3%
Semivolatile Organics	2244	54	Calibration verification percent difference (%D) >20% negative for benzoic acid. MRL standard recoveries <50% for benzoic acid, benzo(g,h,i)perylene, dibenzofuran, and hexachloro-cyclopentadiene. LCS recover <30% for hexachlorocyclopentadiene	2.4%
Explosives	1696	19	Initial calibration RSD and/or calibration verification %D exceeds method criteria for tetryl.	1.1%
Propellants	42	0	None.	0.0%
Pesticides	378	2	MS/MSD recoveries <10% for heptachlor.	0.5%
PCBs	230	0	None.	0.0%
Metals	2544	103	MS recoveries for antimony <30%.	4.0%
TOTAL DATA POINTS	7589	193		2.5%

The sample results for the following parameters analyzed for the surface water samples were rejected due failure of one or more QC criteria:

Surface Water	Semivolatile Organics	66	2	Calibration verification percent difference (%D) >20% negative for benzoic acid. MRL standard recoveries <50% for benzoic acid and hexachlorocyclopentadiene. LCS recoveries below 30% for benzoic acid and hexachlorocyclopentadiene.	3.0%
	Explosives	80	5	MRL standard recovery <65% for 2-nitrotoluene	6.3%
	Propellants	2	0	None.	0.0%
	Metals	115	0	None.	0.0%
TOTAL DATA POINTS		263	7		2.7%

Complete analytical results along with assigned data qualifiers are included in Appendix B.

3.1.1 Accuracy and Precision

The method quality objectives for accuracy and precision of laboratory analytical data are specified in the Facility-Wide QAPP and LCG5. Analytical accuracy is expressed as the percent recovery of an analyte that has been added to a blank sample or environmental sample at a known concentration before analysis. Accuracy was determined through the use of MS and LCS analyses. The percent recovery for each spiked analyte was calculated to establish the accuracy of the analysis performed compared to the method quality objectives. Analytical precision was determined through the comparison of MS/MSD pair or positive laboratory duplicate pair results. The relative percent difference (RPD) between the two results was calculated to establish the precision of the analysis performed compared to the method quality objectives. With the exception of the exceedances noted in Section 3.1, recoveries and RPDs outside of the QC control limits were minor. Overall, acceptable levels of analytical accuracy and precision were achieved.

Aggregate sample collection, preparation, and analytical precision were assessed through the analysis of two types of field duplicates. Field MI duplicates were collected from locations as close as possible to the same increment locations used to collect the primary sample, thereby assessing the precision of individual increment collection plus sample preparation, extraction/digestion, and analysis. Blind MI duplicates were collected from the same area (i.e., building footprint) as the primary sample, but using thirty new increment locations, thereby assessing the precision of the MI sampling protocol as applied to a given area, along with sample preparation, extraction/digestion, and analysis. Aggregate precision was determined as the RPD (a) between the primary sample and the Field MI duplicate and (b) between the primary/MI duplicate average and the Blind duplicate.

Summaries of the field duplicate results are presented in Tables 3-5 through 3-14. The tables list detected chemicals only, and RPDs are shown only when both concentrations are greater than five times the reporting limit, as required by the Facility-Wide QAPP. When one or more

Table 3-5
Assessment of Duplicate Samples - Building DB-3 (Load Line 2)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary DB-3 LL2SS-278M-1231-SO 6/18/2008	MI Dup. DB-3 LL2SS-278M-1233-SO 6/18/2008	Blind Dup. DB-3 LL2SS-278M-1234-SO 6/18/2008	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Dup	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
SVOCs, µg/kg									
Benzo(a)anthracene	330	118 J	160 J	178	139 J			13%	12%
Benzo(a)pyrene	330	104 J	148 J	175	126 J			13%	15%
Benzo(b)fluoranthene	330	81.7 U	109 J	127 J	95.35 J			8%	10%
Benzo(k)fluoranthene	330	144 J	175	202	159.5 J			9%	13%
Chrysene	330	112 J	145 J	165 J	128.5 J			10%	11%
Fluoranthene	330	236	294	320	265			18%	17%
Indeno(1,2,3-cd)pyrene	330	81.7 UJ	82 UJ	83.8 J	81.85 UJ			0%	1%
Phenanthrene	330	96.2 J	106 J	95.9 J	101.1 J			3%	2%
Pyrene	330	185	230	252	207.5			14%	13%
					Average:	NA	NA	7%	8%
PCBs, µg/kg									
Aroclor-1254	33	106	121	97.4	113.5			45%	49%
					Average:	NA	NA	45%	49%
Pesticides, µg/kg									
No Detections									
					Average:	NA	NA	NA	NA
Metals, mg/kg									
Aluminum	20	**8190**	**7940**	**8550**	**8065**	3%	6%		
Arsenic	0.5	**12.1** J	**12.4** J	**10.4** J	**12.25** J	2%	16%		
Barium	1	**44.9**	**46.2**	**51.5**	**45.55**	3%	12%		
Beryllium	0.1	0.491	**0.513**	**0.542**	**0.502**	4%	8%		
Cadmium	0.1	0.386	0.407	0.472	0.3965			21%	76%
Calcium	10	**5020**	**6490**	**3310**	**5755**	26%	54%		
Chromium	0.5	**27.2** J	**23.5** J	**22.1** J	**25.35** J	15%	14%		
Cobalt	0.5	**7.41** J	**8.12** J	**8.0** J	**7.765** J	9%	3%		
Copper	0.5	**21**	**22.6**	**22.5**	**21.8**	7%	3%		
Iron	10	**20200** J	**20600** J	**21100** J	**20400** J	2%	3%		
Lead	0.3	**23.8**	**22.7**	**22.4**	**23.25**	5%	4%		
Magnesium	25	**2980**	**3050**	**2590**	**3015**	2%	15%		
Manganese	1	**324** J	**368** J	**338** J	**346** J	13%	2%		
Mercury	0.1	0.015 J	0.012 J	0.0142 J	0.0135 J			3%	1%
Nickel	1	**28.2** J	**180** J	**35.4** J	**104.1** J	146%	98%		
Potassium	50	**934** J	**878** J	**966** J	**906** J	6%	6%		
Selenium	0.5	0.191 J	0.316	0.2	0.2535 J			25%	11%
Silver	0.5	0.179 U	0.236 J	0.714	0.2075 J			11%	101%
Sodium	20	58.6	63.3	62.7	60.95			24%	9%
Thallium	0.2	0.129	0.136	0.143	0.1325			4%	5%
Vanadium	1	**12.3**	**12.3**	**13.5**	**12.3**	0%	9%		
Zinc	1	**62.4**	**66.4**	**61.3**	**64.4**	6%	5%		
Chromium, Hexavalent	10	0.0464 U	0.0773 J	0.0457 U	0.06185 J			0%	0%
					Average:	**16%**	**16%**	**13%**	**29%**

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-6
Assessment of Duplicate Samples - Building DB-4-WS (Load Line 2)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary DB-4-WS LL2SS-285M-1244-SO 6/20/2008	MI Dup. DB-4-WS LL2SS-285M-1246-SO 6/20/2008	Blind Dup. DB-4-WS LL2SS-285M-1247-SO 6/20/2008	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Dup	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
SVOCs, µg/kg									
2,4-Dinitrotoluene	330	89 U	91 U	231	90 U				43%
Anthracene	330	175 J	147 J	87.6 U	161 J			8%	22%
Benzo(a)anthracene	330	427	238	141 J	332.5			57%	58%
Benzo(a)pyrene	330	379	219	124 J	299			48%	53%
Benzo(b)fluoranthene	330	301	150 J	103 J	225.5 J			46%	37%
Benzo(g,h,i)perylene	330	237 J	100 J	87.6 UJ	168.5 J			42%	25%
Benzo(k)fluoranthene	330	382	183	113 J	282.5			60%	51%
Chrysene	330	477 J	251 J	157 J	364 J			68%	63%
Fluoranthene	330	1090 J	638 J	377 J	864 J			137%	148%
Indeno(1,2,3-cd)pyrene	330	201 J	91 UJ	87.6 UJ	146 J			33%	18%
Phenanthrene	330	885 J	633	365 J	759 J			76%	119%
Pyrene	330	978 J	555 J	337 J	766.5 J			128%	130%
					Average:	NA	NA	64%	64%
PCBs, µg/kg									
Aroclor-1254	33	**437** J	**250** J	**240** J	**343.5** J	54%	35%		
Aroclor-1260	33	**191** J	**427** J	164 J	**309** J	76%			439%
					Average:	65%	35%		439%
Explosives, mg/kg									
1,3,5-Trinitrobenzene	0.25	0.821 J	0.383 J	0.855	0.602 J			175%	101%
2,4,6-Trinitrotoluene	0.25	**125** J	**215** J	**339** J	**170** J	53%	66%		
2,4-Dinitrotoluene	0.25	0.111 J	0.182 J	0.211 J	0.1465 J			28%	26%
2-Amino-4,6-dinitrotoluene	0.25	**1.75**	**2.05**	**3.39**	**1.9**	16%	56%		
4-Amino-2,6-dinitrotoluene	0.25	**3.07**	**3.73**	**4.84**	**3.4**	19%	35%		
RDX	1	0.441 J	0.259	0.362	0.35 J			18%	1%
					Average:	29%	53%	75%	149%
Metals, mg/kg									
Aluminum	20	**7840**	**7640**	**8600**	**7740**	3%	11%		
Arsenic	0.5	**9.75** J	**9.95** J	**10** J	**9.85** J	2%	2%		
Barium	1	**57.8**	**56.3**	**68.1**	**57.05**	3%	18%		
Beryllium	0.1	0.476 J	0.449 J	**0.529** J	0.4625 J			27%	67%
Cadmium	0.1	**0.865** J	**0.647** J	**0.735** J	**0.756** J	29%	3%		
Calcium	10	**5350**	**4730**	**3930**	**5040**	12%	25%		
Chromium	0.5	**14**	**12.2**	**13.7**	**13.1**	14%	4%		
Cobalt	0.5	**7.25**	**7.49**	**8.25**	**7.37**	3%	11%		
Copper	0.5	**20.5** J	**18.4** J	**18.7** J	**19.45** J	11%	4%		
Iron	10	**21200**	**21300**	**22900**	**21250**	0%	7%		
Lead	0.3	**38.7** J	**1170** J	**29.8** J	**604.35** J	187%	181%		
Magnesium	25	**2170**	**1970**	**2200**	**2070**	10%	6%		
Manganese	1	**405**	**374**	**384**	**389.5**	8%	1%		
Mercury	0.1	0.0346 J	0.035 J	0.0527 J	0.0348 J			0%	18%
Nickel	1	**22**	**21.9**	**27.5**	**21.95**	0%	22%		
Potassium	50	**540**	**494**	**605**	**517**	9%	16%		
Selenium	0.5	0.174 J	0.209 J	0.238 J	0.1915 J			7%	9%
Silver	0.5	0.216 J	0.229 J	0.23 J	0.2225 J			3%	2%
Sodium	20	43	35	35.4	39			40%	18%
Thallium	0.2	0.111	0.0973	0.117	0.10415			7%	6%
Vanadium	1	**13.4**	**13.6**	**15**	**13.5**	1%	11%		
Zinc	1	**93**	**102**	**92.6**	**97.5**	9%	5%		
					Average:	19%	20%	14%	20%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-7
Assessment of Duplicate Samples - Building DA-21 (Load Line 2)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary DA-21 LL2SS-305M-1273-SO 06/17/08	MI Dup. DA-21 LL2SS-305M-1275-SO 06/17/08	Blind Dup. DA-21 LL2SS-305M-1276-SO 06/17/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Dup	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
Explosives, mg/kg									
2,4,6-Trinitrotoluene	0.25	**5.81** J	**8.22** J	**11.8** J	**7.015** J	34%	51%		
2-Amino-4,6-dinitrotoluene	0.25	0.327	0.345	0.379	0.336			7%	17%
4-Amino-2,6-dinitrotoluene	0.25	0.607	0.667	0.656	0.637			24%	8%
					Average:	34%	51%	16%	8%
Metals, mg/kg									
Aluminum	20	**8280**	**9180**	**7980**	**8730**	10%	9%		
Arsenic	0.5	**11.5**	**10.4**	**10.8**	**10.95**	10%	1%		
Barium	1	**51.5**	**50**	**43.7**	**50.75**	3%	15%		
Beryllium	0.1	0.417	0.424	0.386	0.4205			7%	35%
Cadmium	0.1	0.432 J	0.475 J	0.459 J	0.4535 J			43%	6%
Calcium	10	**4180**	**4230**	**3580**	**4205**	1%	16%		
Chromium	0.5	**17.5**	**21.2**	**17.9**	**19.35**	19%	8%		
Cobalt	0.5	**5.88** J	**6.38** J	**5.96** J	**6.13** J	8%	3%		
Copper	0.5	**17.6** J	**17.8** J	**17.9** J	**17.7** J	1%	1%		
Iron	10	**18900** J	**22800** J	**19600** J	**20850** J	19%	6%		
Lead	0.3	**22.9** J	**19.5** J	**17.9** J	**21.2** J	16%	17%		
Magnesium	25	**2280**	**2330**	**2110**	**2305**	2%	9%		
Manganese	1	**345** J	**327** J	**299** J	**336** J	5%	12%		
Mercury	0.1	0.0141 J	0.0139 J	0.0106 U	0.014 J			0%	3%
Nickel	1	**41.9** J	**37.8** J	**84.9** J	**39.85** J	10%	72%		
Potassium	50	**664** J	**812** J	**652** J	**738** J	20%	12%		
Selenium	0.5	0.206 J	0.238	0.253	0.222 J			6%	6%
Sodium	20	40.8	44.2	36.8	42.5			17%	29%
Thallium	0.2	0.13	0.119	0.124	0.1245			6%	0%
Vanadium	1	**12.7** J	**14.3** J	**12.4** J	**13.5** J	12%	8%		
Zinc	1	**59.5** J	**60.9** J	**60.4** J	**60.2** J	2%	0%		
					Average:	9%	13%	13%	13%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-8
Assessment of Duplicate Samples - Building DB-10 (Load Line 2)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary DB-10 LL2SS-297M-1261-SO 06/24/08	MI Dup. DB-10 LL2SS-297M-1263-SO 06/24/08	Blind Dup. DB-10 LL2SS-297M-1264-SO 06/24/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Dup	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
Explosives & Propellants, mg/kg									
2,4,6-Trinitrotoluene	0.25	0.0997 UJ	0.0994 U	0.438 J	0.09955 UJ			0%	135%
4-Amino-2,6-dinitrotoluene	0.25	0.0997 U	0.0994 U	0.107 J	0.09955 U			0%	3%
RDX	1	0.0997 U	0.0994 U	0.212 J	0.09955 U			0%	11%
					Average:	NA	NA	0%	50%
Metals, mg/kg									
Aluminum	20	**7360**	**7320**	**7250**	**7340**	1%	1%		
Arsenic	0.5	**17**	**11.3**	**11.6**	**14.15**	40%	20%		
Barium	1	**44.7**	**50.1**	**45.9**	**47.4**	11%	3%		
Beryllium	0.1	0.382	0.428	0.403	0.405			46%	2%
Cadmium	0.1	0.453	0.454	**0.508**	0.4535			1%	55%
Calcium	10	**3700**	**6740**	**4270**	**5220**	58%	20%		
Chromium	0.5	**9.8**	**9.58**	**11.5**	**9.69**	2%	17%		
Cobalt	0.5	**6.44**	**6.08**	**6.79**	**6.26**	6%	8%		
Copper	0.5	**22.6** J	**22.7** J	**24.8** J	**22.65** J	0%	9%		
Iron	10	**21400**	**19300**	**21500**	**20350**	10%	5%		
Lead	0.3	**23.5** J	**28.9** J	**27** J	**26.2** J	21%	3%		
Magnesium	25	**2130**	**2260**	**2150**	**2195**	6%	2%		
Manganese	1	**428**	**457**	**447**	**442.5**	7%	1%		
Mercury	0.1	0.0106 U	0.0106 U	0.0118 J	0.0106 U			0%	1%
Nickel	1	**20.3**	**17.6**	**27.8**	**18.95**	14%	38%		
Potassium	50	**711**	**679**	**627**	**695**	5%	10%		
Selenium	0.5	0.312 J	0.308 J	0.357 J	0.31 J			1%	9%
Silver	0.5	0.192 UJ	0.2 U	0.504 J	0.196 UJ			0%	62%
Sodium	20	48.1	58.3	44.4	53.2			51%	44%
Thallium	0.2	0.125	0.126	0.157	0.1255			1%	16%
Vanadium	1	**12.6** J	**11.9** J	**12.4** J	**12.25** J	6%	1%		
Zinc	1	**80.9**	**86.8**	**88.2**	**83.85**	7%	5%		
					Average:	13%	10%	14%	27%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-9
Assessment of Duplicate Samples - EB-4A (Load Line 3)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary EB-4A LL3SS-256M-1188-SO 06/26/08	MI Dup. EB-4A LL3SS-256M-1190-SO 06/26/08	Blind Dup. EB-4A LL3SS-256M-1191-SO 06/26/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Duplicate	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
SVOCs, µg/kg									
Acenaphthene	330	225 J	85.9 U	86 UJ	155.45 J			42%	21%
Anthracene	330	648	85.9 U	86 UJ	366.95 J			170%	85%
Benzo(a)anthracene	330	772	151 J	120 J	461.5 J			188%	103%
Benzo(a)pyrene	330	622	140 J	112 J	381 J			146%	82%
Benzo(b)fluoranthene	330	478	139 J	111 J	308.5 J			103%	60%
Benzo(g,h,i)perylene	330	218 J	85.9 UJ	86 UJ	151.95 J			40%	20%
Benzo(k)fluoranthene	330	696	138 J	115 J	417 J			169%	92%
Carbazole	330	289 J	85.9 U	86 UJ	187.45 J			62%	31%
Chrysene	330	753	168 J	132 J	460.5 J			177%	100%
Dibenzofuran	330	189 J	85.9 U	86 UJ	137.45 J			31%	16%
Fluoranthene	330	**2030**	347	275 J	1188.5			510%	277%
Fluorene	330	333 J	85.9 U	86 UJ	209.45 J			75%	37%
Indeno(1,2,3-cd)pyrene	330	231 J	85.9 UJ	86 UJ	158.45 J			44%	22%
Naphthalene	330	176 J	85.9 U	86 UJ	130.95 J			27%	14%
Phenanthrene	330	**2240**	260	166 J	1250			600%	328%
Pyrene	330	1610	301	221 J	955.5			397%	223%
					Average:	NA	NA	146%	79%
PCBs, µg/kg									
Aroclor-1254	33	**1380** J	**1390**	**1290**	**1385**	1%	7%		
					Average:	1%	7%	NA	NA
Pesticides, µg/kg									
None Detected									
					Average:	NA	NA	NA	NA
Explosives & Propellants, mg/kg									
2,4,6-Trinitrotoluene	0.25	**51**	**295**	**28.7**	**173**	141%	143%		
Nitrocellulose	2	**16**	**65.2**	**19.1**	**40.6**	121%	72%		
					Average:	131%	108%	NA	NA
Metals, mg/kg									
Aluminum	20	**9700**	**10800**	**12100**	**10250**	11%	17%		
Arsenic	0.5	**9.26** J	**9.38** J	**10.1** J	**9.32** J	1%	8%		
Barium	1	**65.6**	**71.9**	**79.9**	**68.75**	9%	15%		
Beryllium	0.1	**0.581**	**0.647**	**0.772**	**0.614**	11%	23%		
Cadmium	0.1	**0.837**	**0.887**	**0.968**	**0.862**	6%	12%		
Calcium	10	**10400**	**12100**	**17400**	**11250**	15%	43%		
Chromium	0.5	**13.4**	**15.7**	**16.1**	**14.55**	16%	10%		
Cobalt	0.5	**6.57**	**6.63**	**8.3**	**6.6**	1%	23%		
Copper	0.5	**24** J	**22.3** J	**24.9** J	**23.15** J	7%	7%		
Iron	10	**19600**	**19800**	**22100**	**19700**	1%	11%		
Lead	0.3	**33.7** J	**76.2** J	**30.2** J	**54.95** J	77%	58%		
Magnesium	25	**2980**	**3310**	**4370**	**3145**	10%	33%		
Manganese	1	**357** J	**380** J	**445** J	**368.5** J	6%	19%		
Mercury	0.1	0.0194 J	0.0307 J	0.025 J	0.02505 J			11%	0%
Nickel	1	**18.8** J	**18** J	**21.8** J	**18.4** J	4%	17%		
Potassium	50	**1040** J	**1210** J	**1340** J	**1125** J	15%	17%		
Selenium	0.5	0.332 J	0.325 J	0.365 J	0.3285 J			1%	7%
Silver	0.5	0.259 J	0.308 J	0.315 J	0.2835 J			10%	6%
Sodium	20	**114**	**131**	**168**	**122.5**	14%	31%		
Thallium	0.2	0.106	0.0935	0.108	0.09975			6%	4%
Vanadium	1	**14.5**	**15.7**	**16.8**	**15.1**	8%	11%		
Zinc	1	**104**	**86.8**	**89.9**	**95.4**	18%	6%		
					Average:	13%	20%	7%	4%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-10
Assessment of Duplicate Samples - EB-11 (Load Line 3)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary EB-11 LL3SS-268M-1208-SO 06/25/08	MI Dup. EB-11 LL3SS-268M-1210-SO 06/25/08	Blind Dup. EB-11 LL3SS-268M-1211-SO 06/25/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Duplicate	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
PCBs, µg/kg									
Aroclor-1254	33	49.8	49.9	63.8	49.85			0%	42%
					Average:	NA	NA	0%	42%
Explosives, mg/kg									
None Detected									
					Average:	NA	NA	NA	NA
Metals, mg/kg									
Aluminum	20	**10900**	**11300**	**11400**	**11100**	4%	3%		
Arsenic	0.5	**9.42** J	**10.3** J	**9.22** J	**9.86** J	9%	7%		
Barium	1	**65.6**	**61.7**	**62.2**	**63.65**	6%	2%		
Beryllium	0.1	**0.571**	**0.55**	**0.582**	**0.5605**	4%	4%		
Cadmium	0.1	**0.553**	0.491	0.483	**0.522**			62%	39%
Calcium	10	**2920**	**2710**	**2920**	**2815**	7%	4%		
Chromium	0.5	**15.6**	**17.7**	**15.6**	**16.65**	13%	7%		
Cobalt	0.5	**8.16**	**7.98**	**8.04**	**8.07**	2%	0%		
Copper	0.5	**17.6** J	**17.7** J	**17.9** J	**17.65** J	1%	1%		
Iron	10	**21700**	**20500**	**21600**	**21100**	6%	2%		
Lead	0.3	**22.4** J	**23.7** J	**26.9** J	**23.05** J	6%	15%		
Magnesium	25	**2380**	**2480**	**2480**	**2430**	4%	2%		
Manganese	1	**455** J	**428** J	**429** J	**441.5** J	6%	3%		
Mercury	0.1	0.036 J	0.0284 J	0.0311 J	0.0322 J			8%	1%
Nickel	1	**31.2** J	**28.3** J	**28.2** J	**29.75** J	10%	5%		
Potassium	50	**934** J	**1090** J	**1030** J	**1012** J	15%	2%		
Selenium	0.5	0.384 J	0.334 J	0.331 J	0.359 J			10%	6%
Silver	0.5	0.36 J	0.196 J	0.353	0.278 J			33%	15%
Sodium	20	40.1	44.5	42.8	42.3			22%	3%
Thallium	0.2	0.122	0.126	0.132	0.124			2%	4%
Vanadium	1	**18.4**	**18.8**	**19**	**18.6**	2%	2%		
Zinc	1	**70.6**	**66.4**	**68.7**	**68.5**	6%	0%		
					Average:	6%	4%	23%	11%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-11
Assessment of Duplicate Samples - EB-4A-WS (Load Line 3)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary EB-4A-WS LL3SS-258M-1194-SO 06/27/08	MI Dup. EB-4A-WS LL3SS-258M-1196-SO 06/27/08	Blind Dup. EB-4A-WS LL3SS-258M-1197-SO 06/27/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) Primary & MI Duplicate	RPDs (for conc >5x RL) Avg & Blind Duplicate	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Relative Diff. (Conc <5xRL) Avg & Blind Dup
SVOCs, µg/kg									
Benzo(a)anthracene	330	81 U	100 J	94.7 J	90.5 J			6%	1%
Benzo(a)pyrene	330	81 U	97.7 J	92.4 J	89.35 J			5%	1%
Benzo(b)fluoranthene	330	81 UJ	79.8 J	85.3 UJ	80.4 J			0%	1%
Benzo(k)fluoranthene	330	81 U	81.2 J	85.3 UJ	81.1 J			0%	1%
Chrysene	330	81 U	101 J	92.9 J	91 J			6%	1%
Fluoranthene	330	135 J	231 J	204 J	183 J			29%	6%
Phenanthrene	330	83.5 J	192	129 J	137.75 J			33%	3%
Pyrene	330	111 J	191	160 J	151 J			24%	3%
					Average:	NA	NA	8%	1%
Explosives, mg/kg									
2,4,6-Trinitrotoluene	0.25	**40.9** J	**5.25** J	**20.5** J	**23.075** J	154%	12%		
2-Amino-4,6-dinitrotoluene	0.25	0.473 J	0.358 J	0.722 J	0.4155 J			46%	123%
4-Amino-2,6-dinitrotoluene	0.25	**1.37**	1.03	**1.74**	1.2			136%	216%
					Average:	154%	12%	91%	169%
Metals, mg/kg									
Aluminum	20	**9340**	**7160**	**10200**	**8250**	26%	21%		
Antimony	0.5	R	R	0.0662 J	R			0%	13%
Arsenic	0.5	**9.77** J	**9.79** J	**10.5** J	**9.78** J	0%	7%		
Barium	1	**46.8**	**37**	**50.2**	**41.9**	23%	18%		
Beryllium	0.1	**0.534**	0.411	**0.538**	0.4725		13%		
Cadmium	0.1	**0.678**	**0.573**	**0.78**	**0.6255**	17%	22%		
Calcium	10	**4790**	**3340**	**5930**	**4065**	36%	37%		
Chromium	0.5	**12.8** J	**10.4** J	**14.8** J	**11.6** J	21%	24%		
Cobalt	0.5	**6.56** J	**5.65** J	**6.68** J	**6.105** J	15%	9%		
Copper	0.5	**19.5**	**17.8**	**21.1**	**18.65**	9%	12%		
Iron	10	**19500** J	**17800** J	**25000** J	**18650** J	9%	29%		
Lead	0.3	**28.3**	**20.4**	**33.4**	**24.35**	32%	31%		
Magnesium	25	**2530**	**1980**	**2810**	**2255**	24%	22%		
Manganese	1	**304** J	**285** J	**305** J	**294.5** J	6%	4%		
Mercury	0.1	0.0172 J	0.0119 J	0.0259 J	0.01455 J			5%	11%
Nickel	1	**21.2** J	**19.7** J	**20.8** J	**20.45** J	7%	2%		
Potassium	50	**889** J	**632** J	**1090** J	**760.5** J	34%	36%		
Selenium	0.5	0.173 J	0.177 J	0.218 J	0.175 J			1%	9%
Silver	0.5	0.352 J	0.19 U	0.291 J	0.271 J			32%	4%
Sodium	20	60.4	43.9	73.6	52.15			83%	107%
Thallium	0.2	0.103	0.0881	0.103	0.09555			7%	4%
Vanadium	1	**14.3**	**11.4**	**16**	**12.85**	23%	22%		
Zinc	1	**74.1** J	**70** J	**88.2** J	**72.05** J	6%	20%		
					Average:	18%	19%	21%	25%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-12
Assessment of Duplicate Samples - G-9 (Load Line 4)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary G-9 LL4SS-209M-1196-SO 07/01/08	MI Dup. G-9 LL4SS-209M-1198-SO 07/01/08	Blind Dup. G-9 LL4SS-209M-1199-SO 07/01/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) RPD of Primary & MI Duplicate	RPD of Avg & Blind Duplicate	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Avg & Blind Dup
Explosives, mg/kg									
None Detected									
					Average:	NA	NA	NA	NA
Pesticides, µg/kg									
4,4'-DDT	1.7	2.54 J	1.64 U	1.64 U	2.09 J			53%	26%
alpha Chlordane	1.7	**43.8** J	**14.7** J	**20** J	**29.25** J	99%	38%		
gamma Chlordane	1.7	**23.1** J	**10.7** J	**13** J	**16.9** J	73%	26%		
Heptachlor epoxide	1.7	2.8 J	1.64 U	1.64 U	2.22 J			68%	34%
					Average:	86%	32%	24%	12%
Metals, mg/kg									
Aluminum	20	**11000**	**8630**	**11700**	**9815**	24%	18%		
Arsenic	0.5	**10.7** J	**10.9** J	**9.02** J	**10.8** J	2%	18%		
Barium	1	**73.2**	**60.5**	**82.8**	**66.85**	19%	21%		
Beryllium	0.1	**0.666**	**0.551**	**0.738**	**0.6085**	19%	19%		
Cadmium	0.1	**0.543** J	0.496 J	**0.502** J	**0.5195** J	9%	3%		
Calcium	10	**9900**	**8580**	**12000**	**9240**	14%	26%		
Chromium	0.5	**14.8**	**13.2**	**13.5**	**14**	11%	4%		
Cobalt	0.5	**7.71**	**7.39**	**7.53**	**7.55**	4%	0%		
Copper	0.5	**22.9**	**19.2**	**18.6**	**21.05**	18%	12%		
Iron	10	**22200**	**19500**	**20700**	**20850**	13%	1%		
Lead	0.3	**17.6**	**20.1**	**16.2**	**18.85**	13%	15%		
Magnesium	25	**3820**	**3230**	**3960**	**3525**	17%	12%		
Manganese	1	**512**	**458**	**535**	**485**	11%	10%		
Mercury	0.1	0.0217 J	0.0204 J	0.0172 J	0.02105 J			1%	4%
Nickel	1	**29.2**	**32.3**	**24.4**	**30.75**	10%	23%		
Potassium	50	**1150**	**838**	**1160**	**994**	31%	15%		
Selenium	0.5	0.265 J	0.309 J	0.284 J	0.287 J			9%	1%
Silver	0.5	0.589	0.623	0.429	0.606	6%	34%		
Thallium	0.2	0.139	0.136	0.121	0.1375			2%	8%
Vanadium	1	**16.8**	**13.1**	**16.4**	**14.95**	25%	9%		
Zinc	1	**86.8**	**70.2**	**67.5**	**78.5**	21%	15%		
					Average:	15%	14%	4%	4%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.
J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
NA = Not applicable.

RPD exceeds 50%.
Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-13
Assessment of Duplicate Samples - G-12 (Load Line 4)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary G-12 LL4SS-212M-1202-SO 07/01/08	MI Dup. G-12 LL4SS-212M-1204-SO 07/01/08	Blind Dup. G-12 LL4SS-212M-1205-SO 07/01/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) RPD of Primary & MI Duplicate	RPD of Avg & Blind Duplicate	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Avg & Blind Dup
Explosives, mg/kg									
None Detected									
					Average:	NA	NA	NA	NA
SVOCs, µg/kg									
Benzo(a)anthracene	330	82.6 UJ	153 J	81.7 UJ	117.8 J			21%	11%
Benzo(a)pyrene	330	82.6 UJ	163 J	81.7 UJ	122.8 J			24%	12%
Benzo(b)fluoranthene	330	86.7 J	178 J	82.9 J	132.35 J			28%	15%
Benzo(k)fluoranthene	330	82.6 UJ	182 J	81.7 UJ	132.3 J			30%	15%
Chrysene	330	82.6 UJ	177 J	81.7 UJ	129.8 J			29%	15%
Fluoranthene	330	82.7 J	387 J	154 J	234.85 J			92%	25%
Phenanthrene	330	82.6 UJ	182 J	81.7 UJ	132.3 J			30%	15%
Pyrene	330	82.6 UJ	308 J	125 J	195.3 J			68%	21%
					Average:	NA	NA	20%	8%
PCBs, µg/kg									
Aroclor-1254	33	45.3 J	21.9 J	26.9	33.6 J			71%	20%
Aroclor-1260	33	51.7 J	29.4	32.3	40.55 J			68%	25%
					Average:	NA	NA	69%	23%
Metals, mg/kg									
Aluminum	20	**6610**	**6330**	**7290**	**6470**	4%	12%		
Arsenic	0.5	**17.2** J	**14.5** J	**15** J	**15.85** J	17%	6%		
Barium	1	**37**	**37.8**	**39.1**	**37.4**	2%	4%		
Beryllium	0.1	0.354	0.35	0.396	0.352			4%	44%
Cadmium	0.1	0.474 J	0.446 J	0.458 J	0.46 J			28%	2%
Calcium	10	**6280**	**9990**	**6940**	**8135**	46%	16%		
Chromium	0.5	**10.3**	**9.12**	**11.5**	**9.71**	12%	17%		
Cobalt	0.5	**7.16**	**6.96**	**7.95**	**7.06**	3%	12%		
Copper	0.5	**24.3**	**24.2**	**23.9**	**24.25**	0%	1%		
Iron	10	**20600**	**19500**	**21600**	**20050**	5%	7%		
Lead	0.3	**24.2**	**25.8**	**21.9**	**25**	6%	13%		
Magnesium	25	**3530**	**3390**	**3330**	**3460**	4%	4%		
Manganese	1	**402**	**376**	**449**	**389**	7%	14%		
Mercury	0.1	0.0156 J	0.0162 J	0.0126 J	J			1%	13%
Nickel	1	**26** J	**27.2**	**73.6** J	**26.6** J	5%	94%		
Potassium	50	**713**	**678**	**766**	**695.5**	5%	10%		
Selenium	0.5	0.23 J	0.261 J	0.236 J	0.2455 J			6%	2%
Silver	0.5	0.512	0.227 J	0.348 J	0.3695 J			57%	4%
Thallium	0.2	0.164	0.165	0.149	0.1645			1%	8%
Vanadium	1	**11.5**	**10.9**	**12.9**	**11.2**	5%	14%		
Zinc	1	**91.2**	**84.7**	**91.6**	**87.95**	7%	4%		
					Average:	9%	15%		

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

Table 3-14
Assessment of Duplicate Samples - G-19 (Load Line 4)
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Reporting Limits	Primary G-19 LL4SS-220M-1217-SO 07/02/08	MI Dup. G-19 LL4SS-220M-1221-SO 07/02/08	Blind Dup. G-19 LL4SS-220M-1222-SO 07/02/08	Average of Primary & MI Dup	RPDs (for conc >5x RL) RPD of Primary & MI Duplicate	RPD of Avg & Blind Duplicate	Relative Diff. (Conc <5xRL) Primary & MI Duplicate	Avg & Blind Dup
Explosives, mg/kg									
None Detected									
					Average:	NA	NA	NA	NA
Propellants, mg/kg									
None Detected									
					Average:	NA	NA	NA	NA
Metals, mg/kg									
Aluminum	20	**5330**	**5400**	**5270**	**5365**	1%	2%		
Arsenic	0.5	**7.99**	**7.85**	**7.98**	**7.92**	2%	1%		
Barium	1	**19**	**19.4**	**17.9**	**19.2**	2%	7%		
Beryllium	0.1	0.231	0.232	0.226	0.2315			1%	6%
Cadmium	0.1	0.331	0.346	0.329	0.3385			15%	10%
Calcium	10	**1000**	**820**	**824**	**910**	20%	10%		
Chromium	0.5	**6.67**	**6.86**	**6.61**	**6.765**	3%	2%		
Cobalt	0.5	**3.23**	**3.39**	**3.2**	**3.31**	5%	3%		
Copper	0.5	**16.8**	**17.5**	**17.6**	**17.15**	4%	3%		
Iron	10	**12900**	**13400**	**12900**	**13150**	4%	2%		
Lead	0.3	**11.6**	**12**	**12.4**	**11.8**	3%	5%		
Magnesium	25	**1170** J	**1110** J	**1090** J	**1140** J	5%	4%		
Manganese	1	**131**	**134**	**122**	**132.5**	2%	8%		
Mercury	0.1	0.01 U	0.0125 J	0.0104 U	0.01125 J			3%	1%
Nickel	1	**12.4**	**12.4**	**19**	**12.4**	0%	42%		
Potassium	50	**427**	**370**	**326**	**398.5**	14%	20%		
Selenium	0.5	0.138 J	0.166 J	0.18 J	0.152 J			6%	6%
Thallium	0.2	0.0741	0.0777	0.0738	0.0759			2%	1%
Vanadium	1	**8.43** J	**8.4** J	**7.84** J	**8.415** J	0%	7%		
Zinc	1	**48.7**	**49.7**	**47.6**	**49.2**	2%	3%		
					Average:	5%	8%	5%	5%

Note: Concentrations >5x RL are **bolded**. RPD is applicable only if both concentrations are >5x RL.

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.
J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
NA = Not applicable.

RPD exceeds 50%.

Relative difference (absolute difference/reporting limit) exceeds 100%.

concentration is less than five times the reporting limit, the relative difference (the absolute difference divided by the reporting limit) is shown. Acceptable precision, according to the Facility-Wide QAPP, is demonstrated by an RPD of 50% or less, or a relative difference of 100% or less. Project-specific precision on a duplicate pair and analysis basis is included in Tables 3-5 through 3-14.

The field duplicate tables illustrate that precision for the majority of analytes met the project criteria. Chemicals with exceedances are noted below.

Chemical	Number of Duplicate Pairs Analyzed	Number of Duplicate Pairs Exceeding Criteria	
		MI Duplicates	Blind Duplicates
PAHs	10	1 (9 PAHs)	1 (4 PAHs)
Chlordane, α- and γ-	10	1	0
PCBs (Aroclor 1254/1260)	10	1	1
TNT	10	3	3
1,3,5-Trinitrobenzene	10	1	1
Aminodinitrobenzenes	10	1	2
Calcium	10	1	1
Lead	10	2	2
Nickel	10	1	3
Silver	10	0	1

3.1.2 Completeness, Representativeness, and Comparability

Completeness is a measure of the amount of valid (i.e., not rejected) data obtained from a measurement system compared to the amount expected to be obtained under ideal conditions. The overall project completeness goal identified in the Facility-Wide QAPP is 90% for each parameter group. As shown in Section 3.1, the percent of valid results for the soil analyses ranged from 96% to 100%, thus meeting the project goal.

Representativeness expresses the degree to which data accurately and precisely represent actual environmental conditions. Representativeness is a qualitative parameter that depends greatly upon the proper design of the sampling program and proper laboratory protocol. It is evaluated using holding time criteria, which reflect the length of time after sample collection that a sample or extract remains representative of environmental conditions, and by analysis of laboratory method blanks, trip blanks, and equipment blanks, which are used to identify sources of contamination not associated with environmental conditions. The aggregate sampling and analytical precision determined by the field duplicate results is also an indicator of data representativeness. With respect to holding time, three samples for PCB soil analysis were re-extracted (due to low surrogate recoveries) 4 days after the 14-day holding time. Seventeen samples were digested within 8 days of collection, but were not analyzed for mercury until 8

days after the 28-day holding time due to a laboratory oversight. These holding time exceedances are considered minor and, while the affected samples were qualified as estimated, the effect on the data is considered negligible. Since holding times were not grossly exceeded (i.e., analysis performed beyond twice the holding time) for any analyses, the blanks associated with project samples were free of contamination, and overall field duplicate precision was acceptable, the data are determined to be adequately representative. The weight of evidence leads to the conclusion that representativeness was adequate, sufficient, and acceptable (as opposed to inadequate or unsatisfactory).

Comparability of the project data with historical data sets was satisfied by ensuring that the Facility-Wide QAPP and the project-specific QAPP addendum were followed, proper sampling techniques were used, and appropriate analytical procedures were followed.

The data can be trusted to make remediation decisions.

3.1.3 Sensitivity

Except where affected by sample dilutions, the laboratory reporting limits (RLs) were consistent with those stated in Appendix A of the project-specific QAPP. For all chemicals with cleanup goals established in the IROD, the RLs were below the cleanup goals.

3.1.4 Data Validation

MEC^x performed data validation for both the primary laboratory (Microbac Laboratories, Inc.) and the QA laboratory (CT Laboratories). The purpose of the validation was to independently determine the usability and bias of the analytical data. Both the Data Validation Report and the Chemical Quality Assurance Report are provided in Appendix D. The only significant concern identified was that the analyses for pesticides performed by Microbac may have missed some target compounds due to the method used by the laboratory to establish retention time windows. MEC^x recommended that the QA laboratory data for pesticides be relied upon.

In the Data Validation Report for the Microbac data, MEC^x stated that the narrow range of Microbac's retention time windows for pesticides may have resulted in false negatives (i.e., analytes that are present but reported as nondetect). That determination was made based on the validator's professional judgment and interpretation of SW-846 Method 8000B. However, based on information URS requested and received from the Methods Information Communication Exchange (MICE) Service (operated by Science Applications International Corporation under contract to the USEPA Office of Resource Conservation and Recovery), it appears that the retention time windows used by Microbac **were** established in accordance with SW-846 and are entirely acceptable. Their subsequent reporting of nondetects for analytes falling outside that range on one or both analytical columns should be considered valid. It should also be noted that the data generated by the QA laboratory was not subjected to a similar level of validation; therefore, the retention time windows defined by that laboratory are unknown. It is possible, if wider retention time windows were used, that false positives could be present in CT's data.

Based on the above information, no additional qualification of the Microbac data was determined to be necessary.

3.2 LOAD LINE 2 SAMPLING RESULTS

Table 3-1 summarizes the sampling results at Load Line 2 buildings. Forty primary MI samples were collected from the 0-1 foot bgs interval at 46 building footprints. Four discrete VOC samples were collected from four building locations.

Explosives were detected in 17 of the 45 MI samples with concentrations ranging from 0.105 mg/kg to 339 mg/kg. The highest concentration was for TNT (at Building. DB-4-WS), which was the explosive most frequently detected. The only propellant detected was nitrocellulose, in two samples (at Buildings DB-4A-WN and DB-10). The nitrocellulose concentrations ranged from 5.61 mg/kg to 36.2 mg/kg.

Metals were detected in all samples collected from Load Line 2. Most of the TAL metals were detected in every sample. Hexavalent chromium, however, was detected in only two samples (from DB-3 and DB-4A-WN). The concentrations of hexavalent chromium ranged from 0.0773 to 0.119 mg/kg.

Thirteen SVOCs were detected in six of the 15 samples analyzed for SVOCs at Load Line 2. Most of the detected SVOCs were polycyclic aromatic hydrocarbons (PAHs). The detected SVOC concentrations ranged from 83.8 µg/kg to 1090 µg/kg. The highest concentration was for fluoranthene at Building DB-4-WS.

Polychlorinated biphenyls (Aroclors 1254 and/or 1260) were detected in all 12 samples analyzed for PCBs at Load Line 2. Concentrations ranged from 39.6 µg/kg to 2,240 µg/kg. The highest concentration of PCBs was for Aroclor 1254 in the sample collected from Building DB-10.

Volatile organic compounds and pesticides were not detected in any samples.

3.3 LOAD LINE 3 SAMPLING RESULTS

Table 3-2 summarizes the sampling results from buildings at Load Line 3. Twenty-seven primary MI samples were collected from the 0-1 foot bgs interval from 33 building footprints. Three discrete VOC samples were collected from three building locations.

Explosives were detected at 10 of the building locations at Load Line 3, with concentrations between 0.139 mg/kg to 3,340 mg/kg. The highest concentration was for TNT in the sample collected at Building EB-25. (This was the building footprint where product was observed on the day of sampling as previously described in Section 2.2.) The most frequently detected explosive was TNT; it was detected in over half of the samples collected at Load Line 3. Nitrocellulose was detected in the samples collected from Building EB-4-A, but not in the sample collected from Buildings EB-10/10A. The nitrocellulose concentrations ranged from 16.0 mg/kg (in the primary sample) to 65.2 mg/kg (in the field duplicate).

Metals were detected at all Load line 3 buildings. Most of the TAL metals were detected in every sample. Hexavalent chromium was not detected in any of the samples.

Six MI samples from five building footprints were analyzed for SVOCs at Load Line 3. Seventeen SVOCs (primarily PAHs) were detected in the samples at four of the five locations. No SVOCs were detected at Building EB-3. The detected SVOC concentrations ranged from 79.8 µg/kg to 5,570 µg/kg. The MI sample collected at Buildings EA-6/-28 contained the highest levels of several PAHs. Eight PAHs were detected in that sample at concentrations above 1 mg/kg.

Aroclors (1254 and/or 1260) were detected in all samples analyzed for PCBs with the exception of the sample collected from Building EA-21. Concentrations ranged from 21.6 µg/kg to 1,390 µg/kg. The highest detected PCB concentration was at Building EB-4A.

Volatile organic compounds and pesticides were not detected in any samples.

3.4 LOAD LINE 4 SAMPLING RESULTS

Table 3-3 summarizes the sampling results from Load Line 4 buildings. Twenty-four primary MI samples were collected from the 0-1 foot bgs from 28 building footprints. Three discrete VOC samples were collected from three building locations.

At Load Line 4 no explosives or VOCs were detected in the samples. However, this was the only load line where pesticides were detected. Four pesticides were detected in the samples collected from the Building G-9 location; the only other detection was for alpha-BHC at Building G-4. The concentrations of the pesticides ranged from 1.10 µg/kg to 43.8 µg/kg. The maximum detected pesticide concentration was for alpha-chlordane.

Nitrocellulose was the only propellant detected at Load Line 4. It was detected at three of the five buildings with concentrations reported from 2.3 mg/kg to 7.06 mg/kg (Building G-2).

Metals were detected at all building locations. All 23 TAL metals were detected in at least one Load Line 4 sample; hexavalent chromium was not detected in any sample. Most of the metals were frequently detected; only antimony, silver, sodium, and mercury were reported as nondetect in some of the samples.

Sixteen SVOCs (primarily PAHs) were detected at least once in the samples analyzed for SVOCs at Load Line 4. The detected SVOC concentrations ranged from 82.7 µg/kg to 5330 µg/kg. The sample collected from Building G-8 contained nine PAHs reported at concentrations above 1 mg/kg.

Aroclors (1254 and 1260) were detected at all five building locations where PCBs were analyzed. Concentrations ranged from 10.6 µg/kg to 129 µg/kg (Building G-18).

3.5 SURFACE WATER

Five surface water samples were collected from building footprints where water had accumulated after slab removal. No propellants or SVOCs were detected in these samples.

The only explosives detected in the surface water samples were octohydro-1,3,5,7-tetranitro-1,3,5,7-tetraocine (HMX) and RDX, detected at low levels (i.e., less than 4 ug/L). Both of the explosives were detected in the surface water sample collected from the DB4A-VP1 footprint. Only RDX was detected in sample from the DB-802 footprint.

Twenty-two of the twenty-three TAL metals were detected in at least one of the surface water samples. Silver was the only metal not detected. Most of the metals were detected in most of the samples, reflecting the pattern of detection in the underlying soil samples. Beryllium, cadmium, cobalt, and mercury were only detected in the sample collected from the DB4-VP1 footprint. The metal concentrations in this sample were generally the highest among the five surface water samples.

The analytical data collected during the MI soil sampling effort were evaluated by a comparison to soil cleanup goals (CUGs) established for RVAAP. The following sections document the comparison process and summarize the results and conclusion of the comparisons. In addition, the surface water analytical data collected from certain building footprints were evaluated by a comparison to facility-wide background values and Ohio surface water quality benchmarks.

4.1 SUMMARY OF THE COMPARISON PROCESS (SOIL)

This current project to complete sampling of soils below floor slabs and remediation at Load Line 2, 3, and 4 buildings is based upon the assumption that there will be a Land Use Control (LUC) in place for Load Lines 1-4. The LUC that is proposed for Load Lines 1-4 would restrict the future land use by the OHARNG to "mounted training with no digging", based specifically on the National Guard Trainee receptor, whose exposure assumptions are the most protective. The LUC may be re-evaluated for Load Lines 1-4 at a later date if the future planned use of the site changes or if the LUCs are considered differently in order to reduce or change the training restrictions for the OHARNG.

The CUGs initially provided for this project are those listed in the IROD (Shaw, 2007). These levels were established based on a National Guard Trainee scenario for those chemicals considered site-related contaminants for Load Lines 1 through 4. However, the sub-slab confirmation (i.e., MI) sampling scheme included more analytes than those included in the IROD. Chemicals detected in confirmation samples but not identified as chemicals of concern in the IROD also need to be considered in the overall decision whether to remediate a given area (USACE, 2009). In addition, the application of CUGs on an individual chemical basis does not account for the potential additivity of adverse effects from simultaneous exposures to multiple chemicals. Therefore, the comparison of the MI samples to CUGs requires both the use of additional CUGs not defined in the IROD and an adjustment to account for the additivity of risk among chemicals.

4.1.1 Additional CUGs

Clean-up goals for chemicals detected in the MI soil samples, but not established in the IROD, were obtained either from the draft Facility-Wide Cleanup Goal Report (SAIC 2008) or from USEPA's Regional Screening Levels (RSLs). The CUGs used in the MI comparisons are summarized in Tables 4-1 and 4-2.

The intended future land use of the load lines is for the National Guard Trainee. Therefore, the CUGs established in SAIC (2008) for that receptor population were applied at each Load Line. There are no calculated CUGs in SAIC (2008) for several chemicals detected in the MI samples. For those chemicals, the USEPA's Regional Screening Levels (RSLs) based on a residential land use were used in the first comparison (USEPA, 2009).

Table 4-1
Cleanup Goals for Screening Chemicals of Potential Concern
Load Lines 2, 3, and 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Chemical	Carcinogenic CUG (Risk = 10^{-6})	Noncarcinogenic CUG (HQ = 0.1)	Background Concentration	Screening Value	Units
Semivolatiles					
Acenaphthene	--	340,000 (1)	NA	340,000	ug/kg
Anthracene	--	1,700,000 (1)	NA	1,700,000	ug/kg
Benzo(a)anthracene	4,770	--	NA	4,770	ug/kg
Benzo(a)pyrene	477	--	NA	477	ug/kg
Benzo(b)fluoranthene	4,770	--	NA	4,770	ug/kg
Benzo(g,h,i)perylene	--	3,815,000 (2)	NA	3,815,000	ug/kg
Benzo(k)fluoranthene	47,700	--	NA	47,700	ug/kg
Carbazole	--	835,000	NA	835,000	ug/kg
Chrysene	--	477,000	NA	477,000	ug/kg
Dibenzo(a,h)anthracene	477	--	NA	477	ug/kg
Dibenzofuran	1,192,000	--	NA	1,192,000	ug/kg
Diethylphthalate	--	4,900,000 (1)	NA	4,900,000	ug/kg
Fluoranthene	--	5,087,000	NA	5,087,000	ug/kg
Fluorene	--	11,458,000	NA	11,458,000	ug/kg
Indeno(1,2,3-cd)pyrene	4,770	--	NA	4,770	ug/kg
Naphthalene	--	1,541,000	NA	1,541,000	ug/kg
Phenanthrene	--	1,700,000 (2)	NA	1,700,000	ug/kg
Pyrene	--	3,815,000	NA	3,815,000	ug/kg
Pesticides					
4,4'-DDT	1,700 (1)	--	NA	1,700	ug/kg
alpha Chlordane	1,600 (3)	--	NA	1,600	ug/kg
alpha-BHC	77 (1)	--	NA	77	ug/kg
gamma Chlordane	1,600 (3)	--	NA	1,600	ug/kg
Heptachlor epoxide	1,480	7,750	NA	1,480	ug/kg
PCBs					
Aroclor-1254	3,460	5,490	NA	3,460	ug/kg
Aroclor-1260	3,460	--	NA	3,460	ug/kg
Explosives/Propellants					
1,3,5-Trinitrobenzene	--	16,542	NA	16,542	mg/kg
2,4,6-Trinitrotoluene	464	249	NA	249	mg/kg
2,4-Dinitrotoluene	13.4	652	NA	13.4	mg/kg
2,6-Dinitrotoluene	13.6	331	NA	13.6	mg/kg
2-Amino-4,6-dinitrotoluene	--	124	NA	124	mg/kg
4-Amino-2,6-dinitrotoluene	--	124	NA	124	mg/kg
HMX	--	23,464	NA	23,464	mg/kg
RDX	145	1,711	NA	145	mg/kg
Nitrocellulose	NA	NA	NA	NA	mg/kg

Table 4-1
Cleanup Goals for Screening Chemicals of Potential Concern
Load Lines 2, 3, and 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Chemical	Carcinogenic CUG (Risk = 10^{-6})	Noncarcinogenic CUG (HQ = 0.1)	Background Concentration	Screening Value	Units
Metals					
Aluminum	--	3,496	17,700	17,700	mg/kg
Antimony	--	175	0.96	175	mg/kg
Arsenic	2.78	114	15.4	15.4	mg/kg
Barium	--	351	88.4	351	mg/kg
Beryllium	--	16	NA	16	mg/kg
Cadmium	10.9	329	NA	10.9	mg/kg
Chromium, trivalent	--	12,000 (1)	NA	12,000	mg/kg
Chromium, hexavalent	1.64	5.61	NA	1.64	mg/kg
Cobalt	7.03	14	10.4	10.4	mg/kg
Copper	--	25,368	17.7	25,368	mg/kg
Iron	--	184,370	23,100	184,370	mg/kg
Lead	--	400 (1)	NA	400	mg/kg
Manganese	--	35.1	1,450	1,450	mg/kg
Mercury	--	172	0.036	172	mg/kg
Nickel	--	12,639	21.1	12,639	mg/kg
Selenium	--	39 (1)	NA	39	mg/kg
Silver	--	3,105	NA	3,105	mg/kg
Thallium	--	47.7	NA	47.7	mg/kg
Vanadium	--	2,304	31.1	2,304	mg/kg
Zinc	--	187,269	61.8	187,269	mg/kg

CUG = Ravenna Facility Wide Cleanup Goal for a National Guard Trainee (SAIC 2008), where available. These CUGs are draft and subject to change.

(1) Value is the 2009 RSL. RSLs based on a noncancer endpoint are divided by 10 for a hazard quotient of 0.1, except for lead.

(2) The CUG for pyrene was used for benzo(g,h,i)perylene and the RSL for anthracene was used for phenanthrene.

(3) The RSL for technical chlordane was used for both alpha and gamma chlordane.

Table 4-2
Cleanup Goals for Cumulative Risk and Hazard Determination
Load Lines 2, 3, and 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Chemical	Carcinogenic CUG (Risk = 10^{-5})	Noncarcinogenic CUG (HQ = 1)	Units
Benzo(a)pyrene	10,000 (1)	--	µg/kg
2,4,6-Trinitrotoluene	4,643 (2)	1,646 (1)	mg/kg
RDX	838 (1)	17,113 (2)	mg/kg
Arsenic	31 (1)	1,140 (2)	mg/kg
Lead	--	1,995 (1) (3)	mg/kg

CUG = Cleanup Goal

-- = No CUG for this endpoint.

(1) Interim Record of Decision Cleanup Goal for a National Guard Trainee (Shaw 2007).

(2) Ravenna Facility Wide Cleanup Goal for a National Guard Trainee, based on an excess cancer risk of 1E-5 or a noncancer hazard quotient of 1 (SAIC 2008).

(3) Based on an acceptable blood level not an HQ.

No CUGs have been calculated for essential nutrients (magnesium, potassium, sodium) by any methodology. They were not included in the comparisons since they were present at levels that are near or slightly above naturally occurring levels. These chemicals are toxic only at levels that are much higher than those associated with contact at a RVAAP area of concern (USACE, 2009). It was, therefore, assumed that no remediation of essential nutrients was warranted.

The MI samples were analyzed for both total chromium and hexavalent chromium. Therefore, the total chromium result minus any detected hexavalent chromium was considered representative of trivalent chromium. Since SAIC (2008) did not calculate a CUG based on trivalent chromium, the RSL for trivalent chromium was used for comparison purposes.

For three detected chemicals there are no Facility-Wide CUGs nor RSLs (nitrocellulose, benzo(g,h,i)perylene and phenanthrene). For the two PAHs, surrogate chemicals were selected based on similar chemical structures. The pyrene Facility-Wide CUG was selected for benzo(g,h,i)perylene and the anthracene RSL was selected for phenanthrene. These surrogates are selected based primarily on the number of benzene rings for each chemical. In general, anthracene is used as a surrogate for PAHs with three rings; and pyrene is used as a surrogate for PAHs with four or more benzene rings. These are the surrogates recommended by Ohio EPA in their Voluntary Action Program supplemental toxicity guidance (OEPA, 1999).

No CUG for nitrocellulose was developed since there are no available toxicity values and no suitable surrogate for this chemical.

4.1.2 Accounting for Additivity

Cleanup goals are calculated based on a single chemical basis. That is, each CUG calculation assumes a target cancer risk level that ranges from 10^{-6} to 10^{-4} or a noncancer hazard quotient ranging from 0.1 to 1.0. Exposure, however, can occur to multiple chemicals simultaneously. To account for potential additive effects, a "Sum of Ratios" approach was employed (USACE, 2009). In this approach a risk ratio for each chemical, for either cancer or noncancer (or both, depending on the chemical's toxic effects) is calculated. Mathematically, the risk ratio is the exposure point concentration (EPC) divided by the CUG. Risk ratios are then summed for all chemicals detected at a particular area (i.e., exposure area). If the sum of the risk ratios is equal to or less than one, it is concluded that CUGs are met and no remediation is warranted. Noncancer risk ratios are summed by similar toxic endpoint for each chemical since the target hazard index is applicable only on a similar target organ or mechanism basis.

4.1.3 Comparison Methodology

The comparisons were completed in a two-step process as described in USACE (2009). The first step was a screening comparison of each chemical detected in each MI sample against the National Guard Trainee CUG or RSL, using a target cancer risk level of 10^{-6} or a target hazard quotient of 0.1, whichever is lower. If the lower CUG was less than the facility-wide

background number for a given metal, then the background value was adopted as the CUG (Table 4-1).

Chemical concentrations that passed this screening step were not considered chemicals of concern and were not evaluated further (i.e., it was assumed these chemicals were not present at a level that warrant remediation). Chemicals that failed the screening step at any MI sampling location were retained for further analysis in a second comparison. Tables 4-3 through 4-5 summarize the chemicals detected in each MI sample, the comparison to the appropriate CUG, and those locations and chemicals where a second comparison was warranted.

The second comparison included the adjustment for additivity. For this comparison, the IROD CUGs were used and, where an IROD CUG was not available, the facility-wide CUGs for the National Guard trainee. Each MI sample, which represented one exposure area, was evaluated by calculating both cancer and noncancer risk ratios, using CUGs based on a target cancer risk level of 10^{-5} and a hazard quotient of 1.0, segregated by toxic endpoint, if necessary. The EPC for the risk ratio calculation was the MI sample result as reported by the laboratory. Table 4-6 summarizes the second comparison.

Lead is an exception to this procedure. Because of its unique toxicological properties (a noncarcinogen without a threshold), the hazard quotient approach is not used in developing a CUG. Rather, an acceptable blood lead level and associated soil concentration are determined via a modeling of environmental exposures and their effect on blood lead level. Lead, therefore, was not included in the multiple chemical adjustment evaluation, but was evaluated separately.

4.1.4 Comparison Results

The first comparison of MI analytical results to CUGs resulted in the identification of five chemicals selected as chemicals of concern (Tables 4-3 through 4-5). These chemicals are benzo(a)pyrene, TNT, RDX, arsenic, and lead. At least one of these chemicals was detected above its respective CUG at nine locations. Two of the locations were at Load Line 2 (Buildings DB-4WS and DB-10); and three of the locations were at Load Line 4 (Buildings G-8, G-11, and G-12). The other four locations were at Load Line 3 (Buildings EA-6/EA-28, EB-4A, EB-9A, and EB-25).

Table 4-6 summarizes the second comparison using the sum of risk ratios approach. For seven of the buildings, only one chemical was detected above the first comparison CUG. There were no exceedances of the second comparison CUGs for these exposure areas. For Building EB-4A the summed cancer risk ratio, as well as the noncancer risk ratio, was less than one. At Building EB-25, however, the summed cancer risk ratio was 1.7 and the noncancer risk ratio was 2.0 (liver endpoint). Therefore, remediation at the Building EB-25 footprint is warranted.

As described previously, it is inappropriate to evaluate lead using the sum of risk ratios approach. The only location where lead exceeded the first comparison CUG was Building DB-4-WS. The reported lead concentration of 1,170 mg/kg is, however, below the IROD CUG of

Table 4-3a
Volatiles, Pesticides, and PCBs Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	DB-3 Primary LL2SS-280D-1237-SO 06/18/08	DB-3 Blind Duplicate LL2SS-280D-1239-SO 06/18/08	DB-4A LL2SS-286D-1249-SO 06/24/08	DB-4A-WM LL2SS-288D-1252-SO 06/18/08	DB-10 LL2SS-298D-1266-SO 06/24/08
NO VOLATILE ORGANICS DETECTED							

Parameter	Units	CUG[1]	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08
NO PESTICIDES DETECTED										
Aroclor-1254	ug/kg	3,460	106	121	97.4	184	115	74.3	120	308
Aroclor-1260	ug/kg	3,460	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	39.6	50.6	127

Parameter	Units	CUG[1]	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08
NO PESTICIDES DETECTED						
Aroclor-1254	ug/kg	3,460	437 J	250 J	240 J	2240
Aroclor-1260	ug/kg	3,460	191 J	427 J	164 J	785

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Table 4-3b
Semivolatile Organics Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08
2,4-Dinitrotoluene	ug/kg	13,400	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U
Anthracene	ug/kg	1,700,000	81.7 U	82 U	83.8 U	137 J	81.3 U	91.6 U	88.4 U	83.3 U
Benzo(a)anthracene	ug/kg	4,770	118 J	160 J	178	371	392	157 J	164 J	83.3 U
Benzo(a)pyrene	ug/kg	477	104 J	148 J	175	316	402	155 J	167 J	83.3 U
Benzo(b)fluoranthene	ug/kg	4,770	81.7 U	109 J	127 J	240	285	110 J	128 J	83.3 U
Benzo(g,h,i)perylene	ug/kg	3,815,000	81.7 UJ	82 UJ	83.8 UJ	137 J	153 J	R	R	83.3 UJ
Benzo(k)fluoranthene	ug/kg	47,700	144 J	175	202	340	458	187	197	83.3 U
Chrysene	ug/kg	477,000	112 J	145 J	165 J	367	356	149 J	169 J	83.3 U
Fluoranthene	ug/kg	5,087,000	236	294	320	930	573	142 J	254	83.3 U
Indeno(1,2,3-cd)pyrene	ug/kg	4,770	81.7 UJ	82 UJ	83.8 J	150 J	169 J	91.6 UJ	88.4 UJ	83.3 UJ
Phenanthrene	ug/kg	1,700,000	96.2 J	106 J	95.9 J	536	125 J	91.6 U	93.6 J	83.3 U
Pyrene	ug/kg	3,815,000	185	230	252	657	491	143 J	219	83.3 U

Parameter	Units	CUG[1]	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08	DC-1 LL2SS-276M-1229-SO 06/20/08
2,4-Dinitrotoluene	ug/kg	13,400	89 U	91 U	231	175 U	85.6 U	84 U	82.9 UJ	433 U
Anthracene	ug/kg	1,700,000	175 J	147 J	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U
Benzo(a)anthracene	ug/kg	4,770	427	238	141 J	445	85.6 U	84 U	82.9 UJ	433 U
Benzo(a)pyrene	ug/kg	477	379	219	124 J	406	85.6 U	84 U	82.9 UJ	433 U
Benzo(b)fluoranthene	ug/kg	4,770	301	150 J	103 J	339 J	85.6 U	84 U	82.9 UJ	433 U
Benzo(g,h,i)perylene	ug/kg	3,815,000	237 J	100 J	87.6 UJ	R	85.6 UJ	84 UJ	82.9 UJ	433 UJ
Benzo(k)fluoranthene	ug/kg	47,700	382	183	113 J	469	85.6 U	84 U	82.9 UJ	433 U
Chrysene	ug/kg	477,000	477 J	251 J	157 J	431	85.6 U	84 U	82.9 UJ	433 U
Fluoranthene	ug/kg	5,087,000	1090 J	638 J	377 J	966	85.6 U	84 U	82.9 UJ	547 J
Indeno(1,2,3-cd)pyrene	ug/kg	4,770	201 J	91 UJ	87.6 UJ	175 UJ	85.6 UJ	84 UJ	82.9 UJ	433 UJ
Phenanthrene	ug/kg	1,700,000	885 J	633	365 J	406	85.6 U	84 U	82.9 UJ	433 U
Pyrene	ug/kg	3,815,000	978 J	555 J	337 J	742	85.6 U	84 U	82.9 UJ	538 J

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Table 4-3c
Explosives and Propellants Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	2-51, 2-51A LL2SS-275M-1228-SO 06/18/08	DA-5 LL2SS-290M-1254-SO 06/20/08	DA-6, DA-28 LL2SS-291M-1255-SO 06/20/08	DA-6A, DA-28A LL2SS-292M-1256-SO 06/20/08	DA-7 LL2SS-293M-1257-SO 06/20/08	DA-21 Primary LL2SS-305M-1273-SO 06/17/08	DA-21 MI Duplicate LL2SS-305M-1275-SO 06/17/08	DA-21 Blind Duplicate LL2SS-305M-1276-SO 06/17/08	DB-2 LL2SS-277M-1230-SO 06/17/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2,4,6-Trinitrotoluene	mg/kg	249	0.0994 U	0.208 J	0.0996 U	24.6 J	4.74	5.81 J	8.22 J	11.8 J	0.0995 U
2,4-Dinitrotoluene	mg/kg	13	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.0994 U	0.0995 U	0.0996 U	0.263 J	0.0996 U	0.327	0.345	0.379	0.0995 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.0994 U	0.0995 U	0.0996 U	0.513 J	0.19 J	0.607	0.667	0.656	0.0995 U
HMX	mg/kg	23,464	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
RDX	mg/kg	145	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
Nitrocellulose	mg/kg	NA	--	--	--	--	--	--	--	--	--

Parameter	Units	CUG[1]	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4 (#1) LL2SS-281M-1240-SO 06/24/08	DB-4 (#2) LL2SS-282M-1241-SO 06/24/08	DB-4-VP1, -4A-VP1 LL2SS-283M-1242-SO 10/28/08	DB-4A LL2SS-286M-1248-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
2,4,6-Trinitrotoluene	mg/kg	249	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	3.19	0.624	0.1 UJ	0.1 U
2,4-Dinitrotoluene	mg/kg	13	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.119 J	0.1 UJ	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.267	0.1 UJ	0.1 U
HMX	mg/kg	23,464	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
RDX	mg/kg	145	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 UJ	0.1 U
Nitrocellulose	mg/kg	NA	--	--	--	--	2 U	--	--	--	2 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

NA = No CUG is available for this chemical.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3c
Explosives and Propellants Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG(1)	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-8, DB-8A, DB-22 LL2SS-294M-1258-SO 06/17/08	DB-9 LL2SS-295M-1259-SO 06/19/08	DB-9A LL2SS-296M-1260-SO 06/18/08	DB-10 (#1) Primary LL2SS-297M-1261-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.213 J	1.25	0.821 J	0.383 J	0.855	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2,4,6-Trinitrotoluene	mg/kg	249	2.68	66.6	125 J	215 J	339 J	0.0996 U	0.0994 U	0.0995 U	0.0997 UJ
2,4-Dinitrotoluene	mg/kg	13	0.0998 U	0.0992 U	0.111 J	0.182 J	0.211 J	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.178 J	0.538	1.75	2.05	3.39	0.0996 U	0.0994 U	0.0995 U	0.0997 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.389	1.17	3.07	3.73	4.84	0.0996 U	0.0994 U	0.0995 U	0.0997 U
HMX	mg/kg	23,464	0.0998 U	0.133 J	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
RDX	mg/kg	145	0.212 J	0.477	0.441 J	0.259	0.362	0.0996 U	0.0994 U	0.0995 U	0.0997 U
Nitrocellulose	mg/kg	NA	--	36.2 J	--	--	--	--	--	--	2 U

Parameter	Units	CUG(1)	DB-10 (#1) MI Duplicate LL2SS-297M-1263-SO 06/24/08	DB-10 (#1) Blind Duplicate LL2SS-297M-1264-SO 06/24/08	DB-10 (#2) LL2SS-298M-1265-SO 06/24/08	DB-10-VP1, -VP2 LL2SS-313M-284-SO 10/28/08	DB-11 LL2SS-299M-1267-SO 06/19/08	DB-13 LL2SS-300M-1268-SO 06/19/08	DB-13A LL2SS-301M-1269-SO 06/19/08	DB-13B LL2SS-302M-1270-SO 06/19/08	DB-19 LL2SS-303M-1271-SO 06/17/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,4,6-Trinitrotoluene	mg/kg	249	0.0994 U	0.438 J	4.93	1.24 J	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,4-Dinitrotoluene	mg/kg	13	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.0994 U	0.0996 U	0.268	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.0994 U	0.107 J	0.648	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
HMX	mg/kg	23,464	0.0994 U	0.0996 U	0.269	0.369 J	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
RDX	mg/kg	145	0.0994 U	0.212 J	0.192 J	1.27 J	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
Nitrocellulose	mg/kg	NA	1.99 U	1.99 U	5.61	--	--	--	--	--	--

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

NA = No CUG is available for this chemical.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3c
Explosives and Propellants Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG(1)	DB-20 LL2SS-304M-1272-SO 06/20/08	DB-25 LL2SS-306M-1277-SO 06/18/08	DB-26, DB-29 LL2SS-307M-1278-SO 06/19/08	DB-27, DB-27B LL2SS-308M-1279-SO 06/19/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-27C LL2SS-310M-1281-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
2,4,6-Trinitrotoluene	mg/kg	249	3.68	0.105 J	0.1 U	26.7	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2,4-Dinitrotoluene	mg/kg	13	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.115 J	0.0992 U	0.1 U	0.191 J	0.0991 U	0.0997 U	0.0997 U	0.0981 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.229 J	0.0992 U	0.1 U	0.443	0.0991 U	0.0997 U	0.0997 U	0.0981 U
HMX	mg/kg	23,464	0.0994 U	0.405	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
RDX	mg/kg	145	0.0994 U	0.244 J	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
Nitrocellulose	mg/kg	NA	--	--	--	--	--	--	--	--

Parameter	Units	CUG(1)	DC-1 LL2SS-276M-1229-SO 06/20/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.0995 U
2,4,6-Trinitrotoluene	mg/kg	249	4.99
2,4-Dinitrotoluene	mg/kg	13	0.0995 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.438
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.741
HMX	mg/kg	23,464	0.0995 U
RDX	mg/kg	145	0.0995 U
Nitrocellulose	mg/kg	NA	--

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

NA = No CUG is available for this chemical.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3d
Metals Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	2-51, 2-51A LL2SS-275M-1228-SO 06/18/08	DA-5 LL2SS-290M-1254-SO 06/20/08	DA-6, DA-28 LL2SS-291M-1255-SO 06/20/08	DA-6A, DA-28A LL2SS-292M-1256-SO 06/20/08	DA-7 LL2SS-293M-1257-SO 06/20/08	DA-21 Primary LL2SS-305M-1273-SO 06/17/08	DA-21 MI Duplicate LL2SS-305M-1275-SO 06/17/08	DA-21 Blind Duplicate LL2SS-305M-1276-SO 06/17/08
Aluminum	mg/kg	17,700	8000	6900	6720	7850	9650	8280	9180	7980
Arsenic	mg/kg	15.4	9.89 J	10 J	9.27 J	12.8 J	10.7 J	11.5	10.4	10.8
Barium	mg/kg	351	48.1	49.4	44.1	47.3	66	51.5	50	43.7
Beryllium	mg/kg	16	0.383	0.429 J	0.36 J	0.456 J	0.532 J	0.417	0.424	0.386
Cadmium	mg/kg	10.9	0.349	0.469 J	0.428 J	0.441 J	0.518 J	0.432 J	0.475 J	0.459 J
Chromium, Trivalent[2]	mg/kg	12,000	49.3 J	12.7	12.5	12.4	13.8	17.5	21.2	17.9
Cobalt	mg/kg	10.4	5.6 J	7.06	4.29	6.45	7.58	5.88 J	6.38 J	5.96 J
Copper	mg/kg	25,368	15.3	17.1 J	17.2 J	19.2 J	20.8 J	17.6 J	17.8 J	17.9 J
Iron	mg/kg	184,370	16400 J	20200	17600	20000	23100	18900 J	22800 J	19600 J
Lead	mg/kg	400	30.4	13.7	20.5	18.1	16.2	22.9 J	19.5 J	17.9 J
Manganese	mg/kg	1,450	345 J	393	247	372	316	345 J	327 J	299 J
Mercury	mg/kg	172	0.0163 J	0.0146 J	0.0214 J	0.0216 J	0.0228 J	0.0141 J	0.0139 J	0.0106 U
Nickel	mg/kg	12,639	30.7 J	264	26	19.9	118	41.9 J	37.8 J	84.9 J
Selenium	mg/kg	39	0.295	0.198 J	0.216 J	0.383 J	0.203 J	0.206 J	0.238	0.253
Silver	mg/kg	3,105	0.176 U	0.273 J	0.26 J	0.246 J	0.254 J	0.202 UJ	0.197 UJ	0.197 UJ
Thallium	mg/kg	47.7	0.108	0.119	0.117	0.119	0.156	0.13	0.119	0.124
Vanadium	mg/kg	2,304	14.1	12	10.4	12.6	15.2	12.7 J	14.3 J	12.4 J
Zinc	mg/kg	187,269	73.2	56.3	58	63	73.5	59.5 J	60.9 J	60.4 J
Chromium, Hexavalent	mg/kg	1.64	0.101 U	0.256 U	0.252 U	0.0518 U	0.0522 U	0.0972 U	0.103 U	0.102 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3d
Metals Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	DB-2 LL2SS-277M-1230-SO 06/17/08	DB-3 (#1) Primary LL2SS-278M-1231-SO 06/18/08	DB-3 (#1) MI Duplicate LL2SS-278M-1233-SO 06/18/08	DB-3 (#1) Blind Duplicate LL2SS-278M-1234-SO 06/18/08	DB-3 (#2) LL2SS-279M-1235-SO 06/18/08	DB-3 (#3) LL2SS-280M-1236-SO 06/18/08	DB-4 (#1) LL2SS-281M-1240-SO 06/24/08	DB-4 (#2) LL2SS-282M-1241-SO 06/24/08	DB-4-VP1, -4A-VP1 LL2SS-283M-1242-SO 10/28/08
Aluminum	mg/kg	17,700	8380	8190	7940	8550	9670	8460	5030	6090	8310
Arsenic	mg/kg	15.4	9.49	12.1 J	12.4 J	10.4 J	12.4 J	11.3 J	8.72	10.2	9.37
Barium	mg/kg	351	48.3	44.9	46.2	51.5	49.1	43.7	28.7	33.5	71.1
Beryllium	mg/kg	16	0.481	0.491	0.513	0.542	0.544	0.434	0.247	0.308	0.544 J
Cadmium	mg/kg	10.9	0.388 J	0.386	0.407	0.472	0.396	0.374	0.281	0.311	2.42
Chromium, Trivalent	mg/kg	12,000	19.3	27.2 J	23.4 J	22.1 J	18.8 J	18.1 J	7.13	8.31	15.2
Cobalt	mg/kg	10.4	6.78 J	7.41 J	8.12 J	8 J	8.25 J	6.68 J	4.82	5.87	5.03
Copper	mg/kg	25,368	21.3 J	21	22.6	22.5	21.4	20.8	12.9 J	17.1 J	11.6 J
Iron	mg/kg	184,370	18600 J	20200 J	20600 J	21100 J	22400 J	20700 J	14600	17500	19200
Lead	mg/kg	400	19.3 J	23.8	22.7	22.4	24.9	19.6	11.4 J	13 J	28.5
Manganese	mg/kg	1,450	333 J	324 J	368 J	338 J	337 J	333 J	278	320	283
Mercury	mg/kg	172	0.0113 J	0.015 J	0.012 J	0.0142 J	0.014 J	0.0167 J	0.0106 U	0.0107 U	0.0329 J
Nickel	mg/kg	12,639	53.5 J	28.2 J	180 J	35.4 J	34.7 J	33 J	14.2	17.1	20.8
Selenium	mg/kg	39	0.259	0.191 J	0.316	0.2	0.253	0.322	0.211 J	0.219 J	0.53
Silver	mg/kg	3,105	0.195 UJ	0.179 U	0.236 J	0.714	0.197 U	0.189 U	0.24 J	0.184 U	0.192 U
Thallium	mg/kg	47.7	0.138	0.129	0.136	0.143	0.138	0.138	0.0919	0.106	0.168 J
Vanadium	mg/kg	2,304	13.6 J	12.3	12.3	13.5	14.5	13.2	8.95 J	10.5 J	17.5
Zinc	mg/kg	187,269	59.4 J	62.4	66.4	61.3	68.2	68.3	45.3	57.9	74.2
Chromium, Hexavalent	mg/kg	1.64	0.106 U	0.0464 U	0.0773 J	0.0457 U	0.0501 U	0.192 U	0.524 UJ	0.528 UJ	0.103 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3d
Metals Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WN LL2SS-288M-1251-SO 06/18/08	DB-4-WS Primary LL2SS-285M-1244-SO 06/20/08	DB-4-WS MI Duplicate LL2SS-285M-1246-SO 06/20/08	DB-4-WS Blind Duplicate LL2SS-285M-1247-SO 06/20/08	DB-8, DB-8A, DB-22 LL2SS-294M-1258-SO 06/17/08	DB-9 LL2SS-295M-1259-SO 06/19/08	DB-9A LL2SS-296M-1260-SO 06/18/08
Aluminum	mg/kg	17,700	8770	8120	10700	7840	7640	8600	7670	6840	8980
Arsenic	mg/kg	15.4	14.5	12.3	15 J	9.75 J	9.95 J	10 J	9.94	9.12 J	10.5 J
Barium	mg/kg	351	42	45.8	58.7	57.8	56.3	68.1	45.9	37.8	41.1
Beryllium	mg/kg	16	0.502	0.454	0.547	0.476 J	0.449 J	0.529 J	0.418	0.362 J	0.447
Cadmium	mg/kg	10.9	0.424	0.46	0.535	0.865 J	0.647 J	0.735 J	0.464 J	0.541 J	0.409
Chromium, Trivalent	mg/kg	12,000	12.7	12.1	16.3 J	14	12.2	13.7	29.5	27.1	37.6 J
Cobalt	mg/kg	10.4	9.14	7.38	8.74 J	7.25	7.49	8.25	5.91 J	5.45	7.37 J
Copper	mg/kg	25,368	22.5 J	21.4 J	23.2	20.5 J	18.4 J	18.7 J	17.9 J	18.2 J	21
Iron	mg/kg	184,370	28800	21300	23800 J	21200	21300	22900	18400 J	18200	21000 J
Lead	mg/kg	400	17.6 J	18.6 J	19	38.7 J	1170 J	29.8 J	21.4 J	21	16.1
Manganese	mg/kg	1,450	372	350	349 J	405	374	384	372 J	308	312 J
Mercury	mg/kg	172	0.0109 U	0.011 U	0.0102 U	0.0346 J	0.035 J	0.0527 J	0.0181 J	0.0159 J	0.0104 U
Nickel	mg/kg	12,639	31.5	59.4	71.6 J	22	21.9	27.5	340 J	33.5	40.8 J
Selenium	mg/kg	39	0.241 J	0.242 J	0.241	0.174 J	0.209 J	0.238 J	0.265	0.202 J	0.196 J
Silver	mg/kg	3,105	0.306 J	0.214 J	0.19 J	0.216 J	0.229 J	0.23 J	0.188 UJ	0.608	0.282 J
Thallium	mg/kg	47.7	0.131	0.109	0.144	0.111	0.0973	0.117	0.113	0.114	0.111
Vanadium	mg/kg	2,304	12.9 J	12.1 J	15.7	13.4	13.6	15	12.3 J	11.5	14.4
Zinc	mg/kg	187,269	75.2	75.5	74	93	102	92.6	60.7 J	56.4	68
Chromium, Hexavalent	mg/kg	1.64	0.274 UJ	0.272 UJ	0.119 J	0.262 U	0.275 U	0.278 U	0.214 U	0.249 U	0.0522 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3d
Metals Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	DB-10 (#1) Primary LL2SS-297M-1261-SO 06/24/08	DB-10 (#1) MI Duplicate LL2SS-297M-1263-SO 06/24/08	DB-10 (#1) Blind Duplicate LL2SS-297M-1264-SO 06/24/08	DB-10 (#2) LL2SS-298M-1265-SO 06/24/08	DB-10-VP1, -VP2 LL2SS-313M-1284-SO 10/28/08	DB-11 LL2SS-299M-1267-SO 06/19/08	DB-13 LL2SS-300M-1268-SO 06/19/08	DB-13A LL2SS-301M-1269-SO 06/19/08	DB-13B LL2SS-302M-1270-SO 06/19/08
Aluminum	mg/kg	17,700	7360	7320	7250	6990	7920	8190	5700	5460	7730
Arsenic	mg/kg	15.4	17.0	11.3	11.6	10.8	8.34	9.6 J	9.92 J	9.46 J	8.64 J
Barium	mg/kg	351	44.7	50.1	45.9	50.5	77.8	57	33.6	33.8	68.4
Beryllium	mg/kg	16	0.382	0.428	0.403	0.412	0.815 J	0.473 J	0.324 J	0.345 J	0.763 J
Cadmium	mg/kg	10.9	0.453	0.454	0.508	0.603	1.03	0.704 J	0.473 J	0.526 J	0.536 J
Chromium, Trivalent	mg/kg	12,000	9.8	9.58	11.5	9.61	32.7	15.8	10.6	11.7	14.4
Cobalt	mg/kg	10.4	6.44	6.08	6.79	6.04	4.35	6.14	5.02	4.99	5.8
Copper	mg/kg	25,368	22.6 J	22.7 J	24.8 J	23.6 J	21 J	24.7 J	17 J	15.9 J	19.3 J
Iron	mg/kg	184,370	21400	19300	21500	19200	14400	22200	16600	17100	17700
Lead	mg/kg	400	23.5 J	28.9 J	27 J	28.4 J	72.9	19.9	15.2	12.1	33
Manganese	mg/kg	1,450	428	457	447	447	486	357	318	289	516
Mercury	mg/kg	172	0.0106 U	0.0106 U	0.0118 J	0.0148 J	0.0214 J	0.015 J	0.0219 J	0.015 J	0.0257 J
Nickel	mg/kg	12,639	20.3	17.6	27.8	21	55.2	29.1	22.2	21.9	37.6
Selenium	mg/kg	39	0.312 J	0.308 J	0.357 J	0.279 J	0.629	0.25 J	0.179 J	0.152 J	0.33 J
Silver	mg/kg	3,105	0.192 UJ	0.2 U	0.504 J	0.311 J	0.173 U	1.5	0.507	0.275 J	3.34
Thallium	mg/kg	47.7	0.125	0.126	0.157	0.119	0.105 J	0.122	0.103	0.0889	0.116
Vanadium	mg/kg	2,304	12.6 J	11.9 J	12.4 J	11.2 J	12.9	14.1	9.6	9.36	11
Zinc	mg/kg	187,269	80.9	86.8	88.2	87.7	88.1	84.2	59.3	60.7	81.7
Chromium, Hexavalent	mg/kg	1.64	0.542 UJ	0.54 UJ	0.514 UJ	0.521 UJ	0.1 U	0.257 U	0.103 U	0.0511 U	0.0524 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actua limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-3d
Metals Detected in Soil - Load Line 2
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[(1)]	DB-19 LL2SS-303M-1271-SO 06/17/08	DB-20 LL2SS-304M-1272-SO 06/20/08	DB-25 LL2SS-306M-1277-SO 06/18/08	DB-26, DB-29 LL2SS-307M-1278-SO 06/19/08	DB-27, DB-27B LL2SS-308M-1279-SO 06/19/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-27C LL2SS-310M-1281-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08	DC-1 LL2SS-276M-1229-SO 06/20/08
Aluminum	mg/kg	17,700	5820	6980	12800	5510	4750	6250	4820	10200	11300	6860
Arsenic	mg/kg	15.4	10	8.4 J	14.4 J	10.2 J	8.37 J	8.38 J	8.09 J	10.7 J	10.5	9.94 J
Barium	mg/kg	351	28.8	41.4	86.5	28.7	23.2	38.5	23.2	60.1	88.4	63.6
Beryllium	mg/kg	16	0.303	0.382 J	0.664	0.297 J	0.255 J	0.326 J	0.268 J	0.535	0.895 J	0.441 J
Cadmium	mg/kg	10.9	0.534 J	0.428 J	0.87	0.365 J	0.38 J	0.455 J	0.355 J	0.4	0.527	0.511 J
Chromium, Trivalent	mg/kg	12,000	8.44	11.1	29.6 J	9.59	9.85	11.5	6.52	56.7 J	46.3	12.1
Cobalt	mg/kg	10.4	5.33 J	5.68	9.34 J	4.38	3.93	5.35	3.44	7.03 J	7.31	5.89
Copper	mg/kg	25,368	24.2 J	18.1 J	33.3	12.7 J	13.9 J	19.4 J	12.7 J	41.1	53.2 J	20.2 J
Iron	mg/kg	184,370	16500 J	18400	28500 J	14000	14400	17300	13000	19300 J	22300	18800
Lead	mg/kg	400	16.1 J	18.8	74.8	89.2	9.04	9.06	8.59	17.9	21.8	26.5
Manganese	mg/kg	1,450	272 J	362	332 J	276	206	329	209	426 J	945	402
Mercury	mg/kg	172	0.0105 J	0.0173 J	0.0105 U	0.0204 J	0.00991 U	0.0123 J	0.01 U	0.0276 J	0.0278 J	0.114
Nickel	mg/kg	12,639	48.3 J	25.7	38.9 J	23.3	14	25.2	14.6	40.9 J	20.9	95.3
Selenium	mg/kg	39	0.165 J	0.206 J	0.215	0.277 J	0.135 J	0.19 J	0.132 J	0.368	0.502	0.286 J
Silver	mg/kg	3,105	0.195 UJ	0.181 U	0.29 J	0.31 J	0.176 U	0.189 U	0.23 J	0.206 J	0.181 U	0.208 J
Thallium	mg/kg	47.7	0.0978	0.103	0.143	0.0998	0.064	0.075	0.0609	0.119	0.144 J	0.121
Vanadium	mg/kg	2,304	9.49 J	11.3	18.7	9.23	8.06	10.4	7.84	17.1	19.9	12.3
Zinc	mg/kg	187,269	57.2 J	57.6	157	50.8	52	60.9	44.7	68.1	70.8	81.8
Chromium, Hexavalent	mg/kg	1.64	0.506 U	0.0501 U	0.107 U	0.0527 U	0.494 U	0.521 U	0.0508 U	0.0991 U	0.103 U	0.104 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-4a
Volatiles, Pesticides, and PCBs Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	EB-3 Primary LL3SS-249D-1181-SO 06/24/08	EB-3 Blind Duplicate LL3SS-249D-1179-SO 06/24/08	EB-4-A LL3SS-256D-1192-SO 06/26/08	EB-10/10A LL3SS-266D-1206-SO 06/24/08
NO VOLATILE ORGANICS DETECTED						

Parameter	Units	CUG[1]	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-3 LL3SS-249M-1178-SO 06/24/08	EB-4 (#1) LL3SS-250M-1182-SO 06/24/08	EB-4 (#2) LL3SS-251M-1183-SO 06/24/08	EB-4-A (#1) LL3SS-255M-1187-SO 06/26/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08
NO PESTICIDES DETECTED											
Aroclor-1254	ug/kg	3,460	117	8.25 U	21.6 J	611	672 J	1070	1380 J	1390	1290
Aroclor-1260	ug/kg	3,460	53.2	8.25 U	8.57 UJ	233	253 J	89.4 U	84.3 U	85.7 U	85.4 U

Parameter	Units	CUG[1]	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08	EB-10/10A (#2) LL3SS-267M-1207-SO 06/25/08	EB-11 Primary LL3SS-268M-1208-SO 06/25/08	EB-11 MI Duplicate LL3SS-268M-1210-SO 06/25/08	EB-11 Blind Duplicate LL3SS-268M-1211-SO 06/25/08
NO PESTICIDES DETECTED							
Aroclor-1254	ug/kg	3,460	42.4	169	49.8	49.9	63.8
Aroclor-1260	ug/kg	3,460	21.9	8.54 U	8.51 U	8.66 U	8.36 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Table 4-4b
Semivolatile Organics Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EB-3 (#1) LL3SS-248M-1177-SO 06/24/08	EB-3 (#2) LL3SS-249M-1178-SO 06/24/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08	EB-4A-WS Primary LL3SS-258M-1194-SO 06/27/08	EB-4A-WS MI Duplicate LL3SS-258M-1196-SO 06/27/08	EB-4A-WS Blind Duplicate LL3SS-258M-1197-SO 06/27/08	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08
Acenaphthene	ug/kg	340,000	238	84.1 UJ	86 U	225 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Anthracene	ug/kg	1,700,000	693	84.1 UJ	86 U	648	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Benzo(a)anthracene	ug/kg	4,770	2380	84.1 UJ	86 U	772	151 J	120 J	81 U	100 J	94.7 J	286
Benzo(a)pyrene	ug/kg	477	1820	84.1 UJ	86 U	622	140 J	112 J	81 U	97.7 J	92.4 J	268
Benzo(b)fluoranthene	ug/kg	4,770	1590 J	84.1 UJ	86 U	478	139 J	111 J	81 UJ	79.8 J	85.3 UJ	223
Benzo(g,h,i)perylene	ug/kg	3,815,000	820 J	R	R	218 J	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 UJ
Benzo(k)fluoranthene	ug/kg	47,700	1690	84.1 UJ	86 U	696	138 J	115 J	81 U	81.2 J	85.3 UJ	262
Carbazole	ug/kg	835,000	439	84.1 UJ	86 U	289 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Chrysene	ug/kg	477,000	2290	84.1 UJ	86 U	753	168 J	132 J	81 U	101 J	92.9 J	271
Dibenzo(a,h)anthracene	ug/kg	477	291 J	84.1 UJ	86 UJ	172 UJ	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 UJ
Dibenzofuran	ug/kg	1,192,000	91.8 J	84.1 UJ	86 U	189 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Fluoranthene	ug/kg	5,087,000	5570 J	84.1 UJ	86 U	2030	347	275 J	135 J	231 J	204 J	504
Fluorene	ug/kg	11,458,000	177	84.1 UJ	86 U	333 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Indeno(1,2,3-cd)pyrene	ug/kg	4,770	873 J	84.1 UJ	86 UJ	231 J	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	88 J
Naphthalene	ug/kg	1,541,000	143 J	84.1 UJ	86 UJ	176 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Phenanthrene	ug/kg	1,700,000	2270	84.1 UJ	86 U	2240	260	166 J	83.5 J	192	129 J	246
Pyrene	ug/kg	3,815,000	3930	84.1 UJ	86 U	1610	301	221 J	111 J	191	160 J	409

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-4c
Explosives and Propellants Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	3-51, 3-51A, EB-20 LL3SS-246M-1175-SO 06/25/08	EA-5 LL3SS-259M-1198-SO 06/27/08	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-7 LL3SS-262M-1201-SO 06/26/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-2 LL3SS-247M-1176-SO 06/24/08	EB-3 (#1) LL3SS-248M-1177-SO 06/24/08	EB-3 (#2) LL3SS-249M-1178-SO 06/24/08	EB-4 (#1) LL3SS-250M-1182-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2,4,6-Trinitrotoluene	mg/kg	249	0.0997 U	0.0994 U	0.628	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.842
2,4-Dinitrotoluene	mg/kg	13.4	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2,6-Dinitrotoluene	mg/kg	13.6	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.0997 U	0.0994 U	0.196 J	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.0997 U	0.0994 U	0.414	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.166 J
HMX	mg/kg	23,464	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
RDX	mg/kg	145	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.197 J
Nitrocellulose	mg/kg	NA	--	--	--	--	1.99 U	--	--	1.99 UJ	--

Parameter	Units	CUG[1]	EB-4 (#2) LL3SS-251M-1183-SO 06/24/08	EB-4-A (#1) LL3SS-255M-1187-SO 06/26/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08	EB-4A-WN LL3SS-257M-1193-SO 06/27/08	EB-4A-WS Primary LL3SS-258M-1194-SO 06/27/08	EB-4A-WS MI Duplicate LL3SS-258M-1196-SO 06/27/08	EB-4A-WS Blind Duplicate LL3SS-258M-1197-SO 06/27/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.0997 U	0.1 U	2 U	10 U	0.993 U	0.29	0.1 U	0.0989 U	0.1 U
2,4,6-Trinitrotoluene	mg/kg	249	1.8	6.62	51	295	28.7	52.1	40.9 J	5.25 J	20.5 J
2,4-Dinitrotoluene	mg/kg	13.4	0.0997 U	0.1 U	0.1 U	10 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2,6-Dinitrotoluene	mg/kg	13.6	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.139 J	0.273	2 U	10 U	0.993 U	0.794	0.473 J	0.358 J	0.722 J
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.279	0.705	2 U	10 U	0.993 U	1.93	1.37	1.03	1.74
HMX	mg/kg	23,464	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
RDX	mg/kg	145	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
Nitrocellulose	mg/kg	NA	--	--	16	65.2	19.1	--	--	--	--

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

NA = No CUG is available for this chemical.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-4c
Explosives and Propellants Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	EB-4-VP1, -4A-VP1, -10-VP1, -10-VP2 LL3SS-252M-1184-SO 06/26/08	EB-4-WS LL3SS-254M-1186-SO 06/25/08	EB-8, -8A, -22 LL3SS-263M-1202-SO 06/26/08	EB-9 LL3SS-264M-1203-SO 06/26/08	EB-9A LL3SS-265M-1204-SO 06/24/08	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08	EB-10/10A (#2) LL3SS-267M-1207-SO 06/25/08	EB-11 Primary LL3SS-268M-1208-SO 06/25/08	EB-11 MI Duplicate LL3SS-268M-1210-SO 06/25/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.099 U	0.0991 U	0.0993 U	0.099 U	0.219 J	0.0996 U	0.1 U	0.0998 U	0.101 U
2,4,6-Trinitrotoluene	mg/kg	249	0.277	0.989	0.0993 U	0.099 U	700	0.0996 U	0.1 U	0.0998 U	0.101 U
2,4-Dinitrotoluene	mg/kg	13.4	0.099 U	0.0991 U	0.0993 U	0.099 U	0.284	0.0996 U	0.1 U	0.0998 U	0.101 U
2,6-Dinitrotoluene	mg/kg	13.6	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U	0.101 U
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.099 U	0.0991 U	0.0993 U	0.099 U	1.76	0.0996 U	0.1 U	0.0998 U	0.101 U
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.147 J	0.554	0.0993 U	0.099 U	4.55	0.0996 U	0.1 U	0.0998 U	0.101 U
HMX	mg/kg	23,464	0.099 U	0.0991 U	0.0993 U	0.099 U	0.854	0.0996 U	0.1 U	0.0998 U	0.101 U
RDX	mg/kg	145	0.099 U	0.0991 U	0.0993 U	0.099 U	6.42	0.449	0.1 U	0.0998 U	0.101 U
Nitrocellulose	mg/kg	NA	--	--	--	--	--	2 U	--	--	--

Parameter	Units	CUG[1]	EB-11 Blind Duplicate LL3SS-268M-1211-SO 06/25/08	EB-13, EB-26 LL3SS-269M-1212-SO 06/25/08	EB-13A LL3SS-270M-1213-SO 06/25/08	EB-13B LL3SS-271M-1214-SO 06/25/08	EB-19 LL3SS-272M-1215-SO 06/24/08	EB-25 LL3SS-274M-1217-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	16,542	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	3.07
2,4,6-Trinitrotoluene	mg/kg	249	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	3340
2,4-Dinitrotoluene	mg/kg	13.4	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	1.72
2,6-Dinitrotoluene	mg/kg	13.6	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.185 J
2-Amino-4,6-dinitrotoluene	mg/kg	124	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	2.66
4-Amino-2,6-dinitrotoluene	mg/kg	124	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	9.54
HMX	mg/kg	23,464	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	73.4
RDX	mg/kg	145	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	831
Nitrocellulose	mg/kg	NA	--	--	--	--	--	--

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

NA = No CUG is available for this chemical.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-4d
Metals Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	3-51, 3-51A, EB-20 LL3SS-246M-1175-SO 06/25/08	EA-5 LL3SS-259M-1198-SO 06/27/08	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-7 LL3SS-262M-1201-SO 06/26/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-2 LL3SS-247M-1176-SO 06/24/08	EB-3 (#1) LL3SS-248M-1177-SO 06/24/08	EB-3 (#2) LL3SS-249M-1178-SO 06/24/08	EB-4 (#1) LL3SS-250M-1182-SO 06/24/08
Aluminum	mg/kg	17,700	9100	9770	8330	6850	5950	5810	7140	5500	6410
Antimony	mg/kg	175	0.266 J	R	R	R	R	R	R	R	R
Arsenic	mg/kg	15.4	9.31 J	11.9 J	10.5 J	11.5 J	10.9 J	11.8	11.1	10.1	10.4
Barium	mg/kg	351	94.4	51.5	40.9	35.3	32.1	32.3	38.7	29.4	41.7
Beryllium	mg/kg	16	0.767	0.485	0.439	0.354	0.314	0.327	0.37	0.298	0.363
Cadmium	mg/kg	10.9	0.569	0.442	0.535	0.329	0.354	0.403	0.366	0.318	0.479
Chromium, Trivalent[2]	mg/kg	12,000	10.7	13.5 J	12.2 J	13	9.89	8.11	10.4	8.12	11.8
Cobalt	mg/kg	10.4	4.7	7.95 J	7.51 J	6.01	6.05	5.86	6.45	5.15	5.91
Copper	mg/kg	25,368	14.1 J	17.3	18.7	17.8 J	20.5 J	20.7 J	18.6 J	17.8 J	20.7 J
Iron	mg/kg	184,370	15600	20800 J	19700 J	17500	17200	18000	18500	16300	17800
Lead	mg/kg	400	21.8 J	25.8	16.3	14.9 J	12.7 J	18 J	27.6 J	14 J	32.5 J
Manganese	mg/kg	1,450	1060 J	396 J	370 J	320 J	338 J	351	318	278	363
Mercury	mg/kg	172	0.0264 J	0.0191 J	0.0173 J	0.0141 J	0.0175 J	0.0107 U	0.0148 J	0.0105 U	0.01 U
Nickel	mg/kg	12,639	13.9 J	25.5 J	21.7 J	18.4 J	26.9 J	17.3	25.3	23.7	18
Selenium	mg/kg	39	0.344 J	0.235 J	0.258 J	0.217 J	0.297 J	0.262 J	0.282 J	0.22 J	0.199 J
Silver	mg/kg	3,105	0.961	0.375 J	0.247 J	0.223 J	0.251 J	0.2 U	0.191 U	0.285 J	0.21 J
Thallium	mg/kg	47.7	0.0927	0.137	0.131	0.104	0.121	0.11	0.149	0.112	0.109
Vanadium	mg/kg	2,304	12.8	15.7	13.1	12	10.7	9.52 J	11.4 J	9.33 J	10.3 J
Zinc	mg/kg	187,269	71.4	66.5 J	67.8 J	57	69	78.8	61.2	58.7	73.5

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 4-4d
Metals Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	EB-4 (#2) LL3SS-251M-1183-SO 06/24/08	EB-4-A (#1) LL3SS-255M-1187-SO 06/26/08	EB-4-A (#2) Primary LL3SS-256M-1188-SO 06/26/08	EB-4-A (#2) MI Duplicate LL3SS-256M-1190-SO 06/26/08	EB-4-A (#2) Blind Duplicate LL3SS-256M-1191-SO 06/26/08	EB-4A-WN LL3SS-257M-1193-SO 06/27/08	EB-4A-WS Primary LL3SS-258M-1194-SO 06/27/08	EB-4A-WS MI Duplicate LL3SS-258M-1196-SO 06/27/08	EB-4A-WS Blind Duplicate LL3SS-258M-1197-SO 06/27/08
Aluminum	mg/kg	17,700	5850	12500	9700	10800	12100	13600	9340	7160	10200
Antimony	mg/kg	175	R	R	R	R	R	R	R	R	0.0662 J
Arsenic	mg/kg	15.4	10.4	9.22 J	9.26 J	9.38 J	10.1 J	10.7 J	9.77 J	9.79 J	10.5 J
Barium	mg/kg	351	35.5	87.1	65.6	71.9	79.9	72.3	46.8	37	50.2
Beryllium	mg/kg	16	0.334	0.779	0.581	0.647	0.772	0.776	0.534	0.411	0.538
Cadmium	mg/kg	10.9	0.398	1.04	0.837	0.887	0.968	0.959	0.678	0.573	0.78
Chromium, Trivalent[2]	mg/kg	12,000	8.32	17.2	13.4	15.7	16.1	19.4 J	12.8 J	10.4 J	14.8 J
Cobalt	mg/kg	10.4	5.23	7.39	6.57	6.63	8.3	9.49 J	6.56 J	5.65 J	6.68 J
Copper	mg/kg	25,368	17.4 J	22.6 J	24 J	22.3 J	24.9 J	24.4	19.5	17.8	21.1
Iron	mg/kg	184,370	15300	22100	19600	19800	22100	25700 J	19500 J	17800 J	25000 J
Lead	mg/kg	400	16.8 J	33.9 J	33.7 J	76.2 J	30.2 J	34.5	28.3	20.4	33.4
Manganese	mg/kg	1,450	337	464 J	357 J	380 J	445 J	369 J	304 J	285 J	305 J
Mercury	mg/kg	172	0.0101 U	0.0303 J	0.0194 J	0.0307 J	0.025 J	0.0386 J	0.0172 J	0.0119 J	0.0259 J
Nickel	mg/kg	12,639	17.8	22.2 J	18.8 J	18 J	21.8 J	30.4 J	21.2 J	19.7 J	20.8 J
Selenium	mg/kg	39	0.216 J	0.305 J	0.332 J	0.325 J	0.365 J	0.223 J	0.173 J	0.177 J	0.218 J
Silver	mg/kg	3,105	0.205 U	0.337 J	0.259 J	0.308 J	0.315 J	0.324 J	0.352 J	0.19 U	0.291 J
Thallium	mg/kg	47.7	0.103	0.106	0.106	0.0935	0.108	0.156	0.103	0.0881	0.103
Vanadium	mg/kg	2,304	9.06 J	17.2	14.5	15.7	16.8	20.1	14.3	11.4	16
Zinc	mg/kg	187,269	58.9	87	104	86.8	89.9	94.5 J	74.1 J	70 J	88.2 J

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 4-4d
Metals Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	EB-4-VP1, -4A-VP1, -10-VP1, -10-VP2 LL3SS-252M-1184-SO 06/26/08	EB-4-WS LL3SS-254M-1186-SO 06/25/08	EB-8, -8A, -22 LL3SS-263M-1202-SO 06/26/08	EB-9 LL3SS-264M-1203-SO 06/26/08	EB-9A LL3SS-265M-1204-SO 06/24/08	EB-10/10A (#1) LL3SS-266M-1205-SO 06/25/08	EB-10/10A (#2) LL3SS-267M-1207-SO 06/25/08	EB-11 Primary LL3SS-268M-1208-SO 06/25/08
Aluminum	mg/kg	17,700	5950	9460	9910	5700	10200	5060	6660	10900
Antimony	mg/kg	175	R	R	R	R	R	R	R	R
Arsenic	mg/kg	15.4	7.87 J	11.4 J	10.1 J	8.54 J	10.3	10.9 J	12.4 J	9.42 J
Barium	mg/kg	351	39.5	74.9	63.5	28.7	67.9	22.5	39.1	65.6
Beryllium	mg/kg	16	0.362	0.545	0.516	0.287	0.636	0.272	0.366	0.571
Cadmium	mg/kg	10.9	0.452	0.841	0.465	0.327	0.628	0.285	0.416	0.553
Chromium, Trivalent[2]	mg/kg	12,000	8.14	16.4	13.3	10.7	19.6	8.58	11.3	15.6
Cobalt	mg/kg	10.4	4.35	8.73	7.45	5.39	8.31	4.49	6.06	8.16
Copper	mg/kg	25,368	14.7 J	22 J	18.6 J	17.6 J	17.4 J	17.4 J	20.8 J	17.6 J
Iron	mg/kg	184,370	14800	20800	19400	15900	22600	16400	17800	21700
Lead	mg/kg	400	17.8 J	53.2	33.5 J	11.7 J	31.7 J	12.8 J	19.5 J	22.4 J
Manganese	mg/kg	1,450	307 J	361 J	416 J	304 J	454	300 J	366 J	455 J
Mercury	mg/kg	172	0.0161 J	0.0142 J	0.0288 J	0.0165 J	0.034 J	0.0164 J	0.0226 J	0.036 J
Nickel	mg/kg	12,639	14.6 J	26.7 J	22.2 J	14.3 J	21.5	30.2 J	24.8 J	31.2 J
Selenium	mg/kg	39	0.387 J	0.323 J	0.456 J	0.218 J	0.332 J	0.228 J	0.585 J	0.384 J
Silver	mg/kg	3,105	0.193 U	0.263 J	0.274 J	0.715	0.296 J	3.77	3.73	0.36 J
Thallium	mg/kg	47.7	0.0898	0.11	0.123	0.0959	0.131	0.0825	0.112	0.122
Vanadium	mg/kg	2,304	9.86	14	15.5	9.75	16.8 J	8.85	11	18.4
Zinc	mg/kg	187,269	62	104	77.2	58.4	83.7	55.2	71.5	70.6

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 4-4d
Metals Detected in Soil - Load Line 3
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	EB-11 MI Duplicate LL3SS-268M-1210-SO 06/25/08	EB-11 Blind Duplicate LL3SS-268M-1211-SO 06/25/08	EB-13, EB-26 LL3SS-269M-1212-SO 06/25/08	EB-13A LL3SS-270M-1213-SO 06/25/08	EB-13B LL3SS-271M-1214-SO 06/25/08	EB-19 LL3SS-272M-1215-SO 06/24/08	EB-25 LL3SS-274M-1217-SO 06/24/08
Aluminum	mg/kg	17,700	11300	11400	6400	7360	4780	7250	7890
Antimony	mg/kg	175	R	R	R	R	R	R	R
Arsenic	mg/kg	15.4	10.3 J	9.22 J	9.3 J	11.2 J	7.09 J	10.9	9.96
Barium	mg/kg	351	61.7	62.2	32.7	83.1	56.6	43.7	54.9
Beryllium	mg/kg	16	0.55	0.582	0.334	0.509	0.408	0.471	0.594
Cadmium	mg/kg	10.9	0.491	0.483	0.327	0.526	0.605	0.479	0.558
Chromium, Trivalent[2]	mg/kg	12,000	17.7	15.6	9.21	12.1	9.52	11.4	28.4
Cobalt	mg/kg	10.4	7.98	8.04	6.18	5.64	4.78	6.19	6.98
Copper	mg/kg	25,368	17.7 J	17.9 J	19.6 J	17.3 J	14.2 J	20.2 J	26.4 J
Iron	mg/kg	184,370	20500	21600	17000	17000	13500	18500	19500
Lead	mg/kg	400	23.7 J	26.9 J	20.9 J	77.9	20.4 J	30 J	154 J
Manganese	mg/kg	1,450	428 J	429 J	334 J	434 J	413 J	338	470
Mercury	mg/kg	172	0.0284 J	0.0311 J	0.0207 J	0.0495 J	0.0741 J	0.0113 J	0.0572 J
Nickel	mg/kg	12,639	28.3 J	28.2 J	15 J	14.8 J	15.5 J	42.2	30.6
Selenium	mg/kg	39	0.334 J	0.331 J	0.335 J	0.392 J	0.27 J	0.261 J	0.316 J
Silver	mg/kg	3,105	0.196 J	0.353	0.189 U	0.251 J	0.287 J	0.322 J	0.254 J
Thallium	mg/kg	47.7	0.126	0.132	0.108	0.0804	0.0586	0.114	0.104
Vanadium	mg/kg	2,304	18.8	19	10.8	11.6	8.05	11.2 J	12.6 J
Zinc	mg/kg	187,269	66.4	68.7	59.4	93.9	79.2	75.4	98.2

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Table 4-5a
Volatiles, Pesticides, and PCBs Detected in Soil - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	G-2 Primary LL4SS-201D-1185-SO 06/27/08	G-2 Blind Duplicate LL4SS-201D-1187-SO 06/27/08	G-4 LL4SS-202D-1189-SO 06/27/08	G-18 LL4SS-219D-1216-SO 06/27/08
NO VOLATILE ORGANICS DETECTED						

Parameter	Units	CUG[1]	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-9 Primary LL4SS-209M-1196-SO 07/01/08	G-9 MI Duplicate LL4SS-209M-1198-SO 07/01/08	G-9 Blind Duplicate LL4SS-209M-1199-SO 07/01/08	G-12 Primary LL4SS-212M-1202-SO 07/01/08	G-12 MI Duplicate LL4SS-212M-1204-SO 07/01/08	G-12 Blind Duplicate LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08
4,4'-DDT	ug/kg	1700	0.333 U	0.336 U	2.54 J	1.64 U	1.64 U	--	--	--	0.333 U
alpha Chlordane	ug/kg	1600	0.333 U	0.336 U	43.8 J	14.7 J	20 J	--	--	--	0.333 U
alpha-BHC	ug/kg	77	0.333 U	1.1 J	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U
gamma Chlordane	ug/kg	1600	0.333 U	0.336 U	23.1 J	10.7 J	13 J	--	--	--	0.333 U
Heptachlor epoxide	ug/kg	1480	0.333 U	0.336 U	2.8 J	1.64 U	1.64 U	--	--	--	0.333 U
Aroclor-1254	ug/kg	3460	23.5	54.6	--	--	--	45.3 J	21.9 J	26.9	129
Aroclor-1260	ug/kg	3460	10.6 J	19.3	--	--	--	51.7 J	29.4	32.3	44.5

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Table 4-5b
Semivolatile Organics Detected in Soil - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-8 (#1) LL4SS-206M-1193-SO 07/01/08	G-8 (#2) LL4SS-207M-1194-SO 07/01/08	G-12 Primary LL4SS-212M-1202-SO 07/01/08	G-12 MI Duplicate LL4SS-212M-1204-SO 07/01/08	G-12 Blind Duplicate LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08
Acenaphthene	ug/kg	340,000	80.8 U	84.2 U	568 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Anthracene	ug/kg	1,700,000	80.8 U	84.2 U	1400 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Benzo(a)anthracene	ug/kg	4,770	80.8 U	111 J	2020 J	82.3 UJ	82.6 UJ	153 J	81.7 UJ	382
Benzo(a)pyrene	ug/kg	477	80.8 U	109 J	2000 J	82.3 UJ	82.6 UJ	163 J	81.7 UJ	325 J
Benzo(b)fluoranthene	ug/kg	4,770	80.8 UJ	93.2 J	1940 J	82.3 UJ	86.7 J	178 J	82.9 J	291 J
Benzo(g,h,i)perylene	ug/kg	3,815,000	80.8 UJ	84.2 UJ	796 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	182 J
Benzo(k)fluoranthene	ug/kg	47,700	80.8 U	95.4 J	2040 J	82.3 UJ	82.6 UJ	182 J	81.7 UJ	319 J
Carbazole	ug/kg	835,000	80.8 U	84.2 U	809 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Chrysene	ug/kg	477,000	80.8 U	119 J	2080 J	82.3 UJ	82.6 UJ	177 J	81.7 UJ	353
Dibenzo(a,h)anthracene	ug/kg	477	80.8 UJ	84.2 UJ	327 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ
Diethylphthalate	ug/kg	4,900,000	80.8 U	84.2 U	79.3 UJ	196 J	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Fluoranthene	ug/kg	5,087,000	80.8 U	223 J	5330 J	82.3 UJ	82.7 J	387 J	154 J	717 J
Fluorene	ug/kg	11,458,000	80.8 U	84.2 U	597 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U
Indeno(1,2,3-cd)pyrene	ug/kg	4,770	80.8 UJ	84.2 UJ	799 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	187 J
Phenanthrene	ug/kg	1,700,000	80.8 U	138 J	4010 J	82.3 UJ	82.6 UJ	182 J	81.7 UJ	190 J
Pyrene	ug/kg	3,815,000	80.8 U	187	4220 J	82.3 UJ	82.6 UJ	308 J	125 J	590

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Indicates analyte and sample where the CUG is exceeded.

Table 4-5c
Explosives and Propellants Detected in Soil - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[(1)]	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-18 LL4SS-219M-1215-SO 06/27/08	G-11 LL4SS-211M-1201-SO 10/28/08	G-15 LL4SS-216M-1209-SO 10/28/08	G-19 (#1) Primary LL4SS-220M-1217-SO 07/02/08	G-19 (#1) MI Duplicate LL4SS-220M-1221-SO 07/02/08	G-19 (#1) Blind Duplicate LL4SS-220M-1222-SO 07/02/08	G-19 (#2) LL4SS-221M-1218-SO 07/02/08
NO EXPLOSIVES DETECTED											
Nitrocellulose	mg/kg	NA	7.06	2.3	1.95 U	--	5.01	2 U	1.97 U	1.99 U	1.99 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

NA = No CUG is available for this chemical.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

Table 4-5d
Metals Detected in Soil - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-5, G-20 LL4SS-203M-1190-SO 06/30/08	G-6, G-6A LL4SS-204M-1191-SO 06/30/08	G-7, G-14 LL4SS-205M-1192-SO 06/30/08	G-8 (#1) LL4SS-206M-1193-SO 07/01/08	G-8 (#2) LL4SS-207M-1194-SO 07/01/08	G-8-VP1, -12-VP1, -13-VP1, -13-VP2 LL4SS-208M-1195-SO 06/30/08	G-9 Primary LL4SS-209M-1196-SO 07/01/08	G-9 MI Duplicate LL4SS-209M-1198-SO 07/01/08
Aluminum	mg/kg	17,700	6700	10800	12900	9630	9840	6510	7930	5560	11000	8630
Antimony	mg/kg	175	R	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	15.4	10.9 J	10.3 J	9.36 J	8.86 J	11.2 J	10 J	10.5 J	5.06 J	10.7 J	10.9 J
Barium	mg/kg	351	43.3	53.7	78.4	56.4	54.9	41.4	49	40.2	73.2	60.5
Beryllium	mg/kg	16	0.36	0.518	0.724	0.555	0.525	0.392	0.46	0.315	0.666	0.551
Cadmium	mg/kg	10.9	0.698	0.541	0.533 J	0.581 J	0.46 J	0.544 J	0.545 J	1.64 J	0.543 J	0.496 J
Chromium, Trivalent[2]	mg/kg	12,000	10.7 J	15.7 J	15.8	12.4	14.8	11.3	11.9	7.75	14.8	13.2
Cobalt	mg/kg	10.4	5.64 J	6.68 J	5.96	6.03	8.95	5.91	6.9	4.27	7.71	7.39
Copper	mg/kg	25,368	22.6	19.8	15.9	19.8	23.3	21.3	21	14.5	22.9	19.2
Iron	mg/kg	184,370	18900 J	24300 J	22700	24400	24500	19400	21100	12900	22200	19500
Lead	mg/kg	400	36.5	25.7	29	27.2	14.9	36	19.2	15.9	17.6	20.1
Manganese	mg/kg	1,450	346 J	343 J	460	421	306	327	373	254	512	458
Mercury	mg/kg	172	0.0276 J	0.0644 J	0.0318 J	0.0203 J	0.00994 UJ	0.0168 J	0.0125 J	0.0164 J	0.0217 J	0.0204 J
Nickel	mg/kg	12,639	20.5 J	28.3 J	27.8	23.9	26	20.1	31.6	12.8	29.2	32.3
Selenium	mg/kg	39	0.221 J	0.203 J	0.33 J	0.219 J	0.104 J	0.159 J	0.145 J	0.195 J	0.265 J	0.309 J
Silver	mg/kg	3,105	0.193 U	0.336 J	0.397	0.399	0.369 J	0.301 J	0.45	0.215 J	0.589	0.623
Thallium	mg/kg	47.7	0.116	0.138	0.141	0.128	0.14	0.116	0.118	0.0753	0.139	0.136
Vanadium	mg/kg	2,304	12	18	20.2	15.8	14.6	11.3	13.2	8.89	16.8	13.1
Zinc	mg/kg	187,269	89.4 J	77.4 J	88.6	75.6	69.6	90	67.8	72	86.8	70.2

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-5d
Metals Detected in Soil - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	G-9 Blind Duplicate LL4SS-209M-1199-SO 07/01/08	G-10 LL4SS-210M-1200-SO 07/01/08	G-11 LL4SS-211M-1201-SO 10/28/08	G-12 Primary LL4SS-212M-1202-SO 07/01/08	G-12 MI Duplicate LL4SS-212M-1204-SO 07/01/08	G-12 Blind Duplicate LL4SS-212M-1205-SO 07/01/08	G-12A LL4SS-213M-1206-SO 07/01/08	G-13 LL4SS-214M-1207-SO 07/01/08	G-13A LL4SS-215M-1208-SO 07/01/08	G-15 LL4SS-216M-1209-SO 10/28/08
Aluminum	mg/kg	17,700	11700	8190	7740	6610	6330	7290	7540	6540	6910	11000
Antimony	mg/kg	175	R	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	15.4	9.02 J	15.1 J	16.3	17.2 J	14.5 J	15 J	14.3 J	7.19 J	7.26 J	10.9
Barium	mg/kg	351	82.8	46.5	44.9	37	37.8	39.1	38.7	43	40.3	76.2
Beryllium	mg/kg	16	0.738	0.416	0.399 J	0.354	0.35	0.396	0.367	0.361	0.375	0.687 J
Cadmium	mg/kg	10.9	0.502 J	0.581 J	0.497	0.474 J	0.446 J	0.458 J	0.534 J	0.412 J	0.417 J	0.57
Chromium, Trivalent[2]	mg/kg	12,000	13.5	11.3	16.3	10.3	9.12	11.5	11.1	9.45	10.1	16.4
Cobalt	mg/kg	10.4	7.53	7.28	5.99	7.16	6.96	7.95	6.65	5.11	5.69	9.7
Copper	mg/kg	25,368	18.6	26.3	20.8 J	24.3	24.2	23.9	22.2	18.4	16.3	20.8 J
Iron	mg/kg	184,370	20700	22000	19000	20600	19500	21600	23100	15000	17900	25000
Lead	mg/kg	400	16.2	22.1	25.1	24.2	25.8	21.9	21.4	16.1	12.6	16.5
Manganese	mg/kg	1,450	535	462	329	402	376	449	381	284	261	317
Mercury	mg/kg	172	0.0172 J	0.0131 J	0.0163 J	0.0156 J	0.0162 J	0.0126 J	0.0113 J	0.0119 J	0.0151 J	0.0109 J
Nickel	mg/kg	12,639	24.4	26.3	34.3	26 J	27.2	73.6 J	85.6	20.7	16.3	34
Selenium	mg/kg	39	0.284 J	0.292 J	0.366	0.23 J	0.261 J	0.236 J	0.301 J	0.192 J	0.16 J	0.362
Silver	mg/kg	3,105	0.429	0.367 J	0.188 U	0.512	0.227 J	0.348 J	0.24 J	1.64	0.218 J	0.184 U
Thallium	mg/kg	47.7	0.121	0.154	0.164 J	0.164	0.165	0.149	0.156	0.0916	0.0981	0.161 J
Vanadium	mg/kg	2,304	16.4	12.9	14.8	11.5	10.9	12.9	12.4	10.5	11	21.1
Zinc	mg/kg	187,269	67.5	95	72.2	91.2	84.7	91.6	84.4	62.4	70.6	70.3

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-5d
Metals Detected in Soil - Load Line 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	CUG[1]	G-16 LL4SS-217M-1213-SO 07/01/08	G-17 LL4SS-218M-1214-SO 07/02/08	G-18 LL4SS-219M-1215-SO 06/27/08	G-19 (#1) Primary LL4SS-220M-1217-SO 07/02/08	G-19 (#1) MI Duplicate LL4SS-220M-1221-SO 07/02/08	G-19 (#1) Blind Duplicate LL4SS-220M-1222-SO 07/02/08	G-19 (#2) LL4SS-221M-1218-SO 07/02/08	G-19A LL4SS-222M-1219-SO 07/02/08
Aluminum	mg/kg	17,700	15400	12100	9710	5330	5400	5270	5550	5260
Antimony	mg/kg	175	R	R	R	R	R	R	R	0.0526 J
Arsenic	mg/kg	15.4	10.3 J	8.23	5.41 J	7.99	7.85	7.98	5.93	7.68 J
Barium	mg/kg	351	81.1	58.4	45.5	19	19.4	17.9	18	18.8
Beryllium	mg/kg	16	0.771	0.514	0.433	0.231	0.232	0.226	0.218	0.224
Cadmium	mg/kg	10.9	0.482 J	0.551	0.352	0.331	0.346	0.329	0.263	0.335
Chromium, Trivalent[2]	mg/kg	12,000	19.8	15.2	13.8 J	6.67	6.86	6.61	7.05	6.88
Cobalt	mg/kg	10.4	9.01	6.18	5.6 J	3.23	3.39	3.2	2.95	3.09
Copper	mg/kg	25,368	21.2	17.9	18.1	16.8	17.5	17.6	14.8	15.8
Iron	mg/kg	184,370	27400	21700	17500 J	12900	13400	12900	10900	12500
Lead	mg/kg	400	19	26.7	39.6	11.6	12	12.4	11.3	11.2
Manganese	mg/kg	1,450	332	267	214 J	131	134	122	110	154
Mercury	mg/kg	172	0.0198 J	0.0333 J	0.0146 J	0.01 U	0.0125 J	0.0104 U	0.0168 J	0.0101 U
Nickel	mg/kg	12,639	24.3	82.5	20.4 J	12.4	12.4	19	16.2	15.2
Selenium	mg/kg	39	0.28 J	0.323	0.19 J	0.138 J	0.166 J	0.18 J	0.167 J	0.101 U
Silver	mg/kg	3,105	0.349 J	0.192 J	0.22 J	0.193 U	0.187 U	0.198 U	0.199 J	0.188 U
Thallium	mg/kg	47.7	0.172	0.136	0.112	0.0741	0.0777	0.0738	0.0809	0.0662
Vanadium	mg/kg	2,304	22.7 J	18.9 J	13.7	8.43 J	8.4 J	7.84 J	7.9 J	8.2 J
Zinc	mg/kg	187,269	77	68.5	68.8 J	48.7	49.7	47.6	38.4	45.8

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

(1) Cleanup Goal based on an excess cancer risk of 1E-6 or a noncancer hazard quotient of 0.1. See Table 4-1.

(2) Concentrations for trivalent chromium were calculated by subtracting the hexavalent chromium result from the total chromium result.

Indicates analyte and sample where the CUG is exceeded.

Table 4-6
Cumulative Risk and Hazard for Chemicals of Concern
Load Lines 2, 3, and 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-2	DB-4-WS	2,4,6-Trinitrotoluene	339	mg/kg	4643 (1)	7.3E-02	1646 (2)	2.1E-01	Liver
				Cumulative Risk Ratios		7.3E-02		2.1E-01	
							Cumulative Risk Ratio by Target Organ [Liver]		2.1E-01

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-2	DB-10	Arsenic	17	mg/kg	31 (2)	5.5E-01	1140 (1)	1.5E-02	Skin
				Cumulative Risk Ratios		5.5E-01		1.5E-02	
							Cumulative Risk Ratio by Target Organ [Skin]		1.5E-02

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-3	EA-6/EA-28	Benzo(a)pyrene	1820	µg/kg	10000 (2)	1.8E-01		NA	
				Cumulative Risk Ratios		1.8E-01		0.0E+00	

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-3	EB-4-A	Benzo(a)pyrene	622	µg/kg	10000 (2)	6.2E-02		NA	
		2,4,6-Trinitrotoluene	295	mg/kg	4643 (1)	6.4E-02	1646 (2)	1.8E-01	Liver
				Cumulative Risk Ratios		1.3E-01		1.8E-01	
							Cumulative Risk Ratio by Target Organ [Liver]		1.8E-01

Table 4-6
Cumulative Risk and Hazard for Chemicals of Concern
Load Lines 2, 3, and 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-3	EB-9-A	2,4,6-Trinitrotoluene	700	mg/kg	4643 (1)	1.5E-01	1646 (2)	4.3E-01	Liver
				Cumulative Risk Ratios		1.5E-01		4.3E-01	
							Cumulative Risk Ratio by Target Organ [Liver]		4.3E-01

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-3	EB-25	2,4,6-Trinitrotoluene	3340	mg/kg	4643 (1)	7.2E-01	1646 (2)	2.0E+00	Liver
		RDX	831	mg/kg	838 (2)	9.9E-01	17113 (1)	4.9E-02	Prostate
				Cumulative Risk Ratios		1.7E+00		2.1E+00	
							Cumulative Risk Ratio by Target Organ [Liver]		2.0E+00
							Cumulative Risk Ratio by Target Organ [Prostate]		4.9E-02

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-4	G-8	Benzo(a)pyrene	2000	µg/kg	10000 (2)	2.0E-01		NA	
				Cumulative Risk Ratios		2.0E-01		0.0E+00	

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-4	G-11	Arsenic	16.3	mg/kg	31 (2)	5.3E-01	1140 (1)	1.4E-02	Skin
				Cumulative Risk Ratios		5.3E-01		1.4E-02	
							Cumulative Risk Ratio by Target Organ [Skin]		1.4E-02

Table 4-6
Cumulative Risk and Hazard for Chemicals of Concern
Load Lines 2, 3, and 4
Ravenna Army Ammunition Plant
Ravenna, Ohio

					Carcinogenic Risk		Noncarcinogenic Hazard		
Load Line	**Building**	**Chemical**	**Concentration**	**Units**	**CUG**	**Risk Ratio**	**CUG**	**Risk Ratio**	**Target Organ**
LL-4	G-12	Arsenic	17.2	mg/kg	31 (2)	5.5E-01	1140 (1)	1.5E-02	Skin
				Cumulative Risk Ratios		5.5E-01		1.5E-02	
							Cumulative Risk Ratio by Target Organ [Skin]		1.5E-02

CUG = Cleanup Goal

(1) Ravenna Facility Wide Cleanup Goal for a National Guard Trainee, based on an excess cancer risk of 1E-5 or a noncancer hazard quotient of 1 (SAIC 2008).

(2) Interim Record of Decision Cleanup Goal for a National Guard Trainee (Shaw 2007).

1,995 mg/kg. Therefore remediation based on lead is not warranted at this or any other load line location.

Nitrocellulose was detected in eight sub-slab MI samples. The highest detected concentration was 65.2 mg/kg (at Building EB-4A). Without an appropriate cleanup level, no comparison to determine whether remediation is warranted can be completed. Nitrocellulose is generally considered a concern for its reactivity, not toxicity. If concentrations of nitrocellulose are high enough, such that it is reactive, then the concern is for safety rather than health effects. Nitrocellulose demonstrates reactivity at concentrations above 100,000 mg/kg. The levels of nitrocellulose detected below slabs Load Lines 2, 3, and 4 are orders of magnitude below its characteristic reactivity. The levels of nitrocellulose detected during this effort, therefore, do not warrant remediation.

4.2 EVALUATION OF SURFACE WATER RESULTS

Surface water samples were not originally planned for this project. They were collected because of accumulated water on building footprints after slab removal. Technical Memorandum #4 (Appendix E) required a collocated surface water sample whenever a soil MI was collected beneath standing water. As such, a comparison to CUGs is not relevant since this water will not be available for human exposure once final grading of these footprints occurs.

As required in Technical Memorandum #4, the surface water data were compared to three values: facility-wide surface water and groundwater background (SAIC, 2008) and the State of Ohio Outside the Mixing Zone Average (OMZA) values for the protection of aquatic life for the Ohio River Basin (Chapter 3745-1 of the Ohio Administrative Code). The latter values could be used to make a decision as to whether the accumulated surface water could eventually be discharged to the surrounding soil. Table 4-7 shows the comparisons.

The detected concentrations in the surface water samples are generally higher than either (and sometimes both) background levels. The OMZA value was exceeded for seven inorganics (barium, cadmium, copper, lead, nickel, vanadium, and zinc). The OMZA value for copper was exceeded in three of the five surface water samples, all from Load Line 2. The OMZA value for lead was exceeded in two surface water samples, both located at Load Line 2. The OMZA values for barium, cadmium, nickel, vanadium, and zinc were exceeded only at DB-4VP1 at Load Line 2. There were no OMZA exceedances associated with surface water samples collected at Load Line 4.

There are no OMZA values for six chemicals, most of which are considered essential nutrients (Table 4-7). Essential nutrients are generally not evaluated for toxicity. However, both iron and manganese are not essential nutrients yet do not have an OMZA value for comparison. Both these chemicals are elevated in the surface water samples with respect to facility-wide background levels.

Table 4-7
Evaluation of Surface Water Results
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	Facility Background, Surface Water [1]	Facility Background, Groundwater [2]	OMZA [3]	Maximum Surface Water Detection
Metals:					
Aluminum	mg/L	3.37	--	--	39.1
Antimony	mg/L	0	0	0.19	0.00342
Arsenic	mg/L	0.0032	0.0117	0.15	0.112
Barium	mg/L	0.0475	0.0821	0.22	**0.347**
Beryllium	mg/L	0	0	0.011	0.00224
Cadmium	mg/L	0	0	0.0025	**0.00268**
Calcium	mg/L	41.4	115	--	63
Chromium	mg/L	--	0.0073	0.086	0.044
Cobalt	mg/L	0	0	0.024	0.0218
Copper	mg/L	0.0079	0	0.0093	**0.046**
Iron	mg/L	2.56	0.279	--	56.6
Lead	mg/L	0	0	0.0064	**0.169**
Magnesium	mg/L	10.8	43.3	--	12.8
Manganese	mg/L	0.391	1.02	--	2.87
Mercury	mg/L	0	0	0.00091	0.000152
Nickel	mg/L	0	0	0.052	**0.0828**
Potassium	mg/L	--	--	--	79.9
Selenium	mg/L	0	0	0.005	0.00355
Sodium	mg/L	--	--	--	45.9
Thallium	mg/L	0	0	0.017	0.00798
Vanadium	mg/L	0	0	0.044	**0.0626**
Zinc	mg/L	0.042	0.0609	0.12	**0.368**
Explosives:					
HMX	ug/L	--	--	220	3.44
RDX	ug/L	--	--	79	2.49

-- indicates no value available from cited source.

Bold indicates an exceedance of the OMZA.

[1] From Facility-Wide Cleanup Goal Report, SAIC (2008), Table 2-3.

[2] From Facility-Wide Cleanup Goal Report, SAIC (2008), Table 2-2. Values are for unconsolidated groundwater.

[3] Outside Mixing Zone Average for the Ohio River Basin Aquatic Life (Chapter 3745-1 of the OAC). Hardness dependent values based on an assumed hardness value of 100 mg/L calcium carbonate. August 21, 2008 update.

The confirmatory sampling conducted at most of the buildings at Load Lines 2, 3, and 4 confirmed that no further areas require remediation.

The only building footprint where a cleanup goal was exceeded is at EB-25 on Load Line 3. At this location, product was discovered when the sampling crew arrived to collect the MI increments. It is recommended that this building footprint (which was covered with plastic after the MI sampling was completed) be included in the soil excavations planned for Load Line 3.

No additional areas for remediation were identified for Load Line 2. Therefore, the areas identified during the screening effort are the only areas warranting excavation.

No building footprints at Load Line 4 were identified for remediation either during the screening effort or by the sampling documented in this report.

The MI process provides a means to analytically evaluate soils over a wide area with a single sample and analysis. The analytical results are very reproducible as demonstrated by the QA sampling. However, the inherent issue with MI sampling is that it only addresses only the 0.0 to 1.0 foot bgs interval. Based upon field screening data results there may be areas of impact below the 1.0 foot bgs depth that may be due to the natural distribution/migration or disturbances from demolition activities. Therefore there is a recognized data gap at depths below 1.0 foot bgs.

OEPA. 1999. Ohio Environmental Protection Agency. Voluntary Action Program: Summary of Toxicity Criteria for Development of Supplemental Generic Cleanup Values (SGCVs). Updated 06 June 1999.

SAIC. 2001. Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio. Prepared for the U.S. Army Corps of Engineers, Louisville District. March 2001.

SAIC, 2008. Facility-Wide Human Health Cleanup Goals for the Ravenna Army Ammunition Plant (RVAAP), Ravenna, Ohio. Draft. Prepared for the U.S. Army Corps of Engineers, Louisville District. September 2008.

Shaw, 2007. Shaw E & I. Interim Record of Decision for the Remediation of Soils at Load Lines 1 Through 4 at the Ravenna Army Ammunition Plant, Ravenna, Ohio. January, 2007.

URS. 2008. URS Group, Inc. Final of the Report Work Plan for the Sampling of Soils Below Floor Slabs at LLs-2,3,4 and Excavation and Transportation of Contaminated Soils to Load Line 4 (Buildings G-1, G-1A, and G-3). Prepared for the U.S. Army Corps of Engineers, Louisville District. Final. May 29, 2008.

USACE. 2009. U.S. Army Corps of Engineers. Ravenna Army Ammunition Plant (RVAAP) Position Paper for the Application and Use of Facility-Wide Human Health Cleanup Goals. U.S. Army Corps of Engineers, Louisville District.

USACE. 2002. U.S. Army Corps of Engineers. Louisville Chemistry Guideline. Version 5. Prepared by the Environmental Engineering Branch, Louisville District. June 2002.

USEPA. 2009. U.S. Environmental Protection Agency. Regions 3, 6, and 9. Regional Screening Levels for Chemical Contaminants at Superfund Sites. Accessed August 10, 2009. Available at: http://www.epa.gov/region09/superfund/prg/rsl-table.html

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APPENDIX A

Field Sampling Reports

INTRODUCTION TO APPENDIX A
FIELD SAMPLING REPORT FORMS

This appendix contains the field sampling reports that are completed in the field during sampling activities. There is a field sampling report for each sampling location at the three load lines. Because these forms contain handwritten information, this appendix is not accessible (i.e., Section 508 compliant).

In general, these forms are completed (or "logged") by the field crew member assigned to observe and record the sampling activities, not necessarily the sampling crew member actually collecting the sample. For the most samples, Brenda Pratt acted as the sample logger. Logging was also done by Xavier Sotelo.

Once the sampling form was completed by the logger, another crew member (usually the Technical Project Manager, Stan Levenger) reviewed the form for completeness and accuracy. Xavier Sotelo also reviewed some forms.

A final Quality Control check of all information, include a comparison to field notes, was done after the field investigation was completed. This QC review was done by Jennifer Shepard.

The staff that participated in the actual collection of the samples included Stan Levenger, Brenda Pratt, Xavier Sotelo, Jeffrey Berk, Tom George, and Mike Shoop.

Field Sampling Report

Location ID: LL255-305M-1273-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-17-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1631 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field) Estimated Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:	
Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID	LL255-305M-1275-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind ID	LL255-305M-1276-SO	

Sample Description

Silty clay, dry to moist, m. stiff, brown-lt. brown, trace gravel, trace ~~fine~~ sand, w/ construction debris.

30" refusal to 6 inches

LL2 DA-21 JK 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Kevin Sotelo (Please Print)

Signature: Kevin Sotelo Date: 7-5-08

QC JK 10/30/08

Field Sampling Report

Location ID: LL2SS-305.M-1274-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-17-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N		N		Push Probe	✓	Plastic Liner	
Type/Construction	A		A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1630 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 9-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Silty clay, dry to moist, m. stiff, brown-lt. brown, trace gravel, trace sand. w/ construction debris

30% refusal to 6 inches

LL2 DA-21 JS 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Kim Sotelo (Please Print)

Signature: Kim Sotelo Date: 7-6-08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-305M-1275-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-17-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
		A		N	Push Probe ✓		Plastic Liner	
Type/Construction				A	Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1637 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Silty clay, dry to moist, m.stiff, brown lt. brown, trace gravel, trace sand, w/ construction debris

30% refusal to 6 inches

QA-21 JB 10/29/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Solis (Please Print)

Signature: Xavier Solis Date: 7-3-08

QC - JB 10/29/08

Field Sampling Report

Location ID: LL2SS-305M-1276-S0

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-17-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N		N		Push Probe	✓	Plastic Liner	
Type/Construction	A		A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1645 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Silty clay, dry to moist, m. stiff brown-H, brown, trace gravel, trace sand, w/ construction debris

30% refusal to 6 inches

DA-21 JB 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JB 10/30/08

Field Sampling Report

Location ID: LL2 SS-303 M -1271-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/17/08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1115 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry, tan sandy Clay w/ const. debris
fr. gravel

LL2 DB19

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Xavier Solelo (Please Print)

Signature: Xavier Solelo

Reviewed by: Stan Lovern (Please Print)

Signature: Stan Lovern Date: 03/1/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL2 SS-277M-1230-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/17/08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1200 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field)
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:		
Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID	JS 10/30/08	NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry, tan sandy clay w/ const. debris

LL2 DB2

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: XAVIER SOLETO (Please Print)

Signature: Xavier Soleto

Reviewed by: Stan Levenson (Please Print)

Signature: Stan Levenson Date: 03/16/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-294M-1258-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/17/08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1535 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No JS 10/30/08 NA
Duplicate ID	NA
Equipment Rinse ID	NA
Trip Blank ID	NA

Sample Description

Soft, dry to moist, brown silty clay tr. sand w/ construction debris

D132, D138A, D138
6 12 12

Sample is a composite of 3 bldgs as per WP
M 03/10/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo

Reviewed by: Peter Lewis (Please Print)

Signature: Peter Lewis Date: 03/10/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-306M-1277-S0

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
		A	N	A	Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1045 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field)
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry to wet, brown lean clay w/~~soft~~ DP 6-18
Construction debris w/ plant cover
95% full 1 ft push; Avg 7"-10" recovery
DB-25 - JS 10/15/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-296M-T260-S0

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1050 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry brown silty clay w/ const. debris
95% full push; AVG 7"-8" recovery
DB-9A JB 1/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Solis (Please Print)

Signature: Xavier Solis Date: 7-3-08

QC JB 10/30/08

Field Sampling Report

Location ID: LL255-312M-1283-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb N		Bowl		Hand Auger	
	A		A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1000 hrs

Sample Type: Composite - (M) - Grab
If ML # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		**Analytical Parameters**				**Other Parameters**			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate				**QA Samples**			
Sp. Conductance:	uMHOs	PCBs				MS/MSD	Yes / (No)		NA
pH	units	Nitrate / Nitrite				Duplicate ID			(NA)
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.								

Sample Description

Soft to med stiff, dry to moist
Brown silty clay w/ cons debris, trace sand
15 concrete pilings (3x3) remaining
85% 1 foot pushes (avg. Coin recovery)

DB-B02 JB 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JB 10/30/08

Field Sampling Report

Location ID: LL255-275M-1228-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1130 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
(Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:	
Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry to moist, reddish-brown sandy clay w/ construction debris

Bldg 2-51 JS 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-09

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-288M-1251250

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
				A	Mattocks			
Type/Construction								
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) / No LL255-288M-1247-MS/MSD NA
Duplicate ID	NA
Equipment Rinse ID	NA
Trip Blank ID	NA

Sample Description

Soft, dry, brown silty clay w/ const. debris

DB-4A-WN - fb 10/30/09

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-09

QC - fb 10/30/09

Field Sampling Report

1251 JS 11/26/08

Location ID: LL255-288M-1247-MS

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry, brown silty clay w/ const. debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JS 10/30/08

Field Sampling Report

1251 - JS 11/26/08

Location ID: LL255-288M-1247-MSD

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb N		Bowl		Hand Auger	
	A		A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

soft, dry, brown silty clay w/ const. debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N
A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL255-288D-1252-SO ~~1282-MS~~ ~~1282-MSD~~ MS/MSD

Date: 6/8-08 BP 6-18

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb N		Bowl		Hand Auger	
	A		A		~~Push Probe~~ BP Terra Core	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No		BP 6-18					

Sample Collection: 1600 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: ____

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	LL255-2880-1282-MS/MSD NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry, brown silty clay w/ const. debris

DB-4A-WN JB 10/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QL - JB 10/30/08

Field Sampling Report

Location ID: LL255-2880-1252 ~~1282~~-MS 8 11/26/08

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N/A		Bacon Bomb N/A		Bowl		Hand Auger	
					Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: 1603 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - (Staked in Field) (Estimated) Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

soft, dry, brown silty clay w/ coast. debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N/A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC JS 10/30/08

Field Sampling Report

1252 JS 11/26/08

Location ID: LL2 SS-2880-~~1282~~-MSD

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
		A		N	Push Probe		Plastic Liner	
Type/Construction				A	Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: 1605 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

soft, dry, brown silty clay w/ const. debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL2 55 - 278 M - 1231 - 30

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb N		Bowl		Hand Auger	
	A		A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1745 hrs

Sample Type: Composite - (MI) - Grab

If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate				QA Samples			
Sp. Conductance:	uMHOs	PCBs	✓			MS/MSD	Yes (No)		NA
pH	units	Nitrate / Nitrite				Duplicate ID	LL255-278M-1233-59		NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.	Pesticides	✓			Blind Dup ID	LL2 55-278M-1234-30		

Sample Description

M, stiff, dry to moist, silty clay
Trace sand + gravel w/ const. debris
75% fill push (1 ~~foot~~ of foot) recovery 2"-7"

DB-3 JS 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-278M-1232-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/18/08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1745 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate				**QA Samples**			
Sp. Conductance:	uMHOs	PCBs	✓			MS/MSD	Yes (No)		NA
pH	units	Nitrate / Nitrite				Duplicate ID			NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.	Pesticides	✓						

Sample Description

M. Stiff, dry to moist, silty clay
Trace sand + gravel w/ const. debris
75% full 1" OD push (1 foot) recovery 2"-7"

DB-3 JP 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N
A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC - JP 10/30/08

Field Sampling Report

Location ID: LL255-278M-1233-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1745 hrs

Sample Type: Composite - (ML) - Grab
If ML # of increments taken: 30

Location: Plotted on Map - (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		**Analytical Parameters**				**Other Parameters**			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate				**QA Samples**			
Sp. Conductance:	uMHOs	PCBs	✓			MS/MSD	Yes / (No)		NA
pH	units	Nitrate / Nitrite				Duplicate ID			NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.	Pesticides	✓						

Sample Description

m. stiff, dry to moist, silty clay
trace sand + gravel w/ const. debris
75% full 1' push; recovery 2"-7"

DB-3 ys 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 7-3-08

QC- ys 10/30/08

Field Sampling Report

Location ID: LL255-278M-1234-30

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks	JS 10/30/08		
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1750 hrs

Sample Type: Composite - (ML) Grab — If ML, # of increments taken: 30

Location: Plotted on Map - Staked in Field — (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate				**QA Samples**			
Sp. Conductance:	uMHOs	PCBs	✓			MS/MSD	Yes / (No)		NA
pH	units	Nitrate / Nitrite				Duplicate ID			NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.	Pesticides	✓						

Sample Description

m. stiff, dry to moist, silty clay j trace sand + gravel w/ const. debris

75% full 1' psn j recovery 2"-7"

DB-3 JS 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Xavier Sotelo (Please Print)

Signature: Xavier Sotelo Date: 03/2/09

DC - JS 10/30/08

Field Sampling Report

Location ID: LL255-279M-1235-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N A		N A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: ~~1010~~ hrs 1810 DR ~~1810~~ 1820

Sample Type: Composite - (MI) - Grab If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - ~~Surveyed~~

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

m. stiff, dry to moist, silty clay
Trace sand + gravel w/ const. debris
75% full 1' push w/ recovery 2"-7"

DB-3 jo 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovenz (Please Print)

Signature: Stan Lovenz Date: 03/30/08

QC - jo 10/30/08

Field Sampling Report

Location ID: LL255-280M-1236-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N	A	N	A	Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1815 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

m. stiff, dry to moist, silty clay
Trace Sand + gravel w/ const. debris
75% full push (1 foot) recovery 2"-7"

DUP-3 @ 1812 hrs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Leverage (Please Print)

Signature: Stan Leverage Date: 03/06/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-280D-1237-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-18-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N/A		N/A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: 1830 hrs

Sample Type: Composite - MI - ~~Grab~~

If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID (Blind)	LL255-280D-1239-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

M. Stiff, dry to moist, silty clay

Trace sand + gravel w/ const. debris

OB-3 js 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N/A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levey (Please Print)

Signature: Stan Levey Date: 03/10/09

QC- js 10/30/08

Location ID: ~~LL255-280S~~ LL255-280D-1238-QA
BP 618

Date: 6-18-08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N A		N A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: 1833 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - (Staked in Field)
(Estimated) - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC	✓			Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)				Ignitability			
Water Level	FT	Metals (Selected)							
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

m. stiff, dry to moist, silty clay
trace sand + gravel w/ const. debris

DB-3 JS 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 03/31/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-280D-1239-S0

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/8-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terra core ✓			

Sample Collection: 1835 hrs

Sample Type: Composite - MI - (Grab) If MI, # of increments taken: _____

Location: Plotted on Map - (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

m. stiff, dry to moist, silty clay
trace sand + gravel w/ const. debris

DB-3 jp 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N
A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levers (Please Print)

Signature: Stan Levers Date: 03/01/08

QC - jp 10/30/08

Field Sampling Report

Location ID: LL255-310M-1281-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-1908

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1015 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
(Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

soft, dry, tan sand clay tr. silt some const. debris.

DB-270 jp 11/24/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lesser (Please Print)

Signature: [signature] Date: 03/30/08

QC - jp 10/30/08

Field Sampling Report

ion ID: ~~LS~~ BP LL255-308M-1279-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

: 6/9-08

Sampling Information

urce	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
lethod	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1030 hrs

Sample Type: Composite - MI - Grab If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate				QA Samples			
Sp. Conductance:	uMHOs	PCBs				MS/MSD	Yes / No		NA
pH	units	Nitrate / Nitrite				Duplicate ID			NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.								

Sample Description

soft, dry to moist, tan sandy clay tr. silt. w/ const! debris

DB-27 ; DB-27B JP 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: [illegible] (Please Print)

Signature: [illegible] Date: 03/04/08

QC - JP 10/30/08

Field Sampling Report

Location ID: LL255-309M-1280-50

Date: 6-19-08

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

V

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1110 hrs ✓

Sample Type: Composite - (MI) - Grab — If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes - (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

silt, dry, tan sticky clay tr. sand w/ const. debris.

DB-27A JP 11/24/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lucas (Please Print)

Signature: [signature] Date: 07/30/08

QC - JP 10/30/08

Field Sampling Report

Location ID: LL255-295M-1259-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/9-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N		N		Push Probe	✓	Plastic Liner	
Type/Construction	A		A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1350 hrs

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Med. Stff, dry, brown, sandy to silty clay trace gravel, w/ const. debris

Avg 68 inches; 75% fill 1 foot pushes

DB-9 js 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: JStan Lawergn (Please Print)

Signature: [signature] Date: 07/30/08

QC- js 10/30/08

Field Sampling Report

Location ID: LL255-299N-1267-SG

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-19-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1410 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Soft, dry, brown silty clay

DB-11 JS 11/6/08

50% passed to 1 foot
4-18 inch recovery

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: [illegible] (Please Print)

Signature: [illegible] Date: 07/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-307M-1278-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/9-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1420 hrs

Sample Type: Composite - (MI) Grab
If MI # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ - (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Sandy clay, dry, stiff, tan
w/ const. debris (fill)
50% full pushes; 2-10" recovery

PB-26 & DB-29 @ 11/24/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lowery (Please Print)

Signature: Stan Lowery Date: 07/21/08

DC - @ 10/30/08

Field Sampling Report

Location ID: LL255-300m-1268-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-19-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1430 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
(Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Dense, dry, gravelly sand w/ tr. silt w/ cobble + const. debris
50% fill pushed ; 2-10" recovery
DB-13 JS 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N
A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: John Lovern (Please Print)

Signature: John Lovern Date: 07/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-301M-1269-30

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-19-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1440 hrs

Sample Type: Composite - ~~MI~~ - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: ~~Dedicated~~ - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
Sample:	ppm	SVOC				Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)	✓			Ignitability			
Temperature	°C	Metals (Selected)	✓						
Sp. Conductance:	uMHOs	Perchlorate							
pH	units	PCBs							
Dissolved Oxygen	Mg / L	Nitrate / Nitrite							
Redox Potential	mV	TPH DRO / HRO							
Turbidity	N.T.U.	Propellants							

QA Samples		
MS/MSD	Yes ~~No~~	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Dense, dry, gravely sand w/ trace silt
w/ const. debris "fill"
Depth: 50% full push Recovery 2-10"

DB-13A @ 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Leverso (Please Print)

Signature: Stan Leverso Date: 07/30/08

DC - gs 10/30/08

Field Sampling Report

Location ID: L255-302M-1270-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/9-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1450 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

Dense, dry, gravely sand, tr. silt w/ cobbles & const. debris
Avg 75% full passes w/ 4-6" recovery

DB-13B jp 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Levergood (Please Print)

Signature: [signature] Date: 07Sep08

QC - jp 10/30/08

Field Sampling Report

Location ID: LL2SS-285M-1244-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: ~~6/9/08~~ 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0900 hrs

Sample Type: Composite - (MI) - Grab IF MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID	LL2SS-285M-1246-50	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL2SS-285M-1247-50	

Sample Description

DB-4-WS

Soft, dry to moist lt brown to gray silty clay w/sand oxide staining w/const debris & tr. gravel

Depth = 95% full push
Recovery = 3-12" ; Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 07/9/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL25-285M-1245-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: ~~6-19-08~~ 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0900 hrs

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs	✓						
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-4-WS

Soft dry to moist, lt brown to gray, silty clay w/ sand, oxide staining w/ const. debris tr. gravel

Depth = 95% full auger Rec. = 3-12"; Avg 5"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levers (Please Print)

Signature: Stan Levers Date: 07/31/08

QC - JF 10/30/09

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL255-285M-1246-SO

Date: ~~BP 6-19-08~~ 6-20-08 20Jun08 At 07Jul08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A		N		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0900 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-4-WS

Soft, dry to moist, lt. brown to gray silty clay w/sand; oxide staining w/const. debris & tr. gravel

Depth: 95% full push; Rec = 3-12"; Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 07Jul08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL25S-28SM-1247-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 0910 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

SB-4-WS

Soft, dry to moist, lt. brown to gray, silty clay w/sand; oxide staining & const. debris to gravel

Depth = 95% full push; Rec = 3-12" Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Lever (Please Print)

Signature: Stan Lever Date: 07/31/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-276 M-1229-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes / No							

Sample Collection: 0945 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DC-1

Stiff, dry, sandy clay, overlain by gravel ~~Soft, dry, brown silty clay w/sand~~, (fill) w/ building debris, well completed

Depth: ~~95% full push~~ 3-6" bgs; rec = ~~8-10" Avg~~ 2-4" Avg BP

~~10% of footprint covered w/ crust, desert~~ RBP

6/20/08

JS 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Susan Levers (Please Print)

Signature: [signature] Date: 07/21/08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL255-304M-1272-SO

Date: BP ~~6-19-08~~ 6-20-08 (2nd mob) AA 08/06/08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1000 hrs

Sample Type: Composite - (M) - Grab
If ML # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DR-20

Soft, dry, brown silty clay w/sand, const. debris

Depth: 95% fill push; Rec = 8-10"

Approx. 40% of footprint covered w/ Concrete

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levine (Please Print)

Signature: [signature] Date: 08/06/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-290 M-1254-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1055 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DA-5 soft dry lt. brn s. lty clay w/ sand to gravel w/ demo debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Susan Levere (Please Print)

Signature: Susan Levere Date: 08 JUL 08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL25S-292M-1256-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1245 hrs

Sample Type: Composite - ~~ML~~ - Grab
If ML, # of increments taken: 30

Location: Plotted on Map (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DA-6A / DA-28A
m, stiff gray f.t. bpn silty clay w/ sand and gravel + const. debris/ tnt staining

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - ~~Field Blanks~~ A

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovern (Please Print)

Signature: Stan Lovern Date: 08/06/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-292M-125-MS

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1245 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DA-6A/DA-28A m. stiff, dry Lt. brn Si. Ly clay w/ sand, gravel and const. debris
tnt staining

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 08/20/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-292M-1251-MSD

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1245 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background: 0.0	ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs				QA Samples			
pH	units	Nitrate / Nitrite				MS/MSD	(Yes) No		NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Duplicate ID			NA
Redox Potential	mV	Propellants				Equipment Rinse ID			NA
Turbidity	N.T.U.					Trip Blank ID			NA

Sample Description

DA-6A / DA-28A m, stiff, dry, lt. brn. silty clay w/ sand, gravel and constr. debris ~~- strong~~

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Lovern (Please Print)

Signature: [signature] Date: 08/31/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-291M-1255-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1255 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		**Analytical Parameters**				**Other Parameters**			
PID / FID Readings:		VOC				Corrosivity			
Background: 0.0	ppm	SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DA-60 / DA-28 soft, dry, Lt. brn silty clay fr. sand, gravel w/ const. debris oxide staining

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levers (Please Print)

Signature: Stan Levers Date: 08/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-293M-1257-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-20-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1305 hrs

Sample Type: Composite - (MI) - Grab

IF MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs				QA Samples			
pH	units	Nitrate / Nitrite				MS/MSD	Yes (No)		NA
Dissolved Oxygen	Mg : L	TPH DRO / HRO				Duplicate ID			NA
Redox Potential	mV	Propellants				Equipment Rinse ID			NA
Turbidity	N.T.U.					Trip Blank ID			NA

Sample Description

DA-7 Soft, dry, brown silty clay w/ sand, gravel and concr. debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lever (Please Print)

Signature: Stan Lever Date: 08/6/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255 - 287M - 1250 - 50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0915 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0 – 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB4A - DB3G

med. stiff, moist, brown, silty clay, trigravel w/ demo debris

Recovery = 3-9" bgs JS 10/30/08

Refusal = 9" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stanlevers (Please Print)

Signature: Stanlevers Date: 08/31/08

DC - JS 10/30/08

Field Sampling Report

Location ID: LL255-286M-1248-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0920 hrs

Sample Type: Composite - MI - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: ~~Dedicated~~ - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes - No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB4A

med. stiff, moist, brown, silty clay, tr. gravel w/ dime debris

Recovery = 3-9" bgs

Refusal = 9" bgs

JS 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lehr (Please Print)

Signature: Stan Lehr Date: 08/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255 - 2861D7249-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe		Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: 1020 hrs

Sample Type: Composite - MI (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field (Estimated) Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0-0 ppm	VOC	✓			Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)				Ignitability			
Water Level	FT	Metals (Selected)							
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity 24 hour	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

BP

Sample Description

DT DB4A

med. stiff, moist, brown, silty clay

tr. gravel w/ demo debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovering (Please Print)

Signature: Stan Lovering Date: 8/21/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-297M-1261-50 **RVAAP Sub-Slab Sample and Removal, Ravenna, OH**

Date: ~~6-2008~~ 6/24/08

BR 24JM08 K AR 08JN/08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1045 hrs **Sample Type:** Composite - (MI) - Grab If MI, # of increments taken: 30 **Location:** Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface) **Decon:** (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID	LL255-297M-1263-50	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind DUP ID	LL255-297M-1264-50	

Sample Description

~~DB-10~~
Dense, moist, brn sandy gravel
tr. silt w/ const. debris (fill) highly compacted
Recovery = 1"-10"; Avg 3"-4"
Refusal = 2"-12"; Avg 4" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

A

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lowry (Please Print)

Signature: Stan Lowry Date: 08JN/08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL255-297M-1242-QA

Date: ~~8-20-08~~ 6-2408

24 hour A1-08Jul08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1045 hrs

Sample Type: Composite - ~~MI~~ - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-10

Dense, moist, brown sandy gravel tr. silt w/ const. debris (FILL) highly compacted

Recovery = 1-16" Avg 3-4"

Refusal = 2-12" Avg 4" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD / Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levey (Please Print)

Signature: Stan Levey Date: 08Jul08

ac- jp 10/30/08

Field Sampling Report

Location ID: LL255-297M-1243-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: ~~6-20-08~~ 6-24-08

TSP 24JUN08 / JH 08JUL08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1045 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-10

Dense, moist, brown sandy gravel, tr. silt w/ const debris (fill) highly compacted.

Recovery = 1-10" Avg 3-4"

Refusal = 2-12" Avg 4" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levers (Please Print)

Signature: Stan Levers Date: 08JUL08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL255-297M-1264-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: DP ~~6-20-08~~ 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
				A	Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1050 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-10

Dense, moist, brown sandy gravel tr. silt w/ const. debris (fill) highly compacted.

Recovery = 1-10" Avg 3-4" Refusal = 2-12" Avg 4" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Stevens (Please Print)

Signature: Stan Stevens Date: 08/11/08

QC JS 10/30/08

Field Sampling Report

Location ID: LL255-298M-126550

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1120 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0 ( ) FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-10

Dense moist brown sandy gravel tr. silt w/ const debris (fill) highly compacted

Recovery = 1-10" ; Avg 3-4"
Refusal = 2-12" ; Avg 4" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

A

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 08/10/08

QC - JB 10/30/08

Field Sampling Report

Location ID: 1255-298D-1266-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: ~~8/6/2008~~ 6/24-08

Sampling Information

24 Jun 08 CA 08/26/08

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No				Terra Core ✓		CA 08/26/08	

Sample Collection: 1125 hrs

Sample Type: Composite - MI - (Grab) If ~~MI~~, # of increments taken: _____

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB-10

Dense moist brown sandy gravel to silt w/ const debris (fill) highly compacted

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovering (Please Print)

Signature: Stan Lovering Date: 08/26/08

DL - JS 10/30/08

Field Sampling Report

Location ID: LL3 - 247M-1174-S0

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1345 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No (Y 10/30/08) NA
Duplicate ID	NA
Equipment Rinse ID	NA
Trip Blank ID	NA

Sample Description

FB2

Soft, moist to wet, brown sandy clay, tr gravel w/ demo debris (fill)

Recovery = 3"-12", Avg 6"

Refusal = 4"-12", Avg 10" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Leverett (Please Print)

Signature: Stan Leverett Date: 09/01/08

DC - Y 10/30/08

Field Sampling Report

Location ID: 4255-272M-1215-S0

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1400 hrs

Sample Type: Composite - (MI) Grab If MI # of increments taken: 30

Location: Plotted on Map - Staked in Field Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No) NA
Duplicate ID	NA
Equipment Rinse ID	NA
Trip Blank ID	NA

jr 10/30/08

Sample Description

EB19

Soft, moist to wet, brown sandy clay tr. gravel, tr. cobble w/ demo debris (fill)

Recovery = 3-12"; Avg 6"

Refusal = 4-12"; Avg 10" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above / As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 09/30/08

DC - gs 10/30/08

Field Sampling Report

Location ID: LL355248M-117750

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1415 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC	✓			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	✓			Ignitability			
Water Level	FT	Metals (Selected)	✓						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs				QA Samples			
pH	units	Nitrate / Nitrite				MS/MSD	Yes (No)		NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Duplicate ID			NA
Redox Potential	mV	Propellants				Equipment Rinse ID			NA
Turbidity	N.T.U.					Trip Blank ID			NA

Sample Description

EB3

med. stiff dry to moist, lt. brown sandy clay, tr. silt, gravel some demo debris

refusal = 6-12" Avg 12" push
recovery = 4-12" Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Jevons (Please Print)

Signature: Stan Jevons Date: 09/16/08

QC JB 10/30/08

Field Sampling Report

Location ID: LL355-249M-1178-30

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1430 hrs

Sample Type: Composite - MI - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:		
Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

24 hr TAT per Ab 09 Jul 08

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB3

med. stiff dry to moist, lt. brown sandy clay tr. silt, gravel some demo debris

refusal = 6-12" Avg 12" push

recovery = 4"-12" Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenger (Please Print)

Signature: Stan Levenger Date: 09-Jul-08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-249M-1178-MS

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1430 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
pesticides	✓		

Other Parameters

Corrosivity	✓		
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

FB3

med. Stiff, dry to moist, lt brown sandy clay tr. silt, gravel some demo debris

refusal: 6-12" Avg 12" push
recovery: 4-12" Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above / As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lavergne (Please Print)

Signature: Stan Lavergne Date: 09/16/08

QC JS 10/30/08

Field Sampling Report

Location ID: LL355-249M-1178-MSD

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1430 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

FB3

med. stiff, dry to moist, lt. brown sandy clay tr. silt, gravel, some demo debris

refusal = 6-12" Avg 12" pusn
recovery = 4-12" Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lowery (Please Print)

Signature: Stan Lowery Date: 09Dec08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-2490 1179-30

Date: 6-24-08

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
				A	Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No		BP 24hr QA 09Jul08		Terracore ✓			

Sample Collection: 1445 hrs

Sample Type: Composite - MI - Grab
If MI, # of increments taken: ____

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC	X		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup	LL355-2490-1181-50	

Sample Description

EB3

med. stiff, dry to moist, lt. brown sandy clay fr. silt, gravel; some demo debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Leverz (Please Print)

Signature: Stan Leverz Date: 09Jul08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-2490-1180-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: 1450 hrs

Sample Type: Composite - MI Grab
If MI, # of increments taken: ____

Location: Plotted on Map - Staked in Field
Estimated Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC	X		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

FB3

med. stiff, dry to moist, lt. brown sandy clay, tr. silt, gravel; some demo debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levergs (Please Print)

Signature: Stan Levergs Date: 07/01/08

QC - gs 07/30/08

Field Sampling Report

Location ID: LL355-2490-1181-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No		BP		Terracore ✓			

Sample Collection: 1455 hrs

Sample Type: Composite - MI - Grab
If MI, # of increments taken: ____

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	X		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB3

med. stiff, dry to moist, lt. brown sandy clay, tr. silt, gravel; some demo debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stanforth (Please Print)

Signature: [signature] Date: 9 Jul 08

BCJS 10/30/08

Field Sampling Report

Location ID: LL355265M-1204-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 62408

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1505 hrs

Sample Type: Composite - (ML) - Grab
If ML # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
Sample:	ppm	SVOC				Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)	✓			Ignitability			
Temperature	°C	Metals (Selected)	✓						
Sp. Conductance:	uMHOs	Perchlorate							
pH	units	PCBs				QA Samples			
Dissolved Oxygen	Mg / L	Nitrate / Nitrite				MS/MSD	Yes / (No)		NA
Redox Potential	mV	TPH DRO / HRO				Duplicate ID			NA
Turbidity	N.T.U.	Propellants				Equipment Rinse ID			NA
						Trip Blank ID			NA

Sample Description

EB9A

V. Soft wet, brown silty clay w/ brk frags const. debris, trace sand

Refusal = 6-12" ; Avg 12" bgs

Recovery = 5-10" ; Avg 6" of Soil

Soil sample description should include:

Munsell Color · Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levengood (Please Print)

Signature: Stan Levengood Date: 09/10/08

bc jp 10/30/08

Field Sampling Report

Location ID: L355-274M-1217-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1510 hrs

Sample Type: Composite - ~~MI~~ - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

FB25

Soft, moist, brown silty clay, trace sand + gravel w/ const. debris

Refusal = 6-12" bgs ; Avg 8" bgs

Recovery = 3-9" ; Avg 5" of soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Stevens (Please Print)

Signature: Stan Stevens Date: 09/16/08

QC - 9/19/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL355-250m-118230

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1555 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EBY

Stiff, dry, lt brown silty clay w/sand, cobbles, + const debris

Refusal = 3'-9" bgs; Avg 6" bgs

Recovery = 2'-8" ; Avg 4" of soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lukenbaugh (Please Print)

Signature: Stan Lukenbaugh Date: 09Sep08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-25sm-1183-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1600 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

FBY

Stiff, dry, lt brown silty clay w/sand, cobble & const. debris

Refusal: 3-9" bgs ; Avg 6" bgs

Recovery: 2-8" ; Avg 4" of soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Leverge (Please Print)

Signature: Stan Leverge Date: 09/26/08

QC - JA 10/30/08

Field Sampling Report

Location ID: LL355-2660-126650

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				terracore ✓			

Sample Collection: 1700 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	✓		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB10 / 10A

stiff, dry, lt. brown sandy clay w/ gravel, + demo debris (fill)

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 09/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL3-2460-1206-MS

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				Terracore ✓			

Sample Collection: ~~1710~~ hrs 1705 BP 24JUN08

Sample Type: Composite - MI - (Grab) If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field (Estimated) - ~~Measured~~ - ~~Surveyed~~

Sample Depth: 0.1 FT (below surface) AL

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters 09JUN08				Other Parameters			
PID / FID Readings: Background: 0.0	ppm	VOC	✓			Corrosivity			
Sample:	ppm	SVOC				Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)				Ignitability			
Temperature	°C	Metals (Selected)							
Sp. Conductance:	uMHOs	Perchlorate				QA Samples			
pH	units	PCBs				MS/MSD	(Yes) / No		NA
Dissolved Oxygen	Mg / L	Nitrate / Nitrite				Duplicate ID			NA
Redox Potential	mV	TPH DRO / HRO				Equipment Rinse ID			NA
Turbidity	N.T.U.	Propellants				Trip Blank ID			NA

Sample Description

EQ-10 / 10A

Stiff, dry lt. brown sandy clay w/gravel, + demo debris (fill)

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stacy Levenson (Please Print)

Signature: Stacy Levenson Date: 09JUL08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-2660-1206-MSD

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-24-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
				A	Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				terracore ✓			

Sample Collection: 1710 hrs

Sample Type: Composite - MI (Grab) If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC	✓			Corrosivity			
Sample:	ppm	SVOC				Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)				Ignitability			
Temperature	°C	Metals (Selected)							
Sp. Conductance:	uMHOs	Perchlorate							
pH	units	PCBs							
Dissolved Oxygen	Mg / L	Nitrate / Nitrite							
Redox Potential	mV	TPH DRO / HRO							
Turbidity	N.T.U.	Propellants							

QA Samples		
MS/MSD	(Yes) / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-10/10A

Stiff, dry lt. brown sandy clay w/gravel + demo debris (fill)

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Shan Lavery (Please Print)

Signature: Shan Lavery Date: 09Jul08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL353-266M-1205-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0930 hrs

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	✓		
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	✓		
Pesticides	✓		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-10/DA

Stiff, dry, lt. brown, sandy clay w/ gravel + demo debris (fill)

refusal = 2-8" bgs Avg 4" bgs

recovery = 1-6" ~~bgs~~ bgs Avg 3" bgs

Lastmose - Asphalt

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovering (Please Print)

Signature: Stan Lovering Date: 08/8/08

QC - JS 10/30/08

Field Sampling Report

Location ID: L355-267M-12750

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0935 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs	✓		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-10/10A

Stiff, dry lt brown, sandy clay w/gravel + demo debris (fill)

refusal = 28" bgs Avg 4" bgs

recovery = 1-6" bgs Avg 3" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 09/30/08

QC - gs 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL355-270M-1213-SO

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0955 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

FB-13A

dense, brown, silty sand w/ gravel tr. clay w/ cobbles

refusal = 1-6" Avg 3" bgs

recovery = 1-5" Avg 2" soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: John Lovenger (Please Print)

Signature: John Lovenger Date: 09/2/08

QC-JS 10/30/08

Field Sampling Report

Location ID: LL355-271M-1214-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes / No							

Sample Collection: 1000 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-13D

dense, brown, silty sand w/ gravel cobbles, tr. clay

refusal = 1-5" Avg 3" bgs

recovery = 1-4" Avg 2" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 09/30/08

QC JS 10/30/08

Field Sampling Report

Location ID: LL355-269M-1212-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1010 hrs

Sample Type: Composite (ML) - Grab If ML # of increments taken: 30

Location: Plotted on Map - Staked in Field Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	✓		
Metals (Selected)	✓		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-13 / EB-26

dense brown silty sand w/ gravel, cobbles tr. clay

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenger (Please Print)

Signature: Stan Levenger Date: 09/10/08

QC JT 10/30/08

Field Sampling Report

Location ID: LL355-2608M-1208-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID	LL355-2608M-1210-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL355-2608M-1211-SO	

Sample Description

EB-11

Soft, dry, lt. brown, silty clay, tr. Sand + gravel w/ const. debris

refusal = 6-12" bgs Avg 10"

recovery = 6-12" BGS Avg 9" of soil

Asphalt

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovejoy (Please Print)

Signature: Stan Lovejoy Date: 09/30/08

QC - gs 10/30/08

Field Sampling Report

Location ID: LL355-268M-1209-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-11

Soft, dry, lt. brown, silty clay, tr. sand + gravel w/ const. debris

refusal = 6-12" bgs Avg 10"

recovery = 6-12" Avg 9" of soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levers (Please Print)

Signature: Stan Levers Date: 09/30/08

QC - JG 12/30/08

Field Sampling Report

Location ID: LL355-268M-1210-SG

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N		A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-11

Soft, dry, lt. brown, silty clay, tr. sand + gravel w/ const. debris

refusal = 6-12" bgs Avg 10"

recovery = 6-12" Avg 9" of Soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovenguth (Please Print)

Signature: Stan Lovenguth Date: 09/10/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-268M-1211-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1110 hrs

Sample Type: Composite - (ML) - Grab
If ML # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	✓		
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-11

Soft, dry, lt. brown, silty clay, tr. Sand + gravel w/ const. debris

refusal = 6-12" bgs Avg 10"

recovery = 6-12" Avg 9" of soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 09JUL08

DC - JS 10/20/08

Field Sampling Report

Location ID: LL355-246M-1175-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1200 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

3-51, 3-51A, EB-20

med stiff, dry, lt brown sandy clay w/ dmm debris

refusal = 1-8'
recovery = 1-8'

Avg 5" lifts
Avg 3.4" of soil / yds 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levengood (Please Print)

Signature: Stan Levengood Date: 09/30/08

QC - JP 10/30/08

Field Sampling Report

Location ID: LL355-254M-1860-30

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-25-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1515 hrs

Sample Type: Composite - MI - Grab

If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4-WS

Stiff dry M. brown sandy clay, tr. gravel demo debris

refusal = 1-8" Avg 5" bgs

recovery = 1-8" Avg 3-4" of Soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Levergood (Please Print)

Signature: Stan Levergood Date: 09/2/08

QC - JG 10/30/08

Field Sampling Report

Location ID: LL355-252M-1184-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0945 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB4-VP1, EB-4A-VP1, EB-10-VP1, EB-10-VP2
Soft, dry to moist, some sand BP
Brown, silty, clay, w/ gravel & demo debris (fill)

recovery = variable across 4 buildings 2"-12" bgs

refusal = variable

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovenguth (Please Print)

Signature: Stan Lovenguth Date: 09/11/08

DC - JG 10/30/08

Field Sampling Report

Location ID: LL355-255m-1187-36

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1045 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4-A

soft, moist to wet, brn silty to Sandy clay, tr. gravel w/ const' debris

refusal = 3-12" bgs Avg 10" bgs

recovery = 3-12" Avg 6" of Soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levengood (Please Print)

Signature: Stan Levengood Date: 09/08/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-256M-1188-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite - MI - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID	LL355-256M-1190-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL355-256M-1191-SO	

Sample Description

EB-4-A

Soft, moist to wet, brn silty to sandy clay tr. gravel w/ const. debris

refusal = 3-12" bgs Avg 10" bgs

recovery = 3-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 08/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-256M-1189-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		
pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4A

Soft, moist to wet, brn silty to sandy clay tr. gravel w/ const. debris

refusal = 3-12" bgs Avg 10" bgs

recovery = 3-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovergs (Please Print)

Signature: Stan Lovergs Date: 09/01/08

bc-JS 10/30/08

Field Sampling Report

Location ID: LL355-256M-1190-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4-A

Soft moist to wet, brn silty to sandy clay fr. gravel w/ const. debris

refusal = 3-12" bgs Avg 1' bgs

recovery = 3-12" Avg 6" of soil

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

U

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovern (Please Print)

Signature: Stan Lovern Date: 09/30/08

QC-ft 10/30/08

Field Sampling Report

Location ID: U355-256M-1191-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction Al 0.25 bottles					Mattocks			
Miscellaneous 2 to 1 mix	Well Purging Form Yes - No							

Sample Collection: DP 1100 hrs 1110

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:	
Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4-A

Soft, moist to wet, brn Si.Hy to Sandy clay w/ const. debris

refusal = 3-12" bgs Avg 10" bgs
recovery = 3-12" Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lowery (Please Print)

Signature: Stan Lowery Date: 09/11/08

bc-gs 10/30/08

Field Sampling Report

Location ID: LL355-2560-1192-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6/26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe		Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	**Well Purging Form** Yes - No				Terra-core ✓			

Sample Collection: 1105 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters (at time of sample)		**Analytical Parameters**				**Other Parameters**			
PID / FID Readings: Background:	0.0 ppm	VOC	X			Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)				Ignitability			
Water Level	FT	Metals (Selected)							
Temperature	°C	Perchlorate				**QA Samples**			
Sp. Conductance:	uMHOs	PCBs				MS/MSD	Yes / (No)		NA
pH	units	Nitrate / Nitrite				Duplicate ID			NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID			NA
Redox Potential	mV	Propellants				Trip Blank ID			NA
Turbidity	N.T.U.								

Sample Description

EB-4-A

soft moist to wet, brn silty to sandy clay tr. gravel w/ const debris.

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: A. Stan Lovas (Please Print)

Signature: Stan Lovas Date: 08/1/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-264M-1203-30

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1455 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-9

Stiff, dry to moist, lt. brown sandy clay tr. gravel w/ dime debris

refusal = 2-12" bgs Avg 6"

recovery = 4-10" Avg 5"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Levergood (Please Print)

Signature: Stan Levergood Date: 09/30/08

QC-JS 10/30/08

Field Sampling Report

Location ID: LL355-263M-1202-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes / No							

Sample Collection: 1520 hrs

Sample Type: Composite - (MI) Grab

If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs				QA Samples			
pH	units	Nitrate / Nitrite				MS/MSD	Yes (No)		NA
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Duplicate ID			NA
Redox Potential	mV	Propellants				Equipment Rinse ID			NA
Turbidity	N.T.U.					Trip Blank ID			NA

Sample Description

EB-8, EB-8A, EB-22

dry brown clay w/gravel (Fill)

refusal = 2-10" bgs Avg 6" bgs

recovery: 1-9" Avg 5" 50:1

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 09Jul08

DL-JG 10/30/08

Field Sampling Report

Location ID: LL355-262M-1261-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes / No							

Sample Collection: 1620 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EA-7

Soft, dry to moist, brown clay w/ sand

refusal = 3-12" Avg 6" lags
recovery = 0-10" Avg 8" of soil

JS 10/20/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 09/10/08

QC - JS 10/20/08

Field Sampling Report

Location ID: LL355-273M-1216-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-26-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1605 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EA-21

Dry brown clay w/ gravel (fill)
Refusal = 2-10" bgs Avg 6" bgs
Recovery = 1.9" bgs Avg 5" soil

JS 10/30/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovering (Please Print)

Signature: Stan Lovering Date: 09/16/09

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-258M-1194-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: ~~0915~~ 0910 hrs BF

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
Sample:	ppm	SVOC	X			Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)	X			Ignitability			
Temperature	°C	Metals (Selected)	✓						
Sp. Conductance:	uMHOs	Perchlorate							
pH	units	PCBs							
Dissolved Oxygen	Mg / L	Nitrate / Nitrite							
Redox Potential	mV	TPH DRO / HRO							
Turbidity	N.T.U.	Propellants							

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID	LL355-258M-1196-50	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL355-258M-1197-50	

Sample Description

FB-4A-WS

soft, moist to wet, brn sandy clay w/ const. debris

refusal = 3-12" bgs Avg 8"

recovery = 2-11" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovering (Please Print)

Signature: Stan Lovering Date: 09/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-258M-~~1194~~-1195-~~S~~QA BP 4/27/06 JS 10/30/06

Date: 6-27-08

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form ~~Yes~~ - No							

Sample Collection: 0910 hrs

Sample Type: Composite - MI - Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4A-WS

Soft, moist to wet, brn sandy clay w/ const debris

refusal = 3-12" bgs Avg 8"

recovery = 2-11" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 09/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-258M-1196-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: ~~0905~~ hrs 0910 BP 27 inHg

Sample Type: Composite - (MI) - Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field — Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC	X			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4A-WS

Soft, moist to wet, brn Sandy clay w/ const debris

refusal = 3-12" bgs Avg = 8"

recovery = 2-11" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovering (Please Print)

Signature: Stan Lovering Date: 09JUL08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL355-25SM-1197-SO

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: ~~0925~~ 0920 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 2 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC	X			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs							
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
~~Duplicate ID~~		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4A-W5

Soft, moist to wet, brn sandy clay w/ const. debris

refusal = 3-12" bgs Avg = 8"

recovery = 2-11" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Lueng (Please Print)

Signature: Stan Lueng Date: 09-JUL08

QC - JS 12/30/08

Field Sampling Report

Location ID: LL355-257M-1193-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form ~~Yes~~ - No							

Sample Collection: 0930 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field) ~~Estimated~~ - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EB-4A-WN

Soft, moist to wet, brn sandy clay w/ const. debris / rebar

refusal = 3-12" Avg 6"

recovery = 2-11" Avg 5"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 09/10/08

QC - JB 10/30/08

Field Sampling Report

Location ID: LL355-259M-1198-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1625 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EA-5

soft, moist, brn clay w/ const debris

refusal = 6-12" bgs Avg 11"

recovery = 4-12" Avg 8"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 09/4/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL355-260M-1199-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes / No							

Sample Collection: 1040 hrs

Sample Type: Composite - (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field — Estimated - Measured - Surveyed

Sample Depth: 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

EA-6 / EA-28

Soil, moist, brn clay w/ dime debris

refusal = 8-12" Avg 12"

recovery = 8-12" Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lavenger (Please Print)

Signature: Stan Lavenger Date: 09/30/08

DC - JS 10/20/08

Field Sampling Report

Location ID: LL455-201M-1184-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1130 hrs

Sample Type: Composite - (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - ~~Surveyed~~

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
		SVOC	X			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs	X						
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants	X						
Turbidity	N.T.U.	pesticides	X						

QA Samples		
MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-2

loose, moist, brn gravelly sand
tr. const debris

refusal = 12" bgs
recovery = 5-12"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N/A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovergs (Please Print)

Signature: Stan Lovergs Date: 09 Jul 08

DC - JG 10/30/08

Field Sampling Report

Location ID: LL455-201D-1185-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				terracore ✓			

Sample Collection: 1035 hrs

Sample Type: Composite - MI - Grab

If MI, # of increments taken: 30 BP 4/27/08 JS 11/13/08

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC	X			Corrosivity			
		SVOC				Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)				Ignitability			
Water Level	FT	Metals (Selected)							
Temperature	°C	Perchlorate				QA Samples			
Sp. Conductance:	uMHOs	PCBs				MS/MSD	Yes / No	NA	
pH	units	Nitrate / Nitrite				Duplicate ID		NA	
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID		NA	
Redox Potential	mV	Propellants				Trip Blank ID		NA	
Turbidity	N.T.U.					Blind ID DUP	LL455-201D-1187-SO		

Sample Description

G-2

loose, moist, brn gravelly sand fr. const debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J Stapleton (Please Print)

Signature: J Stapleton Date: 09 Jul 08

Q.C - JS 11/30/08

Field Sampling Report

Location ID: LL455-2ID-1186-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				terracore ✓			

Sample Collection: 1130 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC	X		
SVOC			
Explosives (Selected)			
Metals (Selected)			
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-2
loose; moist, brn gravelly sand
tr. const debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levergood (Please Print)

Signature: Stan Levergood Date: 09JUL08

QC - JG 10/30/08

Field Sampling Report

Location ID: LL455-2010-1187-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe		Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No				terracore ✓			

Sample Collection: 1146 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0.1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background: 0.0	ppm	VOC	X			Corrosivity		✓	
Sample:	ppm	SVOC				Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)				Ignitability			
Temperature	°C	Metals (Selected)							
Sp. Conductance	uMHOs	Perchlorate							
pH	units	PCBs							
Dissolved Oxygen	Mg / L	Nitrate / Nitrite							
Redox Potential	mV	TPH DRO / HRO							
Turbidity	N.T.U.	Propellants							

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-2

loose, moist, brn gravelly sand

tr. const debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Evers (Please Print)

Signature: Stan Evers Date: 12/1/08

QC - JF 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: ~~LL25~~ LL455-202M-1188-SO

Date: 6-27-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	X	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1200 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) - No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-4
Loose, moist brown sand w/ gravel (fill)

Refusal = 12" bgs
Recovery = 8-12" bgs

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Tom Lovering (Please Print)

Signature: Tom Lovering Date: 10/1/08

QC - JS 10/30/08

Field Sampling Report

Location ID: 24455-203M-1190-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-30-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G5 + G20

Soft dry to wet, lt brown, silty clay w/ wood & fragments & const. debris

refusal = 6-12" Avg 12"
recovery = 3-12" Avg 3"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

NA

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenge (Please Print)

Signature: [signature] Date: 10/1/08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455 - 204M - 1191 - 50

Date: 6-30-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1600 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 0 - 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G6+G6A

loose, moist to wet, brn, sandy gravel w/ cobble's tr. const debris (fill)
- G6A has vegetation also

refusal = 6-12" Avg 12" } JS 10/20/08
recovery = 2-12" Avg 7" }

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 12/1/08

DC JS 10/20/08

Field Sampling Report

Location ID: 44455 - 205M - 1192-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 6-30-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1629 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G7 + G14 BP 30 June 08 AA 7/2/08

Soft, dry to moist, lt brn silty clay tr. sand tr. const debris

refusal = 6-12" Avg 12"

recovery = 4-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 10/30/08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-208M-1195-SO

Date: 6-30-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N				Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1715 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G8-VP1, G12-VP1, G13-VP1, G13-VP2

Loose, dry brown silty sand JS 10/30/08

refusal = 1-12" variable throughout site JS 10/30/08

recovery = 1-12" variable throughout site

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Sam Lovergn (Please Print)

Signature: Sam Lovergn Date: 10/30/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL455-206.M-1193-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 07-01-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0850 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-8

Firm, sandy w/gravel (fill)

recovery: 2-8" Avg 4"
refusal: 2-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lowery (Please Print)

Signature: Stan Lowery Date:

QC - JA 10/30/08

Field Sampling Report

Location ID: LL455-207M-1194-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 07-01-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0855 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-8

Firm, Sandy w/gravel (fill)

Recovery: 2-8" Avg 4"
refusal: 2-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lawrence (Please Print)

Signature: Stan Lawrence Date: 10/1/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL455-212M-1203-QA

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 7-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0915 hrs

Sample Type: Composite - (MI) - Grab

If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-12

Dense to loose, moist to wet, brn sandy gravel, tr. clay, w/ const. debris (fill) - Graded + well compacted

recovery = 1-12" Avg 5"

refusal = 2-12" Avg 7"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levergood (Please Print)

Signature: Stan Levergood Date: 10/30/08

QC- JS 10/30/08

Field Sampling Report

Location ID: LL455-212M-1202-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 07-01-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0915 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field)
(Estimated) Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs	X		
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID	LL455-212M-1204-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL455-212M-1205-SO	

Sample Description

G-12

Dense to loose, moist to wet, brn, sandy gravel, tr. clay, w/const debris (Fill)
- Graded & well compacted

Recovery: 1-12" Avg 5"
refusal: 2-12" Avg 7"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Sevens (Please Print)

Signature: Stan Sevens Date: 9/30/08

DC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-212M-1204-S0

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0915 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background: 0.0	ppm	VOC				Corrosivity			
Sample:	ppm	SVOC	X			Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)	X			Ignitability			
Temperature	°C	Metals (Selected)	X						
Sp. Conductance:	uMHOs	Perchlorate				**QA Samples**			
pH	units	PCBs	X			MS/MSD	Yes (No)		NA
Dissolved Oxygen	Mg / L	Nitrate / Nitrite				Duplicate ID			NA
Redox Potential	mV	TPH DRO / HRO				Equipment Rinse ID			NA
Turbidity	N.T.U.	Propellants				Trip Blank ID			NA

Sample Description

G-12

Dense to loose, moist to wet brn sandy gravel tr. clay w/ const debris (fill) - Graded & well compacted

recovery: 1-12" Avg 5"
refusal: 2-12" Avg 7"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovejoy (Please Print)

Signature: Stan Lovejoy Date: 10/30/08

QC - JB 10/30/08

Field Sampling Report

Location ID: LL455-212M-1205-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0920 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background: 0.0	ppm	VOC				Corrosivity			
		SVOC	X			Reactivity Sulfide/Cyanide			
Sample:	ppm	Explosives (Selected)	X			Ignitability			
Water Level	FT	Metals (Selected)	X						
Temperature	°C	Perchlorate							
Sp. Conductance:	uMHOs	PCBs	X						
pH	units	Nitrate / Nitrite							
Dissolved Oxygen	Mg / L	TPH DRO / HRO							
Redox Potential	mV	Propellants							
Turbidity	N.T.U.								

QA Samples		
MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-12

Dense to loose, moist to wet, brn sandy gravel, tr. clay, w/ const. debris (f:11)
- Graded & well compacted

recovery = 1-12" Avg 5"
refusal = 2-12" Avg 7"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Leverson (Please Print)

Signature: Stan Leverson Date: 10/10/08

QC - JJ 10/30/08

Field Sampling Report

Location ID: LL455-209M-1196-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 7-(-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1010 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID	LL455-209M-1198-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL455-209M-1199-SO	

Sample Description

G-9

Soil = med. dense, moist, brn, sandy gravel w/ cobbles

Recovery = 1-12" Avg 5"
refusal = 2-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Adam Levergood (Please Print)

Signature: Adam Levergood Date: 10/30/08

QC JB 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LY55-209M-1197-QA

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1010 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			
Pesticide	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-9

med. dense, moist, brn, sandy gravel w/ cobbles

recovery: 1-18" Avg 5"
refusal: 2-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Acot (Please Print)

Signature: Brenda Acot

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date:

QC JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: L455-209M-1198-SO

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1010 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-9

med. dense, moist, brn, sandy gravel w/cobbles

recovery = 1-12" Avg 5"
refusal = 2-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lowery (Please Print)

Signature: Stan Lowery Date: 10/1/08

QC - JS 10/30/08

Field Sampling Report

Location ID: LL455-209M-1199-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1015 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field
(Estimated) Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			
Pesticides	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-9

med. dense, moist, brn, sandy gravel w/ cobbles

recovery: 1-12" Avg 5"

refusal: 2-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levergood (Please Print)

Signature: Stan Levergood Date: 10/1/08

QC - JO 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: 11455-217M-1213-SC

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1025 hrs

Sample Type: Composite - MI - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	V		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes ~~NA~~ BP	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-16

m. dense, moist, brn sandy gravel

refusal = 3-12" Avg 6"
recovery = 1-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levergood (Please Print)

Signature: Stan Levergood Date: 11/10/08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-217M-1213-MJ

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
				A	Push Probe	X	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes / No							

Sample Collection: 1025 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map - ~~Staked in Field~~ Estimated - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

GIC

m. dense, moist, brn, sandy gravel

refusal = 3-12" Avg 6"
recovery = 1-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Severs (Please Print)

Signature: Stan Severs Date: 11/3/08

bc - gs 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: 2455-217M-1213-MSD

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1625 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-16
m. dense, moist, brn, Sandy gravel
refusal = 3-12" Avg 6"
recovery = 1-12" Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 11/10/08

QC - JS 12/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-213M-1206-SO

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1410 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-12A

dust to loose, moist to wet, brn sandy gravel, tr. const debris (fill)
Site graded

recovery = Avg 5"
refusal = Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Sievers (Please Print)

Signature: Stan Sievers Date: 11/10/08

QC - JS 12/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: 12455 - 214M - 1207-SO

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1350 hrs

Sample Type: Composite - (MI) - Grab

If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-73

dry, soft, brn, silty clay w/ const. debris

recovery: Avg 64

refusal: Avg 64

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Joshua Stevens (Please Print)

Signature: [signature] Date: 11 Jul 08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: L455 - 215M-1208-SO

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1400 hrs

Sample Type: Composite - (MI) - Grab If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings: Background:	0.0 ppm	VOC				Corrosivity			
Sample:	ppm	SVOC				Reactivity Sulfide/Cyanide			
Water Level	FT	Explosives (Selected)	X			Ignitability			
Temperature	°C	Metals (Selected)	X						
Sp. Conductance:	uMHOs	Perchlorate							
pH	units	PCBs							
Dissolved Oxygen	Mg / L	Nitrate / Nitrite							
Redox Potential	mV	TPH DRO / HRO							
Turbidity	N.T.U.	Propellants							

QA Samples		
MS/MSD	Yes - (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-13A

m. stiff, dry, brn, silty clay, tr. sand

recovery = Avg 4"

refusal = Avg 5"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovenguth (Please Print)

Signature: Stan Lovenguth Date: 11/10/08

QC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: 2455-210M-1200-J0

Date: 7-1-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1600 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G10

m. anse, dry to wet, lt brn, sandy gravel tr. cobbles w/ conc debris

recovery: Avg 5"
refusal: Avg 6"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Severyn (Please Print)

Signature: Stan Severyn Date: 11/3/08

DC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455 - 222M - 1219 - 50

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0945 hrs

Sample Type: Composite - (MI) - Grab If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-19A

Loose, dry, tan sand, tr. gravel, cobbles, interspersed w/ compacted fill

recovery: Avg 10"

refusal: Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lovas (Please Print)

Signature: Stan Lovas Date: 11/10/08

QC - JB 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-220M-1217-SO

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 0950 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID	LL455-220M-1221-SO	NA
Equipment Rinse ID		NA
Trip Blank ID		NA
Blind Dup ID	LL455-220M-1222-SO	

Sample Description

G-19

Loose dry, tan sand, tr. gravel, cobble interspersed w/ compacted fill

recovery = Avg 10"
refusal = Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J Stan Lovenguth (Please Print)

Signature: [signature] Date: 11/10/08

QC - JS 10/30/08

- QA Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-220m-1220 ~~50~~ BP 022108 A1 11/6/08

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field) Estimated Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	N		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-19

Loose, dry tan sand, tr. gravel, cobbles interspersed w/ compacted fill

recovery = Avg 10"
refusal = Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 11/6/08

QC. JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-220M-1221-SO

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field) Estimated Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:		ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-19 fgn bf
Loose, dry ~~sand~~ sand, tr. gravel, cobble interspersed w/ compacted fill

recovery = Avg 10"
refusal = Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: JStapleton (Please Print)

Signature: JStapleton Date: 14 Jul 08

QC - jp 10/30/08

Field Sampling Report

Location ID: LL455-220M-1222-50

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1535 hrs

Sample Type: Composite (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map / (Staked in Field) (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0 / 0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-19

Loose, dry, tan sand to gravel, cobbles interspersed w/ compacted fill

recovery = Avg 10"
refusal = 0 Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levergood (Please Print)

Signature: Stan Levergood Date: 12/1/08

QC - JS 1/30/09

Field Sampling Report

Location ID: LL455-22SM-1218-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1955 hrs

Sample Type: Composite - (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) - (Estimated) - Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0 ppm
Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-19

Loose dry tan sand tr. gravel, cobbles interspersed w/ compr fill

recovery = Avg 10"
refusal = Avg 10"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenga (Please Print)

Signature: Stan Levenga Date: 14/08

DC - JS 10/30/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: LL455-218M-1214-50

Date: 7-2-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
					Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1050 hrs

Sample Type: Composite - (MI) Grab
If MI, # of increments taken: 30

Location: Plotted on Map (Staked in Field) Estimated Measured - Surveyed

Sample Depth: 0-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings:
Background: 0.0 ppm

Sample:	ppm
Water Level	FT
Temperature	°C
Sp. Conductance:	uMHOs
pH	units
Dissolved Oxygen	Mg / L
Redox Potential	mV
Turbidity	N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity			
Reactivity Sulfide/Cyanide			
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

G-17

Loose, dry brn, sandy clay, tr. gravel + cobbles, tr. schist, debris

recovery = Avg 7"
refusal = 18"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 14Jul08

QC-JS 10/30/08

Field Sampling Report

Location ID: ~~LL255~~ LL255-311M-1285-SW

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle	✓	Scoop		Trowel	
	Pump N	BP 10-28	Bacon Bomb		Bowl		Hand Auger	
	A				Push Probe N		Plastic Liner	
Type/Construction					Mattocks	A	BP 10-28	
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1100 hrs

Sample Type: Composite - MI (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: Surface FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings:		
Background:	0.0	ppm
Sample:	—	ppm
Water Level	2-3	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg · L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N	BP	
Reactivity Sulfide/Cyanide	A	10-28	
Ignitability			

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

DB-802 H_2O (2-3 ft)
H_2O collected @ surface before MI samples were taken.
lt. brown/turbid. No odor & no sheen

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N BP 10-28 A

QA/QC Provided: MS MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewis (Please Print)

Signature: Stan Lewis Date: 14NOV08

* sample collected from a boat AL 14NOV08 QC JS 11/26/08

Field Sampling Report

Location ID: LL255-311M-1282-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08 Northern of DB802 Sampled in MI mobilization. This sample (South portion) sampled after approval through Tech Memo #4. AT 14Nov08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump	N BP 10-28-08	Bacon Bomb	N BP 10-28-08	Bowl		Hand Auger	
		A		A	Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: ~~1100~~ hrs 1115 BP 10-28 Sample Type: Composite (MI) Grab IF MI # of increments taken: 30

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed "Southern portion"

Sample Depth: 0-1 FT (below surface) Decon: (Dedicated) Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level	2-3	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC	X		
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N	BP 10-28-08	
Reactivity Sulfide/Cyanide			
Ignitability	A		

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

DB-802

Wet, soft, silty clay w/ sand + gravel + coal debris

Under 2-3 ft of H_2O

recovery = 1-3 inches

refusal = 0%

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N BP 10-28-08 A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenyo (Please Print)

Signature: Stan Levenyo Date: 14Nov08

* sample collected from a boat AT 14Nov08 QC - JS 11/26/08

Field Sampling Report

Location ID: LL2 SS-313M-128450

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer	BP 10-28-08	Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb N	BP	Bowl		Hand Auger	
	A		A	10-28-08	Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1450 hrs BP 10-29-08 Sample Type: Composite - (Grab) Grab 30

Location: Plotted on Map - Staked in Field Estimated - Measured - Surveyed

Sample Depth ~~0-0.5~~ 0-1 FT (below surface) Decon: (Dedicated) - Each Day - Each Location

If ML, # of increments taken: 10

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N	BP 10-28-08	
Reactivity Sulfide/Cyanide	A		
Ignitability			

QA Samples

MS/MSD	(Yes) No	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

Bldg - DB10-VP1 / DB10-VP2

moist to wet, soft, lt. brown, sandy clay w/ gravel & overgrown w/ veg

refusal - 8-12"

recovery - 3-8" Avg 4"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

BP 10-28-08

N A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levens (Please Print)

Signature: Stan Levens Date: 14 Nov 08

Sample obtained from both DB-10VP1 and DB-10VP2 footprints.

14 Nov 08

QC - JS 11/26/08

Field Sampling Report

Location ID: LL25-313M-1284-MS ~~LA5-0~~ BP 10-28-08

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump		Bacon Bomb		Bowl		Hand Auger	
	N		A BP 10-28-08		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1450 hrs

Sample Type: Composite (MI) Grab — If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field — Estimated - Measured - Surveyed

Sample Depth: ~~0-6~~ 0-1 FT (below surface) BP 10-29-08

Decon: (Dedicated) Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity		
Reactivity Sulfide/Cyanide	N	BP
Ignitability	A	10-28-08

QA Samples

MS/MSD	(Yes) / No	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

DB10-VP1 + DB-10-VP2

moist to wet soft lt. brown sandy clay w/gravel & overgrown w/veg.

refusal: 8-12"

recovery = 3-8" Avg 4"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N A BP 10-28-08

QA/QC Provided: MS MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: J. Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 14 Nov 08

QC- JS 11/26/08

Field Sampling Report

Location ID: LL255-313M-1284-MSD

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A BP 10-28-08		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	**Well Purging Form** Yes - No							

Sample Collection: 1450 hrs **Sample Type:** Composite - (MI) - Grab If MI, # of increments taken: 30

Location: Plotted on Map - Staked in Field Estimated - Measured - Surveyed

Sample Depth: ~~0 to 1~~ 0-1 FT (below surface) BP 10-29-08 **Decon:** Dedicated - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level		FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity N		
Reactivity Sulfide/Cyanide A		BP 10-28-08
Ignitability		

QA Samples

MS/MSD	(Yes) / No	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

DB-10-VP1 + DB-10-VP2

moist to wet, soft, lt. brown, sandy clay w/ gravel + overgrown w/ veg

refusal = 8-12"
recovery = 3-5" Avg 4"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N

A BP 10-28-08

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewinger (Please Print)

Signature: Stan Lewinger Date: 14NOV08

QC - JS 11/26/08

Field Sampling Report

Location ID: LL255-283M-1242-SC

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A BP 10-29-08		N A BP 10-29-08		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form 10-29-08 Yes - No							

Sample Collection: 1530 hrs

Sample Type: Composite (MI) - Grab
If MI, # of increments taken: 30

Location: Plotted on Map - (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: ~~0-1~~ 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

BP 10-28-08

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level	0.5-2	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N		
Reactivity Sulfide/Cyanide	A	BP	10-29-08
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID	LL255-283M-0000	NA ER
Trip Blank ID		(NA)

Sample Description

Blgs- DB4-VP1 / DB4A-VP1

5.ft, wet, lt brown, silty clay, trace gravel.
DB-4 - 25% covered w/H2O (6")
DB-4A - 95% covered w/H2O (1-2 ft)
recovery = 3-5'
refusal = 1 ft

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N
A BP 10-29-08

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lwenger (Please Print)

Signature: Stan Lwenger Date: 14Nov08

Sample obtained from both DB-4VP1 & DB-4A-VP1 footprints per memo

QC- JS 11/26/08

Field Sampling Report

Location ID: LL255-283M-1286-SW

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle	✓	Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
	A				Push Probe N		Plastic Liner	
Type/Construction	BP 10-28-08				Mattocks	A		
Miscellaneous	**Well Purging Form** Yes - No					BP 10-28-08		

Sample Collection: 1540 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: at surface (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level	0.5	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N	
Reactivity Sulfide/Cyanide	A	BP 10-28-08
Ignitability		

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

DBY - VPI H2O Sample - 6" deep
brown, very turbid w/ vegetation
no sheen / no odor

depth of water @ location

JP 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A BP 10-28-08

QA/QC Provided: MS MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Jo Stanley/Leeanna (Please Print)

Signature: [signature] Date: 14 Nov 08

@c - JP 11/26/08

Field Sampling Report

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Location ID: L255-283m-1287-SW

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle	✓	Scoop		Trowel	
	Pump	N	Bacon Bomb		Bowl	N	Hand Auger	
		A			Push Probe	A	Plastic Liner	
Type/Construction		BP 10-28-08			Mattocks			
Miscellaneous	Well Purging Form Yes - No						BP 10-28-08	

Sample Collection: 1615 hrs

Sample Type: Composite - MI (Grab) If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field (Estimated) - Measured - Surveyed

Sample Depth: at surface FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters (at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level	2-3	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N		
Reactivity Sulfide/Cyanide	A		
Ignitability	BP 10-28-08		

QA Samples

MS/MSD	Yes / No	NA
Duplicate ID		NA
Equipment Rinse ID		NA
Trip Blank ID		NA

Sample Description

DB4A-VP1 H2O sample - 2-3 feet deep

brown, turbid, w/ vegetation

no sheen / no odor

Depth of water @ location

JB 11/26/08

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A BP 10-28-08

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenger (Please Print)

Signature: Stan Levenger Date: 11/26/08

QC - JB 11/26/08

Field Sampling Report

Location ID: LL455-216M-1209-SG

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			BP 10-28-08		Push Probe	✓	Plastic Liner	
Type/Construction			A		Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1650 hrs

Sample Type: Composite - (MI) - Grab
If MI # of increments taken: 30

Location: Plotted on Map (Staked in Field) Estimated - Measured - Surveyed

Sample Depth: 0.5-1 FT (below surface)

Decon: (Dedicated) Each Day - Each Location

Field Parameters (at time of sample)		Analytical Parameters				Other Parameters			
PID / FID Readings:		VOC				Corrosivity			
Background:	0.0 ppm	SVOC				Reactivity Sulfide/Cyanide	N	BP 10-28-08	
Sample:	ppm	Explosives (Selected)	X			Ignitability	A		
Water Level	0.5-0.83 FT	Metals (Selected)	X						
Temperature	°C	Perchlorate				**QA Samples**			
Sp. Conductance:	uMHOs	PCBs				MS/MSD	Yes / (No)	NA	
pH	units	Nitrate / Nitrite				Duplicate ID		NA	
Dissolved Oxygen	Mg / L	TPH DRO / HRO				Equipment Rinse ID		NA	
Redox Potential	mV	Propellants	X			Trip Blank ID		NA	
Turbidity	N.T.U.								

Sample Description

G-15

Soft, wet, lt. brown, silty clay, trace gravel + sand
covered w/ H2O ≈ 6" - 10"
recovery = 3-8"
refusal @ 6-12"

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address: N A BP 10-28-08

QA/QC Provided: MS MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lewerenz (Please Print)

Signature: Stan Lewerenz Date: 14NOV08

QC - JS 11/26/08

Field Sampling Report

Location ID: LL455-216M-1288-SW

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer BP 10-28-08		Sample Bottle	✓	Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl N		Hand Auger BP 10-28-08	
		A			Push Probe	A	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1655 hrs

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Location: Plotted on Map - Staked in Field - (Estimated) - Measured - Surveyed

Sample Depth: at surface FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level	0.5-0.83	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants	X		

Other Parameters

Corrosivity	N	BP	
Reactivity Sulfide/Cyanide	A	10-28-08	
Ignitability			

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

G-15 H2O surface sample
Covered w/ 6-10" H2O
clear-lt brown, turbid water
no sheen, no odor

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N BP 10-28-08 A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks
Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Lavers (Please Print)

Signature: Stan Lavers Date: 14 NOV 08

QC - JS 11/26/08

Field Sampling Report

Location ID: LL455-211M-1201-SO

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle		Scoop		Trowel	
	Pump N		Bacon Bomb		Bowl		Hand Auger	
			A BP 10-28-08		Push Probe	✓	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1700 hrs

Sample Type: Composite (MI) - Grab
If MI # of increments taken: 30

Location: Plotted on Map - Staked in Field
Estimated - Measured - Surveyed

Sample Depth: 1 FT (below surface)

Decon: (Dedicated) - Each Day - Each Location

Field Parameters
(at time of sample)

PID / FID Readings: Background:	0.0	ppm
Sample:	—	ppm
Water Level	0.25 - 1	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N	
Reactivity Sulfide/Cyanide	A	BP 10-28-08
Ignitability		

QA Samples

MS/MSD	Yes (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

G11

Soft, wet, brown, coarse sand w/ gravel + clay w/ conc. debris

40% Covered w/ 3-12" H2O ~~thru gravel~~ BP 10-28-08

Recovery = 3-8"

refusal = 0%

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N

A BP 10-28-08

QA/QC Provided: MS MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenger (Please Print)

Signature: Stan Levenger Date: 14NOV08

QC - JS 11/26/08

Field Sampling Report

Location ID: LL455-21IM-1289-SW

RVAAP Sub-Slab Sample and Removal, Ravenna, OH

Date: 10-28-08

Sampling Information

Source	Groundwater / Product		Surface Water		Soils / Sediments / Sludge			
Method	Bailer		Sample Bottle	✓	Scoop		Trowel	BP 10-28-08
	Pump	N	Bacon Bomb		Bowl	N	Hand Auger	
		A BP 10-28-08			Push Probe	A	Plastic Liner	
Type/Construction					Mattocks			
Miscellaneous	Well Purging Form Yes - No							

Sample Collection: 1705 hrs

Sample Depth: at surface FT (below surface)

Sample Type: Composite - MI - (Grab)
If MI, # of increments taken: _____

Decon: (Dedicated) Each Day - Each Location

Location: Plotted on Map - Staked in Field
(Estimated) Measured - Surveyed

Field Parameters
(at time of sample)

PID / FID Readings:		
Background:	0.0	ppm
Sample:	—	ppm
Water Level	0.25 - 1	FT
Temperature		°C
Sp. Conductance:		uMHOs
pH		units
Dissolved Oxygen		Mg / L
Redox Potential		mV
Turbidity		N.T.U.

Analytical Parameters

VOC			
SVOC			
Explosives (Selected)	X		
Metals (Selected)	X		
Perchlorate			
PCBs			
Nitrate / Nitrite			
TPH DRO / HRO			
Propellants			

Other Parameters

Corrosivity	N	BP 10-28-08
Reactivity Sulfide/Cyanide	A	
Ignitability		

QA Samples

MS/MSD	Yes / (No)	NA
Duplicate ID		(NA)
Equipment Rinse ID		(NA)
Trip Blank ID		(NA)

Sample Description

G-11

40% covered w/ 3-12" H2O

clear, lt brown, slightly turbid w/ vegetation debris

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Split Sample

Split Sample ID:

Name:

Agency/Company:

Address:

N BP 10-28-08

A

QA/QC Provided: MS/MSD - Duplicate - Trip Blanks - Field Blanks

Parameters: Same as Above - As Listed

Logged By: Brenda Pratt (Please Print)

Signature: Brenda Pratt

Reviewed by: Stan Levenstein (Please Print)

Signature: Stan Levenstein Date: 11/26/08

QC - JS 11/26/08

APPENDIX B

Analytical Data Tables for
All Analyses

INTRODUCTION TO APPENDIX B
ANALYTICAL DATA TABLES FOR ALL ANALYSES

The analytical data tables in this Appendix are not accessible due to their length and complexity.

Table B-1
Load Line 2 Volatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-3 LL2SS-280D-1237-SO 06/18/08	DB-3 LL2SS-280D-1239-SO 06/18/08	DB-4A LL2SS-286D-1249-SO 06/24/08	DB-4A-WM LL2SS-288D-1252-SO 06/18/08	DB-10 LL2SS-298D-1266-SO 06/24/08	Units	Trip Blank LL2SS-288D-0000-TB 06/18/08
1,1,1-Trichloroethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
1,1,2,2-Tetrachloroethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.125 U
1,1,2-Trichloroethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
1,1-Dichloroethane	ug/kg	1.23 U	1.53 U	0.912 U	0.931 U	0.922 U	ug/L	0.125 U
1,1-Dichloroethene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.5 U
1,2-Dibromoethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
1,2-Dichloroethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
1,2-Dichloroethene (total)	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
1,2-Dichloropropane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.2 U
2-Butanone	ug/kg	3.06 U	3.81 U	2.28 U	2.33 U	2.31 U	ug/L	2.5 U
2-Hexanone	ug/kg	3.06 U	3.81 U	2.28 U	2.33 U	2.31 U	ug/L	2.5 U
4-Methyl-2-pentanone	ug/kg	3.06 U	3.81 U	2.28 UJ	2.33 U	2.31 UJ	ug/L	2.5 U
Acetone	ug/kg	6.13 UJ	7.63 UJ	4.56 UJ	4.66 UJ	4.61 UJ	ug/L	2.5 U
Benzene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.125 U
Bromochloromethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.2 U
Bromodichloromethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Bromoform	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.5 UJ
Bromomethane	ug/kg	1.23 U	1.53 U	0.912 U	0.931 U	0.922 U	ug/L	0.5 U
Carbon disulfide	ug/kg	0.613 U	0.763 U	0.456 UJ	0.466 U	0.461 UJ	ug/L	0.5 U
Carbon tetrachloride	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Chlorobenzene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.125 U
Chloroethane	ug/kg	1.23 U	1.53 U	0.912 U	0.931 U	0.922 U	ug/L	0.5 U
Chloroform	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.125 U
Chloromethane	ug/kg	2.45 U	3.05 U	1.82 U	1.86 U	1.84 U	ug/L	0.25 U
cis-1,3-Dichloropropene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Dibromochloromethane	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Ethyl benzene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Methylene chloride	ug/kg	1.23 U	1.53 U	0.912 U	0.931 U	0.922 U	ug/L	0.25 U
Styrene	ug/kg	R	R	0.456 U	R	0.461 U	ug/L	0.125 U
Tetrachloroethene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Toluene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
trans-1,3-Dichloropropene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.5 U
Trichloroethene	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.25 U
Vinyl chloride	ug/kg	1.23 U	1.53 U	0.912 U	0.931 U	0.922 U	ug/L	0.25 U
Xylenes, Total	ug/kg	0.613 U	0.763 U	0.456 U	0.466 U	0.461 U	ug/L	0.5 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-2
Load Line 2 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-3 LL2SS-278M-1231-SO 06/18/08	DB-3 LL2SS-278M-1233-SO 06/18/08	DB-3 LL2SS-278M-1234-SO 06/18/08	DB-3 LL2SS-279M-1235-SO 06/18/08	DB-3 LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WM LL2SS-288M-1251-SO 06/18/08	DB-4-WS LL2SS-285M-1244-SO 06/20/08	DB-4-WS LL2SS-285M-1246-SO 06/20/08
1,2,4-Trichlorobenzene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
1,2-Dichlorobenzene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
1,3-Dichlorobenzene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
1,4-Dichlorobenzene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2,4,5-Trichlorophenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2,4,6-Trichlorophenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2,4-Dichlorophenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2,4-Dimethylphenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2,4-Dinitrophenol	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
2,4-Dinitrotoluene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2,6-Dinitrotoluene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2-Chloronaphthalene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2-Chlorophenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2-Methylnaphthalene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2-Methylphenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
2-Nitroaniline	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
2-Nitrophenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
3,3'-Dichlorobenzidine	ug/kg	163 U	164 U	168 U	167 U	163 U	183 U	177 U	167 U	178 U	182 U
3-,4-Methylphenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
3-Nitroaniline	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
4,6-Dinitro-2-methylphenol	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
4-Bromophenyl-phenylether	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
4-Chloro-3-methylphenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
4-Chloroaniline	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
4-Chlorophenyl-phenyl ether	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
4-Nitroaniline	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
4-Nitrophenol	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
Acenaphthene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Acenaphthylene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Anthracene	ug/kg	81.7 U	82 U	83.8 U	137 J	81.3 U	91.6 U	88.4 U	83.3 U	175 J	147 J
Benzo(a)anthracene	ug/kg	118 J	160 J	178	371	392	157 J	164 J	83.3 U	427	238
Benzo(a)pyrene	ug/kg	104 J	148 J	175	316	402	155 J	167 J	83.3 U	379	219
Benzo(b)fluoranthene	ug/kg	81.7 U	109 J	127 J	240	285	110 J	128 J	83.3 U	301	150 J
Benzo(g,h,i)Perylene	ug/kg	81.7 UJ	82 UJ	83.8 UJ	137 J	153 J	R	R	83.3 UJ	237 J	100 J
Benzo(k)fluoranthene	ug/kg	144 J	175	202	340	458	187	197	83.3 U	382	183

Table B-2
Load Line 2 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-3 LL2SS-278M-1231-SO 06/18/08	DB-3 LL2SS-278M-1233-SO 06/18/08	DB-3 LL2SS-278M-1234-SO 06/18/08	DB-3 LL2SS-279M-1235-SO 06/18/08	DB-3 LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WM LL2SS-288M-1251-SO 06/18/08	DB-4-WS LL2SS-285M-1244-SO 06/20/08	DB-4-WS LL2SS-285M-1246-SO 06/20/08
Benzoic acid	ug/kg	337 UJ	331 UJ	330 UJ	342 UJ	334 UJ	R	R	325 UJ	356 UJ	364 UJ
Benzyl alcohol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Bis(2-Chloroethoxy)Methane	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Bis(2-Chloroethyl)ether	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
bis(2-Chloroisopropyl)ether	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 UJ	89 U	91 U
bis(2-Ethylhexyl)phthalate	ug/kg	81.7 UJ	82 UJ	83.8 UJ	83.3 UJ	81.3 UJ	91.6 U	88.4 U	83.3 UJ	89 U	91 U
Butylbenzylphthalate	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Carbazole	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Chrysene	ug/kg	112 J	145 J	165 J	367	356	149 J	169 J	83.3 U	477 J	251 J
Dibenzo(a,h)Anthracene	ug/kg	81.7 UJ	82 UJ	83.8 UJ	83.3 UJ	81.3 UJ	91.6 UJ	88.4 UJ	83.3 UJ	89 UJ	91 UJ
Dibenzofuran	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Diethylphthalate	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Dimethylphthalate	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Di-N-Butylphthalate	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Di-n-octylphthalate	ug/kg	84.2 UJ	82.8 UJ	82.6 UJ	85.5 UJ	83.6 UJ	91.6 U	88.4 U	81.3 UJ	89 U	91 U
Fluoranthene	ug/kg	236	294	320	930	573	142 J	254	83.3 U	1090 J	638 J
Fluorene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Hexachlorobenzene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Hexachlorobutadiene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Hexachlorocyclopentadiene	ug/kg	84.2 UJ	82.8 UJ	82.6 UJ	85.5 UJ	83.6 UJ	R	R	81.3 UJ	R	R
Hexachloroethane	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Indeno(1,2,3-cd)pyrene	ug/kg	81.7 UJ	82 UJ	83.8 J	150 J	169 J	91.6 UJ	88.4 UJ	83.3 UJ	201 J	91 UJ
Isophorone	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Naphthalene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Nitrobenzene	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
N-Nitrosodiphenylamine	ug/kg	81.7 UJ	82 UJ	83.8 UJ	83.3 UJ	81.3 UJ	91.6 U	88.4 U	83.3 UJ	89 U	91 U
N-Nitrosodipropylamine	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Pentachlorophenol	ug/kg	408 U	410 U	418 U	416 U	406 U	457 U	441 U	416 U	445 U	455 U
Phenanthrene	ug/kg	96.2 J	106 J	95.9 J	536	125 J	91.6 U	93.6 J	83.3 U	885 J	633
Phenol	ug/kg	81.7 U	82 U	83.8 U	83.3 U	81.3 U	91.6 U	88.4 U	83.3 U	89 U	91 U
Pyrene	ug/kg	185	230	252	657	491	143 J	219	83.3 U	978 J	555 J

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-2
Load Line 2 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-4-WS LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08	DC-1 LL2SS-276M-1229-SO 06/20/08	Units	Equip. Blank LL2SS-302M-0000-ER 06/19/08	Equip. Blank LL2SS-283M-0000-ER 10/28/08
1,2,4-Trichlorobenzene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
1,2-Dichlorobenzene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
1,3-Dichlorobenzene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
1,4-Dichlorobenzene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2,4,5-Trichlorophenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2,4,6-Trichlorophenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2,4-Dichlorophenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2,4-Dimethylphenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2,4-Dinitrophenol	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
2,4-Dinitrotoluene	ug/kg	231	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2,6-Dinitrotoluene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2-Chloronaphthalene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2-Chlorophenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2-Methylnaphthalene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2-Methylphenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
2-Nitroaniline	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
2-Nitrophenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
3,3'-Dichlorobenzidine	ug/kg	175 U	350 U	171 U	168 U	166 UJ	867 U	ug/L	2.5 UJ	2.5 U
3-,4-Methylphenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
3-Nitroaniline	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
4,6-Dinitro-2-methylphenol	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
4-Bromophenyl-phenylether	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
4-Chloro-3-methylphenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
4-Chloroaniline	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
4-Chlorophenyl-phenyl ether	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
4-Nitroaniline	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
4-Nitrophenol	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
Acenaphthene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Acenaphthylene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Anthracene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Benzo(a)anthracene	ug/kg	141 J	445	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Benzo(a)pyrene	ug/kg	124 J	406	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Benzo(b)fluoranthene	ug/kg	103 J	339 J	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Benzo(g,h,i)Perylene	ug/kg	87.6 UJ	R	85.6 UJ	84 UJ	82.9 UJ	433 UJ	ug/L	2.5 UJ	2.5 U
Benzo(k)fluoranthene	ug/kg	113 J	469	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U

Table B-2
Load Line 2 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-4-WS LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08	DC-1 LL2SS-276M-1229-SO 06/20/08	Units	Equip. Blank LL2SS-302M-0000-ER 06/19/08	Equip. Blank LL2SS-283M-0000-ER 10/28/08
Benzoic acid	ug/kg	350 UJ	R	342 UJ	343 UJ	R	1730 UJ	ug/L	R	R
Benzyl alcohol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	31.2	2.5 U
Bis(2-Chloroethoxy)Methane	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Bis(2-Chloroethyl)ether	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
bis(2-Chloroisopropyl)ether	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
bis(2-Ethylhexyl)phthalate	ug/kg	87.6 U	175 U	85.6 U	84 UJ	82.9 UJ	433 U	ug/L	3 UJ	3 U
Butylbenzylphthalate	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Carbazole	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Chrysene	ug/kg	157 J	431	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Dibenzo(a,h)Anthracene	ug/kg	87.6 UJ	175 UJ	85.6 UJ	84 UJ	82.9 UJ	433 UJ	ug/L	2.5 UJ	2.5 U
Dibenzofuran	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Diethylphthalate	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Dimethylphthalate	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Di-N-Butylphthalate	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Di-n-octylphthalate	ug/kg	87.6 U	175 U	85.6 U	85.7 UJ	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Fluoranthene	ug/kg	377 J	966	85.6 U	84 U	82.9 UJ	547 J	ug/L	2.5 U	2.5 U
Fluorene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Hexachlorobenzene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Hexachlorobutadiene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Hexachlorocyclopentadiene	ug/kg	R	R	R	85.7 UJ	R	R	ug/L	R	R
Hexachloroethane	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Indeno(1,2,3-cd)pyrene	ug/kg	87.6 UJ	175 UJ	85.6 UJ	84 UJ	82.9 UJ	433 UJ	ug/L	2.5 UJ	2.5 U
Isophorone	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Naphthalene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Nitrobenzene	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
N-Nitrosodiphenylamine	ug/kg	87.6 U	175 U	85.6 U	84 UJ	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
N-Nitrosodipropylamine	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Pentachlorophenol	ug/kg	437 U	874 U	427 U	420 U	414 UJ	2160 U	ug/L	12.5 U	12.5 U
Phenanthrene	ug/kg	365 J	406	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Phenol	ug/kg	87.6 U	175 U	85.6 U	84 U	82.9 UJ	433 U	ug/L	2.5 U	2.5 U
Pyrene	ug/kg	337 J	742	85.6 U	84 U	82.9 UJ	538 J	ug/L	2.5 U	2.5 U

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Table B-3
Load Line 2 Pesticides and PCBs in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-3 LL2SS-278M-1231-SO 06/18/08	DB-3 LL2SS-278M-1233-SO 06/18/08	DB-3 LL2SS-278M-1234-SO 06/18/08	DB-3 LL2SS-279M-1235-SO 06/18/08	DB-3 LL2SS-280M-1236-SO 06/18/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WM LL2SS-288M-1251-SO 06/18/08	DB-4-WS LL2SS-285M-1244-SO 06/20/08
4,4'-DDD	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
4,4'-DDE	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
4,4'-DDT	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Aldrin	ug/kg	0.334 UJ	0.335 UJ	0.334 UJ	--	3.26 UJ	3.64 U	--	0.331 UJ	--
alpha Chlordane	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
alpha-BHC	ug/kg	0.334 UJ	0.335 UJ	0.334 UJ	--	3.26 UJ	3.64 U	--	0.331 UJ	--
beta-BHC	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
delta-BHC	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Dieldrin	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Endosulfan I	ug/kg	0.334 UJ	0.335 UJ	0.334 UJ	--	3.26 UJ	3.64 U	--	0.331 UJ	--
Endosulfan II	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Endosulfan sulfate	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Endrin	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Endrin aldehyde	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	R	--
Endrin ketone	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
gamma Chlordane	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 UJ	--
gamma-BHC (Lindane)	ug/kg	0.334 UJ	0.335 UJ	0.334 UJ	--	3.26 UJ	3.64 U	--	0.331 UJ	--
Heptachlor	ug/kg	0.334 UJ	0.335 UJ	0.334 UJ	--	3.26 UJ	3.64 U	--	R	--
Heptachlor epoxide	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Methoxychlor	ug/kg	0.334 U	0.335 U	0.334 U	--	3.26 UJ	3.64 U	--	0.331 U	--
Toxaphene	ug/kg	16.9 U	17 U	16.9 U	--	165 UJ	184 U	--	16.8 U	--
Aroclor-1016	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	9.11 U	8.97 U	8.28 U	44.4 UJ
Aroclor-1221	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	9.11 U	8.97 U	8.28 U	44.4 UJ
Aroclor-1232	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	9.11 U	8.97 U	8.28 U	44.4 UJ
Aroclor-1242	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	9.11 U	8.97 U	8.28 U	44.4 UJ
Aroclor-1248	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	9.11 U	8.97 U	8.28 U	44.4 UJ
Aroclor-1254	ug/kg	106	121	97.4	184	115	74.3	120	308	437 J
Aroclor-1260	ug/kg	8.35 U	8.38 U	8.36 U	8.56 U	8.38 U	39.6	50.6	127	191 J

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Table B-3
Load Line 2 Pesticides and PCBs in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-4-WS LL2SS-285M-1246-SO 06/20/08	DB-4-WS LL2SS-285M-1247-SO 06/20/08	DB-10 LL2SS-298M-1265-SO 06/24/08	Units	Equip. Blank LL2SS-302M-0000-ER 06/19/08
4,4'-DDD	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
4,4'-DDE	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
4,4'-DDT	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Aldrin	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
alpha Chlordane	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
alpha-BHC	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
beta-BHC	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
delta-BHC	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Dieldrin	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Endosulfan I	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Endosulfan II	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Endosulfan sulfate	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Endrin	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Endrin aldehyde	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Endrin ketone	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
gamma Chlordane	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
gamma-BHC (Lindane)	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Heptachlor	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Heptachlor epoxide	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Methoxychlor	ug/kg	--	--	6.94 U	ug/L	0.01 UJ
Toxaphene	ug/kg	--	--	351 U	ug/L	0.3 UJ
Aroclor-1016	ug/kg	8.89 UJ	9.08 UJ	88.4 U	ug/L	0.25 U
Aroclor-1221	ug/kg	8.89 U	9.08 UJ	88.4 U	ug/L	0.25 U
Aroclor-1232	ug/kg	8.89 U	9.08 UJ	88.4 U	ug/L	0.25 U
Aroclor-1242	ug/kg	8.89 U	9.08 UJ	88.4 U	ug/L	0.25 U
Aroclor-1248	ug/kg	8.89 U	9.08 UJ	88.4 U	ug/L	0.25 U
Aroclor-1254	ug/kg	250 J	240 J	2240	ug/L	0.25 U
Aroclor-1260	ug/kg	427 J	164 J	785	ug/L	0.25 U

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Table B-4
Load Line 2 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	2-51, 2-51A LL2SS-275M-1228-SO 06/18/08	DA-5 LL2SS-290M-1254-SO 06/20/08	DA-6, DA-28 LL2SS-291M-1255-SO 06/20/08	DA-6A, DA-28A LL2SS-292M-1256-SO 06/20/08	DA-7 LL2SS-293M-1257-SO 06/20/08	DA-21 LL2SS-305M-1273-SO 06/17/08	DA-21 LL2SS-305M-1275-SO 06/17/08	DA-21 LL2SS-305M-1276-SO 06/17/08	DB-2 LL2SS-277M-1230-SO 06/17/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
1,3-Dinitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2,4,6-Trinitrotoluene	mg/kg	0.0994 U	0.208 J	0.0996 U	24.6 J	4.74	5.81 J	8.22 J	11.8 J	0.0995 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2,6-Dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.263 J	0.0996 U	0.327	0.345	0.379	0.0995 U
2-Nitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
3-Nitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.513 J	0.19 J	0.607	0.667	0.656	0.0995 U
4-Nitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
HMX	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
Nitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
Nitroglycerin	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
PETN	mg/kg	0.497 U	0.498 U	0.498 U	0.503 U	0.498 U	0.497 U	0.497 U	0.498 U	0.498 U
RDX	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
Tetryl	mg/kg	0.0994 U	0.0995 U	0.0996 U	0.101 U	0.0996 U	0.0994 U	0.0993 U	0.0996 U	0.0995 U
Nitrocellulose	mg/kg	--	--	--	--	--	--	--	--	--
Nitroguanidine	mg/kg	--	--	--	--	--	--	--	--	--

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Table B-4
Load Line 2 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-3 LL2SS-278M-1231-SO 06/18/08	DB-3 LL2SS-278M-1233-SO 06/18/08	DB-3 LL2SS-278M-1234-SO 06/18/08	DB-3 LL2SS-279M-1235-SO 06/18/08	DB-3 LL2SS-280M-1236-SO 06/18/08	DB-4 LL2SS-281M-1240-SO 06/24/08	DB-4 LL2SS-282M-1241-SO 06/24/08	DB-4A LL2SS-286M-1248-SO 06/24/08	DB-4-VP1, -4A-VP1 LL2SS-283M-1242-SO 10/28/08
1,3,5-Trinitrobenzene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
1,3-Dinitrobenzene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
2,4,6-Trinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	3.19	0.624	0.1 U	0.1 UJ
2,4-Dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
2,6-Dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
2-Amino-4,6-dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.119 J	0.1 U	0.1 UJ
2-Nitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
3-Nitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
4-Amino-2,6-dinitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.267	0.1 U	0.1 UJ
4-Nitrotoluene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
HMX	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
Nitrobenzene	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.0977 UJ
Nitroglycerin	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.0977 UJ
PETN	mg/kg	0.501 U	0.496 U	0.5 U	0.5 U	0.497 U	0.499 U	0.498 U	0.5 U	0.5 U
RDX	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
Tetryl	mg/kg	0.1 U	0.0991 U	0.1 U	0.0999 U	0.0994 U	0.0998 U	0.0995 U	0.1 U	0.1 UJ
Nitrocellulose	mg/kg	--	--	--	--	2 U	--	--	2 U	--
Nitroguanidine	mg/kg	--	--	--	--	0.125 UJ	--	--	0.139 UJ	--

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Table B-4
Load Line 2 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-4A, DB-30	DB-4A-WM	DB-4-WS	DB-4-WS	DB-4-WS	DB-8, DB-8A, DB-22	DB-9	DB-9A	DB-10
		LL2SS-287M-1250-SO 06/24/08	LL2SS-288M-1251-SO 06/18/08	LL2SS-285M-1244-SO 06/20/08	LL2SS-285M-1246-SO 06/20/08	LL2SS-285M-1247-SO 06/20/08	LL2SS-294M-1258-SO 06/17/08	LL2SS-295M-1259-SO 06/19/08	LL2SS-296M-1260-SO 06/18/08	LL2SS-297M-1261-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	0.213 J	1.25	0.821 J	0.383 J	0.855	0.0996 U	0.0994 U	0.0995 U	0.0997 U
1,3-Dinitrobenzene	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2,4,6-Trinitrotoluene	mg/kg	2.68	66.6	125 J	215 J	339 J	0.0996 U	0.0994 U	0.0995 U	0.0997 UJ
2,4-Dinitrotoluene	mg/kg	0.0998 U	0.0992 U	0.111 J	0.182 J	0.211 J	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2,6-Dinitrotoluene	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.178 J	0.538	1.75	2.05	3.39	0.0996 U	0.0994 U	0.0995 U	0.0997 U
2-Nitrotoluene	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
3-Nitrotoluene	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.389	1.17	3.07	3.73	4.84	0.0996 U	0.0994 U	0.0995 U	0.0997 U
4-Nitrotoluene	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
HMX	mg/kg	0.0998 U	0.133 J	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
Nitrobenzene	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
Nitroglycerin	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
PETN	mg/kg	0.499 U	0.496 U	0.498 U	0.495 U	0.496 U	0.498 U	0.497 U	0.498 U	0.499 U
RDX	mg/kg	0.212 J	0.477	0.441 J	0.259	0.362	0.0996 U	0.0994 U	0.0995 U	0.0997 U
Tetryl	mg/kg	0.0998 U	0.0992 U	0.0996 U	0.0989 U	0.0991 U	0.0996 U	0.0994 U	0.0995 U	0.0997 U
Nitrocellulose	mg/kg	--	36.2 J	--	--	--	--	--	--	2 U
Nitroguanidine	mg/kg	--	0.127 UJ	--	--	--	--	--	--	0.131 UJ

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-- = Analysis not requested.

Table B-4
Load Line 2 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-10 LL2SS-297M-1263-SO 06/24/08	DB-10 LL2SS-297M-1264-SO 06/24/08	DB-10 LL2SS-298M-1265-SO 06/24/08	DB-10-VP1, -VP2 LL2SS-313M-1284-SO 10/28/08	DB-11 LL2SS-299M-1267-SO 06/19/08	DB-13 LL2SS-300M-1268-SO 06/19/08	DB-13A LL2SS-301M-1269-SO 06/19/08	DB-13B LL2SS-302M-1270-SO 06/19/08	DB-19 LL2SS-303M-1271-SO 06/17/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
1,3-Dinitrobenzene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,4,6-Trinitrotoluene	mg/kg	0.0994 U	0.438 J	4.93	1.24 J	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2,6-Dinitrotoluene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0994 U	0.0996 U	0.268	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
2-Nitrotoluene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
3-Nitrotoluene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0994 U	0.107 J	0.648	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
4-Nitrotoluene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
HMX	mg/kg	0.0994 U	0.0996 U	0.269	0.369 J	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
Nitrobenzene	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0999 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
Nitroglycerin	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0999 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
PETN	mg/kg	0.497 U	0.498 U	0.498 U	0.487 U	0.498 U	0.501 U	0.498 U	0.496 U	0.501 U
RDX	mg/kg	0.0994 U	0.212 J	0.192 J	1.27 J	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
Tetryl	mg/kg	0.0994 U	0.0996 U	0.0996 U	0.0975 UJ	0.0995 U	0.1 U	0.0995 U	0.0992 U	0.1 U
Nitrocellulose	mg/kg	1.99 U	1.99 U	5.61	--	--	--	--	--	--
Nitroguanidine	mg/kg	0.132 UJ	0.133 UJ	0.132 UJ	--	--	--	--	--	--

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-- = Analysis not requested.

Table B-4
Load Line 2 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-20 LL2SS-304M-1272-SO 06/20/08	DB-25 LL2SS-306M-1277-SO 06/18/08	DB-26, DB-29 LL2SS-307M-1278-SO 06/19/08	DB-27, DB-27B LL2SS-308M-1279-SO 06/19/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-27C LL2SS-310M-1281-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
1,3-Dinitrobenzene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
2,4,6-Trinitrotoluene	mg/kg	3.68	0.105 J	0.1 U	26.7	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
2,6-Dinitrotoluene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.115 J	0.0992 U	0.1 U	0.191 J	0.0991 U	0.0997 U	0.0997 U	0.0981 U
2-Nitrotoluene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
3-Nitrotoluene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
4-Amino-2,6-dinitrotoluene	mg/kg	0.229 J	0.0992 U	0.1 U	0.443	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
4-Nitrotoluene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
HMX	mg/kg	0.0994 U	0.405	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
Nitrobenzene	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0992 UJ
Nitroglycerin	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0992 UJ
PETN	mg/kg	0.497 U	0.496 U	0.502 U	0.501 U	0.496 U	0.499 U	0.499 U	0.491 U
RDX	mg/kg	0.0994 U	0.244 J	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 UJ
Tetryl	mg/kg	0.0994 U	0.0992 U	0.1 U	0.1 U	0.0991 U	0.0997 U	0.0997 U	0.0981 U
Nitrocellulose	mg/kg	--	--	--	--	--	--	--	--
Nitroguanidine	mg/kg	--	--	--	--	--	--	--	--

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-- = Analysis not requested.

Table B-4
Load Line 2 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DC-1 LL2SS-276M-1229-SO 06/20/08	Units	Equip. Blank LL2SS-302M-0000-ER 06/19/08	Equip. Blank LL2SS-283M-0000-ER 10/28/08
1,3,5-Trinitrobenzene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 UJ
1,3-Dinitrobenzene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 UJ
2,4,6-Trinitrotoluene	mg/kg	4.99	ug/L	0.255 U	0.263 U
2,4-Dinitrotoluene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 UJ
2,6-Dinitrotoluene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.438	ug/L	0.255 U	0.263 U
2-Nitrotoluene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 UJ
3-Nitrotoluene	mg/kg	0.0995 U	ug/L	0.255 U	R
4-Amino-2,6-dinitrotoluene	mg/kg	0.741	ug/L	0.255 U	0.263 U
4-Nitrotoluene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 UJ
HMX	mg/kg	0.0995 U	ug/L	0.255 U	0.263 U
Nitrobenzene	mg/kg	0.0995 U	ug/L	0.255 U	0.263 U
Nitroglycerin	mg/kg	0.0995 U	ug/L	0.255 U	0.263 U
PETN	mg/kg	0.498 U	ug/L	2.55 U	0.263 U
RDX	mg/kg	0.0995 U	ug/L	0.255 U	0.263 U
Tetryl	mg/kg	0.0995 U	ug/L	0.255 UJ	0.263 U
Nitrocellulose	mg/kg	--	ug/L	250 U	0.25 U
Nitroguanidine	mg/kg	--	ug/L	25 U	25 UJ

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis not requested.

Table B-5
Load Line 2 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	2-51, 2-51A LL2SS-275M-1228-SO 06/18/08	DA-5 LL2SS-290M-1254-SO 06/20/08	DA-6, DA-28 LL2SS-291M-1255-SO 06/20/08	DA-6A, DA-28A LL2SS-292M-1256-SO 06/20/08	DA-7 LL2SS-293M-1257-SO 06/20/08	DA-21 LL2SS-305M-1273-SO 06/17/08	DA-21 LL2SS-305M-1275-SO 06/17/08	DA-21 LL2SS-305M-1276-SO 06/17/08	DB-2 LL2SS-277M-1230-SO 06/17/08
Aluminum	mg/kg	8000	6900	6720	7850	9650	8280	9180	7980	8380
Antimony	mg/kg	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	9.89 J	10 J	9.27 J	12.8 J	10.7 J	11.5	10.4	10.8	9.49
Barium	mg/kg	48.1	49.4	44.1	47.3	66	51.5	50	43.7	48.3
Beryllium	mg/kg	0.383	0.429 J	0.36 J	0.456 J	0.532 J	0.417	0.424	0.386	0.481
Cadmium	mg/kg	0.349	0.469 J	0.428 J	0.441 J	0.518 J	0.432 J	0.475 J	0.459 J	0.388 J
Calcium	mg/kg	5640	3970	4940	3640	3680	4180	4230	3580	3600
Chromium	mg/kg	49.3 J	12.7	12.5	12.4	13.8	17.5	21.2	17.9	19.3
Cobalt	mg/kg	5.6 J	7.06	4.29	6.45	7.58	5.88 J	6.38 J	5.96 J	6.78 J
Copper	mg/kg	15.3	17.1 J	17.2 J	19.2 J	20.8 J	17.6 J	17.8 J	17.9 J	21.3 J
Iron	mg/kg	16400 J	20200	17600	20000	23100	18900 J	22800 J	19600 J	18600 J
Lead	mg/kg	30.4	13.7	20.5	18.1	16.2	22.9 J	19.5 J	17.9 J	19.3 J
Magnesium	mg/kg	1680	2280	1950	2250	2520	2280	2330	2110	2150
Manganese	mg/kg	345 J	393	247	372	316	345 J	327 J	299 J	333 J
Mercury	mg/kg	0.0163 J	0.0146 J	0.0214 J	0.0216 J	0.0228 J	0.0141 J	0.0139 J	0.0106 U	0.0113 J
Nickel	mg/kg	30.7 J	264	26	19.9	118	41.9 J	37.8 J	84.9 J	53.5 J
Potassium	mg/kg	703 J	476	500	566	652	664 J	812 J	652 J	824 J
Selenium	mg/kg	0.295	0.198 J	0.216 J	0.383 J	0.203 J	0.206 J	0.238	0.253	0.259
Silver	mg/kg	0.176 U	0.273 J	0.26 J	0.246 J	0.254 J	0.202 UJ	0.197 UJ	0.197 UJ	0.195 UJ
Sodium	mg/kg	45.3	30.7	35.9	56.3	41.1	40.8	44.2	36.8	58
Thallium	mg/kg	0.108	0.119	0.117	0.119	0.156	0.13	0.119	0.124	0.138
Vanadium	mg/kg	14.1	12	10.4	12.6	15.2	12.7 J	14.3 J	12.4 J	13.6 J
Zinc	mg/kg	73.2	56.3	58	63	73.5	59.5 J	60.9 J	60.4 J	59.4 J
Chromium, Hexavalent	mg/kg	0.101 U	0.256 U	0.252 U	0.0518 U	0.0522 U	0.0972 U	0.103 U	0.102 U	0.106 U

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R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

-- = Analysis not requested.

Table B-5
Load Line 2 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-3 LL2SS-278M-1231-SO 06/18/08	DB-3 LL2SS-278M-1233-SO 06/18/08	DB-3 LL2SS-278M-1234-SO 06/18/08	DB-3 LL2SS-279M-1235-SO 06/18/08	DB-3 LL2SS-280M-1236-SO 06/18/08	DB-4 LL2SS-281M-1240-SO 06/24/08	DB-4 LL2SS-282M-1241-SO 06/24/08	DB-4-VP1, -4A-VP1 LL2SS-283M-1242-SO 10/28/08	DB-4A LL2SS-286M-1248-SO 06/24/08
Aluminum	mg/kg	8190	7940	8550	9670	8460	5030	6090	8310	8770
Antimony	mg/kg	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	12.1 J	12.4 J	10.4 J	12.4 J	11.3 J	8.72	10.2	9.37	14.5
Barium	mg/kg	44.9	46.2	51.5	49.1	43.7	28.7	33.5	71.1	42
Beryllium	mg/kg	0.491	0.513	0.542	0.544	0.434	0.247	0.308	0.544 J	0.502
Cadmium	mg/kg	0.386	0.407	0.472	0.396	0.374	0.281	0.311	2.42	0.424
Calcium	mg/kg	5020	6490	3310	4160	1760	7110	3790	5420	10400
Chromium	mg/kg	27.2 J	23.5 J	22.1 J	18.8 J	18.1 J	7.13	8.31	15.2	12.7
Cobalt	mg/kg	7.41 J	8.12 J	8 J	8.25 J	6.68 J	4.82	5.87	5.03	9.14
Copper	mg/kg	21	22.6	22.5	21.4	20.8	12.9 J	17.1 J	11.6 J	22.5 J
Iron	mg/kg	20200 J	20600 J	21100 J	22400 J	20700 J	14600	17500	19200	28800
Lead	mg/kg	23.8	22.7	22.4	24.9	19.6	11.4 J	13 J	28.5	17.6 J
Magnesium	mg/kg	2980	3050	2590	3060	2200	2010	2100	2040	4250
Manganese	mg/kg	324 J	368 J	338 J	337 J	333 J	278	320	283	372
Mercury	mg/kg	0.015 J	0.012 J	0.0142 J	0.014 J	0.0167 J	0.0106 U	0.0107 U	0.0329 J	0.0109 U
Nickel	mg/kg	28.2 J	180 J	35.4 J	34.7 J	33 J	14.2	17.1	20.8	31.5
Potassium	mg/kg	934 J	878 J	966 J	1020 J	743 J	428	472	622	898
Selenium	mg/kg	0.191 J	0.316	0.2	0.253	0.322	0.211 J	0.219 J	0.53	0.241 J
Silver	mg/kg	0.179 U	0.236 J	0.714	0.197 U	0.189 U	0.24 J	0.184 U	0.192 U	0.306 J
Sodium	mg/kg	58.6	63.3	62.7	66.7	43.3	31.5	34.7	38.3 U	62.4
Thallium	mg/kg	0.129	0.136	0.143	0.138	0.138	0.0919	0.106	0.168 J	0.131
Vanadium	mg/kg	12.3	12.3	13.5	14.5	13.2	8.95 J	10.5 J	17.5	12.9 J
Zinc	mg/kg	62.4	66.4	61.3	68.2	68.3	45.3	57.9	74.2	75.2
Chromium, Hexavalent	mg/kg	0.0464 U	0.0773 J	0.0457 U	0.0501 U	0.192 U	0.524 UJ	0.528 UJ	0.103 U	0.274 UJ

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-- = Analysis not requested.

Table B-5
Load Line 2 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-4A, DB-30 LL2SS-287M-1250-SO 06/24/08	DB-4A-WM LL2SS-288M-1251-SO 06/18/08	DB-4-WS LL2SS-285M-1244-SO 06/20/08	DB-4-WS LL2SS-285M-1246-SO 06/20/08	DB-4-WS LL2SS-285M-1247-SO 06/20/08	DB-8, DB-8A, DB-22 LL2SS-294M-1258-SO 06/17/08	DB-9 LL2SS-295M-1259-SO 06/19/08	DB-9A LL2SS-296M-1260-SO 06/18/08	DB-10 LL2SS-297M-1261-SO 06/24/08
Aluminum	mg/kg	8120	10700	7840	7640	8600	7670	6840	8980	7360
Antimony	mg/kg	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	12.3	15 J	9.75 J	9.95 J	10 J	9.94	9.12 J	10.5 J	17
Barium	mg/kg	45.8	58.7	57.8	56.3	68.1	45.9	37.8	41.1	44.7
Beryllium	mg/kg	0.454	0.547	0.476 J	0.449 J	0.529 J	0.418	0.362 J	0.447	0.382
Cadmium	mg/kg	0.46	0.535	0.865 J	0.647 J	0.735 J	0.464 J	0.541 J	0.409	0.453
Calcium	mg/kg	8170	11000	5350	4730	3930	3160	2960	5010	3700
Chromium	mg/kg	12.1	16.4 J	14	12.2	13.7	29.5	27.1	37.6 J	9.8
Cobalt	mg/kg	7.38	8.74 J	7.25	7.49	8.25	5.91 J	5.45	7.37 J	6.44
Copper	mg/kg	21.4 J	23.2	20.5 J	18.4 J	18.7 J	17.9 J	18.2 J	21	22.6 J
Iron	mg/kg	21300	23800 J	21200	21300	22900	18400 J	18200	21000 J	21400
Lead	mg/kg	18.6 J	19	38.7 J	1170 J	29.8 J	21.4 J	21	16.1	23.5 J
Magnesium	mg/kg	3500	4740	2170	1970	2200	1920	1840	3140	2130
Manganese	mg/kg	350	349 J	405	374	384	372 J	308	312 J	428
Mercury	mg/kg	0.011 U	0.0102 U	0.0346 J	0.035 J	0.0527 J	0.0181 J	0.0159 J	0.0104 U	0.0106 U
Nickel	mg/kg	59.4	71.6 J	22	21.9	27.5	340 J	33.5	40.8 J	20.3
Potassium	mg/kg	818	1360 J	540	494	605	735 J	439	1160 J	711
Selenium	mg/kg	0.242 J	0.241	0.174 J	0.209 J	0.238 J	0.265	0.202 J	0.196 J	0.312 J
Silver	mg/kg	0.214 J	0.19 J	0.216 J	0.229 J	0.23 J	0.188 UJ	0.608	0.282 J	0.192 UJ
Sodium	mg/kg	63.3	92	43	35	35.4	41.1	24.6	52.9	48.1
Thallium	mg/kg	0.109	0.144	0.111	0.0973	0.117	0.113	0.114	0.111	0.125
Vanadium	mg/kg	12.1 J	15.7	13.4	13.6	15	12.3 J	11.5	14.4	12.6 J
Zinc	mg/kg	75.5	74	93	102	92.6	60.7 J	56.4	68	80.9
Chromium, Hexavalent	mg/kg	0.272 UJ	0.119 J	0.262 U	0.275 U	0.278 U	0.214 U	0.249 U	0.0522 U	0.542 UJ

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-- = Analysis not requested.

Table B-5
Load Line 2 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-10 LL2SS-297M-1263-SO 06/24/08	DB-10 LL2SS-297M-1264-SO 06/24/08	DB-10 LL2SS-298M-1265-SO 06/24/08	DB-10-VP1, -VP2 LL2SS-313M-1284-SO 10/28/08	DB-11 LL2SS-299M-1267-SO 06/19/08	DB-13 LL2SS-300M-1268-SO 06/19/08	DB-13A LL2SS-301M-1269-SO 06/19/08	DB-13B LL2SS-302M-1270-SO 06/19/08	DB-19 LL2SS-303M-1271-SO 06/17/08
Aluminum	mg/kg	7320	7250	6990	7920	8190	5700	5460	7730	5820
Antimony	mg/kg	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	11.3	11.6	10.8	8.34	9.6 J	9.92 J	9.46 J	8.64 J	10
Barium	mg/kg	50.1	45.9	50.5	77.8	57	33.6	33.8	68.4	28.8
Beryllium	mg/kg	0.428	0.403	0.412	0.815 J	0.473 J	0.324 J	0.345 J	0.763 J	0.303
Cadmium	mg/kg	0.454	0.508	0.603	1.03	0.704 J	0.473 J	0.526 J	0.536 J	0.534 J
Calcium	mg/kg	6740	4270	10200	18500	4850	5440	5320	17400	2520
Chromium	mg/kg	9.58	11.5	9.61	32.7	15.8	10.6	11.7	14.4	8.44
Cobalt	mg/kg	6.08	6.79	6.04	4.35	6.14	5.02	4.99	5.8	5.33 J
Copper	mg/kg	22.7 J	24.8 J	23.6 J	21 J	24.7 J	17 J	15.9 J	19.3 J	24.2 J
Iron	mg/kg	19300	21500	19200	14400	22200	16600	17100	17700	16500 J
Lead	mg/kg	28.9 J	27 J	28.4 J	72.9	19.9	15.2	12.1	33	16.1 J
Magnesium	mg/kg	2260	2150	2790	3400	2270	1970	2050	4000	1790
Manganese	mg/kg	457	447	447	486	357	318	289	516	272 J
Mercury	mg/kg	0.0106 U	0.0118 J	0.0148 J	0.0214 J	0.015 J	0.0219 J	0.015 J	0.0257 J	0.0105 J
Nickel	mg/kg	17.6	27.8	21	55.2	29.1	22.2	21.9	37.6	48.3 J
Potassium	mg/kg	679	627	659	879	639	517	518	760	567 J
Selenium	mg/kg	0.308 J	0.357 J	0.279 J	0.629	0.25 J	0.179 J	0.152 J	0.33 J	0.165 J
Silver	mg/kg	0.2 U	0.504 J	0.311 J	0.173 U	1.5	0.507	0.275 J	3.34	0.195 UJ
Sodium	mg/kg	58.3	44.4	62	108	41.7	37.6	42.3	114	55.2
Thallium	mg/kg	0.126	0.157	0.119	0.105 J	0.122	0.103	0.0889	0.116	0.0978
Vanadium	mg/kg	11.9 J	12.4 J	11.2 J	12.9	14.1	9.6	9.36	11	9.49 J
Zinc	mg/kg	86.8	88.2	87.7	88.1	84.2	59.3	60.7	81.7	57.2 J
Chromium, Hexavalent	mg/kg	0.54 UJ	0.514 UJ	0.521 UJ	0.1 U	0.257 U	0.103 U	0.0511 U	0.0524 U	0.506 U

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Table B-5
Load Line 2 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-20 LL2SS-304M-1272-SO 06/20/08	DB-25 LL2SS-306M-1277-SO 06/18/08	DB-26, DB-29 LL2SS-307M-1278-SO 06/19/08	DB-27, DB-27B LL2SS-308M-1279-SO 06/19/08	DB-27A LL2SS-309M-1280-SO 06/19/08	DB-27C LL2SS-310M-1281-SO 06/19/08	DB-802 (#1) LL2SS-312M-1283-SO 06/18/08	DB-802 (#2) LL2SS-311M-1282-SO 10/28/08
Aluminum	mg/kg	6980	12800	5510	4750	6250	4820	10200	11300
Antimony	mg/kg	R	R	R	R	R	R	R	R
Arsenic	mg/kg	8.4 J	14.4 J	10.2 J	8.37 J	8.38 J	8.09 J	10.7 J	10.5
Barium	mg/kg	41.4	86.5	28.7	23.2	38.5	23.2	60.1	88.4
Beryllium	mg/kg	0.382 J	0.664	0.297 J	0.255 J	0.326 J	0.268 J	0.535	0.895 J
Cadmium	mg/kg	0.428 J	0.87	0.365 J	0.38 J	0.455 J	0.355 J	0.4	0.527
Calcium	mg/kg	2890	8450	2060	1540	2890	2620	7660	18300
Chromium	mg/kg	11.1	29.6 J	9.59	9.85	11.5	6.52	56.7 J	46.3
Cobalt	mg/kg	5.68	9.34 J	4.38	3.93	5.35	3.44	7.03 J	7.31
Copper	mg/kg	18.1 J	33.3	12.7 J	13.9 J	19.4 J	12.7 J	41.1	53.2 J
Iron	mg/kg	18400	28500 J	14000	14400	17300	13000	19300 J	22300
Lead	mg/kg	18.8	74.8	89.2	9.04	9.06	8.59	17.9	21.8
Magnesium	mg/kg	2060	4470	1260	1150	1790	1380	2580	3770
Manganese	mg/kg	362	332 J	276	206	329	209	426 J	945
Mercury	mg/kg	0.0173 J	0.0105 U	0.0204 J	0.00991 U	0.0123 J	0.01 U	0.0276 J	0.0278 J
Nickel	mg/kg	25.7	38.9 J	23.3	14	25.2	14.6	40.9 J	20.9
Potassium	mg/kg	436	1750 J	321	303	443	320	1260 J	1410
Selenium	mg/kg	0.206 J	0.215	0.277 J	0.135 J	0.19 J	0.132 J	0.368	0.502
Silver	mg/kg	0.181 U	0.29 J	0.31 J	0.176 U	0.189 U	0.23 J	0.206 J	0.181 U
Sodium	mg/kg	48.5	76.9	22.9	21.4	27.8	27.1	89.3	136
Thallium	mg/kg	0.103	0.143	0.0998	0.064	0.075	0.0609	0.119	0.144 J
Vanadium	mg/kg	11.3	18.7	9.23	8.06	10.4	7.84	17.1	19.9
Zinc	mg/kg	57.6	157	50.8	52	60.9	44.7	68.1	70.8
Chromium, Hexavalent	mg/kg	0.0501 U	0.107 U	0.0527 U	0.494 U	0.521 U	0.0508 U	0.0991 U	0.103 U

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Table B-5
Load Line 2 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DC-1 LL2SS-276M-1229-SO 06/20/08	Units	Equip. Blank LL2SS-302M-0000-ER 06/19/08	Equip. Blank LL2SS-283M-0000-ER 10/28/08
Aluminum	mg/kg	6860	mg/L	0.05 U	0.05 U
Antimony	mg/kg	R	mg/L	0.000394 J	R
Arsenic	mg/kg	9.94 J	mg/L	0.00125 U	0.00025 U
Barium	mg/kg	63.6	mg/L	0.0025 U	0.0025 U
Beryllium	mg/kg	0.441 J	mg/L	0.0005 U	0.0005 U
Cadmium	mg/kg	0.511 J	mg/L	0.00025 U	0.00025 U
Calcium	mg/kg	7450	mg/L	0.1 U	0.1 U
Chromium	mg/kg	12.1	mg/L	0.0025 U	0.0025 U
Cobalt	mg/kg	5.89	mg/L	0.0025 U	0.0025 U
Copper	mg/kg	20.2 J	mg/L	0.0025 U	0.0025 U
Iron	mg/kg	18800	mg/L	0.025 U	0.025 U
Lead	mg/kg	26.5	mg/L	0.00025 U	0.00025 J
Magnesium	mg/kg	2560	mg/L	0.25 U	0.25 U
Manganese	mg/kg	402	mg/L	0.005 U	0.005 U
Mercury	mg/kg	0.114	mg/L	0.000179 J	0.0001 U
Nickel	mg/kg	95.3	mg/L	0.00827 J	0.00354 J
Potassium	mg/kg	587	mg/L	0.25 U	0.25 U
Selenium	mg/kg	0.286 J	mg/L	0.0025 U	0.0005 U
Silver	mg/kg	0.208 J	mg/L	0.002 U	0.002 U
Sodium	mg/kg	70.7	mg/L	0.25 U	0.25 U
Thallium	mg/kg	0.121	mg/L	0.00005 U	0.00005 U
Vanadium	mg/kg	12.3	mg/L	0.005 U	0.005 U
Zinc	mg/kg	81.8	mg/L	0.005 U	0.005 U
Chromium, Hexavalent	mg/kg	0.104 U	--	--	--

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Table B-6
Load Line 2 Semivolatiles in Water
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-802 LL2SS-311D-1285-SW 10/28/2008
1,2,4-Trichlorobenzene	ug/L	2.84 U
1,2-Dichlorobenzene	ug/L	2.84 U
1,3-Dichlorobenzene	ug/L	2.84 U
1,4-Dichlorobenzene	ug/L	2.84 U
2,4,5-Trichlorophenol	ug/L	2.84 U
2,4,6-Trichlorophenol	ug/L	2.84 U
2,4-Dichlorophenol	ug/L	2.84 U
2,4-Dimethylphenol	ug/L	2.84 U
2,4-Dinitrophenol	ug/L	14.2 U
2,4-Dinitrotoluene	ug/L	2.84 U
2,6-Dinitrotoluene	ug/L	2.84 U
2-Chloronaphthalene	ug/L	2.84 U
2-Chlorophenol	ug/L	2.84 U
2-Methylnaphthalene	ug/L	2.84 U
2-Methylphenol	ug/L	2.84 U
2-Nitroaniline	ug/L	14.2 U
2-Nitrophenol	ug/L	2.84 U
3,3'-Dichlorobenzidine	ug/L	2.84 U
3-,4-Methylphenol	ug/L	2.84 U
3-Nitroaniline	ug/L	14.2 U
4,6-Dinitro-2-methylphenol	ug/L	14.2 U
4-Bromophenyl-phenylether	ug/L	2.84 U
4-Chloro-3-methylphenol	ug/L	2.84 U
4-Chloroaniline	ug/L	2.84 U
4-Chlorophenyl-phenyl ether	ug/L	2.84 U
4-Nitroaniline	ug/L	14.2 U
4-Nitrophenol	ug/L	14.2 U
Acenaphthene	ug/L	2.84 U
Acenaphthylene	ug/L	2.84 U
Anthracene	ug/L	2.84 U
Benzo(a)anthracene	ug/L	2.84 U
Benzo(a)pyrene	ug/L	2.84 U
Benzo(b)fluoranthene	ug/L	2.84 U

Parameter	Units	DB-802 LL2SS-311D-1285-SW 10/28/2008
Benzo(g,h,i)perylene	ug/L	2.84 U
Benzo(k)fluoranthene	ug/L	2.84 U
Benzoic acid	ug/L	R
Benzyl alcohol	ug/L	2.84 U
Bis(2-Chloroethoxy)methane	ug/L	2.84 U
Bis(2-Chloroethyl)ether	ug/L	2.84 U
bis(2-Chloroisopropyl)ether	ug/L	2.84 U
bis(2-Ethylhexyl)phthalate	ug/L	3.41 U
Butylbenzylphthalate	ug/L	2.84 U
Carbazole	ug/L	2.84 U
Chrysene	ug/L	2.84 U
Dibenzo(a,h)anthracene	ug/L	2.84 U
Dibenzofuran	ug/L	2.84 U
Diethylphthalate	ug/L	2.84 U
Dimethylphthalate	ug/L	2.84 U
Di-n-butylphthalate	ug/L	2.84 U
Di-n-octylphthalate	ug/L	2.84 U
Fluoranthene	ug/L	2.84 U
Fluorene	ug/L	2.84 U
Hexachlorobenzene	ug/L	2.84 U
Hexachlorobutadiene	ug/L	2.84 U
Hexachlorocyclopentadiene	ug/L	R
Hexachloroethane	ug/L	2.84 U
Indeno(1,2,3-cd)pyrene	ug/L	2.84 U
Isophorone	ug/L	2.84 U
Naphthalene	ug/L	2.84 U
Nitrobenzene	ug/L	2.84 U
N-Nitroso-di-n-propylamine	ug/L	2.84 U
N-Nitrosodiphenylamine	ug/L	2.84 U
Pentachlorophenol	ug/L	14.2 U
Phenanthrene	ug/L	2.84 U
Phenol	ug/L	2.84 U
Pyrene	ug/L	2.84 U

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Table B-7
Load Line 2 Explosives and Metals in Water
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	DB-4-VP1 LL2SS-283D-1286-SW 10/28/2008	DB-4A-VP1 LL2SS-283D-1287-SW 10/28/2008	DB-802 LL2SS-311D-1285-SW 10/28/2008
Explosives:				
1,3,5-Trinitrobenzene	ug/L	0.25 UJ	0.258 UJ	0.25 UJ
1,3-Dinitrobenzene	ug/L	0.25 UJ	0.258 UJ	0.25 UJ
2,4,6-Trinitrotoluene	ug/L	0.25 UJ	0.258 U	0.25 U
2,4-Dinitrotoluene	ug/L	0.25 UJ	0.258 UJ	0.25 UJ
2,6-Dinitrotoluene	ug/L	0.25 UJ	0.258 U	0.25 U
2-Amino-4,6-dinitrotoluene	ug/L	0.25 UJ	0.258 U	0.25 U
2-Nitrotoluene	ug/L	0.25 UJ	0.258 UJ	0.25 UJ
3-Nitrotoluene	ug/L	R	R	R
4-Amino-2,6-dinitrotoluene	ug/L	0.25 UJ	0.258 U	0.25 U
4-Nitrotoluene	ug/L	0.25 UJ	0.258 UJ	0.25 UJ
HMX	ug/L	0.25 UJ	3.44	0.512 J
Nitrobenzene	ug/L	0.25 UJ	0.258 U	0.25 U
Nitroglycerin	ug/L	0.25 UJ	0.258 U	0.25 U
PETN	ug/L	0.25 U	0.258 U	0.25 U
RDX	ug/L	0.25 UJ	2.49	0.25 U
Tetryl	ug/L	0.25 UJ	0.258 U	0.25 U

Parameter	Units	DB-4-VP1 LL2SS-283D-1286-SW 10/28/2008	DB-4A-VP1 LL2SS-283D-1287-SW 10/28/2008	DB-802 LL2SS-311D-1285-SW 10/28/2008
Metals:				
Aluminum	mg/L	39.1	4.47	0.98
Antimony	mg/L	0.00342 J	0.0019 J	0.00293 J
Arsenic	mg/L	0.112 J	0.0583 J	0.061 J
Barium	mg/L	0.347	0.0625	0.045
Beryllium	mg/L	0.00224	0.0005 U	0.0005 U
Cadmium	mg/L	0.00268	0.000298 J	0.00038 J
Calcium	mg/L	63	47.3	31.3
Chromium	mg/L	0.044	0.00486 J	0.0149
Cobalt	mg/L	0.0218	0.0025 U	0.0025 U
Copper	mg/L	0.046	0.0134	0.0185
Iron	mg/L	56.6	6.92	1.05
Lead	mg/L	0.169 J	0.00999 J	0.00433 J
Magnesium	mg/L	12.8	5.46	0.529
Manganese	mg/L	2.87	0.0819	0.0354
Mercury	mg/L	0.000152 J	0.0001 U	0.0001 U
Nickel	mg/L	0.0828	0.00909	0.00378 J
Potassium	mg/L	33.9	11.5	79.9
Selenium	mg/L	0.00344	0.00111	0.00355
Silver	mg/L	0.002 U	0.002 U	0.002 U
Sodium	mg/L	1.46	15.9	45.9
Thallium	mg/L	0.000798	0.0000668 J	0.0000553 J
Vanadium	mg/L	0.0626	0.005 U	0.00841 J
Zinc	mg/L	0.368	0.0361	0.0156 J

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Table B-8
Load Line 3 Volatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-3 LL3SS-249D-1181-SO 06/24/08	EB-3 LL3SS-249D-1179-SO 06/24/08	EB-4-A LL3SS-256D-1192-SO 06/26/08	EB-10/10A LL3SS-266D-1206-SO 06/24/08	Units	Trip Blank LL2SS-286D-0000-TB 06/24/08	Trip Blank LL3SS-256D-0000-TB 06/26/08
1,1,1-Trichloroethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.125 U	0.125 U
1,1,2-Trichloroethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
1,1-Dichloroethane	ug/kg	0.921 U	0.848 U	0.97 U	1.33 U	ug/L	0.125 U	0.125 U
1,1-Dichloroethene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.5 U	0.5 U
1,2-Dibromoethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
1,2-Dichloroethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
1,2-Dichloroethene (total)	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
1,2-Dichloropropane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.2 U	0.2 U
2-Butanone	ug/kg	2.3 U	2.12 U	2.43 U	3.32 U	ug/L	2.5 U	2.5 U
2-Hexanone	ug/kg	2.3 U	2.12 U	2.43 U	3.32 U	ug/L	2.5 U	2.5 U
4-Methyl-2-pentanone	ug/kg	2.3 UJ	2.12 UJ	R	3.32 UJ	ug/L	2.5 U	2.5 U
Acetone	ug/kg	4.61 UJ	4.24 UJ	R	6.64 UJ	ug/L	4.58 J	5.7 J
Benzene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.125 U	0.125 U
Bromochloromethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.2 U	0.2 U
Bromodichloromethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Bromoform	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.5 U	0.5 U
Bromomethane	ug/kg	0.921 U	0.848 U	0.97 U	1.33 U	ug/L	0.5 U	0.5 U
Carbon disulfide	ug/kg	0.461 UJ	0.424 UJ	R	0.664 UJ	ug/L	0.5 U	0.5 U
Carbon tetrachloride	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Chlorobenzene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.125 U	0.125 U
Chloroethane	ug/kg	0.921 U	0.848 U	0.97 U	1.33 U	ug/L	0.5 U	0.5 U
Chloroform	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.125 U	0.125 U
Chloromethane	ug/kg	1.84 U	1.7 U	1.94 U	2.66 U	ug/L	0.25 U	0.25 U
cis-1,3-Dichloropropene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Dibromochloromethane	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Ethyl benzene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Methylene chloride	ug/kg	0.921 U	0.848 U	0.97 U	1.33 U	ug/L	0.611 J	0.652 J
Styrene	ug/kg	0.461 U	0.424 U	R	0.664 U	ug/L	0.125 U	0.125 U
Tetrachloroethene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Toluene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.435 J	0.25 U
trans-1,3-Dichloropropene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.5 U	0.5 U
Trichloroethene	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.25 U	0.25 U
Vinyl chloride	ug/kg	0.921 U	0.848 U	0.97 U	1.33 U	ug/L	0.25 U	0.25 U
Xylenes, Total	ug/kg	0.461 U	0.424 U	0.485 U	0.664 U	ug/L	0.5 U	0.5 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-9
Load Line 3 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EB-3 LL3SS-248M-1177-SO 06/24/08	EB-3 LL3SS-249M-1178-SO 06/24/08	EB-4-A LL3SS-256M-1188-SO 06/26/08	EB-4-A LL3SS-256M-1190-SO 06/26/08	EB-4-A LL3SS-256M-1191-SO 06/26/08	EB-4A-WS LL3SS-258M-1194-SO 06/27/08	EB-4A-WS LL3SS-258M-1196-SO 06/27/08	EB-4A-WS LL3SS-258M-1197-SO 06/27/08	EB-10/10A LL3SS-266M-1205-SO 06/25/08
1,2,4-Trichlorobenzene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
1,2-Dichlorobenzene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
1,3-Dichlorobenzene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
1,4-Dichlorobenzene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2,4,5-Trichlorophenol	ug/kg	83 UJ	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
2,4,6-Trichlorophenol	ug/kg	83 UJ	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
2,4-Dichlorophenol	ug/kg	83 UJ	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
2,4-Dimethylphenol	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2,4-Dinitrophenol	ug/kg	414 UJ	420 UJ	429 U	858 U	429 U	429 UJ	404 UJ	397 UJ	426 UJ	422 U
2,4-Dinitrotoluene	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2,6-Dinitrotoluene	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2-Chloronaphthalene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2-Chlorophenol	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2-Methylnaphthalene	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2-Methylphenol	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
2-Nitroaniline	ug/kg	414 U	420 UJ	429 U	858 U	429 U	429 UJ	404 U	397 U	426 UJ	422 U
2-Nitrophenol	ug/kg	83 UJ	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
3,3'-Dichlorobenzidine	ug/kg	166 U	168 UJ	172 UJ	344 U	172 U	172 UJ	162 U	159 U	171 UJ	169 U
3-,4-Methylphenol	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
3-Nitroaniline	ug/kg	414 UJ	420 UJ	429 U	858 U	429 U	429 UJ	404 UJ	397 UJ	426 UJ	422 U
4,6-Dinitro-2-methylphenol	ug/kg	414 UJ	420 UJ	429 U	858 U	429 U	429 UJ	404 UJ	397 UJ	426 UJ	422 U
4-Bromophenyl-phenylether	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
4-Chloro-3-methylphenol	ug/kg	83 UJ	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
4-Chloroaniline	ug/kg	83 UJ	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
4-Chlorophenyl-phenyl ether	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
4-Nitroaniline	ug/kg	414 U	420 UJ	429 U	858 U	429 U	429 UJ	404 U	397 U	426 UJ	422 U
4-Nitrophenol	ug/kg	414 U	420 UJ	429 U	858 U	429 U	429 UJ	404 U	397 U	426 UJ	422 U
Acenaphthene	ug/kg	238	84.1 UJ	86 U	225 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Acenaphthylene	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Anthracene	ug/kg	693	84.1 UJ	86 U	648	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Benzo(a)anthracene	ug/kg	2380	84.1 UJ	86 U	772	151 J	120 J	81 U	100 J	94.7 J	286
Benzo(a)pyrene	ug/kg	1820	84.1 UJ	86 U	622	140 J	112 J	81 U	97.7 J	92.4 J	268
Benzo(b)fluoranthene	ug/kg	1590 J	84.1 UJ	86 U	478	139 J	111 J	81 UJ	79.8 J	85.3 UJ	223
Benzo(g,h,i)perylene	ug/kg	820 J	R	R	218 J	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 UJ
Benzo(k)fluoranthene	ug/kg	1690	84.1 UJ	86 U	696	138 J	115 J	81 U	81.2 J	85.3 UJ	262

Table B-9
Load Line 3 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EB-3 LL3SS-248M-1177-SO 06/24/08	EB-3 LL3SS-249M-1178-SO 06/24/08	EB-4-A LL3SS-256M-1188-SO 06/26/08	EB-4-A LL3SS-256M-1190-SO 06/26/08	EB-4-A LL3SS-256M-1191-SO 06/26/08	EB-4A-WS LL3SS-258M-1194-SO 06/27/08	EB-4A-WS LL3SS-258M-1196-SO 06/27/08	EB-4A-WS LL3SS-258M-1197-SO 06/27/08	EB-10/10A LL3SS-266M-1205-SO 06/25/08
Benzoic acid	ug/kg	R	R	R	R	R	R	R	R	R	R
Benzyl alcohol	ug/kg	83 UJ	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 U
Bis(2-Chloroethoxy)methane	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Bis(2-Chloroethyl)ether	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
bis(2-Chloroisopropyl)ether	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
bis(2-Ethylhexyl)phthalate	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Butylbenzylphthalate	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Carbazole	ug/kg	439	84.1 UJ	86 U	289 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Chrysene	ug/kg	2290	84.1 UJ	86 U	753	168 J	132 J	81 U	101 J	92.9 J	271
Dibenzo(a,h)Anthracene	ug/kg	291 J	84.1 UJ	86 UJ	172 UJ	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	84.5 UJ
Dibenzofuran	ug/kg	91.8 J	84.1 UJ	86 U	189 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Diethylphthalate	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Dimethylphthalate	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Di-n-Butylphthalate	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Di-n-octylphthalate	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 UJ	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Fluoranthene	ug/kg	5570 J	84.1 UJ	86 U	2030	347	275 J	135 J	231 J	204 J	504
Fluorene	ug/kg	177	84.1 UJ	86 U	333 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Hexachlorobenzene	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Hexachlorobutadiene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Hexachlorocyclopentadiene	ug/kg	R	R	R	R	R	R	R	R	R	R
Hexachloroethane	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Indeno(1,2,3-cd)pyrene	ug/kg	873 J	84.1 UJ	86 UJ	231 J	85.9 UJ	86 UJ	81 UJ	79.5 UJ	85.3 UJ	88 J
Isophorone	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Naphthalene	ug/kg	143 J	84.1 UJ	86 UJ	176 J	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Nitrobenzene	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
N-Nitrosodiphenylamine	ug/kg	83 U	84.1 UJ	86 U	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
N-Nitrosodipropylamine	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Pentachlorophenol	ug/kg	414 U	420 UJ	429 U	858 U	429 U	429 UJ	404 U	397 U	426 UJ	422 U
Phenanthrene	ug/kg	2270	84.1 UJ	86 U	2240	260	166 J	83.5 J	192	129 J	246
Phenol	ug/kg	83 U	84.1 UJ	86 UJ	172 U	85.9 U	86 UJ	81 U	79.5 U	85.3 UJ	84.5 U
Pyrene	ug/kg	3930	84.1 UJ	86 U	1610	301	221 J	111 J	191	160 J	409

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-10
Load Line 3 Pesticides and PCBs in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-3 LL3SS-249M-1178-SO 06/24/08	EB-4 LL3SS-250M-1182-SO 06/24/08	EB-4 LL3SS-251M-1183-SO 06/24/08	EB-4-A LL3SS-255M-1187-SO 06/26/08	EB-4-A LL3SS-256M-1188-SO 06/26/08	EB-4-A LL3SS-256M-1190-SO 06/26/08	EB-4-A LL3SS-256M-1191-SO 06/26/08
4,4'-DDD	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
4,4'-DDE	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
4,4'-DDT	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Aldrin	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
alpha Chlordane	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
alpha-BHC	ug/kg	--	--	3.41 UJ	--	--	--	3.4 U	3.42 U	3.48 U
beta-BHC	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
delta-BHC	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Dieldrin	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Endosulfan I	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Endosulfan II	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Endosulfan sulfate	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Endrin	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Endrin aldehyde	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Endrin ketone	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
gamma Chlordane	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
gamma-BHC (Lindane)	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Heptachlor	ug/kg	--	--	3.41 UJ	--	--	--	3.4 U	3.42 U	3.48 U
Heptachlor epoxide	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Methoxychlor	ug/kg	--	--	3.41 U	--	--	--	3.4 U	3.42 U	3.48 U
Toxaphene	ug/kg	--	--	173 U	--	--	--	172 U	173 U	176 U
Aroclor-1016	ug/kg	8.32 U	8.25 U	8.57 UJ	8.33 U	8.72 UJ	89.4 U	84.3 U	85.7 U	85.4 U
Aroclor-1221	ug/kg	8.32 U	8.25 U	8.57 UJ	8.33 U	8.72 UJ	89.4 U	84.3 U	85.7 U	85.4 U
Aroclor-1232	ug/kg	8.32 U	8.25 U	8.57 UJ	8.33 U	8.72 UJ	89.4 U	84.3 U	85.7 U	85.4 U
Aroclor-1242	ug/kg	8.32 U	8.25 U	8.57 UJ	8.33 U	8.72 UJ	89.4 U	84.3 U	85.7 U	85.4 U
Aroclor-1248	ug/kg	8.32 U	8.25 U	8.57 UJ	8.33 U	8.72 UJ	89.4 U	84.3 U	85.7 U	85.4 U
Aroclor-1254	ug/kg	117	8.25 U	21.6 J	611	672 J	1070	1380 J	1390	1290
Aroclor-1260	ug/kg	53.2	8.25 U	8.57 UJ	233	253 J	89.4 U	84.3 U	85.7 U	85.4 U

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UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis not requested.

Table B-10
Load Line 3 Pesticides and PCBs in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-10/10A LL3SS-266M-1205-SO 06/25/08	EB-10/10A LL3SS-267M-1207-SO 06/25/08	EB-11 LL3SS-268M-1208-SO 06/25/08	EB-11 LL3SS-268M-1210-SO 06/25/08	EB-11 LL3SS-268M-1211-SO 06/25/08
4,4'-DDD	ug/kg	3.33 U	--	--	--	--
4,4'-DDE	ug/kg	3.33 U	--	--	--	--
4,4'-DDT	ug/kg	3.33 U	--	--	--	--
Aldrin	ug/kg	3.33 U	--	--	--	--
alpha Chlordane	ug/kg	3.33 U	--	--	--	--
alpha-BHC	ug/kg	3.33 U	--	--	--	--
beta-BHC	ug/kg	3.33 U	--	--	--	--
delta-BHC	ug/kg	3.33 U	--	--	--	--
Dieldrin	ug/kg	3.33 U	--	--	--	--
Endosulfan I	ug/kg	3.33 U	--	--	--	--
Endosulfan II	ug/kg	3.33 U	--	--	--	--
Endosulfan sulfate	ug/kg	3.33 U	--	--	--	--
Endrin	ug/kg	3.33 U	--	--	--	--
Endrin aldehyde	ug/kg	3.33 U	--	--	--	--
Endrin ketone	ug/kg	3.33 U	--	--	--	--
gamma Chlordane	ug/kg	3.33 U	--	--	--	--
gamma-BHC (Lindane)	ug/kg	3.33 U	--	--	--	--
Heptachlor	ug/kg	3.33 U	--	--	--	--
Heptachlor epoxide	ug/kg	3.33 U	--	--	--	--
Methoxychlor	ug/kg	3.33 U	--	--	--	--
Toxaphene	ug/kg	169 U	--	--	--	--
Aroclor-1016	ug/kg	8.38 U	8.54 U	8.51 U	8.66 U	8.36 U
Aroclor-1221	ug/kg	8.38 U	8.54 U	8.51 U	8.66 U	8.36 U
Aroclor-1232	ug/kg	8.38 U	8.54 U	8.51 U	8.66 U	8.36 U
Aroclor-1242	ug/kg	8.38 U	8.54 U	8.51 U	8.66 U	8.36 U
Aroclor-1248	ug/kg	8.38 U	8.54 U	8.51 U	8.66 U	8.36 U
Aroclor-1254	ug/kg	42.4	169	49.8	49.9	63.8
Aroclor-1260	ug/kg	21.9	8.54 U	8.51 U	8.66 U	8.36 U

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UJ = The analyte The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

-- = Analysis no Analysis not requested.

Table B-11
Load Line 3 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	3-51, 3-51A, EB-20 LL3SS-246M-1175-SO 06/25/08	EA-5 LL3SS-259M-1198-SO 06/27/08	EA-6, EA-28 LL3SS-260M-1199-SO 06/27/08	EA-7 LL3SS-262M-1201-SO 06/26/08	EA-21 LL3SS-273M-1216-SO 06/26/08	EB-2 LL3SS-247M-1176-SO 06/24/08	EB-3 LL3SS-248M-1177-SO 06/24/08	EB-3 LL3SS-249M-1178-SO 06/24/08	EB-4 LL3SS-250M-1182-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
1,3-Dinitrobenzene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2,4,6-Trinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.628	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.842
2,4-Dinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2,6-Dinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.196 J	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
2-Nitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
3-Nitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0997 U	0.0994 U	0.414	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.166 J
4-Nitrotoluene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
HMX	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
Nitrobenzene	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
Nitroglycerin	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.0997 U
PETN	mg/kg	0.499 U	0.497 U	0.5 U	0.5 U	0.501 U	0.498 U	0.497 U	0.496 U	0.499 U
RDX	mg/kg	0.0997 U	0.0994 U	0.0999 U	0.0999 U	0.1 U	0.0995 U	0.0994 U	0.0992 U	0.197 J
Tetryl	mg/kg	R	0.0994 U	0.0999 U	R	R	0.0995 U	0.0994 U	0.0992 U	0.0997 U
Nitrocellulose	mg/kg	--	--	--	--	1.99 U	--	--	1.99 UJ	--
Nitroguanidine	mg/kg	--	--	--	--	0.121 UJ	--	--	0.128 UJ	--

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-- = Analysis not requested.

Table B-11
Load Line 3 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-4 LL3SS-251M-1183-SO 06/24/08	EB-4-A LL3SS-255M-1187-SO 06/26/08	EB-4-A LL3SS-256M-1188-SO 06/26/08	EB-4-A LL3SS-256M-1190-SO 06/26/08	EB-4-A LL3SS-256M-1191-SO 06/26/08	EB-4A-WN LL3SS-257M-1193-SO 06/27/08	EB-4A-WS LL3SS-258M-1194-SO 06/27/08	EB-4A-WS LL3SS-258M-1196-SO 06/27/08	EB-4A-WS LL3SS-258M-1197-SO 06/27/08
1,3,5-Trinitrobenzene	mg/kg	0.0997 U	0.1 U	2 U	10 U	0.993 U	0.29	0.1 U	0.0989 U	0.1 U
1,3-Dinitrobenzene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2,4,6-Trinitrotoluene	mg/kg	1.8	6.62	51	295	28.7	52.1	40.9 J	5.25 J	20.5 J
2,4-Dinitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	10 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2,6-Dinitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.139 J	0.273	2 U	10 U	0.993 U	0.794	0.473 J	0.358 J	0.722 J
2-Nitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
3-Nitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.279	0.705	2 U	10 U	0.993 U	1.93	1.37	1.03	1.74
4-Nitrotoluene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
HMX	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
Nitrobenzene	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
Nitroglycerin	mg/kg	0.0997 U	0.1 U	2 U	10 U	0.993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
PETN	mg/kg	0.499 U	0.502 U	0.5 U	0.502 U	0.497 U	0.498 U	0.501 U	0.495 U	0.502 U
RDX	mg/kg	0.0997 U	0.1 U	0.1 U	0.1 U	0.0993 U	0.0995 U	0.1 U	0.0989 U	0.1 U
Tetryl	mg/kg	0.0997 U	R	R	R	R	0.0995 U	0.1 U	0.0989 U	0.1 U
Nitrocellulose	mg/kg	--	--	16	65.2	19.1	--	--	--	--
Nitroguanidine	mg/kg	--	--	0.127 UJ	0.129 UJ	0.13 UJ	--	--	--	--

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-- = Analysis not requested.

Table B-11
Load Line 3 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-4-VP1, -4A-VP1, -10-VP1, -10-VP2 LL3SS-252M-1184-SO 06/26/08	EB-4-WS LL3SS-254M-1186-SO 06/25/08	EB-8, -8A, -22 LL3SS-263M-1202-SO 06/26/08	EB-9 LL3SS-264M-1203-SO 06/26/08	EB-9A LL3SS-265M-1204-SO 06/24/08	EB-10/10A LL3SS-266M-1205-SO 06/25/08	EB-10/10A LL3SS-267M-1207-SO 06/25/08	EB-11 LL3SS-268M-1208-SO 06/25/08
1,3,5-Trinitrobenzene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.219 J	0.0996 U	0.1 U	0.0998 U
1,3-Dinitrobenzene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
2,4,6-Trinitrotoluene	mg/kg	0.277	0.989	0.0993 U	0.099 U	700	0.0996 U	0.1 U	0.0998 U
2,4-Dinitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.284	0.0996 U	0.1 U	0.0998 U
2,6-Dinitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	1.76	0.0996 U	0.1 U	0.0998 U
2-Nitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
3-Nitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.147 J	0.554	0.0993 U	0.099 U	4.55	0.0996 U	0.1 U	0.0998 U
4-Nitrotoluene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
HMX	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.854	0.0996 U	0.1 U	0.0998 U
Nitrobenzene	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
Nitroglycerin	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	0.0995 U	0.0996 U	0.1 U	0.0998 U
PETN	mg/kg	0.495 U	0.496 U	0.497 U	0.495 U	0.498 U	0.498 U	0.501 U	0.499 U
RDX	mg/kg	0.099 U	0.0991 U	0.0993 U	0.099 U	6.42	0.449	0.1 U	0.0998 U
Tetryl	mg/kg	R	R	R	R	0.0995 U	R	R	R
Nitrocellulose	mg/kg	--	--	--	--	--	2 U	--	--
Nitroguanidine	mg/kg	--	--	--	--	--	0.124 UJ	--	--

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Table B-11
Load Line 3 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-11 LL3SS-268M-1210-SO 06/25/08	EB-11 LL3SS-268M-1211-SO 06/25/08	EB-13, EB-26 LL3SS-269M-1212-SO 06/25/08	EB-13A LL3SS-270M-1213-SO 06/25/08	EB-13B LL3SS-271M-1214-SO 06/25/08	EB-19 LL3SS-272M-1215-SO 06/24/08	EB-25 LL3SS-274M-1217-SO 06/24/08
1,3,5-Trinitrobenzene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	3.07
1,3-Dinitrobenzene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.0992 U
2,4,6-Trinitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	3340
2,4-Dinitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	1.72
2,6-Dinitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.185 J
2-Amino-4,6-dinitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	2.66
2-Nitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.0992 U
3-Nitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.0992 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	9.54
4-Nitrotoluene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.0992 U
HMX	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	73.4
Nitrobenzene	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.0992 U
Nitroglycerin	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	0.0992 U
PETN	mg/kg	0.503 U	0.501 U	0.496 U	0.497 U	0.495 U	0.499 U	0.496 U
RDX	mg/kg	0.101 U	0.1 U	0.0991 U	0.0993 U	0.0989 U	0.0998 U	831
Tetryl	mg/kg	R	R	R	R	R	0.0998 U	0.0992 U
Nitrocellulose	mg/kg	--	--	--	--	--	--	--
Nitroguanidine	mg/kg	--	--	--	--	--	--	--

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Table B-12
Load Line 3 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	3-51, 3-51A, EB-20	EA-5	EA-6, EA-28	EA-7	EA-21	EB-2	EB-3	EB-3	EB-4
		LL3SS-246M-1175-SO 06/25/08	LL3SS-259M-1198-SO 06/27/08	LL3SS-260M-1199-SO 06/27/08	LL3SS-262M-1201-SO 06/26/08	LL3SS-273M-1216-SO 06/26/08	LL3SS-247M-1176-SO 06/24/08	LL3SS-248M-1177-SO 06/24/08	LL3SS-249M-1178-SO 06/24/08	LL3SS-250M-1182-SO 06/24/08
Aluminum	mg/kg	9100	9770	8330	6850	5950	5810	7140	5500	6410
Antimony	mg/kg	0.266 J	R	R	R	R	R	R	R	R
Arsenic	mg/kg	9.31 J	11.9 J	10.5 J	11.5 J	10.9 J	11.8	11.1	10.1	10.4
Barium	mg/kg	94.4	51.5	40.9	35.3	32.1	32.3	38.7	29.4	41.7
Beryllium	mg/kg	0.767	0.485	0.439	0.354	0.314	0.327	0.37	0.298	0.363
Cadmium	mg/kg	0.569	0.442	0.535	0.329	0.354	0.403	0.366	0.318	0.479
Calcium	mg/kg	20100	2490	3710	2400	3710	5620	3280	2120	8490
Chromium	mg/kg	10.7	13.5 J	12.2 J	13	9.89	8.11	10.4	8.12	11.8
Cobalt	mg/kg	4.7	7.95 J	7.51 J	6.01	6.05	5.86	6.45	5.15	5.91
Copper	mg/kg	14.1 J	17.3	18.7	17.8 J	20.5 J	20.7 J	18.6 J	17.8 J	20.7 J
Iron	mg/kg	15600	20800 J	19700 J	17500	17200	18000	18500	16300	17800
Lead	mg/kg	21.8 J	25.8	16.3	14.9 J	12.7 J	18 J	27.6 J	14 J	32.5 J
Magnesium	mg/kg	3740	2620	2470	2100	2240	2230	2460	1600	2320
Manganese	mg/kg	1060 J	396 J	370 J	320 J	338 J	351	318	278	363
Mercury	mg/kg	0.0264 J	0.0191 J	0.0173 J	0.0141 J	0.0175 J	0.0107 U	0.0148 J	0.0105 U	0.01 U
Nickel	mg/kg	13.9 J	25.5 J	21.7 J	18.4 J	26.9 J	17.3	25.3	23.7	18
Potassium	mg/kg	783 J	825 J	776 J	655 J	654 J	392	566	484	686
Selenium	mg/kg	0.344 J	0.235 J	0.258 J	0.217 J	0.297 J	0.262 J	0.282 J	0.22 J	0.199 J
Silver	mg/kg	0.961	0.375 J	0.247 J	0.223 J	0.251 J	0.2 U	0.191 U	0.285 J	0.21 J
Sodium	mg/kg	130	38.5	50.8	33.9	33.8	31.6	29.9	31.2	62.1
Thallium	mg/kg	0.0927	0.137	0.131	0.104	0.121	0.11	0.149	0.112	0.109
Vanadium	mg/kg	12.8	15.7	13.1	12	10.7	9.52 J	11.4 J	9.33 J	10.3 J
Zinc	mg/kg	71.4	66.5 J	67.8 J	57	69	78.8	61.2	58.7	73.5
Chromium, Hexavalent	mg/kg	0.26 U	0.489 U	0.0498 U	0.499 U	0.0503 U	0.535 UJ	0.523 UJ	0.516 UJ	0.253 UJ

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-12
Load Line 3 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-4 LL3SS-251M-1183-SO 06/24/08	EB-4-A LL3SS-255M-1187-SO 06/26/08	EB-4-A LL3SS-256M-1188-SO 06/26/08	EB-4-A LL3SS-256M-1190-SO 06/26/08	EB-4-A LL3SS-256M-1191-SO 06/26/08	EB-4A-WN LL3SS-257M-1193-SO 06/27/08	EB-4A-WS LL3SS-258M-1194-SO 06/27/08	EB-4A-WS LL3SS-258M-1196-SO 06/27/08	EB-4A-WS LL3SS-258M-1197-SO 06/27/08
Aluminum	mg/kg	5850	12500	9700	10800	12100	13600	9340	7160	10200
Antimony	mg/kg	R	R	R	R	R	R	R	R	0.0662 J
Arsenic	mg/kg	10.4	9.22 J	9.26 J	9.38 J	10.1 J	10.7 J	9.77 J	9.79 J	10.5 J
Barium	mg/kg	35.5	87.1	65.6	71.9	79.9	72.3	46.8	37	50.2
Beryllium	mg/kg	0.334	0.779	0.581	0.647	0.772	0.776	0.534	0.411	0.538
Cadmium	mg/kg	0.398	1.04	0.837	0.887	0.968	0.959	0.678	0.573	0.78
Calcium	mg/kg	6080	21900	10400	12100	17400	6080	4790	3340	5930
Chromium	mg/kg	8.32	17.2	13.4	15.7	16.1	19.4 J	12.8 J	10.4 J	14.8 J
Cobalt	mg/kg	5.23	7.39	6.57	6.63	8.3	9.49 J	6.56 J	5.65 J	6.68 J
Copper	mg/kg	17.4 J	22.6 J	24 J	22.3 J	24.9 J	24.4	19.5	17.8	21.1
Iron	mg/kg	15300	22100	19600	19800	22100	25700 J	19500 J	17800 J	25000 J
Lead	mg/kg	16.8 J	33.9 J	33.7 J	76.2 J	30.2 J	34.5	28.3	20.4	33.4
Magnesium	mg/kg	2170	3930	2980	3310	4370	3530	2530	1980	2810
Manganese	mg/kg	337	464 J	357 J	380 J	445 J	369 J	304 J	285 J	305 J
Mercury	mg/kg	0.0101 U	0.0303 J	0.0194 J	0.0307 J	0.025 J	0.0386 J	0.0172 J	0.0119 J	0.0259 J
Nickel	mg/kg	17.8	22.2 J	18.8 J	18 J	21.8 J	30.4 J	21.2 J	19.7 J	20.8 J
Potassium	mg/kg	616	1220 J	1040 J	1210 J	1340 J	1600 J	889 J	632 J	1090 J
Selenium	mg/kg	0.216 J	0.305 J	0.332 J	0.325 J	0.365 J	0.223 J	0.173 J	0.177 J	0.218 J
Silver	mg/kg	0.205 U	0.337 J	0.259 J	0.308 J	0.315 J	0.324 J	0.352 J	0.19 U	0.291 J
Sodium	mg/kg	49.2	222	114	131	168	83	60.4	43.9	73.6
Thallium	mg/kg	0.103	0.106	0.106	0.0935	0.108	0.156	0.103	0.0881	0.103
Vanadium	mg/kg	9.06 J	17.2	14.5	15.7	16.8	20.1	14.3	11.4	16
Zinc	mg/kg	58.9	87	104	86.8	89.9	94.5 J	74.1 J	70 J	88.2 J
Chromium, Hexavalent	mg/kg	0.524 UJ	0.0529 U	0.519 U	0.0523 U	0.531 U	0.0508 U	0.0501 U	0.0966 U	0.256 U

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Table B-12
Load Line 3 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-4-VP1, -4A-VP1, -10-VP1, -10-VP2 LL3SS-252M-1184-SO 06/26/08	EB-4-WS LL3SS-254M-1186-SO 06/25/08	EB-8, -8A, -22 LL3SS-263M-1202-SO 06/26/08	EB-9 LL3SS-264M-1203-SO 06/26/08	EB-9A LL3SS-265M-1204-SO 06/24/08	EB-10/10A LL3SS-266M-1205-SO 06/25/08	EB-10/10A LL3SS-267M-1207-SO 06/25/08	EB-11 LL3SS-268M-1208-SO 06/25/08
Aluminum	mg/kg	5950	9460	9910	5700	10200	5060	6660	10900
Antimony	mg/kg	R	R	R	R	R	R	R	R
Arsenic	mg/kg	7.87 J	11.4 J	10.1 J	8.54 J	10.3	10.9 J	12.4 J	9.42 J
Barium	mg/kg	39.5	74.9	63.5	28.7	67.9	22.5	39.1	65.6
Beryllium	mg/kg	0.362	0.545	0.516	0.287	0.636	0.272	0.366	0.571
Cadmium	mg/kg	0.452	0.841	0.465	0.327	0.628	0.285	0.416	0.553
Calcium	mg/kg	4620	11400	5300	2290	4020	1500	4770	2920
Chromium	mg/kg	8.14	16.4	13.3	10.7	19.6	8.58	11.3	15.6
Cobalt	mg/kg	4.35	8.73	7.45	5.39	8.31	4.49	6.06	8.16
Copper	mg/kg	14.7 J	22 J	18.6 J	17.6 J	17.4 J	17.4 J	20.8 J	17.6 J
Iron	mg/kg	14800	20800	19400	15900	22600	16400	17800	21700
Lead	mg/kg	17.8 J	53.2	33.5 J	11.7 J	31.7 J	12.8 J	19.5 J	22.4 J
Magnesium	mg/kg	1650	3510	2620	1920	2360	1300	2030	2380
Manganese	mg/kg	307 J	361 J	416 J	304 J	454	300 J	366 J	455 J
Mercury	mg/kg	0.0161 J	0.0142 J	0.0288 J	0.0165 J	0.034 J	0.0164 J	0.0226 J	0.036 J
Nickel	mg/kg	14.6 J	26.7 J	22.2 J	14.3 J	21.5	30.2 J	24.8 J	31.2 J
Potassium	mg/kg	494 J	1040 J	1130 J	519 J	831	416 J	747 J	934 J
Selenium	mg/kg	0.387 J	0.323 J	0.456 J	0.218 J	0.332 J	0.228 J	0.585 J	0.384 J
Silver	mg/kg	0.193 U	0.263 J	0.274 J	0.715	0.296 J	3.77	3.73	0.36 J
Sodium	mg/kg	36.8	70.1	70.4	26	49	25.6	49.5	40.1
Thallium	mg/kg	0.0898	0.11	0.123	0.0959	0.131	0.0825	0.112	0.122
Vanadium	mg/kg	9.86	14	15.5	9.75	16.8 J	8.85	11	18.4
Zinc	mg/kg	62	104	77.2	58.4	83.7	55.2	71.5	70.6
Chromium, Hexavalent	mg/kg	0.0519 U	0.508 U	0.507 U	0.0502 U	0.0991 UJ	0.0497 U	0.103 U	0.0516 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-12
Load Line 3 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	EB-11 LL3SS-268M-1210-SO 06/25/08	EB-11 LL3SS-268M-1211-SO 06/25/08	EB-13, EB-26 LL3SS-269M-1212-SO 06/25/08	EB-13A LL3SS-270M-1213-SO 06/25/08	EB-13B LL3SS-271M-1214-SO 06/25/08	EB-19 LL3SS-272M-1215-SO 06/24/08	EB-25 LL3SS-274M-1217-SO 06/24/08
Aluminum	mg/kg	11300	11400	6400	7360	4780	7250	7890
Antimony	mg/kg	R	R	R	R	R	R	R
Arsenic	mg/kg	10.3 J	9.22 J	9.3 J	11.2 J	7.09 J	10.9	9.96
Barium	mg/kg	61.7	62.2	32.7	83.1	56.6	43.7	54.9
Beryllium	mg/kg	0.55	0.582	0.334	0.509	0.408	0.471	0.594
Cadmium	mg/kg	0.491	0.483	0.327	0.526	0.605	0.479	0.558
Calcium	mg/kg	2710	2920	1450	7830	6530	4300	6910
Chromium	mg/kg	17.7	15.6	9.21	12.1	9.52	11.4	28.4
Cobalt	mg/kg	7.98	8.04	6.18	5.64	4.78	6.19	6.98
Copper	mg/kg	17.7 J	17.9 J	19.6 J	17.3 J	14.2 J	20.2 J	26.4 J
Iron	mg/kg	20500	21600	17000	17000	13500	18500	19500
Lead	mg/kg	23.7 J	26.9 J	20.9 J	77.9	20.4 J	30 J	154 J
Magnesium	mg/kg	2480	2480	1730	2180	1810	2110	2260
Manganese	mg/kg	428 J	429 J	334 J	434 J	413 J	338	470
Mercury	mg/kg	0.0284 J	0.0311 J	0.0207 J	0.0495 J	0.0741 J	0.0113 J	0.0572 J
Nickel	mg/kg	28.3 J	28.2 J	15 J	14.8 J	15.5 J	42.2	30.6
Potassium	mg/kg	1090 J	1030 J	543 J	686 J	506 J	573	601
Selenium	mg/kg	0.334 J	0.331 J	0.335 J	0.392 J	0.27 J	0.261 J	0.316 J
Silver	mg/kg	0.196 J	0.353	0.189 U	0.251 J	0.287 J	0.322 J	0.254 J
Sodium	mg/kg	44.5	42.8	28.2	74.6	65.2	41.4	57.3
Thallium	mg/kg	0.126	0.132	0.108	0.0804	0.0586	0.114	0.104
Vanadium	mg/kg	18.8	19	10.8	11.6	8.05	11.2 J	12.6 J
Zinc	mg/kg	66.4	68.7	59.4	93.9	79.2	75.4	98.2
Chromium, Hexavalent	mg/kg	0.0526 U	0.253 U	0.259 U	0.0519 U	0.0524 U	0.546 UJ	0.535 UJ

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actua limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-13
Load Line 4 Volatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-2 LL4SS-201D-1185-SO 06/27/08	G-2 LL4SS-201D-1187-SO 06/27/08	G-4 LL4SS-202D-1189-SO 06/27/08	G-18 LL4SS-219D-1216-SO 06/27/08	Units	Trip Blank LL4SS-201D-0000-TB 06/27/08
1,1,1-Trichloroethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
1,1,2,2-Tetrachloroethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.125 U
1,1,2-Trichloroethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
1,1-Dichloroethane	ug/kg	1.2 U	0.875 U	0.846 U	0.898 U	µg/L	0.125 U
1,1-Dichloroethene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.5 U
1,2-Dibromoethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
1,2-Dichloroethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
1,2-Dichloroethene (total)	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
1,2-Dichloropropane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.2 U
2-Butanone	ug/kg	2.99 U	2.19 U	2.12 U	2.24 U	µg/L	2.5 U
2-Hexanone	ug/kg	2.99 U	2.19 U	2.12 U	2.24 U	µg/L	2.5 U
4-Methyl-2-pentanone	ug/kg	2.99 U	2.19 U	2.12 U	2.24 U	µg/L	2.5 UJ
Acetone	ug/kg	R	R	R	R	µg/L	2.5 U
Benzene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.125 U
Bromochloromethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.2 U
Bromodichloromethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Bromoform	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.5 U
Bromomethane	ug/kg	1.2 U	0.875 U	0.846 U	0.898 U	µg/L	0.5 U
Carbon disulfide	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	R
Carbon tetrachloride	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Chlorobenzene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.125 U
Chloroethane	ug/kg	1.2 U	0.875 U	0.846 U	0.898 U	µg/L	0.5 U
Chloroform	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.125 U
Chloromethane	ug/kg	2.4 U	1.75 U	1.69 U	1.8 U	µg/L	0.25 U
cis-1,3-Dichloropropene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Dibromochloromethane	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Ethyl benzene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Methylene chloride	ug/kg	1.2 U	0.875 U	0.846 U	0.898 U	µg/L	0.25 U
Styrene	ug/kg	R	R	R	R	µg/L	0.125 U
Tetrachloroethene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Toluene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
trans-1,3-Dichloropropene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.5 U
Trichloroethene	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.25 U
Vinyl chloride	ug/kg	1.2 U	0.875 U	0.846 U	0.898 U	µg/L	0.25 U
Xylenes, Total	ug/kg	0.599 U	0.438 U	0.423 U	0.449 U	µg/L	0.5 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-14
Load Line 4 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-8 LL4SS-206M-1193-SO 07/01/08	G-8 LL4SS-207M-1194-SO 07/01/08	G-12 LL4SS-212M-1202-SO 07/01/08	G-12 LL4SS-212M-1204-SO 07/01/08	G-12 LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08	Units	Equip. Blank LL4SS-219M-0000-ER 06/27/08	Equip. Blank LL4SS-206M-0000-ER 06/30/08
1,2,4-Trichlorobenzene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
1,2-Dichlorobenzene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
1,3-Dichlorobenzene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
1,4-Dichlorobenzene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2,4,5-Trichlorophenol	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 U	2.5 U
2,4,6-Trichlorophenol	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 U	2.5 U
2,4-Dichlorophenol	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 U	2.5 U
2,4-Dimethylphenol	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2,4-Dinitrophenol	ug/kg	403 UJ	421 UJ	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 UJ	ug/L	12.5 U	12.5 U
2,4-Dinitrotoluene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2,6-Dinitrotoluene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2-Chloronaphthalene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2-Chlorophenol	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2-Methylnaphthalene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2-Methylphenol	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
2-Nitroaniline	ug/kg	403 U	421 U	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 U	ug/L	12.5 U	12.5 U
2-Nitrophenol	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 U	2.5 U
3,3'-Dichlorobenzidine	ug/kg	162 U	168 U	159 UJ	165 UJ	165 UJ	165 UJ	163 UJ	327 U	ug/L	2.5 U	2.5 U
3-,4-Methylphenol	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
3-Nitroaniline	ug/kg	403 UJ	421 UJ	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 UJ	ug/L	12.5 U	12.5 U
4,6-Dinitro-2-methylphenol	ug/kg	403 UJ	421 UJ	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 UJ	ug/L	12.5 U	R
4-Bromophenyl-phenylether	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
4-Chloro-3-methylphenol	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 U	2.5 U
4-Chloroaniline	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 U	2.5 U
4-Chlorophenyl-phenyl ether	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
4-Nitroaniline	ug/kg	403 U	421 U	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 U	ug/L	12.5 U	12.5 U
4-Nitrophenol	ug/kg	403 U	421 U	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 U	ug/L	12.5 U	12.5 U
Acenaphthene	ug/kg	80.8 U	84.2 U	568 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Acenaphthylene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Anthracene	ug/kg	80.8 U	84.2 U	1400 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Benzo(a)anthracene	ug/kg	80.8 U	111 J	2020 J	82.3 UJ	82.6 UJ	153 J	81.7 UJ	382	ug/L	2.5 U	2.5 U
Benzo(a)pyrene	ug/kg	80.8 U	109 J	2000 J	82.3 UJ	82.6 UJ	163 J	81.7 UJ	325 J	ug/L	2.5 U	2.5 U
Benzo(b)fluoranthene	ug/kg	80.8 UJ	93.2 J	1940 J	82.3 UJ	86.7 J	178 J	82.9 J	291 J	ug/L	2.5 U	2.5 U
Benzo(g,h,i)perylene	ug/kg	80.8 UJ	84.2 UJ	796 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	182 J	ug/L	2.5 UJ	2.5 U
Benzo(k)fluoranthene	ug/kg	80.8 U	95.4 J	2040 J	82.3 UJ	82.6 UJ	182 J	81.7 UJ	319 J	ug/L	2.5 U	2.5 U

Table B-14
Load Line 4 Semivolatile Organics in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-8 LL4SS-206M-1193-SO 07/01/08	G-8 LL4SS-207M-1194-SO 07/01/08	G-12 LL4SS-212M-1202-SO 07/01/08	G-12 LL4SS-212M-1204-SO 07/01/08	G-12 LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08	Units	Equip. Blank LL4SS-219M-0000-ER 06/27/08	Equip. Blank LL4SS-206M-0000-ER 06/30/08
Benzoic acid	ug/kg	R	R	317 UJ	329 UJ	330 UJ	330 UJ	327 UJ	R	ug/L	R	R
Benzyl alcohol	ug/kg	80.8 UJ	84.2 UJ	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	29.9	31.7
bis(2-Chloroethoxy)methane	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
bis(2-Chloroethyl)ether	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
bis(2-Chloroisopropyl)ether	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
bis(2-Ethylhexyl)phthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	3 U	3 U
Butylbenzylphthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Carbazole	ug/kg	80.8 U	84.2 U	809 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Chrysene	ug/kg	80.8 U	119 J	2080 J	82.3 UJ	82.6 UJ	177 J	81.7 UJ	353	ug/L	2.5 U	2.5 U
Dibenzo(a,h)anthracene	ug/kg	80.8 UJ	84.2 UJ	327 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 UJ	ug/L	2.5 UJ	2.5 U
Dibenzofuran	ug/kg	80.8 U	84.2 U	R	R	R	R	R	164 U	ug/L	2.5 U	2.5 U
Diethylphthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	196 J	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Dimethylphthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Di-n-butylphthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Di-n-octylphthalate	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 UJ	2.5 U
Fluoranthene	ug/kg	80.8 U	223 J	5330 J	82.3 UJ	82.7 J	387 J	154 J	717 J	ug/L	2.5 U	2.5 U
Fluorene	ug/kg	80.8 U	84.2 U	597 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Hexachlorobenzene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Hexachlorobutadiene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Hexachlorocyclopentadiene	ug/kg	R	R	R	R	R	R	R	R	ug/L	R	2.5 U
Hexachloroethane	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Indeno(1,2,3-cd)pyrene	ug/kg	80.8 UJ	84.2 UJ	799 J	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	187 J	ug/L	2.5 UJ	2.5 U
Isophorone	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Naphthalene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Nitrobenzene	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
N-Nitrosodiphenylamine	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
N-Nitrosodipropylamine	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Pentachlorophenol	ug/kg	403 U	421 U	396 UJ	411 UJ	412 UJ	412 UJ	408 UJ	817 U	ug/L	12.5 U	12.5 U
Phenanthrene	ug/kg	80.8 U	138 J	4010 J	82.3 UJ	82.6 UJ	182 J	81.7 UJ	190 J	ug/L	2.5 U	2.5 U
Phenol	ug/kg	80.8 U	84.2 U	79.3 UJ	82.3 UJ	82.6 UJ	82.5 UJ	81.7 UJ	164 U	ug/L	2.5 U	2.5 U
Pyrene	ug/kg	80.8 U	187	4220 J	82.3 UJ	82.6 UJ	308 J	125 J	590	ug/L	2.5 U	2.5 U

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-15
Load Line 4 Pesticides and PCBs in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-2 LL4SS-201M-1184-SO 06/27/08	G-4 LL4SS-202M-1188-SO 06/27/08	G-9 LL4SS-209M-1196-SO 07/01/08	G-9 LL4SS-209M-1198-SO 07/01/08	G-9 LL4SS-209M-1199-SO 07/01/08	G-12 LL4SS-212M-1202-SO 07/01/08	G-12 LL4SS-212M-1204-SO 07/01/08	G-12 LL4SS-212M-1205-SO 07/01/08	G-18 LL4SS-219M-1215-SO 06/27/08	Units	Equip. Blank LL4SS-219M-0000-ER 06/27/08	Equip. Blank LL4SS-206M-0000-ER 06/30/08
4,4'-DDD	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
4,4'-DDE	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
4,4'-DDT	ug/kg	0.333 U	0.336 U	2.54 J	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Aldrin	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
alpha Chlordane	ug/kg	0.333 U	0.336 U	43.8 J	14.7 J	20 J	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
alpha-BHC	ug/kg	0.333 U	1.1 J	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
beta-BHC	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
delta-BHC	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Dieldrin	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Endosulfan I	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Endosulfan II	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Endosulfan sulfate	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Endrin	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Endrin aldehyde	ug/kg	0.333 U	0.336 UJ	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Endrin ketone	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
gamma Chlordane	ug/kg	0.333 U	0.336 U	23.1 J	10.7 J	13 J	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
gamma-BHC (Lindane)	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Heptachlor	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Heptachlor epoxide	ug/kg	0.333 U	0.336 U	2.8 J	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Methoxychlor	ug/kg	0.333 U	0.336 U	1.64 U	1.64 U	1.64 U	--	--	--	0.333 U	ug/L	0.01 U	0.01 U
Toxaphene	ug/kg	16.8 U	17 U	83.1 U	83.2 U	83 U	--	--	--	16.9 U	ug/L	R	0.3 U
Aroclor-1016	ug/kg	8.32 U	8.4 U	--	--	--	8.17 U	8.24 U	8.25 U	8.33 U	ug/L	0.25 U	0.25 U
Aroclor-1221	ug/kg	8.32 U	8.4 U	--	--	--	8.17 U	8.24 U	8.25 U	8.33 U	ug/L	0.25 U	0.25 U
Aroclor-1232	ug/kg	8.32 U	8.4 U	--	--	--	8.17 U	8.24 U	8.25 U	8.33 U	ug/L	0.25 U	0.25 U
Aroclor-1242	ug/kg	8.32 U	8.4 U	--	--	--	8.17 U	8.24 U	8.25 U	8.33 U	ug/L	0.25 U	0.25 U
Aroclor-1248	ug/kg	8.32 U	8.4 U	--	--	--	8.17 U	8.24 U	8.25 U	8.33 U	ug/L	0.25 U	0.25 U
Aroclor-1254	ug/kg	23.5	54.6	--	--	--	45.3 J	21.9 J	26.9	129	ug/L	0.25 U	0.25 U
Aroclor-1260	ug/kg	10.6 J	19.3	--	--	--	51.7 J	29.4	32.3	44.5	ug/L	0.25 U	0.25 U

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R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-16
Load Line 4 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-2	G-4	G-5, G-20	G-6, G-6A	G-7, G-14	G-8	G-8	G-8-VP1, -12-VP1, -13-VP1, -13-VP2	G-9	G-9
		LL4SS-201M-1184-SO	LL4SS-202M-1188-SO	LL4SS-203M-1190-SO	LL4SS-204M-1191-SO	LL4SS-205M-1192-SO	LL4SS-206M-1193-SO	LL4SS-207M-1194-SO	LL4SS-208M-1195-SO	LL4SS-209M-1196-SO	LL4SS-209M-1198-SO
		06/27/08	06/27/08	06/30/08	06/30/08	06/30/08	07/01/08	07/01/08	06/30/08	07/01/08	07/01/08
1,3,5-Trinitrobenzene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
1,3-Dinitrobenzene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
2,4,6-Trinitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
2,4-Dinitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
2,6-Dinitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
2-Nitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
3-Nitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
4-Nitrotoluene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
HMX	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
Nitrobenzene	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
Nitroglycerin	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
PETN	mg/kg	0.501 U	0.496 U	0.495 U	0.503 U	0.499 U	0.503 U	0.501 U	0.495 U	0.502 U	0.503 U
RDX	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
Tetryl	mg/kg	0.1 U	0.0992 U	0.0989 U	0.101 U	0.0998 U	0.101 U	0.1 U	0.0989 U	0.1 U	0.101 U
Nitrocellulose	mg/kg	7.06	2.3	--	--	--	--	--	--	--	--
Nitroguanidine	mg/kg	0.126 UJ	0.127 UJ	--	--	--	--	--	--	--	--

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-- = Analysis not requested.

Table B-16
Load Line 4 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-9 LL4SS-209M-1199-SO 07/01/08	G-10 LL4SS-210M-1200-SO 07/01/08	G-11 LL4SS-211M-1201-SO 10/28/08	G-12 LL4SS-212M-1202-SO 07/01/08	G-12 LL4SS-212M-1204-SO 07/01/08	G-12 LL4SS-212M-1205-SO 07/01/08	G-12A LL4SS-213M-1206-SO 07/01/08	G-13 LL4SS-214M-1207-SO 07/01/08	G-13A LL4SS-215M-1208-SO 07/01/08	G-15 LL4SS-216M-1209-SO 10/28/08	G-16 LL4SS-217M-1213-SO 07/01/08
1,3,5-Trinitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
1,3-Dinitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
2,4,6-Trinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
2,4-Dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
2,6-Dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
2-Nitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
3-Nitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
4-Nitrotoluene	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
HMX	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
Nitrobenzene	mg/kg	0.0994 U	0.0995 U	0.0971 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0995 UJ	0.1 U
Nitroglycerin	mg/kg	0.0994 U	0.0995 U	0.0971 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0995 UJ	0.1 U
PETN	mg/kg	0.497 U	0.498 U	0.489 U	0.497 U	0.496 U	0.501 U	0.499 U	0.501 U	0.495 U	0.495 U	0.501 U
RDX	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
Tetryl	mg/kg	0.0994 U	0.0995 U	0.0978 UJ	0.0993 U	0.0991 U	0.1 U	0.0997 U	0.1 U	0.0989 U	0.0989 UJ	0.1 U
Nitrocellulose	mg/kg	--	--	--	--	--	--	--	--	--	5.01	--
Nitroguanidine	mg/kg	--	--	--	--	--	--	--	--	--	0.125 U	--

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-- = Analysis not requested.

Table B-16
Load Line 4 Explosives and Propellants in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-17 LL4SS-218M-1214-SO 07/02/08	G-18 LL4SS-219M-1215-SO 06/27/08	G-19 LL4SS-220M-1217-SO 07/02/08	G-19 LL4SS-220M-1221-SO 07/02/08	G-19 LL4SS-220M-1222-SO 07/02/08	G-19 LL4SS-221M-1218-SO 07/02/08	G-19A LL4SS-222M-1219-SO 07/02/08	Units	Equip. Blank LL4SS-219M-0000-ER 06/27/08	Equip. Blank LL4SS-206M-0000-ER 06/30/08
1,3,5-Trinitrobenzene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
1,3-Dinitrobenzene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
2,4,6-Trinitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
2,4-Dinitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
2,6-Dinitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
2-Amino-4,6-dinitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
2-Nitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
3-Nitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
4-Amino-2,6-dinitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
4-Nitrotoluene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
HMX	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
Nitrobenzene	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
Nitroglycerin	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
PETN	mg/kg	0.499 U	0.5 U	0.5 U	0.499 U	0.498 U	0.499 U	0.502 U	ug/L	2.5 U	2.5 U
RDX	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	0.25 U	0.25 U
Tetryl	mg/kg	0.0997 U	0.0999 U	0.1 U	0.0998 U	0.0996 U	0.0997 U	0.1 U	ug/L	R	0.25 U
Nitrocellulose	mg/kg	--	1.95 U	2 U	1.97 U	1.99 U	1.99 U	--	ug/L	250 U	250 U
Nitroguanidine	mg/kg	--	0.123 UJ	0.125 U	0.127 U	0.128 U	0.123 U	--	ug/L	R	R

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-- = Analysis not requested.

Table B-17
Load Line 4 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-2	G-4	G-5, G-20	G-6, G-6A	G-7, G-14	G-8	G-8	G-8-VP1, -12-VP1, -13-VP1, -13-VP2	G-9	G-9	G-9
		LL4SS-201M-1184-SO	LL4SS-202M-1188-SO	LL4SS-203M-1190-SO	LL4SS-204M-1191-SO	LL4SS-205M-1192-SO	LL4SS-206M-1193-SO	LL4SS-207M-1194-SO	LL4SS-208M-1195-SO	LL4SS-209M-1196-SO	LL4SS-209M-1198-SO	LL4SS-209M-1199-SO
		06/27/08	06/27/08	06/30/08	06/30/08	06/30/08	07/01/08	07/01/08	06/30/08	07/01/08	07/01/08	07/01/08
Aluminum	mg/kg	6700	10800	12900	9630	9840	6510	7930	5560	11000	8630	11700
Antimony	mg/kg	R	R	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	10.9 J	10.3 J	9.36 J	8.86 J	11.2 J	10 J	10.5 J	5.06 J	10.7 J	10.9 J	9.02 J
Barium	mg/kg	43.3	53.7	78.4	56.4	54.9	41.4	49	40.2	73.2	60.5	82.8
Beryllium	mg/kg	0.36	0.518	0.724	0.555	0.525	0.392	0.46	0.315	0.666	0.551	0.738
Cadmium	mg/kg	0.698	0.541	0.533 J	0.581 J	0.46 J	0.544 J	0.545 J	1.64 J	0.543 J	0.496 J	0.502 J
Calcium	mg/kg	6970	13000 J	12500	23300	8560	21800	25700	8310	9900	8580	12000
Chromium	mg/kg	10.7 J	15.7 J	15.8	12.4	14.8	11.3	11.9	7.75	14.8	13.2	13.5
Cobalt	mg/kg	5.64 J	6.68 J	5.96	6.03	8.95	5.91	6.9	4.27	7.71	7.39	7.53
Copper	mg/kg	22.6	19.8	15.9	19.8	23.3	21.3	21	14.5	22.9	19.2	18.6
Iron	mg/kg	18900 J	24300 J	22700	24400	24500	19400	21100	12900	22200	19500	20700
Lead	mg/kg	36.5	25.7	29	27.2	14.9	36	19.2	15.9	17.6	20.1	16.2
Magnesium	mg/kg	3090	5110	3820	7240	4470	4600	6560	2100	3820	3230	3960
Manganese	mg/kg	346 J	343 J	460	421	306	327	373	254	512	458	535
Mercury	mg/kg	0.0276 J	0.0644 J	0.0318 J	0.0203 J	0.00994 UJ	0.0168 J	0.0125 J	0.0164 J	0.0217 J	0.0204 J	0.0172 J
Nickel	mg/kg	20.5 J	28.3 J	27.8	23.9	26	20.1	31.6	12.8	29.2	32.3	24.4
Potassium	mg/kg	853 J	1000 J	1060	963	1160	715	879	483	1150	838	1160
Selenium	mg/kg	0.221 J	0.203 J	0.33 J	0.219 J	0.104 J	0.159 J	0.145 J	0.195 J	0.265 J	0.309 J	0.284 J
Silver	mg/kg	0.193 U	0.336 J	0.397	0.399	0.369 J	0.301 J	0.45	0.215 J	0.589	0.623	0.429
Sodium	mg/kg	39.5	90.4	72.6 U	85.3 U	54.8 U	46 U	54.3 U	41.2 U	71.9 U	53.3 U	83.3 U
Thallium	mg/kg	0.116	0.138	0.141	0.128	0.14	0.116	0.118	0.0753	0.139	0.136	0.121
Vanadium	mg/kg	12	18	20.2	15.8	14.6	11.3	13.2	8.89	16.8	13.1	16.4
Zinc	mg/kg	89.4 J	77.4 J	88.6	75.6	69.6	90	67.8	72	86.8	70.2	67.5
Chromium, Hexavalent	mg/kg	0.49 U	0.0503 U	0.0499 U	0.0498 U	0.0505 U	0.0999 U	0.0496 U	0.251 U	0.253 U	0.0499 U	0.506 U

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-17
Load Line 4 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-10 LL4SS-210M-1200-SO 07/01/08	G-11 LL4SS-211M-1201-SO 10/28/08	G-12 LL4SS-212M-1202-SO 07/01/08	G-12 LL4SS-212M-1204-SO 07/01/08	G-12 LL4SS-212M-1205-SO 07/01/08	G-12A LL4SS-213M-1206-SO 07/01/08	G-13 LL4SS-214M-1207-SO 07/01/08	G-13A LL4SS-215M-1208-SO 07/01/08	G-15 LL4SS-216M-1209-SO 10/28/08	G-16 LL4SS-217M-1213-SO 07/01/08	G-17 LL4SS-218M-1214-SO 07/02/08
Aluminum	mg/kg	8190	7740	6610	6330	7290	7540	6540	6910	11000	15400	12100
Antimony	mg/kg	R	R	R	R	R	R	R	R	R	R	R
Arsenic	mg/kg	15.1 J	16.3	17.2 J	14.5 J	15 J	14.3 J	7.19 J	7.26 J	10.9	10.3 J	8.23
Barium	mg/kg	46.5	44.9	37	37.8	39.1	38.7	43	40.3	76.2	81.1	58.4
Beryllium	mg/kg	0.416	0.399 J	0.354	0.35	0.396	0.367	0.361	0.375	0.687 J	0.771	0.514
Cadmium	mg/kg	0.581 J	0.497	0.474 J	0.446 J	0.458 J	0.534 J	0.412 J	0.417 J	0.57	0.482 J	0.551
Calcium	mg/kg	5690	5340	6280	9990	6940	1610	11100	4650	2820	4890	5220
Chromium	mg/kg	11.3	16.3	10.3	9.12	11.5	11.1	9.45	10.1	16.4	19.8	15.2
Cobalt	mg/kg	7.28	5.99	7.16	6.96	7.95	6.65	5.11	5.69	9.7	9.01	6.18
Copper	mg/kg	26.3	20.8 J	24.3	24.2	23.9	22.2	18.4	16.3	20.8 J	21.2	17.9
Iron	mg/kg	22000	19000	20600	19500	21600	23100	15000	17900	25000	27400	21700
Lead	mg/kg	22.1	25.1	24.2	25.8	21.9	21.4	16.1	12.6	16.5	19	26.7
Magnesium	mg/kg	2760	2940	3530	3390	3330	2040	2910	2230	3610	3790	2860 J
Manganese	mg/kg	462	329	402	376	449	381	284	261	317	332	267
Mercury	mg/kg	0.0131 J	0.0163 J	0.0156 J	0.0162 J	0.0126 J	0.0113 J	0.0119 J	0.0151 J	0.0109 J	0.0198 J	0.0333 J
Nickel	mg/kg	26.3	34.3	26 J	27.2	73.6 J	85.6	20.7	16.3	34	24.3	82.5
Potassium	mg/kg	670 J	853	713	678	766	697 J	688 J	646 J	1320	1820 J	1120
Selenium	mg/kg	0.292 J	0.366	0.23 J	0.261 J	0.236 J	0.301 J	0.192 J	0.16 J	0.362	0.28 J	0.323
Silver	mg/kg	0.367 J	0.188 U	0.512	0.227 J	0.348 J	0.24 J	1.64	0.218 J	0.184 U	0.349 J	0.192 J
Sodium	mg/kg	30	36.6 U	32.9 U	31.7 U	36.9 U	23.6	43.9	46.9	37.8 U	59.6	46.2 U
Thallium	mg/kg	0.154	0.164 J	0.164	0.165	0.149	0.156	0.0916	0.0981	0.161 J	0.172	0.136
Vanadium	mg/kg	12.9	14.8	11.5	10.9	12.9	12.4	10.5	11	21.1	22.7 J	18.9 J
Zinc	mg/kg	95	72.2	91.2	84.7	91.6	84.4	62.4	70.6	70.3	77	68.5
Chromium, Hexavalent	mg/kg	0.0495 U	0.101 U	0.245 U	0.101 U	0.244 U	0.246 U	0.049 U	0.0974 U	0.1 U	0.511 U	0.254 UJ

U = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.

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J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

Table B-17
Load Line 4 Metals in Soil
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-18 LL4SS-219M-1215-SO 06/27/08	G-19 LL4SS-220M-1217-SO 07/02/08	G-19 LL4SS-220M-1221-SO 07/02/08	G-19 LL4SS-220M-1222-SO 07/02/08	G-19 LL4SS-221M-1218-SO 07/02/08	G-19A LL4SS-222M-1219-SO 07/02/08	Units	Equip. Blank LL4SS-219M-0000-ER 06/27/08	Equip. Blank LL4SS-206M-0000-ER 06/30/08
Aluminum	mg/kg	9710	5330	5400	5270	5550	5260	mg/L	0.05 U	0.05 U
Antimony	mg/kg	R	R	R	R	R	0.0526 J	mg/L	0.00043 UJ	0.00025 U
Arsenic	mg/kg	5.41 J	7.99	7.85	7.98	5.93	7.68 J	mg/L	0.00025 U	0.00025 U
Barium	mg/kg	45.5	19	19.4	17.9	18	18.8	mg/L	0.0025 U	0.0025 U
Beryllium	mg/kg	0.433	0.231	0.232	0.226	0.218	0.224	mg/L	0.0005 U	0.0005 U
Cadmium	mg/kg	0.352	0.331	0.346	0.329	0.263	0.335	mg/L	0.00025 U	0.00025 U
Calcium	mg/kg	5370	1000	820	824	2130	2510	mg/L	0.1 U	0.1 U
Chromium	mg/kg	13.8 J	6.67	6.86	6.61	7.05	6.88	mg/L	0.0025 U	0.0025 U
Cobalt	mg/kg	5.6 J	3.23	3.39	3.2	2.95	3.09	mg/L	0.0025 U	0.0025 U
Copper	mg/kg	18.1	16.8	17.5	17.6	14.8	15.8	mg/L	0.0025 U	0.0025 U
Iron	mg/kg	17500 J	12900	13400	12900	10900	12500	mg/L	0.025 U	0.025 U
Lead	mg/kg	39.6	11.6	12	12.4	11.3	11.2	mg/L	0.00025 U	0.00025 U
Magnesium	mg/kg	2680	1170 J	1110 J	1090 J	1370 J	1310 J	mg/L	0.25 U	0.25 U
Manganese	mg/kg	214 J	131	134	122	110	154	mg/L	0.005 U	0.005 U
Mercury	mg/kg	0.0146 J	0.01 U	0.0125 J	0.0104 U	0.0168 J	0.0101 U	mg/L	0.0001 U	0.0001 U
Nickel	mg/kg	20.4 J	12.4	12.4	19	16.2	15.2	mg/L	0.00202 J	0.00237 J
Potassium	mg/kg	800 J	427	370	326	475	470	mg/L	0.25 U	0.25 U
Selenium	mg/kg	0.19 J	0.138 J	0.166 J	0.18 J	0.167 J	0.101 U	mg/L	0.0005 U	0.0005 U
Silver	mg/kg	0.22 J	0.193 U	0.187 U	0.198 U	0.199 J	0.188 U	mg/L	0.002 U	0.002 U
Sodium	mg/kg	44.4	23.1 U	21 U	19.8 U	27.2 U	26.9 U	mg/L	0.25 U	0.25 U
Thallium	mg/kg	0.112	0.0741	0.0777	0.0738	0.0809	0.0662	mg/L	0.00005 U	0.00005 U
Vanadium	mg/kg	13.7	8.43 J	8.4 J	7.84 J	7.9 J	8.2 J	mg/L	0.005 U	0.005 U
Zinc	mg/kg	68.8 J	48.7	49.7	47.6	38.4	45.8	mg/L	0.005 U	0.005 U
Chromium, Hexavalent	mg/kg	0.249 U	0.506 UJ	0.506 UJ	0.516 UJ	0.0494 UJ	0.503 UJ	*Hexavalent chromium not analyzed in equipment blanks.*		

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Table B-18
Load Line 4 Explosives, Propellants, and Metals in Water
Ravenna Army Ammunition Plant
Ravenna, Ohio

Parameter	Units	G-11 LL4SS-211D-1289-SW 10/28/2008	G-15 LL4SS-216D-1288-SW 10/28/2008
Explosives:			
1,3,5-Trinitrobenzene	ug/L	0.25 UJ	0.258 UJ
1,3-Dinitrobenzene	ug/L	0.25 UJ	0.258 UJ
2,4,6-Trinitrotoluene	ug/L	0.25 U	0.258 U
2,4-Dinitrotoluene	ug/L	0.25 UJ	0.258 UJ
2,6-Dinitrotoluene	ug/L	0.25 U	0.258 U
2-Amino-4,6-dinitrotoluene	ug/L	0.25 U	0.258 U
2-Nitrotoluene	ug/L	0.25 UJ	0.258 UJ
3-Nitrotoluene	ug/L	R	R
4-Amino-2,6-dinitrotoluene	ug/L	0.25 U	0.258 U
4-Nitrotoluene	ug/L	0.25 UJ	0.258 UJ
HMX	ug/L	0.25 U	0.258 U
Nitrobenzene	ug/L	0.25 U	0.258 U
Nitroglycerin	ug/L	0.25 U	0.258 U
PETN	ug/L	0.25 U	0.258 U
RDX	ug/L	0.25 U	0.258 U
Tetryl	ug/L	0.25 U	0.258 U
Propellants:			
Nitrocellulose	ug/L	--	0.25 U
Nitroguanidine	ug/L	--	25 UJ

Parameter	Units	G-11 LL4SS-211D-1289-SW 10/28/2008	G-15 LL4SS-216D-1288-SW 10/28/2008
Metals:			
Aluminum	mg/L	1.75	3.64
Antimony	mg/L	0.00142 J	0.00144 J
Arsenic	mg/L	0.0514 J	0.0457 J
Barium	mg/L	0.0246	0.0472
Beryllium	mg/L	0.0005 U	0.0005 U
Cadmium	mg/L	0.00025 U	0.00025 U
Calcium	mg/L	41.6	23.7
Chromium	mg/L	0.0025 U	0.00343 J
Cobalt	mg/L	0.0025 U	0.0025 U
Copper	mg/L	0.0025 U	0.005 J
Iron	mg/L	2.05	4.41
Lead	mg/L	0.00392 J	0.0048 J
Magnesium	mg/L	4.78	2.59
Manganese	mg/L	0.0605	0.0485
Mercury	mg/L	0.0001 U	0.0001 U
Nickel	mg/L	0.00402	0.00555
Potassium	mg/L	8.84	4.86
Selenium	mg/L	0.000564 J	0.000635 J
Silver	mg/L	0.002 U	0.002 U
Sodium	mg/L	1.51	0.948
Thallium	mg/L	0.0000505 J	0.0000675 J
Vanadium	mg/L	0.005 U	0.005 U
Zinc	mg/L	0.0108 J	0.0157 J

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UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample result was rejected due to serious deficiencies in the ability to meet holding time criteria and/or quality control criteria. The presence or absence of the analyte could not be verified. The result is not usable.

-- = Analysis not requested.

APPENDIX C

Chains of Custody and Freight Bills

INTRODUCTION TO APPENDIX C
CHAINS OF CUSTODY AND
FREIGHT BILLS

The documents in this Appendix are not accessible due to handwritten entries.

COC No. A 81687

156 Starlite Drive
Marietta, OH 45750

KEMRON
ENVIRONMENTAL SERVICES

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: UPS Corp.

Project Contact: Peg Schmier

Contact Phone #: 216-622-2400

Turn Around Requirements: Normal

Location: Ravenna, OH

Project ID: RVAPP

Sampler (print): Y. Soto, B. Pratt, M. Shoop

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Metals	Explosives	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL255-305M-1273-S0	X		6-17-08	1631	SO	1		✓	✓		
LL255-305M-1275-S0	X		↓	1637		1		✓	✓		
LL255-305M-1276-S0	X			1645		1		✓	✓		
LL255-303M-1271-S0	X			1115		1		✓	✓		
LL255-277M-1234-S0	X			1200		1		✓	✓		
LL255-294M-1258-S0	X		↓	1505	↓	1		✓	✓		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	6-18-08	1900					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 81688

156 Starlite Drive
Marietta, OH 45750

KEMRON
ENVIRONMENTAL SERVICES

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: Peg Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: Ravenna

Project ID: RVAPP

Sampler (print): K. Sabio, M. Shaw, P. Pratt

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Metals	Explosives	SVOCs	VOCs	Prop	PCBs	Pest	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL255-296M-1260-SO	X		6-18-08	1050	SO	1		✓	✓							
LL255-342M-1283-SO	X		6-18-08	1000		1		✓	✓	✓						
LL255-306M-1277-SO	X		"	1045		1		✓	✓							
LL255-275M-1228-SO	X		"	1130		1		✓	✓							
LL255-278M-1231-SO	X		"	1745		1		✓	✓	✓			✓	✓		
LL255-278M-1233-SO	X		"	1745		1		✓	✓	✓			✓	✓		
LL255-278M-1234-SO	X		"	1750		1		✓	✓	✓			✓	✓		
LL255-279M-1235-SO	X		" BP	~~1810~~ 1810		1		✓	✓	✓			✓			
LL255-280M-1236-SO	X		"	1815		1		✓	✓	✓		✓	✓	✓		
LL255-280D-1237-SO	MS	X	"	1830		4					✓					
LL255-250D-1239-SO		X	" BP	~~1830~~ 1835		4					✓					
LL255-288M-1251-SO	X		"	1530		1		✓	✓	✓		✓	✓	✓		
LL255-288M-1247-~~SO~~ MSD	X		"	"		1		✓	✓	✓		✓	✓	✓		
LL255-288M-1247-MSD	X		"	"		1		✓	✓	✓		✓	✓	✓		
LL255-288D-1252-SO		X	"	1600		4					✓					
LL255-288D-1282-MS		X	"	1603		4					✓					
LL255-288D-1282-MSD		X	"	1605		~~4~~ 3					✓					
LL255-288D-0000-TB		X	6-18-08	—	AQ	BP					✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	6/18	1900					
Relinquished by: (Signature)	**Date**	**Time**	**Received for Laboratory by: (Signature)**	**Date**	**Time**	**Remarks:**	

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01124

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp.

Project Contact: Peg Schuler | Contact Phone #: 216-622-2400

Turn Around Requirements: Norm | Location: RVAAP

Project ID: 13812319

Sampler (print): B. Pratt, X. Sotelo, M. Shor | Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

	Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	PCB / Pesticides	Propellants										TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
27C	LL255-310M-1281-SO	X		6-19-08	1015	SO	1		✓	✓														ND
DB27 27B	LL255-308M-1279-SO	X			1030		1		✓	✓														ND
27A	LL255-301M-1280-SO	X			1110		1		✓	✓	✓													ND
DB9	LL255-295M-1259-SO	X			1350		1		✓	✓														ND
DB11	LL255-299M-1267-SO	X			1410		1		✓	✓														ND
26/29	LL255-307M-1278-SO	X			1420		1		✓	✓														ND
DB13	LL255-300M-1268-SO	X			1430		1		✓	✓														ND
13A	LL255-303M-1269-SO	X			1440		1		✓	✓														ND
13B	LL255-302M-1270-SO	X			1450		1		✓	✓														ND
	LL255-302M-0000-ER		X	6-19-08	1630	H_2O	9		✓	✓	✓	✓	✓											

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	6/20/08	1730					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01125

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Login checked BJS

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS CORP

Project Contact: T. Schuler

Contact Phone #: 216.622.2400

Turn Around Requirements: NORMAL

Location: RVAAP

Project ID: 13812319

Sampler (print): K. Soko, M. Spoor, B. Scott

Signature:

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	VOC	SVOC	PCB	Pesticides	Propellants	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL255-285m-1244-SO	X		6-20-08	0900	SO	1		✓	✓		✓	✓				DB4 range ND → 600 (5 in surf soil)
~~LL255-285m-1245-SO~~																
LL255-285m-1246-SO	X			0900	✓	1		✓	✓		✓	✓				
LL255-285m-1247-SO	X			0910	✓	1		✓	✓		✓	✓				
LL255-276m-1229-SO	X			0945	✓	1		✓	✓		✓					ND
LL255-304m-1272-SO	X			1000	✓	1		✓	✓							ND
LL255-290m-1251-SO	X			1055	✓	1		✓	✓							ND
LL255-292m-1256-SO	X			1245	✓	1		✓	✓							range ND → 99 Single Day
LL255-292m-1251-MS	X		STB 1250 6/21/08	1245	✓	1		✓	✓							
LL255-292m-1251-MSD	X			1245	✓	1		✓	✓							
LL255-291m-1255-SO	X			1255	✓	1		✓	✓							range ND → 780
LL255-293m-1257-SO	X			1305	✓	1		✓	✓							ND
~~LL255-297m-1261-SO~~	X															
LL255-297m-1263-SO	X	BP														
LL255-297m-1264-SO	X															
LL255-298m-1265-SO	X															
~~LL255-298m-1266-SO~~	X									X	BP					
~~LL255-268m-1228-TB~~										X						
~~LL255-283m-1253-SO~~	X			1335	SO	1		✓	✓		✓	✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
[signature]	6/20/08	1730					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01126

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: Peg Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812319

Sampler (print): T Cearse, J. Berk, B Pratt, X. Sotelo, M Snoop

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Metals	Explosives	SVOCs	PCBs	Pesticides	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL255-287M-1250-SO	X		6-24-08	0915	SO	1		X	X	X	X				
LL255-286M-1248-SO	X			0920		1		X	X	X	X	X	X		
LL255-286D-1249-SO		X		1020		4							X		
LL255-297M-1241-SO	X			1045		1		X	X			X			
LL255-297M-1243-SO	X			1045		1		X	X			X			
LL255-298M-1264-SO	X			1050		1		X	X			X			
LL255-298D-1266-SO		X		1120 1125		4							X		
LL255-298M-1265-SO	X			1120		1		X	X	X	X	X	X		
LL355-247M-1176-SO	X			1345		1		X	X						
LL355-272M-1215-SO	X			1400		1		X	X						
LL355-248M-1177-SO	X			1415		1		X	X	X					
LL355-249M-1178-SO	X			1430		1		X	X	X	X	X	X		
" " -1178-MS	X			1430		1		X	X	X	X	X	X		
" " -1178-MSD	X			1430		1		X	X	X	X	X	X		
LL355-249D-1179-SO		X		1445		4							X		
LL355-249D-1181-SO		X		1455		4							X		
LL355-265M-1204-SO	X			1505		1		X	X		X	BP			
LL355-274M-1217-SO	X			1510		1		X	X		X	BP			
LL355-250M-1180-SO	X			1555		1		X	X		X				
LL355-251M-1183-SO	X			1600		1		X	X		X				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	6-24-08	1800					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01127

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812319

Sampler (print): T. George, J. Berk, V. Sotelo, M. Shaw, B. Pratt

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Metals	Explosives	SVOCs	PCBs	Propellants	Pesticides	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL355-2660-1206-SO		X	6-24-08	1700	SO	4								X		
" " -1206-MS		X	"	1705	"	3								X		
" " -1206-MSD		X	"	1710	"	3								X		
LL255-2860-0000-TB		X	6-24-08	—	AQ	2								X		
LL255-2821M-1241-SO	X		6-23-08	1600	SO	1		X	X							
LL255-2811M-1240-SO	X		6-23-08	1430	SO	1		X	X							
1																

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	6-24-08	1800					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01131

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812319

Sampler (print): T. George, X. Sutelo, M. Sheap, B. Pratt

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	PCBs	Pesticides	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL355-266M-1205-SO	X		6-25-08	0930	SO	1		X	X	X	X	X	X		
LL355-267M-1207-SO	X			0935		1		X	X		X				
LL355-270M-1213-SO	X			0955		1		X	X						
LL355-271M-1214-SO	X			1000		1		X	X						
LL355-269M-1212-SO	X			1010		1		X	X						
LL355-268M-1208-SO	X			1100		1		X	X		X				
LL355-268M-1209-SO	X			1100		1		X	X		X				
LL355-268M-1211-SO	X			1110		1		X	X		X				
LL355-246M-1175-SO	X			1200		1		X	X						
LL355-254M-1186-SO	X			1305		1		X	X						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B Pratt	6-26-08	1810					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01132

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 210-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812319

Sampler (print): B. Pratt, X. Sorelo, M. Snow, T. Derk

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	PCBs	Propellants	Pesticides	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL355-252M-1184-SO	X		6-26-08	0945	SO	1		X	X							
LL355-255M-1187-SO	X			1045		1		X	X		X					
LL355-256M-1188-SO	X			1100		1		X	X	X	X	X	X			
LL355-256M-1190-SO	X			1100		1		X	X	X	X	X	X			
LL355-256M-1191-SO	X			~~1105~~ 1110		1		X	X	X	X	X	X			
LL355-2560-1192-SO		X		1105		4								X		
LL355-264M-1203-SO	X			1455		1		X	X							
LL355-263M-1202-SO	X			1520		1		X	X							
LL355-273M-1216-SO	X			1605		1		X	X		X	X				
LL355-262M-1201-SO	X			1620		1		X	X							
LL355-2562-000178		X	6-26	—	AQ	2								X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	6-26-08	1800					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01133

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 38123 19

Sampler (print): B. Pratt, X. Soria, M. Snipp, J. Berk

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	PCBs	Propellants	Pesticides	VOCs	TOTAL # (LAB USE)	ADDITIONAL REQUIREMENTS
LL355-258M-1194-SO	X		6-27-08	~~0915~~ 0910	SO	1		X	X	X						
LL355-258M-1196-SO	X			~~0915~~ 0910		1		X	X	X						
LL355-258M-1197-SO	X			~~0925~~ 0920		1		X	X	X						
LL355-257M-1193-SO	X			0930		1		X	X							
LL355-259M-1198-SO	X			1025		1		X	X							
LL355-260M-1199-SO	X			1040		1		X	X	X	X					
LL455-201M-1184-SO	X			1130		1		X	X	X	X	X	X			
LL455-201D-1185-SO		X		1135		4								X		
LL455-201D-1187-SO		X		1140		4								X		
LL455-202M-1188-SO	X			1200		1		X	X	X	X	X	X			
" " " -MS	X			1200		1		X	X	X	X	X	X			
" " " -MSD	X			1200		1		X	X	X	X	X	X			
LL455-202D-1189-SO		X		1205		4								X		
" " " -MS		X		1210		3								X		
" " " -MSD		X		1215		3								X		
LL455-219M-1215-SO	X			1230		1		X	X	X	X	X	X			
LL455-219D-1216-SO		X		1235		4								X		
LL455-201D-0000-TB		X		—	AQ	2								X		
LL455-219M-0000-ER		X	6-27-08		AQ	9		X	X	X	X	X	X			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	6-27-08	1700					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01135

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler | Contact Phone #: 216-622-2400

Turn Around Requirements: Norm | Location: RVAAP

Project ID: 13812319

Sampler (print): K. Sotelo M. Shoop, B. Pratt | Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

ADDITIONAL REQUIREMENTS

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	Propellents	PCBs	Pesticides											TOTAL # (LAB USE)
LL455-203M-1190-SO	X		6-30-08	1530	SO	1		X	X															
LL455-204M-1191-SO	X		↓	1600	↓	1		X	X															
LL455-205M-1192-SO	X			1620		1		X	X															
LL455-208M-1195-SO	X			1715		1		X	X															
LL455-206M-6000-EB		X	6-30-08		AQ	9		X	X	X	X	X	X											
LL455-206M-1193-SO	X		7-1-08	0850	SO	1		X	X	X														
LL455-207M-1194-SO	X			0855		1		X	X	X														
LL455-212M-1202-SO	X			0915		1		X	X	X		X												
LL455-212M-1204-SO	X			0915		1		X	X	X		X												
LL455-212M-1205-SO	X			0920		1		X	X	X		X												
LL455-209M-1196-SO	X			1010		1		X	X				X											
LL455-209M-1198-SO	X			1010		1		X	X				X											
LL455-209M-1199-SO	X			1015		1		X	X				X											
~~LL455-216M-1201-SO~~	X			1040		1		X	X					X										
LL455-217M-1213-SO	X			1025		1		X	X															
LL455-217M-1213-MS	X			1025		1		X	X															
LL455-217M-1213-MSD	X			1025		1		X	X															
LL455-213M-1206-SO	X			1410		1		X	X															
LL455-214M-1207-SO	X			1350		1		X	X															
LL455-215M-1208-SO	X		↓	1400	↓	1		X	X															

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	7-1-08	1800					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01136

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812319

Sampler (print): X. Sotelo, B. Pratt, M. Shoup

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

ADDITIONAL REQUIREMENTS

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	Propellants	PCBs	Perchlorate	TOTAL # (LAB USE)
LL455-221M-1219-SO	X		7-2-08	0945	SO	1		X	X					
LL455-220M-1217-SO	X			0950		1		X	X		X			
LL455-221M-1218-SO	X			0955		1		X	X		X			
LL455-218M-1214-SO	X			1050		1		X	X					
~~LL455-259M-1253-SO~~	X					1		X	X	X		X	BP	
LL455-220M-1228-SO	X			1530		1		X	X		X			
LL455-220M-1222-SO	X			1535		1		X	X		X			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	7-2-08	1900					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01137

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812.319

Sampler (print): K. Sotelo, B. Pratt, M. Shoop

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

ADDITIONAL REQUIREMENTS

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	Propellants	PCBs	Pesticides	TOTAL # (LAB USE)
LL455-210M-1200-JG	X		7-1-08	1600	SO	1		X	X					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	7-1-08	1800					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01138

~~158 Starlite Drive~~
~~Marietta, OH 45750~~

Microbac CT Labs

CHAIN-OF-CUSTODY RECORD

Phone: ~~740-373-4071~~
Fax: ~~740-373-4835~~

Company Name: URS Corp

Project Contact: P. Schuler

Contact Phone #: 216-~~[redacted]~~622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 13812319

Sampler (print): M. Sharp, B. Pratt, X. Sotelo

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other _____

ADDITIONAL REQUIREMENTS

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	Pesticides	SVOCs	PCBs	Propellants	VOCs	TOTAL # (LAB USE)
LL455-209M-11972QA	X		7-1-08	1010	SO	1		X	X	X					
LL455-212M-12030A	X		7-1-08	0915	SO	1		X	X		X	X			
~~LL455-210MT-12108A~~	~~X~~				~~SO~~	1		~~X~~	~~X~~				~~X~~		
LL455-201D-1186-QA		X	7-1-08	1620	AQ	4								X	
LL455-201D-0000-TB		X	7-1-08	—	AQ	2								X	
LL455-220M-1220-QA	X		7-2-08	1530	SO	1		X	X				X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	7-2-08	1800					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

COC No. A 01141

158 Starlite Drive
Marietta, OH 45750

Microbac

CHAIN-OF-CUSTODY RECORD

Phone: 740-373-4071
Fax: 740-373-4835

Company Name: URS

Project Contact: JoAnn Bartsch

Contact Phone #: 216-622-2400

Turn Around Requirements: Norm

Location: RVAAP

Project ID: 38123.19

Sampler (print): M. Jnoup, X. Soleio, B. Pratt, J. Berk

Signature: B. Pratt

Program: ☐ CWA ☐ RCRA ☐ DOD ☐ AFCEE ☐ Other

ADDITIONAL REQUIREMENTS

Sample I.D. No.	Comp	Grab	Date	Time	Matrix*	NUMBER OF CONTAINERS	Hold	Explosives	Metals	SVOCs	Organonitrogens	TOTAL # (LAB USE)
LL255-311M-1282-SO		X	10-28-08	1115	SO	1		X	X	X		
LL255-311M-1285-SW		X		1100	AQ	5 6		X	X	X		
LL255-313M-1284-SO		X		1450	SO	1		X	X			
LL255-313M-1284-MS		X		1450	SO	1		X	X			
" - " - " -MSD		X		1450	SO	1		X	X			
LL255-283M-1242-SO		X		1530	SO	1		X	X			
LL255-283M-0000-EQ		X		1000	AQ	7 8		X	X	X	X	
LL455-211M-1201-SO		X		1700	SO	1		X	X			
LL455-216M-1209-SO		X		1650	SO	1		X	X		X	
LL255-283M-1286-SW		X		1540	AQ	3		X	X			
LL255-283M-1287-SW		X		1615	AQ	3		X	X			
LL455-216M-1288-SW		X		1655	AQ	5		X	X		X	
LL455-211M-1289-SW		X	↓	1705	AQ	3		X	X			

1 EQ. Blank.
5 SW
7 Soil

don't bill
Hold on
Lexis Nex.
Pr. X

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
B. Pratt	10-29-08	1200					

Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Page _____ of _____

FedEx® US Airbill
Express

FedEx Tracking Number 8652 4254 7676

0200 Sender's Copy

1 From Please print and press hard.

Date 6-20-08 Sender's FedEx Account Number SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corporation

Address 1375 Euclid Ave

Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference OPTIONAL
First 24 characters will appear on invoice.

3 To

Recipient's Name Sampling Receiving Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr.
We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address
To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate.

* To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation:

** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] SATURDAY Delivery NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	44.95	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

520

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Ship and track packages at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

RETAIN THIS COPY FOR YOUR RECORDS.

FedEx® US Airbill
Express

FedEx Tracking Number 8652 4254 7643

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 6-20-08 Sender's FedEx Account Number [illegible]

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corp.

Address 1375 Euclid Ave

Dept/Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice. 13812319

3 To

Recipient's Name Sample Receiving Phone (740) 373-4671

Company Microbac

Recipient's Address 156 Starlite Dr.

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

Store your addresses at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery** NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday** at FedEx Location NOT Available for FedEx First Overnight.
- [ ] **HOLD Saturday** at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	63.05	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

520

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FedEx® US Airbill
Express

FedEx Tracking Number 8652 4254 7665

0200

Sender's Copy

1 From Please print and press hard.

Date 6-20-08 Sender's FedEx Account Number SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corporation

Address 1375 Euclid Ave

Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice. 13812319

3 To

Recipient's Name Sample Receiving Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr.

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

Find drop-off locations at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] SATURDAY Delivery NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging. [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. or Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	52.90	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

520

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FedEx® US Airbill
Express

FedEx Tracking Number 8652 4254 7654

0200

Sender's Copy

1 From *Please print and press hard.*

Date 6-20-08 Sender's FedEx Account Number 1798-2768-9 ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corporation

Address 1375 Euclid Ave

Dept/Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference OPTIONAL
First 24 characters will appear on invoice.

3 To

Recipient's Name Sample Recieving Phone 608-356-2760 ~~740-373-4071~~

Company CT Labs

Recipient's Address 1230 Lange Court
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address
To request a package be held at a specific FedEx location, print FedEx address here.

City Baraboo State WI ZIP 53913


Schedule a pickup at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. *To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] SATURDAY Delivery NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	19.85	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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RETAIN THIS COPY FOR YOUR RECORDS.

FedEx. US Airbill
Express

FedEx Tracking Number 8664 1144 9819

0200 Sender's Copy

1 From Please print and press hard.

Date 6-18-08 Sender's FedEx Account Number 1798 2768 9

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corp

Address 1375 Euclid Ave Dept/Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference
First 24 characters will appear on invoice.

3 To

Recipient's Name Sample Receiving Phone (608) 356-2760

Company CT Labs

Recipient's Address 1230 Lange Court
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address
To request a package be held at a specific FedEx location, print FedEx address here.

City Baraboo State WI ZIP 53913

Schedule a pickup at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service *Packages up to 150 lbs.*

- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* — Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	24	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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RETAIN THIS COPY FOR YOUR RECORDS.

FedEx US Airbill

Express

FedEx Tracking Number 8626 6066 5061

0215

Sender's Copy

1 From *Please print and press hard.*

Date 6-24-08 Sender's FedEx Account Number [redacted]

Sender's Name DARRYL DAUGHERTY Phone (216) 622-2400

Company URS CORP

Address 1375 EUCLID AVE

Dept/Floor/Suite/Room

City CLEVELAND State OH ZIP 44115-1826

2 Your Internal Billing Reference First 24 characters will appear on invoice. 13812319 OPTIONAL

3 To

Recipient's Name Sample Receiving Phone (740) 373-4071

Company Microvac

Recipient's Address 156 Starlite Dr.

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

0365200394

Find drop-off locations at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery NOT Available for** FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday at FedEx Location NOT Available for** FedEx First Overnight.
- [ ] **HOLD Saturday at FedEx Location Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. or Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	05	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
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- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

519

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PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE. NO POUCH NEEDED.

FedEx Express **US Airbill**

FedEx Tracking Number: 8626 6066 5050

0215

Sender's Copy

1 From *Please print and press hard.*

Date 6-24-08 Sender's FedEx Account Number [redacted]

Sender's Name DARRYL DAUGHERTY Phone (216) 622-2400

Company URS CORP

Address 1375 EUCLID AVE

Dept./Floor/Suite/Room

City CLEVELAND State OH ZIP 44115-1826

2 Your Internal Billing Reference First 24 characters will appear on invoice. 138/2319

3 To

Recipient's Name Sample Receiving Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr.

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

0365200394

Ship and track packages at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery NOT Available for** FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday at FedEx Location NOT Available for** FedEx First Overnight.
- [ ] **HOLD Saturday at FedEx Location Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* — Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	52	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

519

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE. NO POUCH NEEDED.

FedEx® US Airbill
Express

FedEx Tracking Number 8664 1144 9820

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 6-26-08 Sender's FedEx Account Number 1798 2-7689 (SENDER'S FEDEX ACCOUNT NUMBER ONLY)

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS

Address 1375 Euclid Ave Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference OPTIONAL
First 24 characters will appear on invoice.

3 To

Recipient's Name Sample Receiving Phone 608) 356-2760

Company CT Labs

Recipient's Address 1230 Lange Court
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address
To request a package be held at a specific FedEx location, print FedEx address here.

City Baraboo State WI ZIP 53913

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. *To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

*Call for Confirmation: **To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

*Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery NOT Available for** FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday at FedEx Location NOT Available for** FedEx First Overnight.
- [ ] **HOLD Saturday at FedEx Location Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* — Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	20	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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FedEx US Airbill
Express

FedEx Tracking Number: 8664 1144 9841

0200 — Sender's Copy

1 From *Please print and press hard.*

Date 6/26-08 — Sender's FedEx Account Number: SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt — Phone (216) 622-2400

Company URS Corp

Address 1375 Euclid Ave — Dept./Floor/Suite/Room

City Cleveland — State OH — ZIP 44115

2 Your Internal Billing Reference — OPTIONAL
First 24 characters will appear on invoice.

3 To

Recipient's Name Sample Receiving — Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr. — Dept./Floor/Suite/Room
We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address
To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta — State OH — ZIP 45750

4a Express Package Service — *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. — * To most locations.

4b Express Freight Service — *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: — ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other *

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery NOT Available for** FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday at FedEx Location NOT Available for** FedEx First Overnight.
- [ ] **HOLD Saturday at FedEx Location Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment *Bill to:* — Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 157805967 — Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	5	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options — If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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FedEx Express **US Airbill**

FedEx Tracking Number **8664 1144 9830**

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 6-26-08 Sender's FedEx Account Number ~~1798276889~~ ~~15~~ ~~9~~ 607

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corp

Address 1375 Euclid Ave Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice.

ORIGINAL

3 To

Recipient's Name Sample Receiving Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr. Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

4a Express Package Service *Packages up to 150 lbs.*

- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [ ] **SATURDAY Delivery NOT Available for** FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday at FedEx Location NOT Available for** FedEx First Overnight.
- [ ] **HOLD Saturday at FedEx Location Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [x] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	59	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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Express

FedEx Tracking Number 8664 2620 5508

1 From *Please print and press hard.*

Date 6-27-08 Sender's FedEx Account Number SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corp

Address 375 Euclid Ave Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice. 13812319 OPTIONAL

3 To

Recipient's Name Sample Receiving Phone (608) 356-2760

Company CT Labs

Recipient's Address 1230 Lange Court
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address
To request a package be held at a specific FedEx location, print FedEx address here.

City Baraboo State WI ZIP 53913



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0200 **Sender's Copy**

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] SATURDAY Delivery NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	22	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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FedEx Tracking Number 8664 2620 5482

0200 Sender's Copy

1 From *Please print and press hard.*

Date 6-27-08 Sender's FedEx Account Number SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corp

Address 1375 Euclid Ave

Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice. 13812319

3 To

Recipient's Name Sample Receiving Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr.

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other * Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] SATURDAY Delivery — NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location — NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 1578059c7 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	XX	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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FedEx Express *US Airbill*

FedEx Tracking Number 8664 2620 5519

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 6-27-08 Sender's FedEx Account Number SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company CRS Corp

Address 1375 Euclid Ave Dept/Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice. 138123191 OPTIONAL

3 To

Recipient's Name Sample Receiving Phone (740) 373-4671

Company Microvac

Recipient's Address 156 Starlite Dr. Dept/Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other * Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] SATURDAY Delivery NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location NOT Available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 1578 0596 7 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	48	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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FedEx Tracking Number 8664 2620 5493

0200 Sender's Copy

1 From *Please print and press hard.*

Date 6-27-08 Sender's FedEx Account Number SENDER'S FEDEX ACCOUNT NUMBER ONLY

Sender's Name Brenda Pratt Phone (216) 622-2400

Company URS Corp

Address 1375 Euclid Ave

Dept./Floor/Suite/Room

City Cleveland State OH ZIP 44115

2 Your Internal Billing Reference First 24 characters will appear on invoice. 13812319 OPTIONAL

3 To

Recipient's Name Sample Receiving Phone (740) 373-4071

Company Microbac

Recipient's Address 156 Starlite Dr.

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Marietta State OH ZIP 45750

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate. * To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* Declared value limit $500.

6 Special Handling Include FedEx address in Section 3.

- [X] **SATURDAY Delivery** NOT Available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] **HOLD Weekday** at FedEx Location NOT Available for FedEx First Overnight.
- [ ] **HOLD Saturday** at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [X] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. or Credit Card No. 157805967 Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	30	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

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- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. *Fee applies.*

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FedEx Express US Airbill

FedEx Tracking Number: 8652 4254 7600

Sender's Copy

1 From *Please print and press hard.*

Date: 6-18-08 Sender's FedEx Account Number: ~~157805967~~ ACCOUNT NUMBER ONLY

Sender's Name: Brenda Pratt Phone: (216) 622-2400

Company: URS Corporation

Address: 375 Euclid Ave

Dept/Floor/Suite/Room

City: Cleveland State: OH ZIP: 44115

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13812319 (OPTIONAL)

3 To

Recipient's Name: Sample Receiving Phone: (740) 373-4071

Company: ~~Kemron~~ Microbac

Recipient's Address: 156 Starlite Dr.

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Company URS Corp

Address 1375 Euclid Ave Dept/Floor/Suite/Room

City Cleveland State OH ZIP 44115

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Recipient's Name Sample Receiving Phone (740)373-4071

Company Microbac

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Address 1375 Euclid Ave

Dept./Floor/Suite/Room

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Company URS Corp

Address 1375 Euclid Ave

Dept/Floor/Suite/Room

City Cleveland State OH ZIP 44115

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Company Microbac

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- [ ] FedEx Tube
- [x] Other

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APPENDIX D

Data Validation Report and
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INTRODUCTION TO APPENDIX D
DATA VALIDATION REPORT AND
CHEMICAL QUALITY ASSURANCE REPORT

The two reports included on the enclosed CD in this Appendix are included as received from the USACE. They are not accessible.

U.S. Army Corps of Engineers
Louisville District

Ravenna Army Ammunition Plant
Load Lines 2, 3, and 4 Soil Sampling
Ravenna, Ohio

Data Validation Report
Sample Delivery Groups:
Multiple

June 2009

Prepared for:
U.S. Army Corps of Engineers
Louisville District
Contract No. W912QR-08-D-0001
Delivery Order 0001

Prepared by:
MEC^X, LP
12269 East Vassar Drive
Aurora, Colorado 80014

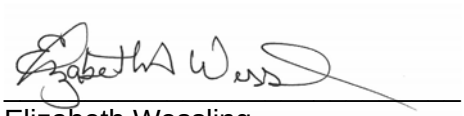
CONTRACTOR STATEMENT OF INDEPENDANT TECHNICAL REVIEW

MEC^X, LP (MEC^X) has completed the Data Validation Report for Multiple Sample Delivery Groups from the Ravenna Army Ammunition Plant Load Lines 2, 3, and 4 Soil Sampling in Ravenna, Ohio. Notice is hereby given that an independent technical review has been conducted to determine the usability and bias of the analytical data.

Significant concerns and the resolution are as follows:

The analysis for pesticides by method SW-846 8081 performed at the primary laboratory, Microbac, is likely to have missed some target compounds due to the method the laboratory used to establish retention time windows. The data user should rely on the split laboratory data for this analysis.

As noted above, all concerns resulting from this independent technical review have been considered.



Elizabeth Wessling
Senior Environmental Chemist
MEC^X Independent Technical Review Team Leader



Patti Meeks, Ph.D.
Senior Environmental Chemist
MEC^X Independent Technical Review Team Member

EXECUTIVE SUMMARY

The overall objective of the project described in this document was to determine if contaminants are present in the soils below the floor slabs of Load Lines 2, 3, and 4 and to excavate and transport contaminated soils at the Ravenna Army Ammunition Plant (RVAAP).

The following analyses were performed for all primary samples by Microbac Laboratories, Inc. (Microbac) in Marietta, Ohio:

- United States Environmental Protection Agency (USEPA) SW-846 Methods 6010B and 6020 for metals
- USEPA SW-846 Method 7471A for mercury
- USEPA SW-846 Method 8260B for volatile organic compounds (VOCs)
- USEPA SW-846 Method 8270C for semivolatile compounds (SVOCs)
- USEPA SW-846 Method.8081 for pesticides
- USEPA SW-846 Method 8082 for polychlorinated biphenyls (PCBs)
- USEPA SW-846 Method 8330B for explosive compounds
- USEPA SW-846 Method 7196A for hexavalent chromium
- United States Army Cold Regions Research and Engineering Laboratory (USACRREL) Method for nitrocellulose

Quality assurance (QA) split samples were submitted to CT Laboratories (CT) in Baraboo, Wisconsin and were analyzed for all of the aforementioned analyses.

Some data were rejected due to calibration, laboratory control sample, matrix spike/matrix spike duplicate, or matrix spike criteria outliers. All remaining data is usable for its intended purposes as qualified by MEC^X. Specific concerns regarding the data are noted below:

- False negatives were identified in the pesticide data. When a compound retention time (RT) shift exceeded half of the defined RT window, the laboratory flagged the compound with an "F," only on the quantitation report, and did not report the compound as detected. In these instances, MEC^X qualified the results as false negatives.

  It is likely that false negatives exist in the unvalidated data.

- Primary column analyses were not performed for the undiluted energetic analyses of samples LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO while both primary and confirmation analyses were performed for the diluted analyses of these samples. Some target compounds were noted to be present below the MDL in the primary column diluted analyses that were confirmed and present above the MDL in the undiluted confirmation column analyses.

- Except for SDG L08060612, the Microbac mercury raw data did not list the sample absorbances; therefore, the reviewer was not able to calculate the sample results from the raw data.

- The laboratory reported total xylenes and total 1,2-dichloroethene instead of the specific isomers, m,p-xylene, o-xylene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene.

ACRONYMS AND ABBREVIATIONS

ADR	Automated Data Review
BTEX	Benzene, toluene, ethylbenzene, xylenes
CCB	Continuing Calibration Blank
CCC	Calibration Check Compounds
CCV	Continuing Calibration Verification
DoD	Department of Defense
ICSA	Interference Check Sample A
ICSAB	Interference Check Sample AB
ICV	Initial Calibration Verification
ICP	Inductively Coupled Plasma
LCG	Louisville Chemistry Guidance
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LODV	Limit of Detection Verification
LUST	Leaking Underground Storage Tank
MRL	Method Reporting Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MDL	Method Detection Limit
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PE	Performance Evaluation
PDS	Post Digestion Spike
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
SDG	Sample Delivery Group
SPCC	System Performance Check Compound
SVOC	Semivolatile Organic Compounds
TIC	Tentatively Identified Compounds
TS	Total Solids
USACE	United State Army Corps of Engineers
USACERREL	United States Army Cold Regions Research and Engineering Laboratory
USEPA	United State Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

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APPENDICES

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

The overall objective of the project described in this document was to determine if contaminants are present in the soils below the floor slabs of Load Lines 2, 3, and 4 and to excavate and transport contaminated soils.

Sampling was conducted by URS Corporation (URS) in June and July 2008. Ninety-one primary, 10 field duplicate, 10 blind field duplicates and three blind VOC duplicate soil samples were collected and analyzed for the following parameters:

The following analyses were performed for all primary samples by Microbac Laboratories, Inc. (Microbac) of Marietta, Ohio:

- USEPA SW-846 Methods 6010B and 6020 for metals
- USEPA SW-846 Method 7471A for mercury
- USEPA SW-846 Method 8260B for volatile organic compounds (VOCs)
- USEPA SW-846 Method 8270C for semivolatile compounds (SVOCs)
- USEPA SW-846 Method.8081 for pesticides
- USEPA SW-846 Method 8082 for polychlorinated biphenyls (PCBs)
- USEPA SW-846 Method 8330B for explosive compounds
- USEPA SW-846 Method 7196A for hexavalent chromium
- United States Army Cold Regions Research and Engineering Laboratory (USACERREL) Method for nitrocellulose

This report describes findings of data validation performed by MEC^X, LP (MEC^X) on the site samples reported in eight sample delivery groups (SDGs) from Microbac.

1.2 PREVIOUS ACTIVITIES AND DATA

The following summary was adapted from the Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio (FWQAPP) prepared by Science Applications International Corporation (SAIC).

Located in northeastern Ohio on approximately 21,000 acres, RVAAP was established in 1940 to load, store, and demilitarize conventional artillery ammunition, bombs, mines, fuzes and boosters, primers and percussion elements. Originally RVAAP operated as two separate units, the Portage Ordnance Depot and the Ravenna Ordnance Plant. During World War II, a contractor operated the Ravenna Ordnance Depot and the government operated the Portage Ordnance Depot. Ordnance production and storage for World War II continued until August 1945, at which time the facility was renamed as the Ravenna Arsenal, and the government assumed control of all operations. From 1951 to 1999, the entire facility was operated by contractors. Ordnance production at the facility was phased out and sent to Plum Brook Ordnance Works in Sandusky, Ohio and Keystone Ordnance Works in Meadville Pennsylvania.

All production at the facility had ceased by 1957 and the plant was placed on standby. In 1961, the plant was operational for seven months, processing and performing explosive melt-out of bombs. After deactivation late in 1961, the facility was renamed RVAAP. From mid-1968 until 1971, the plant was reactivated to load, assemble, and pack munitions on three load lines and two component lines. Operations ceased at Load Lines 1, 2, 3, and 4 in 1971; however, the Lines were reactivated to perform demilitarization operations for several months in 1973 and 1974. In 1992, RVAAP was again placed on "Inactive" status. Salvage and demolition operation started in 1998 and administrative control of the facility was transferred to the Ohio Army National Guard in 1999.

Since 1978, approximately 20 environmental condition investigations have been performed at RVAAP. Only a portion of these investigations are discussed below.

In 1989, the USEPA contracted Jacobs Engineering to perform a Resource Conservation and Recovery Act Facility Assessment. Thirty-one solid areas of concern were identified during the assessment, 13 of which were recommended for no further action. In 1996 the United States Army Corps of Engineers (USACE) performed a facility wide preliminary assessment and conducted Phase I remedial investigations at 11 areas of concern. Monitoring wells were installed and Phase I and Phase II remedial investigations were performed at Load Line 11 by the USACE in 1999 and 2000. Also in 2000, the USACE performed Phase II remedial investigations at Load Lines 1 and 12.

Operations at Load Lines 2, 3, and 4 consisted of melting and loading energetic compounds into large caliber shells. Water to wash down the lines and the building was collected in concrete sumps and discharged to a drainage ditch or settling pond. Soil and dry sediments outside the foot prints of the buildings at Load Lines 2, 3, and 4 were removed by Shaw Engineering in 2003 and the buildings were demolished in 2007. Although soil samples collected by Shaw in 2004 found that the soils below the building slabs and foundations were generally uncontaminated, the slabs and foundations were left intact in order to prevent water infiltration to the potentially contaminated soils below. Results of these samples are summarized below:

- Load Line 2 – 17 samples were collected and all field results for trinitrotoluene (TNT) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) were less than 1 mg.kg. Most metals were generally below the background levels. In 10 samples copper was detected above the background level and thallium was detected above the background level in all samples.

- Load Line 3 – Four samples were analyzed for energetic compounds and three of the samples contained trace levels of energetic degradation products. Twelve samples were analyzed for metals and most were below the background levels. Nine samples had copper above the background and all samples had cadmium detects above the background levels.

- Load Line 4 – Nine samples were collected and all field energetic results were nondetects. Most metals were detected below the background levels. Copper, magnesium, and zinc were detected above background levels in most samples.

Floor slabs were removed as part of the project described in this report and the soil samples described in this report were collected from beneath the floor slabs at Load Lines 2, 3, and 4.

2. DESCRIPTION OF WORK PERFORMED

This section describes the data verification and data validation procedures used during the evaluation of the site samples reported in eight SDGs from Microbac.

2.1 DATA VALIDATION PROCESS

A total of 91 primary, 10 field duplicate, 10 blind field duplicates and three blind VOC duplicate soil were collected in association with the field effort. Level IV validation was performed on 10% of the total number of primary samples collected. Primary samples with associated QA and field duplicate samples were randomly chosen for Level IV validation. Field duplicate samples were validated at Level IIII.

Table 1. Validated sample identification table

Sample ID	SDG	Matrix	Collection Date	Validation Level	Validated Methods
LL2SS-278-1231-SO	L08060612	Soil	6/18/08 17:45	IV	6010B, 6020, 7196A, 7471A, 8081, 8082, 8270C, 8330, 8330B
LL2SS-278-1233-SO	L08060612	Soil	6/18/08 17:45	III	6010B, 6020, 7196A, 7471A, 8081, 8082, 8270C, 8330, 8330B
LL2SS-278-1234-SO	L08060612	Soil	6/18/08 17:45	III	6010B, 6020, 7196A, 7471A, 8081, 8082, 8270C, 8330, 8330B
LL2SS-280D-1237-SO	L08060612	Soil	6/18/08 18:30	IV	8260B
LL2SS-280D-1239-SO	L08060612	Soil	6/18/08 18:35	III	8260B
LL2SS-288M-1251-SO	L08060612	Soil	6/18/08 15:30	III	6010B, 6020, 7196A, 7471A, 8081, 8082, 8270C, 8330, 8330, USACRREL
LL2SS-305M-1273-SO	L08060623	Soil	6/17/08 16:31	IV	6010B, 6020, 7196A, 7471A, 8330, 8330B
LL2SS-305M-1275-SO	L08060623	Soil	6/17/08 16:37	III	6010B, 6020, 7196A, 7471A, 8330, 8330B
LL2SS-305M-1276-SO	L08060623	Soil	6/17/08 16:45	III	6010B, 6020, 7196A, 7471A, 8330, 8330B
LL2SS-285M-1244-SO	L08060652	Soil	6/20/08 09:00	IV	6010B, 6020, 7196A, 7471A, 8082, 8270C, 8330, 8330B
LL2SS-285M-1246-SO	L08060652	Soil	6/20/08 09:00	III	6010B, 6020, 7196A, 7471A, 8082, 8270C, 8330, 8330B
LL2SS-285M-1247-SO	L08060652	Soil	6/20/08 09:10	III	6010B, 6020, 7196A, 7471A, 8082, 8270C,

Sample ID	SDG	Matrix	Collection Date	Validation Level	Validated Methods
					8330, 8330B
LL2SS-297M-1261-SO	L08060761	Soil	6/24/08 10:45	IV	6010B, 6020, 7196A, 7471A, 8330, 8330B, USACRREL
LL2SS-297M-1263-SO	L08060761	Soil	6/24/08 10:45	III	6010B, 6020, 7196A, 7471A, 8330, 8330B, USACRREL
LL2SS-297M-1264-SO	L08060761	Soil	6/24/08 10:50	III	6010B, 6020, 7196A, 7471A, 8330, 8330B, USACRREL
LL3SS-249D-1179-SO	L08060761	Soil	6/24/08 14:45	III	8260B
LL3SS-249D-1181-SO	L08060761	Soil	6/24/08 14:55	III	8260B
LL3SS-268M-1208-SO	L0806085	Soil	6/25/08 11:00	IV	6010B, 6020, 7196A, 7471A, 8082, 8330, 8330B
LL3SS-268M-1210-SO	L08060852	Soil	6/25/08 11:00	III	6010B, 6020, 7196A, 7471A, 8082, 8330
LL3SS-268M-1211-SO	L08060852-	Soil	6/25/08 11:00	III	6010B, 6020, 7196A, 7471A, 8082, 8330, 8330B
LL3SS-256M-1188-SO	L08060852	Soil	6/26/08 11:00	IV	6010B, 6020, 7196A, 7471A, 8081, 8082, 8330, 8330B, USACRREL
LL3SS-256M-1190-SO	L08060852	Soil	6/26/08 11:00	III	6010B, 6020, 7196A, 7471A, 8081, 8082, 8330, 8330B, USACRREL
LL3SS-256M-1191-SO	L08060852	Soil	6/26/08 11:00	III	6010B, 6020, 7196A, 7471A, 8081, 8082, 8330, 8330B, USACRREL
LL3SS-258M-1194-SO	L08060886	Soil	6/27/08 09:10	III	6010B, 6020, 7196A, 7471A, 8270C, 8330
LL3SS-258M-1196-SO	L08060886	Soil	6/27/08 09:10	III	6010B, 6020, 7196A, 7471A, 8270C, 8330, 8330B
LL3SS-258M-1197-SO	L08060886	Soil	6/27/08 09:20	III	6010B, 6020, 7196A, 7471A, 8270C, 8330, 8330B
LL4SS-201D-1185-SO	L08060886	Soil	6/27/08 11:35	III	8260B
LL4SS-201D-1187-SO	L08060886	Soil	6/27/08 11:40	III	8260B

Sample ID	SDG	Matrix	Collection Date	Validation Level	Validated Methods
LL4SS-212M-1202-SO	L08070074	Soil	7/01/08 09:15	III	6010B, 6020, 7196A, 7471A, 8082, 8270C, 8330, 8330B
LL4SS-212M-1204-SO	L08070074	Soil	7/01/08 09:15	III	6010B, 6020, 7196A, 7471A, 8082, 8270C, 8330, 8330B
LL4SS-212M-1205-SO	L08070074	Soil	7/01/08 09:20	III	6010B, 6020, 7196A, 7471A, 8082, 8270C, 8330, 8330B
LL4SS-209M-1196-SO	L08070074	Soil	7/01/08 10:10	IV	6010B, 6020, 7196A, 7471A, 8081, 8330
LL4SS-209M-1198-SO	L08070074	Soil	7/01/08 10:10	III	6010B, 6020, 7196A, 7471A, 8081, 8330, 8330B
LL4SS-209M-1199-SO	L08070074	Soil	7/01/08 10:15	III	6010B, 6020, 7196A, 7471A, 8081, 8330, 8330B
LL4SS-220M-1217-SO	L08070111	Soil	7/02/08 09:50	IV	6010B, 6020, 7196A, 7471A, 8330, 8330B, USACRREL
LL4SS220M-1221-SO	L08070111	Soil	7/02/08 15:30	III	6010B, 6020, 7196A, 7471A, 8330, 8330B, USACRREL
LL4SS220M-1222-SO	L08070111	Soil	7/02/08 15:35	III	6010B, 6020, 7196A, 7471A, 8330, 8330B, USACRREL

Table 3. Duplicate identification table

Duplicate Sample ID	Sample Type	Parent Sample
LL2SS-278M-1233-SO	Field MI Duplicate	LL2SS-278M-1231-SO
LL2SS-278M-1234-SO	Blind Duplicate	LL2SS-278M-1231-SO
LL2SS-280D-1239-SO	VOC Blind Duplicate	LL2SS-280D-1237-SO
LL2SS-305M-1275-SO	Field MI Duplicate	LL2SS-305M-1273-SO
LL2SS-305M-1276-SO	Blind Duplicate	LL2SS-305M-1273-SO
LL2SS-285M-1246-SO	Field MI Duplicate	LL2SS-285M-1244-SO
LL2SS-285M-1247-SO	Blind Duplicate	LL2SS-285M-1244-SO
LL2SS-297M-1263-SO	Field MI Duplicate	LL2SS-297M-1261-SO
LL2SS-297M-1264-SO	Blind Duplicate	LL2SS-297M-1261-SO
LL3SS-249D-1181-SO	VOC Blind Duplicate	LL3SS-249D-1179-SO
LL3SS-268M-1210-SO	Field MI Duplicate	LL3SS-268M-1208-SO
LL3SS-268M-1211-SO	Blind Duplicate	LL3SS-268M-1208-SO
LL3SS-256M-1190-SO	Field MI Duplicate	LL3SS-256M-1188-SO
LL3SS-256M-1191-SO	Blind Duplicate	LL3SS-256M-1188-SO
LL3SS-258M-1196-SO	Field MI Duplicate	LL3SS-258M-1194-SO
LL3SS-258M-1197-SO	Blind Duplicate	LL3SS-258M-1194-SO
LL4SS-201D-1187-SO	VOC Blind Duplicate	LL4SS-201D-1185-SO

Duplicate Sample ID	Sample Type	Parent Sample
LL4SS-212M-1204-SO	Field MI Duplicate	LL4SS-212M-1202-SO
LL4SS-212M-1205-SO	Blind Duplicate	LL4SS-212M-1202-SO
LL4SS-209M-1198-SO	Field MI Duplicate	LL4SS-209M-1196-SO
LL4SS-209M-1199-SO	Blind Duplicate	LL4SS-209M-1196-SO
LL4SS-220M-1221-SO	Field MI Duplicate	LL4SS-220M-1217-SO
LL4SS-220M-1222-SO	Blind Duplicate	LL4SS-220M-1217-SO

Data validators assessed results based on the FWQAPP, Quality Assurance Project Plan Addendum for the Sampling of Soils Below Floor Slabs at LLS-2. 3. 4. and Excavation and Transportation of Contaminated Soils to Load Lines 4 (QAPP Addendum), Louisville Chemistry Guideline Version 5 (LCG), Shell for Analytical Chemistry Requirements (Shell), Department of Defense Quality systems Manual for Environmental Laboratories Version 3 (DoD QSM), the specific EPA methods, the National Functional Guidelines for Organic Data Review (1994), and the National Functional Guidelines for Inorganic Data Review (1994). The following were reviewed for Level IV validation:

- Sample management (collection techniques, sample containers, preservation, handling, transport, chain-of-custody, holding times),
- Calibration data summary forms (initial and continuing);
- Method blank sample results,
- Laboratory control sample (LCS) or LCS/LCS duplicate (LCS/LCSD) recoveries and/or precision,
- Surrogate recoveries (if applicable),
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision,
- Field QA/QC sample results,
- Other QC indicators as applicable,
- Gas Chromatography/Mass Spectrometry (GC/MS) tuning, if a GC/MS is used,
- Internal standards performance,
- Sample results verification,
- Target compound identification,
- Raw data

For Level III validation, data validators reviewed the following and assessed the results based on the criteria listed above:

- Sample management (collection techniques, sample containers, preservation, handling, transport, chain-of-custody, holding times),
- Calibration data summary forms (initial and continuing);
- Method blank sample results,
- Laboratory control sample (LCS) or LCS/LCS duplicate (LCS/LCSD) recoveries and/or precision,
- Surrogate recoveries (if applicable),
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision,
- Field QA/QC sample results,

- Other QC indicators as applicable.

All validated samples were initially assessed using Automated Data Review (ADR) and the ADR Library provided by P. Schuler of URS. The ADR library was subsequently modified by MEC^X based upon direction from USACE Louisville chemist direction to resolve conflicts between the various documents and QC criteria.

2.2 DATA VALIDATION QUALIFIERS

Data qualifiers, as defined below, were applied following the FWQAPP, DoD QSM and the LCG:

U Nondetected at the limit of detections
The analyte was analyzed for but not definitively detected.

J Estimated
The identification of the analyte is acceptable but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision. Additionally used to identify detects reported below the reporting limit.

N Identity Presumptive and Tentative
There is presumptive evidence that the analyte is present but it has not been confirmed. There is an indication that the reported analyte is present; however, all quality control requirements necessary for confirmation were not met.

R Rejected
Data are considered to be rejected and shall not be used for environmental decisions.

2.3 DATA VALIDATION FLAGGING CODES

The qualification codes in the following table may have been used to flag the data described in this document: Sample qualifications are summarized in Section 5.2.2. All qualifications and associated qualification codes have been entered into the electronic data deliverables (EDD) received from the laboratories and may be reviewed in the EDD appended to this report.

Table 1. Qualification code reference table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient was noncompliant.
R	Calibration RRF was noncompliant.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable	Duplicates showed poor agreement.

Qualifier	Organics	Inorganics
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tuning was noncompliant
T	Presumed contamination as indicated by the trip blank results.	Not applicable
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).

3. DATA ACQUISITION ACTIVITIES

3.1 SAMPLE COLLECTION

Soil samples were collected in June and July 2008. The samples were submitted under chain of custody to the primary laboratory, Microbac.

Unless otherwise noted below, the chains of custody were appropriately signed by both field and/or laboratory personnel with all samples and analyses accounted for, cooler custody seals intact and within the temperature limits of 4±2°C. All documentation regarding sample handling as presented in the case narratives, chains of custody, correspondence, and sample condition upon receipt forms, was evaluated with the following remaining deficiencies. No further requests were made to the primary contractor or the laboratories and no data were qualified.

SDG	Issue
L08060612	The year portion of the sampler's relinquish date was completely blacked-out and was not initialed or dated.
L08060652	One cooler was received at 0°C; the samples were not noted to have been frozen or damaged.
L08060886	One cooler was received at 1°C; the samples were not noted to have been frozen or damaged.
All SDGs	Hexavalent chromium analyses were not specifically requested for any of the samples.

3.2 SAMPLE ANALYSIS

Microbac, the primary laboratory, analyzed a total of 114 primary soil and field duplicate samples and seven aqueous field QC samples by USEPA SW-846 Methods 6010B and 6020 for various metals, USEPA SW-846 Method 741A for mercury, USEPA SW-846 Method 8270C for SVOCs, USEPA SW-846 Method 8081 for pesticides, USEPA SW-846 Method 8082 for PCBs, USEPA SW-846 Method 8330B for explosives, USEPA SW-846 Method 8260B for VOCs, USACERREL method for nitrocellulose, and USEPA Method 7196A for hexavalent chromium.

3.3 DATA COMPLETENESS

Data completeness for the project described in this report was found to be generally acceptable as no deliverables were missing.

3.4 METHOD REQUIRMENTS

All method preservation requirements were met.

3.5 HOLDING TIME REQUIREMENTS

The soil extraction and analytical holding times for the analyses reviewed in this document are as follows:

Method	Analysis	Extraction Holding Time	Analysis Holding Time
USEPA SW-846 Methods 6010B/6020	Metals	N/A	180 days
USEPA SW-846 Method 7471A	Mercury	N/A	28 days
USEPA SW-846 Method 8270C	SVOCs	14 days	28 days
USEPA SW-846 Method 8081	Pesticides	14 days	28 days
USEPA SW-846 Method 8082	PCBs	14 days	28 days
USEPA SW-846 Method 8330B	Explosives	14 days	28 days
USEPA SW-846 Method 8330	Nitroguanidine	14 days	28 days
USACERRL	Nitrocellulose	14 days	28 days
USEPA SW-846 Method 7196A	Hexavalent chromium	30 days	7 days

Except as noted below, all analytical holding times were met for the validated samples. The qualified samples were coded with an "H" qualification code.

Samples qualified for exceeded holding times			
Method	**Analysis**	**Qualified Samples**	**Qualification applied**
USEPA SW-846 Method 8081	Pesticides	Retained analyses for all validated samples in SDGs L08060612 and L08060652	"J" for detects and "UJ" for nondetects
USEPA SW-846 Method 8082	PCBs	Retained analyses for all validated samples in SDG L08060652	"J" for detects and "UJ" for nondetects
USEPA SW-846 Method 8330	Nitroguanidine	Validated samples in SDGs L08060612, L08060761, and L08060852	"UJ," for nondetects

3.6 DETECTION LIMIT REQUIREMENTS

The following reporting limits exceeded the criteria listed in Table 3-3 of the FWQAPP and Appendix A of the QAPP Addendum:

- All reporting limits for eight semivolatile organic compounds: 2,4-dinitrophenol, n-nitroaniline, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,5-dinitro-2-methylphenol, 4-nitroaniline, 4-nitrophenol, pentachlorophenol. It should be noted that all MDLs did meet the reporting limit criteria.

- Due to small sample aliquots, all reporting limits for 28 volatile organic compounds (all compounds except 2-butanone, 2-hexanone, and 4-methyl-2-pentanone) in three samples (LL2SS-280D-1237-SO, LL2SS-280D-1239-SO, LL4SS-201D-1185-SO) marginally exceeded the reporting limit criteria. It should be noted that all MDLs did meet the reporting limit criteria.

- Due to dilutions performed to mitigate matrix interference, all pesticide compounds in all samples exceeded the reporting limit criteria.

- Due to dilutions performed to report Aroclor-1254 within the linear range of the calibration, all PCB reporting limits in five samples (LL2SS-285M-1244-SO, LL2SS-285M-1246-SO, LL3SS-1188-SO, LL3SS-256M-1190-SO, LL3SS-256M-1191-SO) exceeded the reporting limit criteria.

- Due to qualifications for potential blank contamination that resulted in raised reporting limits, six sodium results exceeded the reporting limit criteria (LL4SS-212M-1202-SO, LL4SS-212M-1204-SO, LL4SS-212M-1205-SO, LL4SS-209M-1196-SO, LL4SS-209M-1198-SO, LL4SS-209M-1199-SO).

4. DATA QUALITY EVALUATION

This section summarizes the data quality of validated samples for each analytical method evaluated.

4.1 EXPLOSIVES

Thirty-one of the 114 samples collected were analyzed by Microbac Laboratories for explosives by USEPA SW-846 Method 8330B and seven for nitroguanidine by USEPA SW-846 Method 8330.

- MDL studies were not evaluated as part of this project.

- Calibration: Calibration criteria were met. Initial calibration average percent relative standard deviations (%RSDs) were within the control limits listed in the LCG Table 5 of ≤20%, or the linear regression r values were ≥0.990. Except as noted below, the second source initial calibration verification standard (ICV) for both the primary and confirmation calibrations were within the control limits listed in LCG Table 5 of 85-115%.

  The nondetected listed below were qualified as estimated, "UJ," and coded with a "C" qualification code.

Sample Qualified for ICV recovery outliers			
Analyte	**Calibration**	**%R**	**Qualified Samples**
Tetryl	06/23/08	69%	Retained analyses of LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO

  Except as noted below, the continuing calibration verification (CCV) standard %Ds were within the control limits listed in LCG Table 5 of ≤15%.

  For the %Ds >15% with a negative bias, the nondetected results for tetryl were rejected, "R," and coded with a "C," qualification code in the associated samples.

Samples qualified for CCV %D outliers			
Analyte	**Calibration**	**%D**	**Qualified Samples**
Tetryl	7/14/08 (1623) 7/15/08 (0121) 7/15/08 (0942)	26.8 33.3 39.9	Retained analyses of LL3SS-268M-1208-SO, LL3SS-268M-1210-SO, and LL3SS-268M-1211-SO.

  The MRL standard recoveries were within the control limit listed in LCG Table 5 of ≤30%.

  An MDL check was performed once per quarter per instrument as per LCG Table 5. The MDL check was found to be acceptable for all target compounds. No MDL check was performed for nitroguanidine; however, regular MRL checks were performed and were within the control limits listed in LCG Table 5 of ≤30%.

- Blanks: The method blanks associated with those samples validated at Levels III and IV had no target compound detects above the control limits listed in LCG Table 5, of one-half the reporting limit for target compounds, and no common laboratory contaminant detects above the reporting limit. There were no detects above the MDL for nitroguanidine.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the control limits listed in LCG Appendix C for all listed target compounds. PETN and nitroguanidine were not included in Appendix C; however, the control limits were within the laboratory established control limits of 50-150%.

- Surrogate Recovery: Recoveries were within the control limits listed in LCG Table 5 of 50-150%. For samples analyzed at a 10× dilution or higher, surrogate recoveries were considered diluted out and were not evaluated. A surrogate was not used for the analysis of nitroguanidine.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample LL2SS-288M-1251-SO for explosives and nitroguanidine. MS/MSD recoveries were within the control limits listed in FWQAPP Table 3-1 of 40-140%. RPDs were within the laboratory control limit of 35%.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for metals but were not associated with the samples validated at Level IV or III.

    - Field Duplicates: Except as noted below, RPDs were within the control limits in FWQAPP Table 3-1 of ≤50%. Compounds exceeded the control limit are noted in table below. See Appendix A for tables listing comparisons for all samples and analytes.

Table 4. Energetics field duplicate comparisons

Primary Sample	Field Duplicate Sample	Analyte(s)	RPD (%)
LL2SS-285M-1244-SO	LL2SS-285M-1246-SO	1,3,5-trinitrobenzene 2,4,6-trinitrotoluene	57% 72% *
LL3SS-256M-1188-SO	LL3SS-256M-1190-SO	2,4,6-trinitrotoluene (20x/100x) 2-amino-4,6-dinitrotoluene	478% 75%
LL3SS-258M-1194-SO	LL3SS-258M-1196-SO	2,4,6-trinitrotoluene	87%

*The reporting limit was used for calculating the RPD in instances where ND reported in primary sample or duplicate.

Table 5. Energetics blind field duplicate comparisons

Primary Sample	Blind Duplicate Sample	Analyte(s)	RPD (%)
LL2SS-305M-1273-SO	LL2SS-305M-1276-SO	2,4,6-trinitrotoluene (1x/4x)	103%
LL2SS-285M-1244-SO	LL2SS-285M-1246-SO	2,4,6-trinitrotoluene 2-amino-4,6-dinitrotoluene	171% 94%
LL2SS-297M-1261-SO	LL2SS-297M-1264-SO	2,4,6-trinitrotoluene	76%*
LL3SS-256M-1188-SO	LL3SS-256M-1191-SO	1,3,5-trinitrobenzene	70%

*The reporting limit was used for calculating the RPD in instances where ND reported in primary sample or duplicate.

- Compound Identification: Compound identification was verified for those samples validated at a Level IV. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified for those samples validated at a Level IV. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Some of the validated samples in these SDGs were analyzed at dilutions in order to report target compounds within the linear range of the calibration. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

  For all samples, the laboratory reported results from both the primary and confirmation analyses. In accordance with LCG, the reviewer reported the higher of the two values unless there was an indication of chromatographic interference in the higher concentration result. In those instances, the lower result of the two values was reported. All unreported results were considered duplicate data and were rejected, "R," and coded with a "D," qualification code.

  Primary column analyses were not performed for the undiluted analyses of samples LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO while both primary and confirmation analyses were performed for the diluted analyses of these samples. Some target compounds were noted to be present below the MDL in the primary column diluted analyses that were confirmed and present above the MDL in the undiluted confirmation column analyses. In these instances, the reviewer reported these detects from the undiluted confirmation column analyses. The table below summarizes these detects.

Samples with detects reported from undiluted confirmation column analyses	
Sample ID	**Analytes**
LL3SS-256M-1188-SO	1,3,5-trinitrobenzene, 4-amino-2,6-dinitrotoluene, 2-amino-4,6-dinitrotoluene
LL3SS-256M-1190-SO	1,3,5-trinitrobenzene, 4-amino-2,6-dinitrotoluene
LL3SS-256M-1191-SO	1,3,5-trinitrobenzene, 4-amino-2,6-dinitrotoluene, 2-amino-4,6-dinitrotoluene

Detects for 2,4-dintrotoluene and 2-amino-4,6-dinitrotoluene in the undiluted confirmation column analysis of LL3SS-256M-1190-SO were not reported as they were completely diluted out in the 100×primary column analysis and could not be verified.

- Target compound confirmation was performed for detects in the validated samples. Intercolumn RPDs were within the control limit listed in LCG Table 5 of ≤ 40% except for RDX in sample LL2SS-285M-1244-SO; therefore, this retained result was qualified as estimated, "J," and coded with *III qualification code.

- System Performance: Review of the raw data indicated no problems with system performance.

- There were no manual integrations performed for data reviewed at Level IV.

4.2 POLYCHLORINATED BIPHENYLS (PCBS)

Sixteen of the 114 samples collected were analyzed by Microbac Laboratories for PCBs by USEPA SW-846 Method 8082.

- MDL studies were not evaluated as part of this project.

- Calibration: Calibration criteria were met. Initial calibration average percent relative standard deviations (%RSDs) were within the control limits listed in the LCG Table 3 of ≤20%, or the linear regression r values were ≥0.990. The second source initial calibration verification standard (ICV) was within the control limits listed in LCG Table 3 of 85-115%.

  The continuing calibration verification (CCV) standard %Ds were within the control limits listed in LCG Table 3 of ≤15%.

  The MRL standard recoveries were within the control limits listed in LCG Table 3 of 70-130%.

  An MDL check was performed once per quarter per instrument as per LCG Table 3. The MDL check was found to be acceptable for all target compounds.

- Blanks: The method blanks associated with those samples validated at Levels III and IV had no target compound detects above the control limits listed in LCG Table 3, of one-half the reporting limit for target compounds, and no common laboratory contaminant detects above the reporting limit.

- Blank Spikes and Laboratory Control Samples: The laboratory re-extracted the samples in SDGs L08060652 and L08060852 due to recoveries below the QC limit. As the QC data associated with the re-extractions were acceptable, the data in original extraction batches associated were rejected, "R," as duplicate data and coded with a "D"

qualification code. Recoveries for the retained analyses were within the control limits listed in LCG Appendix C of 50-150%.

- Surrogate Recovery: Recoveries were within the control limits listed in LCG Table 3 of 50-150%. For samples analyzed at a 10× dilution or higher, surrogate recoveries were considered diluted out and were not evaluated.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for sample LL2SS-288M-1251-S0. Recoveries were within the control limits listed in FWQAPP Tables 3-1 of 40-140%. RPDs were within the laboratory control limit of 35%.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for metals but were not associated with the samples validated at Level IV or III.

  - Field Duplicates: Unless otherwise noted, RPDs were within the control limits as noted in FWQAPP Table 3-1 of ≤50%. Compounds exceeded the control limit are noted in table below. See Appendix A for tables listing comparisons for all samples and analytes.

Table 6. PCB field duplicate comparisons

Primary Sample	Field Duplicate Sample	Analyte(s)	RPD (%)
LL2SS-285M-1244-SO	LL2SS-285M-1246-SO	Aroclor 1254 Aroclor 1260	54.4 53.8

Table 7. PCB blind field duplicate comparisons

Primary Sample	Blind Duplicate Sample	Analyte(s)	RPD (%)
LL2SS-285M-1244-SO	LL2SS-285M-1247-SO	Aroclor 1254	58.2

- Compound Identification: Compound identification was verified for those samples validated at a Level IV. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

  Although Aroclor 1260 was identified on the quantitation reports for the validated samples in SDGs L08060612 and L08060852, the laboratory reported only Aroclor 1254. The sample chromatogram matched best with the Aroclor 1254 pattern according to electronic correspondence with the laboratory dated February 23, 2009. It should be noted that Aroclor 1254 was accurately quantitated using the Aroclor 1254 calibration.

  According to the laboratory extraction sheet, a fluorisil clean up and acid wash was performed for the samples in these SDGs.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified for those samples validated at a Level IV. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Some of the validated samples in these SDGs were analyzed at dilutions in order to report target compounds within linear range of the calibration. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

  For all samples, the laboratory reported results from both the primary and confirmation analyses. In accordance with LCG, the reviewer reported the higher of the two values unless there was an indication of chromatographic interference in the higher concentration result. In those instances, the lower result of the two values was reported. All unreported results were considered duplicate data and were rejected, "R," and coded with a "D," qualification code.

  There is a potential high bias in the individual Aroclor results due to contributions from each Aroclors to the single peaks used for quantitation. Due to this bias, the retained detected results of the validated samples in SDGs L08060652 and L08070074 were qualified as estimated with a potential high bias, "J+," and coded with an "*III" qualification code.

Samples qualified due to potential quantitation bias	
Analyte	**Qualified Samples**
Aroclor 1254 and Aroclor 1260	Retained analyses of the validated samples of L08060652
Aroclor 1254 and Aroclor 1260	Retained analyses of the validated samples of L08070074

- Target compound confirmation was performed for detects in the validated samples. Intercolumn RPDs were within the control limit listed in LCG Table 3 of ≤40% except for Aroclor 1254 in sample LL4S-212M-1205-SO. The retained result for Aroclor 1254 in sample LL4S-212M-1205-SO was qualified as estimated, "J," and coded with *III qualification code.

- System Performance: Review of the raw data indicated no problems with system performance.

- Some manual integrations were performed for data associated with the sample in these SDGs. Manual integrations reviewed at Level IV were deemed appropriate by the reviewer.

4.3 PESTICIDES

Ten of the 114 samples collected were analyzed by Microbac Laboratories for Pesticides by USEPA SW-846 Method 8081.

- MDL studies were not evaluated as part of this project.

- Calibration: Calibration criteria were met. Initial calibration average percent relative standard deviations (%RSDs) were within the control limits listed in the LCG Table 4 of ≤20%, or the linear regression r values were ≥0.990. The second source initial calibration verification standard (ICV) was within the control limits listed in LCG Table 4 of 85-115%.

    - The DDT/Endrin breakdown standards were within the control limits listed in LCG Table 4 of ≤15%.

    - The continuing calibration verification (CCV) standard %Ds were within the control limits listed in LCG Table 4 of ≤15%.

    - The MRL standard recoveries were within the control limits listed in LCG Table 4 of 70-130%.

    - An MDL check was performed once per quarter per instrument as per LCG Table 4. The MDL check was found to be acceptable for all target compounds.

- Blanks: The method blanks associated with those samples validated at Levels III and IV had no target compound detects above the control limits listed in LCG Table 4, of one-half the reporting limit for target compounds, and no common laboratory contaminant detects above the reporting limit.

- Blank Spikes and Laboratory Control Samples: The laboratory re-extracted the samples in SDGs L08060612 and L08060852 due to recoveries below the QC limits of 50-150%. As the QC data associated with the re-extractions were acceptable, the data in the original extraction batches (L08060612 and L08060852) and the first re-extraction batch (L08060612 only) associated with these SDGs were rejected, "R," as duplicate data, and coded with a "D" qualification code. Recoveries for the retained analyses were within the control limits listed in LCG Appendix C.

- Surrogate Recovery: Recoveries were within the control limits listed in LCG Table 4 of 50-150%. For samples analyzed at a 10× dilution or higher, surrogate recoveries were considered diluted out and were not evaluated.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for sample LL2SS-288M-1251-SO; however, as the parent sample and MS/MSD samples were analyzed at 10× dilutions, the spiked compounds were considered diluted out and were not evaluated.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for pesticides but were not associated with the samples validated at Level IV or III.

- Field Duplicate Samples: As false negatives were identified in the Level IV validation of the primary samples (see Compound Identification), the duplicate samples (field duplicate and blind duplicates) were no longer considered a valid comparison.

- Compound Identification: Compound identification was verified for those samples validated at Level IV. False negatives were identified during the Level IV validation and are noted in the table below. False negatives were coded with a "-" qualification code. In review of the Level IV data, it was noted that there was a systemic problem with the laboratory data reported, and the data is suspected to have false negatives in the unvalidated samples.

Samples qualified for false negatives	
Sample	**Analyte(s)**
LL2SS-278M-1231-SO	heptachlor epoxide, 4,4'-DD, Endrin
LL3SS-256M-1188-SO	heptachlor epoxide, dieldrin, endrin, endrin aldehyde, gamma chlordane

Review of the sample chromatogram, retention times, and spectra indicated no other problems with target compound identification. It should be noted that the intercolumn %D comparison exceeded 100% for some results. As per the National Functional Guidelines (10/99), these results are considered tentatively identified. The results noted in the table below were qualified as tentatively identified, "N," and were coded with a *III qualification code.

Samples qualified as tentatively identified	
Sample	**Analyte(s)**
LL3SS-256M-1188-SO	heptachlor epoxide, gamma chlordane

According to the laboratory extraction sheet, a fluorisil clean up was performed for the samples in these SDGs.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified for those samples validated at a Level IV. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Several of the validated samples in this SDG, were analyzed at dilutions due to possible matrix interference. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

For all samples, the laboratory reported results from both the primary and confirmation analyses. In accordance with LCG, the reviewer reported the higher of the two values unless there was an indication of chromatographic interference in the higher concentration result. In those instances, the lower result of the two values was reported.

All unreported results were considered duplicate data and were rejected, "R," and coded with a "D," qualification code.

- Target compound confirmation was performed for detects in the validated samples. Except as noted below, the intercolumn RPDs were within the control limits listed in LCG Table 4 of ≤ 40%. Results with RPDs >40% were qualified as estimated, "J," and coded with *III qualification code.

Samples qualified for intercolumn RPDs above 40%	
Sample	**Analyte(s)**
LL2SS-278M-1231-SO	heptachlor epoxide, endrin
LL3SS-256M-1188-SO	heptachlor epoxide, dieldrin, gamma chlordane
LL4SS-209M-1196-SO	alpha chlordane
LL4SS-209M-1198-SO	alpha chlordane, gamma chlordane
LL4SS-209M-1199-SO	alpha chlordane, gamma chlordane

- System Performance: Review of the raw data indicated no problems with system performance.

- Some manual integrations were performed for data associated with the sample data. Manual integrations reviewed at Level IV were deemed appropriate by the reviewer.

4.4 SEMIVOLATILE ORGANIC COMPOUNDS (SVOCS)

Forty of the 114 samples collected were analyzed by Microbac for semivolatile compounds by USEPA Method 8270C.

- MDL studies were not evaluated as part of this project.

- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The samples were analyzed within 12 hours of the DFTPP injection time.

- Calibration: Calibration criteria were met, with exceptions affecting sample results noted in the tables below.

    - Initial calibration average RRFs and ICV and CCV RRFs were within method control limits of ≥0.050 for system performance check compounds (SPCCs). Except as noted in the table below, all initial calibration %RSDs were within the method control limits listed in the LCG Table 2, of ≤30% for calibration check compounds (CCCs) and ≤15% for remaining compounds, or linear regression r values ≥0.995. Sample results for the r value outliers were qualified as estimated, "J," for detects, or rejected, "R," for nondetects in the affected samples, and coded with a "C" qualification code.

Samples qualified for %RSD or r value outliers			
Analyte	**%RSD or r value**	**Calibration Date / Instrument**	**Affected Samples**
hexachlorocyclopentadiene	0.992	06/13/08 / MS12	**Validated samples of L08060612, L08060652, L08060852, L08060886**
hexachlorocyclopentadiene	0.993	07/08/08 / MS12	**Validated samples of L08070074**

Bold analytes indicate rejected results.

- All second source initial calibration verification standard recoveries were within the control limits listed in the LCG Table 2 of 70-130%.

- Except as noted in the table below, continuing calibration %Ds were within the method control limits of ≤20% listed in the LCG Table 2. When no other qualifications with conflicting bias were assigned to a result, affected sample results for %D outliers with a negative bias were qualified as estimated, "J-," for detects, or rejected, "R," for nondetects, and coded with a "C" qualification code.

Samples qualified for CCV %D outliers			
Analyte	**%D**	**Calibration Date / Instrument**	**Affected Samples**
benzoic acid	44.5	06/27/08 / MS12	Validated samples of L08060612
benzoic acid	39.8	07/02/08 / MS12	Validated samples of L08060852 except LL3SS-256M-1190-SO
benzoic acid	51.7	07/03/08 / MS12	LL3SS-256M-1190-SO of L08060852
benzoic acid **hexachlorocyclopentadiene** **bis(2-chloroisopropyl)ether**	47.4 31.0 24.6	07/14/08 / MS4	Validated soil samples of L08060886
2,4-dinitrophenol **benzoic acid**	36.3 62.5	07/14/08 / MS12	Validated samples of L08070074

Bold analytes indicate rejected results.

- MRL standard recoveries were within the control limits of 70-130% listed in the LCG Table 2, with exceptions affecting sample results listed in the table below. When no other qualifications with conflicting bias were assigned to a result, affected sample results associated with recovery outliers below the QC limits but ≥50% were qualified as estimated, "J-," for detects, or "UJ," for nondetects. Sample results for recovery outliers below 50% were rejected, "R," in the affected samples (or estimated if ending recovery was acceptable), and coded with a "C" qualification code.

Samples qualified for MRL recovery outliers			
Analyte	**Recovery Outliers Begin / End**	**Date / Instrument**	**Affected Samples**
3,3'-dichlorobenzidine benzo(g,h,i)perylene bis(2-ethylhexyl)phthalate di-n-octyl phthalate dibenz(a,h)anthracene **hexachlorocyclopentadiene** indeno(1,2,3-cd)pyrene benzoic acid	63.1 / — 68.1 / 59.5 69.0 / — 49.1 / — 59.1 / 65.4 59.9 / **29.9** 63.3 / 65.3 61.7 / 65.7	06/27/08 / MS12	Validated samples of L08060612
benzo(g,h,i)perylene dibenz(a,h)anthracene **hexachlorocyclopentadiene** indeno(1,2,3-cd)pyrene benzoic acid	— / 60.8 — / 64.5 59.3 / **13.4** — / 65.5 67.3 / 63.7	07/02/08 / MS12	Retained results of validated samples of L08060652 and L08060852 (except LL3SS-256M-1190-SO)
benzo(g,h,i)perylene dibenz(a,h)anthracene **hexachlorocyclopentadiene** di-n-octyl phthalate indeno(1,2,3-cd)pyrene benzoic acid	65.8 / 69.1 61.5 / — 56.0 / **38.1** 67.3 / — 63.6 / — 64.7 / 64.1	07/03/08 / MS12	LL3SS-256M-1190-SO of L08060852
2,4,5-trichlorophenol 2,4,6-trichlorophenol 2,4-dichlorophenol 2-nitrophenol 4-chloro-3-methylphenol 4-chloroaniline benzo(b)fluoranthene benzo(g,h,i)perylene **hexachlorocyclopentadiene** benzyl alcohol dibenz(a,h)anthracene di-n-octylphthalate indeno(1,2,3-cd)pyrene 4,6-dinitro-2-methylphenol benzoic acid	66.2 / — 68.3 / — 61.1 / — 69.1 / — 68.9 / — 67.9 / — 69.4 / — — / 67.4 — / **20.6** 68.0 / — 65.8 / 68.1 -— / 67.3 68.0 / 69.1 65.6 / — 69.4 / —	07/14/08 / MS4	Validated soil samples of L08060886
2-nitrophenol **benzo(g,h,i)perylene** bis(2-chloroethoxy)methane **dibenz(a,h)anthracene** **hexachlorocyclopentadiene** **indeno(1,2,3-cd)pyrene** n-nitroso-di-n-propylamine 2,4-dinitrophenol **4,6-dinitro-2-methylphenol** 4-nitrophenol pentachlorophenol	65.8 / — 66.8 / **42.2** 55.1 / 59.4 64.4 / **49.8** — / **17.9** 65.5 / **48.9** 58.1 / 61.3 68.1 / 64.7 **35.9 / 27.6** 63.9 / 67.3 52.6 / 56.0	07/14/08 / MS12	Validated samples of L08070074

Bold analytes and recoveries indicate rejected results.

- Blanks: The method blanks associated with those samples validated at Levels III and IV had no target compound detects above the control limits listed in the LCG Table 2 of one-half the reporting limit for target compounds, and no common laboratory contaminants.

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the control limits listed in the LCG Appendix C for waters and soils, with exceptions affecting sample data noted in the table below. When no other qualifications with conflicting bias were assigned to a result, analytes recovered at or above 30% with a negative bias were qualified as estimated, "J-," for detects and "UJ," for nondetects. Any sample detects for recoveries above the control limits were qualified as estimated, "J+," when no other qualifications with conflicting bias were assigned.

Samples qualified for LCS recovery outliers			
Analyte	**Recovery (%)**	**Limits (%)**	**Qualified Samples**
di-n-octyl phthalate n-nitrosodiphenylamine	47.6 44.1	50-160 50-134	Validated samples of L08060612
fluoranthene	124%	32-122	Validated soil samples of L08060886

- Surrogate Recovery: Primary laboratory surrogate recoveries for retained analyses were within the control limits of 50-150% listed in the LCG Table 2, with exceptions noted in the table below. All validated samples in SDG L08060612 were re-extracted due to marginal surrogate failures in associated QC; however, as all surrogate recoveries for the validated original sample analyses were within control limits, the re-extraction analyses were rejected, "R," in favor of the original analyses and coded with a "D" qualification code.

  When no other qualifications with conflicting bias were assigned to a result, the results listed in the table below were qualified as estimated with a potential negative bias, "J-," for detects and UJ," for nondetects, and coded with an "S" qualification code.

Samples qualified for surrogate recovery outliers			
Surrogate	**Recovery**	**Analytes**	**Qualified Samples**
2-fluorophenol	48.6	all acid compounds	LL2SS-285M-1244-SO
2-fluorophenol	46.1	all acid compounds	LL3SS-256M-1190-SO
2-fluorobiphenyl 2-fluorophenol nitrobenzene-d5 phenol-d5	33.3 33.6 36.9 36.1	All	LL3SS-256M-1191-SO
2-fluorobiphenyl	49.6	All base/neutral compounds	LL3SS-258M-1194-SO
2-fluorobiphenyl 2-fluorophenol	46.2 49.9	All	LL3SS-258M-1196-SO
2,4,6-tribromophenol 2-fluorobiphenyl 2-fluorophenol nitrobenzene-d5 p-terphenyl-d14 phenol-d5	46.5 36.3 46.3 44.3 34.4 49.5	All	LL3SS-258M-1197-SO
2-fluorobiphenyl 2-fluorophenol nitrobenzene-d5	47.5 43.8 46.4	All	LL3SS-212M-1202-SO
2-fluorobiphenyl 2-fluorophenol nitrobenzene-d5	40.4 37.6 39.6	All	LL3SS-212M-1204-SO

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on sample LL2SS-288M-1251-SO. Recoveries and RPDs were within of the control limits of 45-135% and ≤50%, respectively, listed in the LCG Table 2, with exceptions affecting parent sample results noted in the table below. Using professional judgment, the reviewer applied qualifications based on consistent outliers in both the MS and MSD of the pair. Nondetected analytes recovered at <20% were rejected, "R," and nondetected analytes recovered >20% were qualified as estimated, "UJ." All qualified results were coded with a "Q" qualification code.

Samples qualified for MS/MSD recovery outliers		
Analyte	**Recovery Outlier MS / MSD**	**Parent Sample**
benzoic acid bis(2-chloroisopropyl)ether	20.3 / **19.9** 42.9 / 40.4	LL2SS-288M-1251-SO

Bold analytes and recoveries indicate rejected results.

- Internal Standards Performance: The internal standard area counts and retention times were within the LCG Table 2 control limits established by the midpoint initial calibration standard: ±30 seconds for retention times and -50% / +100% for internal standard areas.

- Compound Identification: Compound identification was verified for those samples validated at a Level IV. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified for those samples validated at a Level IV. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory.

- System Performance: Review of the raw data indicated no problems with system performance.

- Some routine manual integrations were performed for calibration and QC data associated with the sample data, and some sample detects required manual integration. All manual integrations reviewed at Level IV were deemed appropriate by the reviewer.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Three equipment rinsate samples were collected and analyzed for semivolatiles but were not associated with the samples validated at Level IV or III.

o Field Duplicate Samples: Five field duplicate and blind field duplicate pairs were analyzed for SVOCs. Except as listed below, the primary sample/blind field duplicate RPDs were within the control limit listed in the FWQAPP Table 3-1 of ≤50%. One pair (LL3SS-256M-1188-SO (2×)/LL3SS-256M-1190-SO (1×)/LL3SS-256M-1191-SO (1×)) required different dilutions, and the outlier RPDs within the pairs were fairly consistent, indicative of inhomogeneous sample matrix.

Table 8. SV field duplicate comparison

Primary Sample	Field Duplicate Sample	Analyte	RPD
LL2SS-285M-1244-SO	LL2SS-285M-1246-SO	Benzo(a)anthracene	57%
		Benzo(a)pyrene	64%
		Benzo(b)fluoranthene	67%
		Benzo(g,h,i)Perylene	81%
		Benzo(k)fluoranthene	70%
		Chrysene	62%
		Fluoranthene	52%
		Indeno(1,2,3-cd)pyrene	73%
		Pyrene	55%
LL3SS-256M-1188-SO	LL3SS-256M-1190-SO	Anthracene	153%
		Benzo(a)anthracene	135%
		Benzo(a)pyrene	127%
		Benzo(b)fluoranthene	110%
		Benzo(g,h,i)Perylene	87%
		Benzo(k)fluoranthene	134%
		Carbazole	108%
		Chrysene	127%
		Dibenzofuran	75%
		Phenanthrene	158%
		Pyrene	136%
LL3SS-258M-1194-SO	LL3SS-258M-1196-SO	Fluoranthene	52%
		Phenanthrene	79%
		Pyrene	53%
LL4SS-212M-1202-SO	LL4SS-212M-1204-SO	Benzo(a)anthracene	60%
		Benzo(a)pyrene	65%
		Benzo(b)fluoranthene	69%
		Benzo(k)fluoranthene	75%
		Chrysene	72%
		Fluoranthene	130%
		Phenanthrene	75%
		Pyrene	115%

Table 9. SV blind field duplicate comparison

Primary Sample	Blind Duplicate Sample	Analyte	RPD
LL2SS-278M-1231-SO	LL2SS-278M-1234-SO	Benzo(a)pyrene	51%
LL2SS-285M-1244-SO	LL2SS-285M-1247-SO	2,4-Dinitrotoluene	89%
		Anthracene	66%
		Benzo(a)anthracene	101%
		Benzo(a)pyrene	101%
		Benzo(b)fluoranthene	98%
		Benzo(g,h,i)Perylene	92%
		Benzo(k)fluoranthene	109%
		Chrysene	101%
		Fluoranthene	97%
		Indeno(1,2,3-cd)pyrene	79%
		Phenanthrene	83%
		Pyrene	97%
LL3SS-256M-1188-SO	LL3SS-256M-1191-SO	Anthracene	153%
		Benzo(a)anthracene	146%
		Benzo(a)pyrene	139%
		Benzo(b)fluoranthene	125%
		Benzo(g,h,i)Perylene	87%
		Benzo(k)fluoranthene	143%
		Carbazole	108%
		Chrysene	140%
		Dibenzofuran	75%
		Phenanthrene	173%
		Pyrene	152%
LL4SS-212M-1202-SO	LL4SS-212M-1205-SO	Fluoranthene	60%

4.5 VOLATILE ORGANIC COMPOUNDS (VOCS)

Eighteen of the 114 samples collected were analyzed by Microbac for volatile compounds by USEPA Method 8260B.

- MDL studies were not evaluated as part of this project.
- GC/MS Tuning: The BFB tunes met the method abundance criteria. The samples were analyzed within 12 hours of the BFB injection time.
- Calibration: Calibration criteria were met, with exceptions affecting sample results noted in the tables below.
    - Initial calibration average RRFs and ICV and CCV RRFs were within method control limits of ≥0.050 for system performance check compounds (SPCCs). Except as noted in the table below, remaining RRFs were >0.05. Sample results for the

average RRF outlier were qualified as estimated, "J," for detects or rejected, "R," for nondetects in the affected samples, and all were coded with an "R" qualification code.

Samples qualified for RRF outliers			
Analyte	**Average RRF**	**Date / Instrument**	**Affected Samples**
acetone	0.04248	06/27/08 / MS10	Validated water samples of L08060612, L08060761, L08060886

Bold analytes indicate rejected nondetected results in the affected samples.

Except as noted in the table below, all initial calibration %RSDs were within the method control limits listed in the LCG Table 1, of ≤30% for calibration check compounds (CCCs) and ≤15% for remaining compounds, or linear regression r values ≥0.995. Sample results for the %RSD or r value outliers were qualified as estimated, "J," for detects, or rejected, "R," for nondetects in the affected samples, and coded with a "C" qualification code.

Samples qualified for %RSD or r value outliers			
Analyte	**%RSD or r value**	**Date / Instrument**	**Affected Samples**
acetone **styrene**	45.3 49.9	06/26/08 / MS9	Validated soil samples of L08060612, L08060761, L08060852, L08060886

Bold analytes indicate rejected nondetected results in the affected samples.

- All second source initial calibration verification standard recoveries were within the control limits listed in the LCG Table 1 of 80-120%.

- Continuing calibration %Ds were within the method control limits of ≤20% listed in the LCG Table 1, with one exception affecting sample data noted in the table below. When no other qualifications with conflicting bias were assigned to a result, affected sample results for %D outliers with a negative bias were qualified as estimated, "J-," for detects, or rejected, "R," for nondetects, and coded with a "C" qualification code.

Samples qualified for %D outliers			
Analyte	**%D**	**Date / Instrument**	**Affected Samples**
carbon disulfide	20.3	07/03/08 / MS9	Validated soil samples of L08060886

Bold analytes indicate rejected results in the affected samples.

- MRL standard recoveries were within the control limits of 70-130% listed in the LCG Table 1, with exceptions affecting sample results listed in the table below. When no other qualifications with conflicting bias were assigned to a result, affected sample results associated with recovery outliers below the QC limits but ≥60% were qualified as estimated, "J-," for detects, or "UJ," for nondetects, and coded with a "C" qualification code. Results previously rejected were not further qualified.

Samples qualified for MRL recovery outliers			
Analyte	**Recovery Outliers Begin / End**	**Date / Instrument**	**Affected Samples**
bromoform	— / 65.4	06/30/08 / MS10	LL2SS-288D-0000-TB of L08060612
4-methyl-2-pentanone	63.7 / 67.7	07/02/08 / MS9	Validated soil samples of L08060761
2-butanone 4-methyl-2-pentanone	— / 69.9 66.6 / 60.2	07/03/08 / MS9	Validated soil samples of L08060886

- Blanks: The method blanks associated with those samples validated at Levels III and IV had no target compound detects above the control limits listed in the LCG Table 1 of one-half the reporting limit for target compounds, and no common laboratory contaminant

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the control limits listed in the LCG Appendix C.

- Surrogate Recovery: Primary laboratory surrogate recoveries were within the control limits of 50-150% listed in the LCG Table 1.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on any of the validated samples of these SDGs. Three un-validated samples were used for batch MS/MSD. Evaluation of method precision and/or accuracy was based on LCS/LCSD and/or LCS results.

- Internal Standards Performance: The internal standard area counts and retention times were within the LCG Table 1 control limits established by the midpoint initial calibration standard: ±30 seconds for retention times and -50% / +100% for internal standard areas.

- Compound Identification: Compound identification was verified for the sample validated at a Level IV. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification.

- Compound Quantification and Reported Detection Limits: Compound quantification was verified for the sample validated at a Level IV. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, “J,” by the laboratory.

- System Performance: Review of the raw data indicated no problems with system performance.

- Manual integrations were not performed for the sample validated at Level IV, or for associated calibration and QC samples.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC

data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- o Trip Blanks: Four trip blank samples were associated with the validated samples. Sample LL2SS-286D-0000-TB had reported detects between the MDL and the RL for acetone (4.58 µg/L), methylene chloride (0.611 µg/L), and toluene (0.435 µg/L). Sample LL3SS-256D-0000-TB had reported detects between the MDL and the RL for acetone (5.70 µg/L) and methylene chloride (0.652 µg/L). The validated associated site samples had no reported detects for the trip blank contaminants. Samples LL2SS-288D-0000-TB and LL4SS-201D-0000-TB had no reported detects above the MDL.

- o Field Blanks and Equipment Rinsates: The samples validated for these SDGs had no associated field blank or equipment rinsate samples.

- o Field Duplicate Samples: Ten field duplicate blind field duplicate pairs were analyzed for VOCs. All primary sample/blind field duplicate RPDs were within the control limit listed in the FWQAPP Table 3-1 of ≤50%.

4.6 METALS

One hundred and two samples of the 114 samples collected were analyzed by Microbac for various metals by USEPA Methods 6010B, 6020 and 7471A.

- Calibration: Except as noted below, calibration criteria were met.

  - o Initial calibration: Linear regression r values were within the control limit listed in the LCG Tables 7 and 9 of ≥0.995.

  - o The %RSDs for the ICV and continuing calibration verification (CCV) standards were within the control limit listed in the LCG Table 7 of <5%.

  - o The inductively coupled plasma (ICP) and ICP-mass spectrometer (ICPMS) ICV and CCV recoveries were within the control limits listed in LCG Table 7 of 90-110%. ICV and CCV recoveries were within the control limits listed in the LCG Table 9 of 80-120% for mercury.

  - o As per the DoD QSM table B-7, ICPMS mass calibrations were within 0.1 atomic mass units (amu) of the true values, peak resolutions were less than 0.9 amu (full width-10% height) and the %RSDs were less than 5%.

  - o Except as noted below, MRL recoveries were within the control limits listed in the LCG Tables 7 and 9 of 70-130%. Nondetected results were not qualified for high recoveries. Samples with results that were greater than 10× the reporting limit were not qualified for MRL recovery outliers as it was the reviewer's professional

opinion that at those concentrations, the CCV recoveries were more indicative of the instrument performance relative to the sample.

Results noted in the table below were qualified as estimated, "J," for detects and "UJ," for nondetects in the associated samples; however, nondetected results were not qualified for recoveries above the control limit. All qualified results were coded with a "C" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results with low recoveries were assigned a negative bias, "J-," and detected results with high recoveries were assigned a positive bias, "J+."

Samples qualified for MRL recovery outliers		
Analyte	**Recovery**	**Qualified Samples**
Silver	69%	Silver in validated samples of L08060612
Selenium	139%	Selenium in validated samples of L08060852
Cadmium	153% 140%	Cadmium in validated samples of L08070074
Silver	132%	Silver in validated samples of L08070074

MRL analyses were not always performed every 12 hours or at the beginning and end of an analytical sequence, as per the LCG Tables 7 and 9. In these instances, the site samples were analyzed at a point in time near the MRL samples; therefore, in the reviewer's professional opinion, the sample results were not compromised.

- MDL Verification: The laboratory did not provide MDL verification information.

- Blanks: Except as noted below, method blanks and CCBs (Level IV only) had no applicable detects above the control limit listed in the LCG Tables 7 and 9 of one-half the MRL. Samples noted in the table below were qualified as nondetected, "U," at the reporting limit if detected below the reporting limit or at the level of contamination if detected above the reporting limit. When associated with a negative blank value, results were qualified as estimated, "J," for detects and, "UJ," for nondetect. All qualified samples noted below were coded with a "B" qualification code.

Samples qualified due to blank detects		
Analyte	**Blank Detect**	**Qualified Samples**
Antimony	0.153 µg/L	Antimony in LL2SS-305M-1273-S
Sodium	43.8 mg/kg%	Sodium in validated samples of L08070074
Sodium	255 mg/kg%	Sodium in validated samples of L08070111

- Interference Check Samples: ICP and ICPMS interference check sample A (ICSA) and AB (ICSAB) recoveries were within the control limits listed in QAPP Table 7 of 80-120%.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the control limits listed in LCG Appendix C of 80-120%.

- Laboratory Duplicates: Except as noted below, laboratory duplicate RPDs were within the control limits listed in the FWQAPP Table 3-1 of ≤20%. The duplicate criterion was only applied when the original sample result was nominally ≥5× the reporting limit. In cases where the original sample result was <5× the reporting limit, the reasonable control limit of ± the reporting limit was applied. In instances where more than one laboratory duplicate was analyzed in an SDG, parent samples were qualified only for the RPD outliers in the sample's laboratory duplicate. Otherwise, as per the National Functional Guidelines, all samples in an SDG were qualified for associated RPD outliers.

  Detected analytes noted in the table below were qualified as estimated detects, "J." All qualified results were coded with an "E" qualification code.

Samples qualified for laboratory duplicate RPD outliers			
Parent Sample	**Analyte**	**RPD**	**Qualified Samples**
LL2SS-288M-1251-SO	Nickel	34%	Nickel in all samples in SDG L08060612.
LL2SS-292M-1256-SO	Nickel	32.5%	Nickel in all samples in SDG L08060652
LL3SS-266M-1205-SO	Nickel	71.5%	Nickel in all samples in SDG L08060852
LL4SS-202M-1188-SO	Calcium	41.5%	Calcium in all samples in SDG L08060886

- Matrix Spike/Matrix Spike Duplicate: Except as noted below, recoveries were within the control limits listed in FWQAPP Table 3-1 of 75-125%. Matrix spike control limits were not applied when the native sample concentration exceeded the spiked amount by a factor of four or more. In instances where more than one matrix spike was analyzed in an SDG, parent samples were qualified only for the recovery outliers in the sample's matrix spike. Otherwise, as per the National Functional Guidelines, all samples in an SDG were qualified for associated recovery outliers.

  Nondetected results associated with recoveries less than 30% were rejected, "R," and are noted in **bold** in the table below. All remaining results noted in the table below were qualified as estimated, "J," for detects and "UJ," for nondetects in the associated samples; however, nondetected results were not qualified for recoveries above the control limit. All qualified results were coded with a "Q" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results with low recoveries were assigned a negative bias, "J-," and detected results with high recoveries were assigned a positive bias, "J+."

Samples qualified for matrix spike recovery outliers			
Parent Sample	**Analyte**	**Recovery**	**Qualified Samples**
LL2SS-288M-1251-SO	Antimony	5%	**Antimony in all samples in SDG L08060612**
	Arsenic	70.8%	Arsenic in all samples in SDG L08060612.
	Potassium	150%	Potassium in all samples in SDG L08060612.
LL2SS-305M-1273-SO	Antimony	2.2%	**Antimony in all samples in SDG L08060623**

Samples qualified for matrix spike recovery outliers			
Parent Sample	**Analyte**	**Recovery**	**Qualified Samples**
	Cobalt	126%	Cobalt in all samples in SDG L08060623
	Copper	188%	Copper in all samples in SDG L08060623
	Potassium	140%	Potassium in all samples in SDG L08060623
	Lead	46%	Lead in all samples in SDG L08060623
	Nickel	515%	Nickel in all samples in SDG L08060623
LL2SS-292M-1256-SO	Antimony	2%	**Antimony in all samples in SDG L08060652**
	Arsenic	52.6%	Arsenic in all samples in SDG L08060652
	Selenium	70.4%	Selenium in all samples in SDG L08060652
	Nickel	48.8%	Nickel in all samples in SDG L08060652
LL3SS-249M-1178-SO	Antimony	5%	**Antimony in all samples in L08060761**
	Selenium	74.2%	Selenium in all samples in SDG L08060761
LL3SS-266M-1205-SO	Antimony	4.6%	**Antimony in all samples in L08060852**
	Arsenic	68%	Arsenic in all samples in L08060852
	Nickel	-15%	Nickel in all samples in L08060852
LL3SS-268M-1210-SO	Potassium	137%	Potassium in all samples in L08060852
LL4SS-202M-1188-SO	Antimony	5%	**Antimony in all samples in L08060886**
	Arsenic	69.1%	Arsenic in all samples in L08060886
	Potassium	136%	Potassium in all samples in L08060886
	Selenium	61.5%	Selenium in all samples in L08060886
	Nickel	40.1%	Nickel in all samples in L08060886
LL4SS-217M-1213-SO	Antimony	1%	**Antimony in all samples in L08070074**
	Arsenic	74.5%	Arsenic in all samples in L08070074
	Potassium	161%	Potassium in all samples in L08070074
	Selenium	67.3%	Selenium in all samples in L08070074
LL4SS-222M-1219-SO	Antimony	6%	**Antimony in all samples in L08070111**

- Serial Dilution: Except as noted below, serial dilution %Ds were within the control limit listed in LCG Table 7 of ≤10%. The serial dilution control limit is only applicable when the original sample concentration is minimally ≥50× the MDL for ICP analytes and ≥25× the MDL for mercury. As per the National Functional Guidelines, all samples in an SDG were qualified for associated %D outliers.

  All detect results for the analytes noted in the table below were qualified as estimated, "J," and were coded with an "A" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results noted in the table below were assigned a negative bias, "J-."

Samples qualified for serial dilution %D outliers			
Parent Sample	**Analyte**	**%D**	**Qualified Samples**
LL2SS-312M-1283-SO	Iron	15.6%	Iron in all validated samples in SDG L08060612
	Manganese	24.5%	Manganese in validated samples of L08060612.
	Chromium	10.9%	Chromium in validated samples of L08060612.
	Cobalt	23.1	Cobalt in validated samples of L08060612.
LL2SS-305M-1275-SO	Cobalt	21.6%	Cobalt in validated samples of L08060623
	Iron	14%	Iron in LL2SS-305M-1273-SO. Iron in parent

Samples qualified for serial dilution %D outliers			
Parent Sample	**Analyte**	**%D**	**Qualified Samples**
			sample was reported from a 5× dilution which had an acceptable %D for iron in the separate serial dilution performed at 25×.
	Manganese	20.9%	Manganese in validated samples of L08060623
	Vanadium	14%	Vanadium in validated samples of L08060623
	Zinc	12.3%	Zinc in validated samples of L08060623
LL2SS-285M-1244-SO	Chromium	10.4%	Chromium in validated samples of L08060652
	Cobalt	25.3%	Cobalt in validated samples of L08060652
	Iron	14.5%	Iron in validated samples of L08060652
	Manganese	22.4%	Manganese in validated samples of L08060652
	Vanadium	12.4%	Vanadium in validated samples of L08060652
	Zinc	11.7%	Zinc in all samples in SDG L08060652
LL2SS-285M-1246-SO	Arsenic	16.4	Arsenic in all samples in SDG L08060652
LL2SS-286M-1248-SO	Calcium	11.1%	Calcium in validated samples of L08060761
	Chromium	13.7%	Chromium in validated samples of L08060761
	Cobalt	20.9%	Cobalt in validated samples of L08060761
	Iron	18.8%	Iron in validated samples of L08060761
	Manganese	24.9%	Manganese in validated samples of L08060761
	Zinc	10.2	Zinc in validated samples of L08060761
LL2SS-287M-1250-SO	Arsenic	16.8%	Arsenic in validated samples of L08060761
	Nickel	12.2%	Nickel in validated samples of L08060761
LL3SS-267M-1207-SO	Manganese	15.1%	Manganese in validated samples of L08060852
	Arsenic	36.1%	Arsenic in validated samples of L08060852
	Lead	24.7%	Lead in validated samples of L08060852, except LL3SS-256M-1190-SO which was reported from a 10× dilution. The lead %D was acceptable in a separate 25× serial dilution.
	Nickel	33.8%	Nickel in validated samples of L08060852
LL3SS-258M-1197-SO	Chromium	13.1%	Chromium in validated samples of L08060886
	Cobalt	26.6%	Cobalt in validated samples of L08060886
	Iron	10.6%	Iron in validated samples of L08060886, except parent sample which was reported from a 5× dilution. The lead %D was acceptable in a separate 25× serial dilution.
	Manganese	23.4%	Manganese in validated samples of L08060886
	Zinc	11.4%	Zinc in validated samples of L08060886
	Arsenic	14.8%	Arsenic in validated samples of L08060886
	Nickel	10.4%	Nickel in validated samples of L08060886
LL4SS-204M-1191-SO	Chromium	13%	Chromium in validated samples of L08070074
	Cobalt	24.4%	Cobalt in validated samples of L08070074
	Iron	16.8%	Iron in validated samples of L08070074
	Manganese	25.9%	Manganese in validated samples of L08070074
LL4SS-213M-1206-SO	Chromium	10.7%	Chromium in validated samples of L08070074
	Cobalt	24.4%	Cobalt in validated samples of L08070074
	Iron	14.1%	Iron in validated samples of L08070074

Samples qualified for serial dilution %D outliers			
Parent Sample	**Analyte**	**%D**	**Qualified Samples**
	Manganese	21.7%	Manganese in validated samples of L08070074
Laboratory duplicate of LL4SS-217M-1213-SO	Chromium	15.3%	Chromium in validated samples of L08070074
	Cobalt	26.8%	Cobalt in validated samples of L08070074
	Iron	19.7%	Iron in validated samples of L08070074
	Manganese	26.6%	Manganese in validated samples of L08070074
	Zinc	12.7%	Zinc in validated samples of L08070074
	Arsenic	16.5%	Arsenic in validated samples of L08070074
	Nickel	10.4%	Nickel in validated samples of L08070074
LL4SS-222M-1219-SO	Arsenic	23.8%	Arsenic in validated samples of L08070111
	Lead	10.5%	Lead in validated samples of L08070111

- Internal Standards: As per the DOD QSM Table B-7, the ICPMS sample internal standards intensities were within 30-120% of those in the ICB.

- Sample Result Verification: For Level IV validation, calculations were verified and the sample results reported on the sample result summary were verified against the raw data. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

  Except for SDG L08060612, the Microbac mercury raw data did not list the sample absorbances; therefore, the reviewer was not able to calculate the sample results from the raw data.

- Manual Integrations: No manual integrations were noted in the mercury analyses.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for metals but were not associated with the samples validated at Level IV or III.

  - Field Duplicate Samples: Ten field duplicate blind field duplicate pairs were analyzed for metals. Except as noted in the table below, all primary sample/blind field duplicate RPDs were within the control limit listed in the FWQAPP Table 3-1 of ≤50%.

Table 10. Metals field duplicate comparison

Primary Sample	Field Duplicate Sample	Analyte	RPD
LL2SS-278M-1231-SO	LL2SS-278M-1233-SO	Nickel	181%
LL2SS-305M-1273-SO	LL2SS-305M-1276-SO	Iron	132%
LL3SS-256M-1188-SO	LL3SS-256M-1190-SO	Lead	163%

Table 11. Metals blind field duplicate comparison

Primary Sample	Blind Duplicate Sample	Analyte	RPD
LL2SS-278M-1231-SO	LL2SS-278M-1234-SO	Silver	120%
LL2SS-297M-1261-SO	LL2SS-297M-1264-SO	Silver	90%
LL2SS-305M-1273-SO	LL2SS-305M-1276-SO	Nickel	68%

4.7 GENERAL CHEMISTRY - HEXAVALENT CHROMIUM AND NITROCELLULOSE

One hundred and two samples of the 114 samples collected were analyzed by Microbac for hexavalent chromium by USEPA Method 7196A and 22 samples of the 114 collected were analyzed by Microbac for nitrocellulose as nitrate/nitrite by USEPA Method Cold Regions Research and Engineering Laboratory's method for nitrocellulose.

- Calibration: Except as noted below, calibration criteria were met.
    - Initial calibration: Hexavalent chromium and nitrocellulose linear regression r values were within the control limit listed in the DoD QSM Table B-8 of ≥0.995.
    - The hexavalent chromium ICV and CCV recoveries were within the control limits listed in DoD QSM Tables B-8 and B-10 of 90-110%. The DoD QSM Table B-8 for hexavalent chromium also requires a CCV be analyzed every 15 samples. The laboratory only analyzed hexavalent chromium CCVs at the beginning of the analytical sequences. However, an MRL check sample was analyzed at the end of every analytical sequence. As hexavalent chromium was detected in only a few samples, and as those detects were below the MRL, it was the reviewer's professional opinion that the data was not adversely affected.
    - Hexavalent chromium MRL recoveries were within the control limits listed in the LCG Table 7 (for metals) of 70-130%. No nitrate/nitrite MRL standards were analyzed for the nitrocellulose analyses; therefore, nondetected results in LL2SS-297M-1261-SO, LL2SS297M-1263-SO, and LL2SS-297-1264-SO were qualified as estimated, "UJ." and results detected at concentrations less than 5× the reporting limit in LL3SS-256M-1191-SO and LL2SS-288M-1251-SO were qualified as estimated, "J." All qualified results were coded with a "C" qualification code.
    - MDL Verification: The laboratory did not provide hexavalent chromium MDL verification information. MDL verification was provided for nitrocellulose by nitrate/nitrite. The MDL was supported by the verification study.

- Blanks: Method blanks and CCBs (Level IV only) had no applicable detects above the control limit listed in the DoD QSM Tables B-8 and B-10 of one-half the MRL.

- Blank Spikes and Laboratory Control Samples: Hexavalent chromium recoveries were within the laboratory-established control limits of 90-110% and the nitrocellulose recoveries were within the laboratory-established control limits of 50-110%.

- Laboratory Duplicates: Hexavalent chromium laboratory duplicate RPDs were within the control limits listed in the DoD QSM Table B-8 of ≤30%. The duplicate criterion was only applied when the original sample result was nominally ≥5× the reporting limit. In cases where the original sample result was <5× the reporting limit, the reasonable control limit of ± the reporting limit was applied. No laboratory duplicates were performed for nitrocellulose by nitrate/nitrite.

- Matrix Spike/Matrix Spike Duplicate: Except as noted below, hexavalent chromium recoveries were within the control limits listed in the DoD QSM Table B-8 of 85-115% and the nitrocellulose recoveries were within the laboratory-established control limits of 50-150%. Matrix spike control limits were not applied when the native sample concentration exceeded the spiked amount by a factor of four or more. In instances where more than one matrix spike was analyzed in an SDG, parent samples were qualified only for the recovery outliers in the sample's matrix spike. Otherwise, as per the National Functional Guidelines, all samples in an SDG were qualified for an associated recovery outlier.

  Results noted in the table below were qualified as estimated, "J," for detects and "UJ," for nondetects; however, nondetected results were not qualified for recoveries above the control limit. All qualified results were coded with a "Q" qualification code. Please note that ADR coded nitrocellulose matrix spike outlier qualifications with an "*III" qualification code.

Samples qualified for matrix spike recovery outliers			
Parent Sample	**Analyte**	**Recovery**	**Qualified Samples**
LL4SS-220M-1217-SO	Hexavalent chromium	76.2%	All validated hexavalent chromium results in SDG L08070074
LL2SS-288M-1251-SO	Hexavalent chromium	66%, 68%	All validated hexavalent chromium results in SDG L08060612
LL3SS-249M-1178-SO	Nitrocellulose	40.4%	All validated nitrocellulose results in SDG L08060761
LL2SS-288M-1251-SO	Nitrocellulose	-4%	All validated nitrocellulose results in SDG L08060612

  The RPD for the nitrocellulose MS/MSD analyses of LL2SS-288M-1251-SO was above the laboratory control limit of 50%, at 60%; therefore, the validated nitrocellulose detect in SDG L08060612 were qualified as estimated, "J." The qualification was coded with an "*III" validation code.

- Sample Result Verification: For Level IV validation, calculations were verified and the sample results reported on the sample result summary were verified against the raw data. Due to color interference, numerous hexavalent chromium samples in all SDGs were reported from dilutions. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

- Manual Integrations: As No manual integrations were noted in the hexavalent chromium analyses.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - o Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for metals but were not associated with the samples validated at Level IV or III.

    - o Field Duplicate Samples: Ten field duplicate blind field duplicate pairs were analyzed for hexavalent chromium and three field duplicate and blind field duplicate pairs were analyzed for nitrocellulose. All hexavalent chromium and all but one nitrocellulose primary sample/blind field duplicate RPDs were within the control limit listed in the FWQAPP Table 3-1 of ≤50%.

Table 12. Nitrocellulose field duplicate comparison

Primary Sample	Field Duplicate Sample	RPD
LL3SS-256M-1188-SO	LL3SS-256M-1190-SO	109%

5. DATA DEFICIENCIES

5.1 REJECTED DATA

As noted in Table 12 below, some data were rejected for quality control reasons such as calibration criteria outliers, low LCS or MS/MSD recoveries. Calibration criteria outliers accounted for 97% of the organic method rejections. For the inorganic methods, all rejections were for antimony and were for low MS/MSD recoveries. In instances where a data point had multiple results, the reviewer chose the most technically sound result to report and rejected the remaining data points. These rejected data points do not affect data quality or usability and are not included in Table 12.

5.1.1 Data Qualification Summary

Table 12, below, lists the number of analytes qualified for quality control outliers. A summary of the qualifications applied to the data can be found in Appendix A.

5.2 DATA USABILITY

As the data validated in this report are not inclusive of the entire field effort, no field completeness value was calculated. As noted in Table 12 below some data were rejected; however, all remaining data is usable for its intended purposes as qualified by MEC^{X}.

The analytical completeness goal for the project that was established in the FWQAPP was 90% for each method. Data with reporting limits that exceeded the established criteria and data estimated for quality control outliers or for detects between the MDL and the RL were included in Table 13 for informational purposes only. The following table summarizes the calculated completeness for the project.

Table 13. Analytical completeness for primary data

			Number of Results					Percent Complete
Analysis	**Samples Analyzed**	**Analytes per Sample**	**Total**	**Rejected**	**MDLs Exceeding Criteria**	**Estimated for QC Outliers**	**Estimated for Detects <RL**	
Energetics	31	15	465	5	0	10	5	99.0%
Pesticides	10	21	210	0	129	92	3	100%
PCBs	16	7	112	0	28	29	0	100%
SVOCs	13	66	858	45	0	409	43	94.8%
VOCs	6	35	210	14	0	6	0	93.3%
Metals	31	23	713	29	0	260	50	95.9%
Hexavalent Chromium	31	1	31	0	0	13	2	100%

			Number of Results					Percent Complete
Analysis	**Samples Analyzed**	**Analytes per Sample**	**Total**	**Rejected**	**MDLs Exceeding Criteria**	**Estimated for QC Outliers**	**Estimated for Detects <RL**	
Nitroguanidine	7	1	7	0	0	7	0	100%
Nitrocellulose	7	1	7	0	0	5	0	100%
		Totals	**2613**	**93**	**157**	**831**	**103**	**96.5%**

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 PRIMARY AND FIELD DUPLICATE SAMPLE COMPARISON SUMMARY

Primary and field duplicate sample comparisons were considered to be in good agreement. Less than 5% of the field duplicate and blind field duplicate pair results were above the FWQAPP control limit of 50%. Of the few discrepancies, most occurred for SV compounds in primary sample/field duplicate/blind field duplicate sets LL3SS-256M-1188-SO/LL3SS-256M-1190-SO/LL3SS-256M-1191-SO and LL2SS-285M-1244-SO/LL2SS285M-1246-SO/LL2SS-285M-1247-SO. Primary sample LL3SS-256M-1190-SO was analyzed at a 2× dilution while the associated field duplicate and blind field duplicate were analyzed undiluted. In general, the outlying RPDs for each set of duplicates were consistent, indicating sample inhomogeniety.

False negatives were identified in the Level IV validation of the pesticide data. As not all primary, field duplicate, and blind field duplicate samples were validated at Level IV, the results for the pesticide field duplicate and blind duplicate pairs were not assessed due to the potential for unidentified false negative in the samples validated at Level III.

Table 14. Primary/field duplicate sample comparison summary

Method	Number of Analytes	Primary/Field Duplicate Pairs	Total Analytes	Number of RPDs within control limit	Number of RPDs above control limit
Energetics	15	14	210	205	5
Pesticides	21	1	21	Not calculated	
PCBs	9	4	36	34	2
SVOCs	66	5	330	296	31
Metals	23	10	230	227	3
Hexavalent chromium	1	10	10	10	0
Nitroguanidine	1	3	3	3	0
Nitrocellulose	1	3	3	2	1

Table 15. Primary/blind field duplicate sample comparison summary

Method	Number of Analytes	Primary/Field Duplicate Pairs	Total Analytes	Number of RPDs within control limit	Number of RPDs above control limit
Energetics	15	14	210	205	5
Pesticides	21	1	21	Not calculated	
PCBs	9	4	36	35	1
SVOCs	72	5	360	325	25
VOCs	35	3	105	105	0
Metals	23	10	230	227	3
Hexavalent chromium	1	10	10	10	0
Nitrocellulose	1	3	3	3	0

6.2 SPECIFIC DATA CONCERNS

Specific concerns regarding the data are noted below:

- False negatives were identified in the pesticide data. When a compound retention time (RT) shift exceeded half of the defined RT window, the laboratory flagged the compound with an "F," only on the quantitation report, and did not report the compound as detected. In these instances, MEC^X qualified the results as false negatives. I

  It is likely that false negatives exist in the unvalidated data.

- Primary column analyses were not performed for the undiluted analyses of samples LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO while both primary and confirmation analyses were performed for the diluted analyses of these samples. Some energetic compounds were noted to be present below the MDL in the primary column diluted analyses that were confirmed and present above the MDL in the undiluted confirmation column analyses.

- Except for SDG L08060612, the mercury raw data did not list the sample absorbances; therefore, the reviewer was not able to calculate the sample results from the raw data.

- The laboratory reported total xylenes and total 1,2-dichloroethene instead of the specific isomers, m,p-xylene, o-xylene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene.

- The following reporting limits exceeded the criteria listed in Table 3-3 of the FWQAPP and Appendix A of the QAPP Addendum:

  - All reporting limits for eight semivolatile organic compounds: 2,4-dinitrophenol, n-nitroaniline, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,5-dinitro-2-methylphenol, 4-nitroaniline, 4-nitrophenol, pentachlorophenol. (All MDLs did meet the reporting limit criteria.)

  - Due to small sample aliquots, all reporting limits for 28 volatile organic compounds (all compounds except 2-butanone, 2-hexanone, and 4-methyl-2-pentanone) in three samples (LL2SS-280D-1237-SO, LL2SS-280D-1239-SO, LL4SS-201D-1185-SO) marginally exceeded the reporting limit criteria. It should be noted that all MDLs did meet the reporting limit criteria.

  - Due to dilutions performed to mitigate matrix interference, all pesticide compounds in all samples exceeded the reporting limit criteria.

  - Due to dilutions performed to report Aroclor-1254 within the linear range of the calibration, all PCB reporting limits in five samples (LL2SS-285M-1244-SO, LL2SS-285M-1246-SO, LL3SS-1188-SO, LL3SS-256M-1190-SO, LL3SS-256M-1191-SO) exceeded the criteria.

In order to avoid repetition of the issues noted above, the following actions should be taken:

- The exact process used to confirm analyte identification in gas chromatographic methods should be reviewed with Microbac and discrepancies between the method and the laboratory's actions should be pointed out. A laboratory audit may also help identify related issues.

- The QAPP should list the primary compounds of concern and this list should be provided to the laboratory project manager. This list can be used by the laboratory analysts in order to determine if undiluted analyses should be performed to confirm specific compounds of concern.

- A comprehensive list of items in a Level IV data packages should be listed in the QAPP and provided to the laboratory project manager. This list should note that the raw data for all spectroscopic methods must include the raw absorbances.

- A specific analyte list should be given to the laboratory project manager for review and confirmation. Alternate laboratories should be subcontracted in the event the laboratory cannot report all necessary analytes.

- QAPP required reporting limit tables should be sent to the laboratory project manager to ensure compliance with project requirements. Deficient reporting limits should be pointed out to the laboratory and alternative laboratories should be subcontracted in the event that the laboratory cannot comply with the project requirements.

7. REFERENCES

Contract Laboratory Program National Functional Guidelines for Organic Data Review. United States Environmental Protection Agency Contract Laboratory Program (CLP). February 1994.

Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. United States Environmental Protection Agency. February 1994.

Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3. DoD Data Quality Workgroup. January 2006.

Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition plant, Ravenna, Ohio. SAIC. March 2001.

Louisville Chemistry Guideline, Version 5, Environmental Engineering Branch, United States Army Corps of Engineers, Louisville District. June 2002.

Quality Assurance Project Plan for Environmental Investigations at the Ravenna Army Ammunition Plant. SAIC. March 2001.

Quality Assurance Project Plan Addendum for the Sampling of Soils Below Floor Slabs at LLs-2, 3, 4, and Excavation and Transportation of Contaminated Soils to Load Lines 4. URS. April 2008.

Shell for Analytical Chemistry Requirements. United State Army Corps of Engineers. February 2001.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Revision 6. United States Environmental Protection Agency. February 2007.

APPENDIX A

Qualified Sample Result Forms

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient was noncompliant.
R	Calibration RRF was noncompliant.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tuning was noncompliant
T	Presumed contamination as indicated by the trip blank results.	Not applicable
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).

Validated Sample Result Forms: L08060612

Analysis Method 6010B

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Potassium	7440-09-7	934	35.8	17.9	mg/kg		**J+**	**Q**
Vanadium	7440-62-2	12.3	0.358	0.179	mg/kg			
Sodium	7440-23-5	58.6	17.9	3.58	mg/kg			
Magnesium	7439-95-4	2980	17.9	8.59	mg/kg			
Zinc	7440-66-6	62.4	0.716	0.358	mg/kg			
Iron	7439-89-6	20200	1.43	0.716	mg/kg		**J-**	**A**
Copper	7440-50-8	21.0	0.179	0.0859	mg/kg			
Chromium	7440-47-3	27.2	0.179	0.0859	mg/kg		**J-**	**A**
Aluminum	7429-90-5	8190	14.3	7.16	mg/kg			
Cadmium	7440-43-9	0.386	0.0716	0.0358	mg/kg			
Calcium	7440-70-2	5020	7.16	3.58	mg/kg	B		
Beryllium	7440-41-7	0.491	0.0179	0.00859	mg/kg			
Barium	7440-39-3	44.9	0.358	0.0716	mg/kg			
Silver	7440-22-4	0.179	0.358	0.179	mg/kg	U	**UJ**	**C**
Cobalt	7440-48-4	7.41	0.179	0.0859	mg/kg		**J-**	**A**
Manganese	7439-96-5	324	0.358	0.0716	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL2SS-278M-1233-SO **AnalysisType:** RES

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Iron	7439-89-6	20600	1.46	0.732	mg/kg		**J-**	**A**
Potassium	7440-09-7	878	36.6	18.3	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	3050	18.3	8.78	mg/kg			
Manganese	7439-96-5	368	0.366	0.0732	mg/kg		**J-**	**A**
Sodium	7440-23-5	63.3	18.3	3.66	mg/kg			
Zinc	7440-66-6	66.4	0.732	0.366	mg/kg			
Calcium	7440-70-2	6490	7.32	3.66	mg/kg	B		
Vanadium	7440-62-2	12.3	0.366	0.183	mg/kg			
Copper	7440-50-8	22.6	0.183	0.0878	mg/kg			
Chromium	7440-47-3	23.5	0.183	0.0878	mg/kg		**J-**	**A**
Cobalt	7440-48-4	8.12	0.183	0.0878	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.407	0.0732	0.0366	mg/kg			
Beryllium	7440-41-7	0.513	0.0183	0.00878	mg/kg			
Barium	7440-39-3	46.2	0.366	0.0732	mg/kg			
Aluminum	7429-90-5	7940	14.6	7.32	mg/kg			
Silver	7440-22-4	0.236	0.366	0.183	mg/kg	J	**J**	**C**

Analysis Method 6010B

Sample Name LL2SS-278M-1234-SO **AnalysisType:** RES

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Silver	7440-22-4	0.714	0.364	0.182	mg/kg		**J-**	**C**
Sodium	7440-23-5	62.7	18.2	3.64	mg/kg			
Barium	7440-39-3	51.5	0.364	0.0729	mg/kg			
Beryllium	7440-41-7	0.542	0.0182	0.00875	mg/kg			
Calcium	7440-70-2	3310	7.29	3.64	mg/kg	B		
Cadmium	7440-43-9	0.472	0.0729	0.0364	mg/kg			
Cobalt	7440-48-4	8.00	0.182	0.0875	mg/kg		**J-**	**A**
Chromium	7440-47-3	22.1	0.182	0.0875	mg/kg		**J-**	**A**
Copper	7440-50-8	22.5	0.182	0.0875	mg/kg			
Iron	7439-89-6	21100	1.46	0.729	mg/kg		**J-**	**A**
Potassium	7440-09-7	966	36.4	18.2	mg/kg		**J+**	**Q**
Manganese	7439-96-5	338	0.364	0.0729	mg/kg		**J-**	**A**
Aluminum	7429-90-5	8550	14.6	7.29	mg/kg			
Vanadium	7440-62-2	13.5	0.364	0.182	mg/kg			
Zinc	7440-66-6	61.3	0.729	0.364	mg/kg			
Magnesium	7439-95-4	2590	18.2	8.75	mg/kg			

Analysis Method 6010B

Sample Name LL2SS-288M-1251-SO **AnalysisType:** RES

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Manganese	7439-96-5	349	0.377	0.0755	mg/kg		**J-**	**A**
Aluminum	7429-90-5	10700	15.1	7.55	mg/kg			
Copper	7440-50-8	23.2	0.189	0.0906	mg/kg			
Vanadium	7440-62-2	15.7	0.377	0.189	mg/kg			
Iron	7439-89-6	23800	1.51	0.755	mg/kg		**J-**	**A**
Silver	7440-22-4	0.190	0.377	0.189	mg/kg	J	**J**	**C**
Potassium	7440-09-7	1360	37.7	18.9	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	4740	18.9	9.06	mg/kg			
Beryllium	7440-41-7	0.547	0.0189	0.00906	mg/kg			
Cobalt	7440-48-4	8.74	0.189	0.0906	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.535	0.0755	0.0377	mg/kg			
Calcium	7440-70-2	11000	7.55	3.77	mg/kg	B		
Chromium	7440-47-3	16.4	0.189	0.0906	mg/kg		**J-**	**A**
Zinc	7440-66-6	74.0	0.755	0.377	mg/kg			
Sodium	7440-23-5	92.0	18.9	3.77	mg/kg			
Barium	7440-39-3	58.7	0.377	0.0755	mg/kg			

Analysis Method 6020

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nickel	7440-02-0	28.2	0.783	0.196	mg/kg		**J**	**E**
Lead	7439-92-1	23.8	0.196	0.0979	mg/kg			
Antimony	7440-36-0	0.0490	0.0979	0.0490	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.191	0.196	0.0979	mg/kg	J	**J**	
Thallium	7440-28-0	0.129	0.0196	0.00979	mg/kg			
Arsenic	7440-38-2	12.1	0.294	0.0734	mg/kg		**J-**	**Q**

Sample Name LL2SS-278M-1233-SO **AnalysisType:** RES

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	12.4	0.294	0.0736	mg/kg		**J-**	**Q**
Lead	7439-92-1	22.7	0.196	0.0982	mg/kg			
Antimony	7440-36-0	0.0491	0.0982	0.0491	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.316	0.196	0.0982	mg/kg			
Thallium	7440-28-0	0.136	0.0196	0.00982	mg/kg			
Nickel	7440-02-0	180	15.7	3.93	mg/kg		**J**	**E**

Sample Name LL2SS-278M-1234-SO **AnalysisType:** RES

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0491	0.0981	0.0491	mg/kg	U	**R**	**Q**
Arsenic	7440-38-2	10.4	0.294	0.0736	mg/kg		**J-**	**Q**
Selenium	7782-49-2	0.200	0.196	0.0981	mg/kg			
Thallium	7440-28-0	0.143	0.0196	0.00981	mg/kg			
Nickel	7440-02-0	35.4	0.785	0.196	mg/kg		**J**	**F**
Lead	7439-92-1	22.4	0.196	0.0981	mg/kg			

Analysis Method 6020

Sample Name LL2SS-288M-1251-SO **AnalysisType:** RES

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Selenium	7782-49-2	0.241	0.192	0.0961	mg/kg			
Antimony	7440-36-0	0.0557	0.0961	0.0481	mg/kg	J	**J**	**Q**
Lead	7439-92-1	19.0	0.192	0.0961	mg/kg			
Arsenic	7440-38-2	15.0	0.288	0.0721	mg/kg		**J-**	**Q**
Thallium	7440-28-0	0.144	0.0192	0.00961	mg/kg			
Nickel	7440-02-0	71.6	3.84	0.961	mg/kg		**J**	**E**

Analysis Method 7471A

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0150	0.101	0.0101	mg/kg	J	**J**	

Sample Name LL2SS-278M-1233-SO **AnalysisType:** RES

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0120	0.102	0.0102	mg/kg	J	**J**	

Sample Name LL2SS-278M-1234-SO **AnalysisType:** RES

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0142	0.102	0.0102	mg/kg	J	**J**	

Sample Name LL2SS-288M-1251-SO **AnalysisType:** RES

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0102	0.102	0.0102	mg/kg	U	**U**	

Analysis Method 8081A

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Endrin aldehyde	7421-93-4	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin	72-20-8	3.41	17.1	3.41	ug/kg	U	**J**	**H,-,$,*III**
Endosulfan II	33213-65-9	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
4,4'-DDD	72-54-8	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Aldrin	309-00-2	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	16.9	33.4	16.9	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	0.334	1.67	0.334	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	33.9	170	33.9	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	33.9	170	33.9	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	33.9	170	33.9	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	33.9	170	33.9	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	33.9	170	33.9	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	33.9	170	33.9	ug/kg	U	**R**	**D**
Aldrin	309-00-2	33.9	170	33.9	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.41	17.1	3.41	ug/kg	U	**J**	**H,-,$,*III**
Endosulfan I	959-98-8	33.9	170	33.9	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	3.41	17.1	3.41	ug/kg	U	**J**	**H,-,$**
4,4'-DDE	72-55-9	33.9	170	33.9	ug/kg	U	**R**	**D**
Endrin	72-20-8	33.9	170	33.9	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Heptachlor	76-44-8	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
alpha Chlordane	5103-71-9	33.9	170	33.9	ug/kg	U	**R**	**D**
Aldrin	309-00-2	3.41	17.1	3.41	ug/kg	U	**UJ**	**L**

Analysis Method 8081A

4,4'-DDD	72-54-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Dieldrin	60-57-1	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Heptachlor epoxide	1024-57-3	33.9	170	33.9	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
gamma Chlordane	5103-74-2	33.9	170	33.9	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	1720	3390	1720	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	33.9	170	33.9	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	33.9	170	33.9	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	173	341	173	ug/kg	U	**UJ**	**H**
Heptachlor	76-44-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Endrin aldehyde	7421-93-4	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Endrin ketone	53494-70-5	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Methoxychlor	72-43-5	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
4,4'-DDT	50-29-3	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Endosulfan sulfate	1031-07-8	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	33.9	170	33.9	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	3.41	17.1	3.41	ug/kg	U	**UJ**	**H**
Endosulfan sulfate	1031-07-8	33.9	170	33.9	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	33.9	170	33.9	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	0.334	1.67	0.334	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	33.9	170	33.9	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	33.9	170	33.9	ug/kg	U	**R**	**D**
Endrin	72-20-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**

Analysis Method 8081A

Sample Name LL2SS-278M-1233-SO **AnalysisType:** REDL

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Dieldrin	60-57-1	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
beta-BHC	319-85-7	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
delta-BHC	319-86-8	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
gamma-BHC (Lindane)	58-89-9	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Heptachlor	76-44-8	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Endrin ketone	53494-70-5	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Aldrin	309-00-2	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Endosulfan I	959-98-8	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
4,4'-DDE	72-55-9	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Endrin	72-20-8	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Endosulfan II	33213-65-9	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
4,4'-DDD	72-54-8	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Endrin aldehyde	7421-93-4	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
alpha Chlordane	5103-71-9	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
gamma Chlordane	5103-74-2	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Toxaphene	8001-35-2	168	333	168	ug/kg	U	**UJ**	**H**
Endosulfan sulfate	1031-07-8	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
4,4'-DDT	50-29-3	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Methoxychlor	72-43-5	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Heptachlor epoxide	1024-57-3	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.33	16.6	3.33	ug/kg	U	**UJ**	**H**
Endosulfan II	33213-65-9	33.4	167	33.4	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	1690	3340	1690	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	33.4	167	33.4	ug/kg	U	**R**	**D**
Aldrin	309-00-2	33.4	167	33.4	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	33.4	167	33.4	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	33.4	167	33.4	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	33.4	167	33.4	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	33.4	167	33.4	ug/kg	U	**R**	**D**

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Toxaphene	8001-35-2	17.0	33.5	17.0	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	33.4	167	33.4	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	33.4	167	33.4	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	33.4	167	33.4	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	33.4	167	33.4	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	33.4	167	33.4	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	33.4	167	33.4	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	33.4	167	33.4	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	33.4	167	33.4	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	33.4	167	33.4	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	33.4	167	33.4	ug/kg	U	**R**	**D**
Endrin	72-20-8	33.4	167	33.4	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	0.335	1.68	0.335	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	0.335	1.68	0.335	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	0.335	1.68	0.335	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	0.335	1.68	0.335	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	0.335	1.68	0.335	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	33.4	167	33.4	ug/kg	U	**R**	**D**
Endrin	72-20-8	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	0.335	1.68	0.335	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	33.4	167	33.4	ug/kg	U	**R**	**D**
Aldrin	309-00-2	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	0.335	1.68	0.335	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	0.335	1.68	0.335	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	0.335	1.68	0.335	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	0.335	1.68	0.335	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	0.335	1.68	0.335	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	0.335	1.68	0.335	ug/kg	U	**R**	**D**

Analysis Method 8081A

Sample Name LL2SS-278M-1234-SO **AnalysisType:** REDL1

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Endosulfan sulfate	1031-07-8	33.2	166	33.2	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	33.2	166	33.2	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	0.334	1.67	0.334	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	33.2	166	33.2	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	33.2	166	33.2	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	33.2	166	33.2	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	33.2	166	33.2	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	33.2	166	33.2	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	33.2	166	33.2	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	33.2	166	33.2	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	33.2	166	33.2	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	33.2	166	33.2	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	33.2	166	33.2	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	33.2	166	33.2	ug/kg	U	**R**	**D**
Aldrin	309-00-2	33.2	166	33.2	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	33.2	166	33.2	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	33.2	166	33.2	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	33.2	166	33.2	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	33.2	166	33.2	ug/kg	U	**R**	**D**
Endrin	72-20-8	33.2	166	33.2	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endosulfan I	959-98-8	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Dieldrin	60-57-1	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
4,4'-DDE	72-55-9	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endrin	72-20-8	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endosulfan II	33213-65-9	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
4,4'-DDD	72-54-8	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
4,4'-DDT	50-29-3	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endrin ketone	53494-70-5	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Heptachlor epoxide	1024-57-3	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**

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alpha Chlordane	5103-71-9	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endosulfan sulfate	1031-07-8	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Toxaphene	8001-35-2	166	329	166	ug/kg	U	**UJ**	**H**
gamma Chlordane	5103-74-2	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	16.9	33.4	16.9	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	0.334	1.67	0.334	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	0.334	1.67	0.334	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Aldrin	309-00-2	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endosulfan I	959-98-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	0.334	1.67	0.334	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	33.2	166	33.2	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Endosulfan II	33213-65-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Endrin	72-20-8	0.334	1.67	0.334	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
beta-BHC	319-85-7	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
delta-BHC	319-86-8	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
gamma-BHC (Lindane)	58-89-9	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**
Toxaphene	8001-35-2	1680	3320	1680	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	0.334	1.67	0.334	ug/kg	U	**R**	**D**
Aldrin	309-00-2	3.29	16.4	3.29	ug/kg	U	**UJ**	**H**

Analysis Method 8081A

Sample Name LL2SS-288M-1251-SO **AnalysisType:** REDL

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4,4'-DDT	50-29-3	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Endosulfan sulfate	1031-07-8	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Endosulfan II	33213-65-9	33.0	165	33.0	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
delta-BHC	319-86-8	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Endosulfan I	959-98-8	33.0	165	33.0	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
gamma-BHC (Lindane)	58-89-9	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Heptachlor epoxide	1024-57-3	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Aldrin	309-00-2	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Endrin	72-20-8	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Heptachlor	76-44-8	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Dieldrin	60-57-1	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	33.0	165	33.0	ug/kg	U	**R**	**D**
Aldrin	309-00-2	33.0	165	33.0	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	33.0	165	33.0	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	33.0	165	33.0	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	33.0	165	33.0	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	33.0	165	33.0	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	0.331	1.66	0.331	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
beta-BHC	319-85-7	33.0	165	33.0	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	0.331	1.66	0.331	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Heptachlor epoxide	1024-57-3	33.0	165	33.0	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
alpha-BHC	319-84-6	0.331	1.66	0.331	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	0.331	1.66	0.331	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**

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alpha-BHC	319-84-6	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Endosulfan I	959-98-8	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Aldrin	309-00-2	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Endrin	72-20-8	33.0	165	33.0	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Dieldrin	60-57-1	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	1670	3300	1670	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	33.0	165	33.0	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	33.0	165	33.0	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	33.0	165	33.0	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	33.0	165	33.0	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	33.0	165	33.0	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	33.0	165	33.0	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	33.0	165	33.0	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	16.8	33.1	16.8	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
alpha Chlordane	5103-71-9	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
gamma Chlordane	5103-74-2	3.31	16.6	3.31	ug/kg	U	**UJ**	**H**
Toxaphene	8001-35-2	168	331	168	ug/kg	U	**UJ**	**H**
alpha Chlordane	5103-71-9	33.0	165	33.0	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	33.0	165	33.0	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	0.331	1.66	0.331	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Endrin	72-20-8	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	0.331	1.66	0.331	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	0.331	1.66	0.331	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	0.331	1.66	0.331	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	0.331	1.66	0.331	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1260	11096-82-5	8.35	16.7	8.35	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	8.35	16.7	8.35	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	106	16.7	8.35	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.35	16.7	8.35	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.35	16.7	8.35	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.35	16.7	8.35	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.35	16.7	8.35	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	8.35	16.7	8.35	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	106	16.7	8.35	ug/kg			
Aroclor-1221	11104-28-2	8.35	16.7	8.35	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.35	16.7	8.35	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.35	16.7	8.35	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	8.35	16.7	8.35	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.35	16.7	8.35	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL2SS-278M-1233-SO **AnalysisType:** CF

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1254	11097-69-1	116	16.8	8.38	ug/kg		**R**	**D**
Aroclor-1242	53469-21-9	8.38	16.8	8.38	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	8.38	16.8	8.38	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.38	16.8	8.38	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	121	16.8	8.38	ug/kg			
Aroclor-1016	12674-11-2	8.38	16.8	8.38	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.38	16.8	8.38	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.38	16.8	8.38	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.38	16.8	8.38	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.38	16.8	8.38	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.38	16.8	8.38	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.38	16.8	8.38	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.38	16.8	8.38	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	8.38	16.8	8.38	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL2SS-278M-1234-SO **AnalysisType:** CF

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1260	11096-82-5	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	97.4	16.7	8.36	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	99.8	16.7	8.36	ug/kg			
Aroclor-1221	11104-28-2	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.36	16.7	8.36	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL2SS-288M-1251-SO **AnalysisType:** CF

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1248	12672-29-6	8.28	16.6	8.28	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.28	16.6	8.28	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	308	16.6	8.28	ug/kg		**J**	***III**
Aroclor-1221	11104-28-2	8.28	16.6	8.28	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.28	16.6	8.28	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	290	16.6	8.28	ug/kg		**R**	**D**
Aroclor-1232	11141-16-5	8.28	16.6	8.28	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	8.28	16.6	8.28	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	127	16.6	8.28	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.28	16.6	8.28	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.28	16.6	8.28	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	130	16.6	8.28	ug/kg		**J**	***III**
Aroclor-1016	12674-11-2	8.28	16.6	8.28	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.28	16.6	8.28	ug/kg	U	**R**	**D**

Analysis Method 8260B

Sample Name LL2SS-280D-1237-SO **AnalysisType:** RES

Lab Sample Name: L08060612-10 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,2-Dichloroethene (total)	540-59-0	0.613	6.13	0.613	ug/kg	U	**U**	
Bromodichloromethane	75-27-4	0.613	6.13	0.613	ug/kg	U	**U**	
Bromochloromethane	74-97-5	0.613	6.13	0.613	ug/kg	U	**U**	
Benzene	71-43-2	0.613	6.13	0.613	ug/kg	U	**U**	
Acetone	67-64-1	6.13	12.3	6.13	ug/kg	U	**R**	**C**
4-Methyl-2-pentanone	108-10-1	3.06	6.13	3.06	ug/kg	U	**U**	
2-Hexanone	591-78-6	3.06	6.13	3.06	ug/kg	U	**U**	
1,2-Dibromoethane	106-93-4	0.613	6.13	0.613	ug/kg	U	**U**	
1,2-Dichloropropane	78-87-5	0.613	6.13	0.613	ug/kg	U	**U**	
1,1-Dichloroethane	75-34-3	1.23	6.13	1.23	ug/kg	U	**U**	
1,2-Dichloroethane	107-06-2	0.613	6.13	0.613	ug/kg	U	**U**	
Bromoform	75-25-2	0.613	6.13	0.613	ug/kg	U	**U**	
Chlorobenzene	108-90-7	0.613	6.13	0.613	ug/kg	U	**U**	
1,1,1-Trichloroethane	71-55-6	0.613	6.13	0.613	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	79-34-5	0.613	6.13	0.613	ug/kg	U	**U**	
1,1-Dichloroethene	75-35-4	0.613	6.13	0.613	ug/kg	U	**U**	
1,1,2-Trichloroethane	79-00-5	0.613	6.13	0.613	ug/kg	U	**U**	
2-Butanone	78-93-3	3.06	6.13	3.06	ug/kg	U	**U**	
Toluene	108-88-3	0.613	6.13	0.613	ug/kg	U	**U**	
Xylenes, Total	1330-20-7	0.613	6.13	0.613	ug/kg	U	**U**	
Vinyl chloride	75-01-4	1.23	6.13	1.23	ug/kg	U	**U**	
Trichloroethene	79-01-6	0.613	6.13	0.613	ug/kg	U	**U**	
Carbon disulfide	75-15-0	0.613	6.13	0.613	ug/kg	U	**U**	
trans-1,3-Dichloropropene	10061-02-6	0.613	6.13	0.613	ug/kg	U	**U**	
Bromomethane	74-83-9	1.23	6.13	1.23	ug/kg	U	**U**	
Tetrachloroethene	127-18-4	0.613	6.13	0.613	ug/kg	U	**U**	
Styrene	100-42-5	0.613	6.13	0.613	ug/kg	U	**R**	**C**
Methylene chloride	75-09-2	1.23	6.13	1.23	ug/kg	U	**U**	
Ethyl benzene	100-41-4	0.613	6.13	0.613	ug/kg	U	**U**	
Dibromochloromethane	124-48-1	0.613	6.13	0.613	ug/kg	U	**U**	

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cis-1,3-Dichloropropene	10061-01-5	0.613	6.13	0.613	ug/kg	U	**U**
Chloromethane	74-87-3	2.45	6.13	2.45	ug/kg	U	**U**
Chloroform	67-66-3	0.613	6.13	0.613	ug/kg	U	**U**
Chloroethane	75-00-3	1.23	6.13	1.23	ug/kg	U	**U**
Carbon tetrachloride	56-23-5	0.613	6.13	0.613	ug/kg	U	**U**

Analysis Method 8260B

Sample Name LL2SS-280D-1239-SO **AnalysisType:** RES

Lab Sample Name: L08060612-11 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Bromoform	75-25-2	0.763	7.63	0.763	ug/kg	U	**U**	
Bromomethane	74-83-9	1.53	7.63	1.53	ug/kg	U	**U**	
Carbon disulfide	75-15-0	0.763	7.63	0.763	ug/kg	U	**U**	
Carbon tetrachloride	56-23-5	0.763	7.63	0.763	ug/kg	U	**U**	
Chlorobenzene	108-90-7	0.763	7.63	0.763	ug/kg	U	**U**	
Chloroethane	75-00-3	1.53	7.63	1.53	ug/kg	U	**U**	
1,2-Dibromoethane	106-93-4	0.763	7.63	0.763	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	79-34-5	0.763	7.63	0.763	ug/kg	U	**U**	
Chloroform	67-66-3	0.763	7.63	0.763	ug/kg	U	**U**	
Xylenes, Total	1330-20-7	0.763	7.63	0.763	ug/kg	U	**U**	
Dibromochloromethane	124-48-1	0.763	7.63	0.763	ug/kg	U	**U**	
Ethyl benzene	100-41-4	0.763	7.63	0.763	ug/kg	U	**U**	
Methylene chloride	75-09-2	1.53	7.63	1.53	ug/kg	U	**U**	
Styrene	100-42-5	0.763	7.63	0.763	ug/kg	U	**R**	**C**
Tetrachloroethene	127-18-4	0.763	7.63	0.763	ug/kg	U	**U**	
Toluene	108-88-3	0.763	7.63	0.763	ug/kg	U	**U**	
trans-1,3-Dichloropropene	10061-02-6	0.763	7.63	0.763	ug/kg	U	**U**	
Trichloroethene	79-01-6	0.763	7.63	0.763	ug/kg	U	**U**	
1,2-Dichloroethene (total)	540-59-0	0.763	7.63	0.763	ug/kg	U	**U**	
1,1,1-Trichloroethane	71-55-6	0.763	7.63	0.763	ug/kg	U	**U**	
Bromodichloromethane	75-27-4	0.763	7.63	0.763	ug/kg	U	**U**	
1,1,2-Trichloroethane	79-00-5	0.763	7.63	0.763	ug/kg	U	**U**	
1,1-Dichloroethane	75-34-3	1.53	7.63	1.53	ug/kg	U	**U**	
1,1-Dichloroethene	75-35-4	0.763	7.63	0.763	ug/kg	U	**U**	
1,2-Dichloroethane	107-06-2	0.763	7.63	0.763	ug/kg	U	**U**	
1,2-Dichloropropane	78-87-5	0.763	7.63	0.763	ug/kg	U	**U**	
2-Butanone	78-93-3	3.81	7.63	3.81	ug/kg	U	**U**	
2-Hexanone	591-78-6	3.81	7.63	3.81	ug/kg	U	**U**	
4-Methyl-2-pentanone	108-10-1	3.81	7.63	3.81	ug/kg	U	**U**	
Acetone	67-64-1	7.63	15.3	7.63	ug/kg	U	**R**	**C**

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Benzene	71-43-2	0.763	7.63	0.763	ug/kg	U	**U**
Bromochloromethane	74-97-5	0.763	7.63	0.763	ug/kg	U	**U**
Vinyl chloride	75-01-4	1.53	7.63	1.53	ug/kg	U	**U**
cis-1,3-Dichloropropene	10061-01-5	0.763	7.63	0.763	ug/kg	U	**U**
Chloromethane	74-87-3	3.05	7.63	3.05	ug/kg	U	**U**

Analysis Method 8270C

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,4,5-Trichlorophenol	95-95-4	81.7	163	81.7	ug/kg	U	**U**	
Dimethylphthalate	131-11-3	81.7	163	81.7	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	81.7	163	81.7	ug/kg	U	**UJ**	**C**
Di-n-octylphthalate	117-84-0	81.7	163	81.7	ug/kg	U	**UJ**	**L,C**
2,6-Dinitrotoluene	606-20-2	81.7	163	81.7	ug/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	81.7	163	81.7	ug/kg	U	**U**	
2,4-Dinitrophenol	51-28-5	408	817	408	ug/kg	U	**U**	
2,4-Dimethylphenol	105-67-9	81.7	163	81.7	ug/kg	U	**U**	
Dibenzofuran	132-64-9	81.7	163	81.7	ug/kg	U	**U**	
2,4,6-Trichlorophenol	88-06-2	81.7	163	81.7	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	84.2	168	84.2	ug/kg	U	**R**	**D**
1,4-Dichlorobenzene	106-46-7	81.7	163	81.7	ug/kg	U	**U**	
1,3-Dichlorobenzene	541-73-1	81.7	163	81.7	ug/kg	U	**U**	
1,2-Dichlorobenzene	95-50-1	81.7	163	81.7	ug/kg	U	**U**	
1,2,4-Trichlorobenzene	120-82-1	81.7	163	81.7	ug/kg	U	**U**	
Butylbenzylphthalate	85-68-7	81.7	163	81.7	ug/kg	U	**U**	
2,4-Dichlorophenol	120-83-2	81.7	163	81.7	ug/kg	U	**U**	
Hexachlorobutadiene	87-68-3	81.7	163	81.7	ug/kg	U	**U**	
Nitrobenzene	98-95-3	81.7	163	81.7	ug/kg	U	**U**	
Naphthalene	91-20-3	81.7	163	81.7	ug/kg	U	**U**	
N-Nitrosodipropylamine	621-64-7	81.7	163	81.7	ug/kg	U	**U**	
N-Nitrosodiphenylamine	86-30-6	81.7	163	81.7	ug/kg	U	**UJ**	**L**
Isophorone	78-59-1	81.7	163	81.7	ug/kg	U	**U**	
Indeno(1,2,3-cd)pyrene	193-39-5	81.7	163	81.7	ug/kg	U	**UJ**	**C**
Carbazole	86-74-8	81.7	163	81.7	ug/kg	U	**U**	
Hexachlorocyclopentadiene	77-47-4	81.7	163	81.7	ug/kg	U	**R**	**C**
4-Nitroaniline	100-01-6	408	817	408	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	81.7	163	81.7	ug/kg	U	**U**	
Fluorene	86-73-7	81.7	163	81.7	ug/kg	U	**U**	
Fluoranthene	206-44-0	236	163	81.7	ug/kg			

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bis(2-Ethylhexyl)phthalate	117-81-7	81.7	163	81.7	ug/kg	U	**UJ**	**C**
Di-n-octylphthalate	117-84-0	84.2	168	84.2	ug/kg	U	**R**	**D**
4-Bromophenyl-phenylether	101-55-3	81.7	163	81.7	ug/kg	U	**U**	
Dibenzofuran	132-64-9	84.2	168	84.2	ug/kg	U	**R**	**D**
Hexachloroethane	67-72-1	81.7	163	81.7	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	408	817	408	ug/kg	U	**U**	
Chrysene	218-01-9	112	163	81.7	ug/kg	J	**J**	
Isophorone	78-59-1	84.2	168	84.2	ug/kg	U	**R**	**D**
Indeno(1,2,3-cd)pyrene	193-39-5	84.2	168	84.2	ug/kg	U	**R**	**D**
Hexachloroethane	67-72-1	84.2	168	84.2	ug/kg	U	**R**	**D**
Hexachlorocyclopentadiene	77-47-4	84.2	168	84.2	ug/kg	U	**R**	**D**
Hexachlorobutadiene	87-68-3	84.2	168	84.2	ug/kg	U	**R**	**D**
N-Nitrosodipropylamine	621-64-7	84.2	168	84.2	ug/kg	U	**R**	**D**
4,6-Dinitro-2-methylphenol	534-52-1	408	817	408	ug/kg	U	**U**	
Naphthalene	91-20-3	84.2	168	84.2	ug/kg	U	**R**	**D**
3-,4-Methylphenol	106-44-5	81.7	163	81.7	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	91-94-1	163	327	163	ug/kg	U	**UJ**	**C**
2-Nitrophenol	88-75-5	81.7	163	81.7	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	408	817	408	ug/kg	U	**U**	
2-Methylphenol	95-48-7	81.7	163	81.7	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	81.7	163	81.7	ug/kg	U	**U**	
2-Methylnaphthalene	91-57-6	81.7	163	81.7	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	84.2	168	84.2	ug/kg	U	**R**	**D**
Dimethylphthalate	131-11-3	84.2	168	84.2	ug/kg	U	**R**	**D**
Pyrene	129-00-0	185	163	81.7	ug/kg			
Diethylphthalate	84-66-2	81.7	163	81.7	ug/kg	U	**U**	
4-Chloro-3-methylphenol	59-50-7	81.7	163	81.7	ug/kg	U	**U**	
4-Chloroaniline	106-47-8	81.7	163	81.7	ug/kg	U	**U**	
2-Chloronaphthalene	91-58-7	81.7	163	81.7	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	7005-72-3	81.7	163	81.7	ug/kg	U	**U**	
N-Nitrosodiphenylamine	86-30-6	84.2	168	84.2	ug/kg	U	**R**	**D**
Diethylphthalate	84-66-2	84.2	168	84.2	ug/kg	U	**R**	**D**
Pentachlorophenol	87-86-5	408	817	408	ug/kg	U	**U**	
Fluoranthene	206-44-0	256	168	84.2	ug/kg		**R**	**D**

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Fluorene	86-73-7	84.2	168	84.2	ug/kg	U	**R**	**D**
Pyrene	129-00-0	204	168	84.2	ug/kg		**R**	**D**
Phenol	108-95-2	84.2	168	84.2	ug/kg	U	**R**	**D**
Phenanthrene	85-01-8	92.4	168	84.2	ug/kg	J	**R**	**D**
Pentachlorophenol	87-86-5	420	842	420	ug/kg	U	**R**	**D**
Nitrobenzene	98-95-3	84.2	168	84.2	ug/kg	U	**R**	**D**
Di-N-Butylphthalate	84-74-2	81.7	163	81.7	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	420	842	420	ug/kg	U	**R**	**D**
Benzo(k)fluoranthene	207-08-9	144	163	81.7	ug/kg	J	**J**	
Benzoic acid	65-85-0	327	4950	327	ug/kg	U	**R**	**C**
Benzyl alcohol	100-51-6	81.7	163	81.7	ug/kg	U	**U**	
Bis(2-Chloroethoxy)Methane	111-91-1	81.7	163	81.7	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	81.7	163	81.7	ug/kg	U	**U**	
bis(2-Chloroisopropyl)ether	39638-32-9	81.7	163	81.7	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	84.2	168	84.2	ug/kg	U	**R**	**D**
Phenanthrene	85-01-8	96.2	163	81.7	ug/kg	J	**J**	
2-Methylphenol	95-48-7	84.2	168	84.2	ug/kg	U	**R**	**D**
2-Chloronaphthalene	91-58-7	84.2	168	84.2	ug/kg	U	**R**	**D**
2-Nitrophenol	88-75-5	84.2	168	84.2	ug/kg	U	**R**	**D**
3,3'-Dichlorobenzidine	91-94-1	168	337	168	ug/kg	U	**R**	**D**
3-,4-Methylphenol	106-44-5	84.2	168	84.2	ug/kg	U	**R**	**D**
3-Nitroaniline	99-09-2	420	842	420	ug/kg	U	**R**	**D**
4,6-Dinitro-2-methylphenol	534-52-1	420	842	420	ug/kg	U	**R**	**D**
4-Bromophenyl-phenylether	101-55-3	84.2	168	84.2	ug/kg	U	**R**	**D**
4-Chloro-3-methylphenol	59-50-7	84.2	168	84.2	ug/kg	U	**R**	**D**
2-Methylnaphthalene	91-57-6	84.2	168	84.2	ug/kg	U	**R**	**D**
1,4-Dichlorobenzene	106-46-7	84.2	168	84.2	ug/kg	U	**R**	**D**
4-Nitrophenol	100-02-7	408	817	408	ug/kg	U	**U**	
Acenaphthene	83-32-9	81.7	163	81.7	ug/kg	U	**U**	
Acenaphthylene	208-96-8	81.7	163	81.7	ug/kg	U	**U**	
Anthracene	120-12-7	81.7	163	81.7	ug/kg	U	**U**	
Benzo(a)anthracene	56-55-3	118	163	81.7	ug/kg	J	**J**	
Benzo(a)pyrene	50-32-8	104	163	81.7	ug/kg	J	**J**	
1,2,4-Trichlorobenzene	120-82-1	84.2	168	84.2	ug/kg	U	**R**	**D**

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Benzo(g,h,i)Perylene	191-24-2	81.7	163	81.7	ug/kg	U	**UJ**	**C**
1,3-Dichlorobenzene	541-73-1	84.2	168	84.2	ug/kg	U	**R**	**D**
Benzo(b)fluoranthene	205-99-2	81.7	163	81.7	ug/kg	U	**U**	
2,4,5-Trichlorophenol	95-95-4	84.2	168	84.2	ug/kg	U	**R**	**D**
2,4,6-Trichlorophenol	88-06-2	84.2	168	84.2	ug/kg	U	**R**	**D**
2,4-Dichlorophenol	120-83-2	84.2	168	84.2	ug/kg	U	**R**	**D**
2,4-Dimethylphenol	105-67-9	84.2	168	84.2	ug/kg	U	**R**	**D**
2,4-Dinitrophenol	51-28-5	420	842	420	ug/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	84.2	168	84.2	ug/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	84.2	168	84.2	ug/kg	U	**R**	**D**
4-Chloroaniline	106-47-8	84.2	168	84.2	ug/kg	U	**R**	**D**
1,2-Dichlorobenzene	95-50-1	84.2	168	84.2	ug/kg	U	**R**	**D**
Bis(2-Chloroethoxy)Methane	111-91-1	84.2	168	84.2	ug/kg	U	**R**	**D**
4-Nitrophenol	100-02-7	420	842	420	ug/kg	U	**R**	**D**
Acenaphthene	83-32-9	84.2	168	84.2	ug/kg	U	**R**	**D**
Acenaphthylene	208-96-8	84.2	168	84.2	ug/kg	U	**R**	**D**
Anthracene	120-12-7	84.2	168	84.2	ug/kg	U	**R**	**D**
Benzo(a)anthracene	56-55-3	139	168	84.2	ug/kg	J	**R**	**D**
Benzo(a)pyrene	50-32-8	149	168	84.2	ug/kg	J	**R**	**D**
Benzo(b)fluoranthene	205-99-2	119	168	84.2	ug/kg	J	**R**	**D**
4-Nitroaniline	100-01-6	420	842	420	ug/kg	U	**R**	**D**
Benzyl alcohol	100-51-6	84.2	168	84.2	ug/kg	U	**R**	**D**
Benzo(g,h,i)Perylene	191-24-2	84.2	168	84.2	ug/kg	U	**R**	**D**
Bis(2-Chloroethyl)ether	111-44-4	84.2	168	84.2	ug/kg	U	**R**	**D**
bis(2-Chloroisopropyl)ether	39638-32-9	84.2	168	84.2	ug/kg	U	**R**	**D**
bis(2-Ethylhexyl)phthalate	117-81-7	84.2	168	84.2	ug/kg	U	**R**	**D**
Butylbenzylphthalate	85-68-7	84.2	168	84.2	ug/kg	U	**R**	**D**
Carbazole	86-74-8	84.2	168	84.2	ug/kg	U	**R**	**D**
Chrysene	218-01-9	135	168	84.2	ug/kg	J	**R**	**D**
Di-N-Butylphthalate	84-74-2	84.2	168	84.2	ug/kg	U	**R**	**D**
Phenol	108-95-2	81.7	163	81.7	ug/kg	U	**U**	
Benzo(k)fluoranthene	207-08-9	130	168	84.2	ug/kg	J	**R**	**D**
Benzoic acid	65-85-0	337	5100	337	ug/kg	U	**R**	**D**
4-Chlorophenyl-phenyl ether	7005-72-3	84.2	168	84.2	ug/kg	U	**R**	**D**

Analysis Method 8270C

Sample Name LL2SS-278M-1233-SO **AnalysisType:** RE

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Pyrene	129-00-0	130	166	82.8	ug/kg	J	**R**	**D**
Indeno(1,2,3-cd)pyrene	193-39-5	82.0	164	82.0	ug/kg	U	**UJ**	**C**
Isophorone	78-59-1	82.0	164	82.0	ug/kg	U	**U**	
Indeno(1,2,3-cd)pyrene	193-39-5	82.8	166	82.8	ug/kg	U	**R**	**D**
Hexachloroethane	67-72-1	82.8	166	82.8	ug/kg	U	**R**	**D**
Hexachlorocyclopentadiene	77-47-4	82.8	166	82.8	ug/kg	U	**R**	**D**
Hexachlorobutadiene	87-68-3	82.8	166	82.8	ug/kg	U	**R**	**D**
Hexachlorobenzene	118-74-1	82.8	166	82.8	ug/kg	U	**R**	**D**
Fluorene	86-73-7	82.8	166	82.8	ug/kg	U	**R**	**D**
N-Nitrosodiphenylamine	86-30-6	82.0	164	82.0	ug/kg	U	**UJ**	**L**
N-Nitrosodipropylamine	621-64-7	82.0	164	82.0	ug/kg	U	**U**	
Naphthalene	91-20-3	82.0	164	82.0	ug/kg	U	**U**	
Nitrobenzene	98-95-3	82.0	164	82.0	ug/kg	U	**U**	
Di-N-Butylphthalate	84-74-2	82.8	166	82.8	ug/kg	U	**R**	**D**
Phenanthrene	85-01-8	106	164	82.0	ug/kg	J	**J**	
Fluoranthene	206-44-0	159	166	82.8	ug/kg	J	**R**	**D**
Dimethylphthalate	131-11-3	82.8	166	82.8	ug/kg	U	**R**	**D**
Diethylphthalate	84-66-2	82.8	166	82.8	ug/kg	U	**R**	**D**
Dibenzofuran	132-64-9	82.8	166	82.8	ug/kg	U	**R**	**D**
Pentachlorophenol	87-86-5	410	820	410	ug/kg	U	**U**	
Di-n-octylphthalate	117-84-0	82.8	166	82.8	ug/kg	U	**R**	**D**
Butylbenzylphthalate	85-68-7	82.8	166	82.8	ug/kg	U	**R**	**D**
Chrysene	218-01-9	93.5	166	82.8	ug/kg	J	**R**	**D**
Carbazole	86-74-8	82.8	166	82.8	ug/kg	U	**R**	**D**
Bis(2-Chloroethoxy)Methane	111-91-1	82.8	166	82.8	ug/kg	U	**R**	**D**
Bis(2-Chloroethyl)ether	111-44-4	82.8	166	82.8	ug/kg	U	**R**	**D**
bis(2-Chloroisopropyl)ether	39638-32-9	82.8	166	82.8	ug/kg	U	**R**	**D**
Pentachlorophenol	87-86-5	414	828	414	ug/kg	U	**R**	**D**
Dibenzo(a,h)Anthracene	53-70-3	82.8	166	82.8	ug/kg	U	**R**	**D**
4,6-Dinitro-2-methylphenol	534-52-1	410	820	410	ug/kg	U	**U**	

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4-Chlorophenyl-phenyl ether	7005-72-3	82.0	164	82.0	ug/kg	U	**U**	
Pyrene	129-00-0	230	164	82.0	ug/kg			
Hexachlorobutadiene	87-68-3	82.0	164	82.0	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	82.0	164	82.0	ug/kg	U	**U**	
Fluorene	86-73-7	82.0	164	82.0	ug/kg	U	**U**	
4-Chloroaniline	106-47-8	82.0	164	82.0	ug/kg	U	**U**	
Fluoranthene	206-44-0	294	164	82.0	ug/kg			
Dimethylphthalate	131-11-3	82.0	164	82.0	ug/kg	U	**U**	
Diethylphthalate	84-66-2	82.0	164	82.0	ug/kg	U	**U**	
Dibenzofuran	132-64-9	82.0	164	82.0	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	82.0	164	82.0	ug/kg	U	**UJ**	**C**
Di-n-octylphthalate	117-84-0	82.0	164	82.0	ug/kg	U	**UJ**	**L,C**
Di-N-Butylphthalate	84-74-2	82.0	164	82.0	ug/kg	U	**U**	
Phenol	108-95-2	82.8	166	82.8	ug/kg	U	**R**	**D**
Hexachlorocyclopentadiene	77-47-4	82.0	164	82.0	ug/kg	U	**R**	**C**
Nitrobenzene	98-95-3	82.8	166	82.8	ug/kg	U	**R**	**D**
Naphthalene	91-20-3	82.8	166	82.8	ug/kg	U	**R**	**D**
N-Nitrosodipropylamine	621-64-7	82.8	166	82.8	ug/kg	U	**R**	**D**
N-Nitrosodiphenylamine	86-30-6	82.8	166	82.8	ug/kg	U	**R**	**D**
Isophorone	78-59-1	82.8	166	82.8	ug/kg	U	**R**	**D**
4-Chloro-3-methylphenol	59-50-7	82.0	164	82.0	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	410	820	410	ug/kg	U	**U**	
4-Bromophenyl-phenylether	101-55-3	82.0	164	82.0	ug/kg	U	**U**	
2-Nitrophenol	88-75-5	82.0	164	82.0	ug/kg	U	**U**	
Phenol	108-95-2	82.0	164	82.0	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	91-94-1	164	328	164	ug/kg	U	**UJ**	**C**
3-,4-Methylphenol	106-44-5	82.0	164	82.0	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	410	820	410	ug/kg	U	**U**	
Phenanthrene	85-01-8	82.8	166	82.8	ug/kg	U	**R**	**D**
Hexachloroethane	67-72-1	82.0	164	82.0	ug/kg	U	**U**	
4-Nitroaniline	100-01-6	414	828	414	ug/kg	U	**R**	**D**
2-Nitrophenol	88-75-5	82.8	166	82.8	ug/kg	U	**R**	**D**
3,3'-Dichlorobenzidine	91-94-1	166	331	166	ug/kg	U	**R**	**D**
3-,4-Methylphenol	106-44-5	82.8	166	82.8	ug/kg	U	**R**	**D**

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3-Nitroaniline	99-09-2	414	828	414	ug/kg	U	**R**	**D**
4,6-Dinitro-2-methylphenol	534-52-1	414	828	414	ug/kg	U	**R**	**D**
4-Bromophenyl-phenylether	101-55-3	82.8	166	82.8	ug/kg	U	**R**	**D**
4-Chloro-3-methylphenol	59-50-7	82.8	166	82.8	ug/kg	U	**R**	**D**
Benzo(g,h,i)Perylene	191-24-2	82.8	166	82.8	ug/kg	U	**R**	**D**
4-Chlorophenyl-phenyl ether	7005-72-3	82.8	166	82.8	ug/kg	U	**R**	**D**
2-Methylnaphthalene	91-57-6	82.8	166	82.8	ug/kg	U	**R**	**D**
4-Nitrophenol	100-02-7	414	828	414	ug/kg	U	**R**	**D**
Acenaphthene	83-32-9	82.8	166	82.8	ug/kg	U	**R**	**D**
Acenaphthylene	208-96-8	82.8	166	82.8	ug/kg	U	**R**	**D**
Anthracene	120-12-7	82.8	166	82.8	ug/kg	U	**R**	**D**
Benzo(a)anthracene	56-55-3	101	166	82.8	ug/kg	J	**R**	**D**
Benzo(a)pyrene	50-32-8	112	166	82.8	ug/kg	J	**R**	**D**
Benzyl alcohol	100-51-6	82.8	166	82.8	ug/kg	U	**R**	**D**
4-Chloroaniline	106-47-8	82.8	166	82.8	ug/kg	U	**R**	**D**
2,4,6-Trichlorophenol	88-06-2	82.0	164	82.0	ug/kg	U	**U**	
2-Methylphenol	95-48-7	82.0	164	82.0	ug/kg	U	**U**	
2-Methylnaphthalene	91-57-6	82.0	164	82.0	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	82.0	164	82.0	ug/kg	U	**U**	
2-Chloronaphthalene	91-58-7	82.0	164	82.0	ug/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	82.0	164	82.0	ug/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	82.0	164	82.0	ug/kg	U	**U**	
2,4-Dinitrophenol	51-28-5	410	820	410	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	414	828	414	ug/kg	U	**R**	**D**
2,4-Dichlorophenol	120-83-2	82.0	164	82.0	ug/kg	U	**U**	
2-Methylphenol	95-48-7	82.8	166	82.8	ug/kg	U	**R**	**D**
2,4-Dichlorophenol	120-83-2	82.8	166	82.8	ug/kg	U	**R**	**D**
2,4-Dimethylphenol	105-67-9	82.8	166	82.8	ug/kg	U	**R**	**D**
2,4-Dinitrophenol	51-28-5	414	828	414	ug/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	82.8	166	82.8	ug/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	82.8	166	82.8	ug/kg	U	**R**	**D**
2-Chloronaphthalene	91-58-7	82.8	166	82.8	ug/kg	U	**R**	**D**
2-Chlorophenol	95-57-8	82.8	166	82.8	ug/kg	U	**R**	**D**
Benzo(k)fluoranthene	207-08-9	92.0	166	82.8	ug/kg	J	**R**	**D**

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2,4-Dimethylphenol	105-67-9	82.0	164	82.0	ug/kg	U	**U**	
Benzoic acid	65-85-0	328	4970	328	ug/kg	U	**R**	**C**
Benzo(b)fluoranthene	205-99-2	109	164	82.0	ug/kg	J	**J**	
2,4,6-Trichlorophenol	88-06-2	82.8	166	82.8	ug/kg	U	**R**	**D**
2,4,5-Trichlorophenol	95-95-4	82.8	166	82.8	ug/kg	U	**R**	**D**
1,4-Dichlorobenzene	106-46-7	82.8	166	82.8	ug/kg	U	**R**	**D**
1,3-Dichlorobenzene	541-73-1	82.8	166	82.8	ug/kg	U	**R**	**D**
1,2-Dichlorobenzene	95-50-1	82.8	166	82.8	ug/kg	U	**R**	**D**
1,2,4-Trichlorobenzene	120-82-1	82.8	166	82.8	ug/kg	U	**R**	**D**
Benzo(b)fluoranthene	205-99-2	88.1	166	82.8	ug/kg	J	**R**	**D**
Benzo(k)fluoranthene	207-08-9	175	164	82.0	ug/kg			
Anthracene	120-12-7	82.0	164	82.0	ug/kg	U	**U**	
Benzyl alcohol	100-51-6	82.0	164	82.0	ug/kg	U	**U**	
Bis(2-Chloroethoxy)Methane	111-91-1	82.0	164	82.0	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	82.0	164	82.0	ug/kg	U	**U**	
bis(2-Chloroisopropyl)ether	39638-32-9	82.0	164	82.0	ug/kg	U	**UJ**	**Q**
bis(2-Ethylhexyl)phthalate	117-81-7	82.0	164	82.0	ug/kg	U	**UJ**	**C**
Butylbenzylphthalate	85-68-7	82.0	164	82.0	ug/kg	U	**U**	
Carbazole	86-74-8	82.0	164	82.0	ug/kg	U	**U**	
Benzo(g,h,i)Perylene	191-24-2	82.0	164	82.0	ug/kg	U	**UJ**	**C**
1,2,4-Trichlorobenzene	120-82-1	82.0	164	82.0	ug/kg	U	**U**	
Benzoic acid	65-85-0	331	5020	331	ug/kg	U	**R**	**D**
bis(2-Ethylhexyl)phthalate	117-81-7	82.8	166	82.8	ug/kg	U	**R**	**D**
2,4,5-Trichlorophenol	95-95-4	82.0	164	82.0	ug/kg	U	**U**	
1,4-Dichlorobenzene	106-46-7	82.0	164	82.0	ug/kg	U	**U**	
Benzo(a)pyrene	50-32-8	148	164	82.0	ug/kg	J	**J**	
1,2-Dichlorobenzene	95-50-1	82.0	164	82.0	ug/kg	U	**U**	
Benzo(a)anthracene	56-55-3	160	164	82.0	ug/kg	J	**J**	
4-Nitroaniline	100-01-6	410	820	410	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	410	820	410	ug/kg	U	**U**	
Acenaphthene	83-32-9	82.0	164	82.0	ug/kg	U	**U**	
Acenaphthylene	208-96-8	82.0	164	82.0	ug/kg	U	**U**	
Chrysene	218-01-9	145	164	82.0	ug/kg	J	**J**	
1,3-Dichlorobenzene	541-73-1	82.0	164	82.0	ug/kg	U	**U**	

Analysis Method 8270C

Sample Name LL2SS-278M-1234-SO **AnalysisType:** RE

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Anthracene	120-12-7	82.6	165	82.6	ug/kg	U	**R**	**D**
Acenaphthylene	208-96-8	82.6	165	82.6	ug/kg	U	**R**	**D**
Acenaphthene	83-32-9	82.6	165	82.6	ug/kg	U	**R**	**D**
Benzo(a)anthracene	56-55-3	102	165	82.6	ug/kg	J	**R**	**D**
Benzo(a)pyrene	50-32-8	113	165	82.6	ug/kg	J	**R**	**D**
Benzo(a)anthracene	56-55-3	178	168	83.8	ug/kg			
Acenaphthylene	208-96-8	83.8	168	83.8	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	413	826	413	ug/kg	U	**R**	**D**
4-Chloro-3-methylphenol	59-50-7	82.6	165	82.6	ug/kg	U	**R**	**D**
4-Chloroaniline	106-47-8	82.6	165	82.6	ug/kg	U	**R**	**D**
4-Chlorophenyl-phenyl ether	7005-72-3	82.6	165	82.6	ug/kg	U	**R**	**D**
4-Nitroaniline	100-01-6	413	826	413	ug/kg	U	**R**	**D**
Benzo(b)fluoranthene	205-99-2	87.1	165	82.6	ug/kg	J	**R**	**D**
Benzo(a)pyrene	50-32-8	175	168	83.8	ug/kg			
4,6-Dinitro-2-methylphenol	534-52-1	413	826	413	ug/kg	U	**R**	**D**
Anthracene	120-12-7	83.8	168	83.8	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	413	826	413	ug/kg	U	**R**	**D**
Acenaphthene	83-32-9	83.8	168	83.8	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	418	838	418	ug/kg	U	**U**	
4-Nitroaniline	100-01-6	418	838	418	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	7005-72-3	83.8	168	83.8	ug/kg	U	**U**	
4-Chloroaniline	106-47-8	83.8	168	83.8	ug/kg	U	**U**	
4-Chloro-3-methylphenol	59-50-7	83.8	168	83.8	ug/kg	U	**U**	
4-Bromophenyl-phenylether	101-55-3	83.8	168	83.8	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	534-52-1	418	838	418	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	83.8	168	83.8	ug/kg	U	**UJ**	**C**
2,6-Dinitrotoluene	606-20-2	82.6	165	82.6	ug/kg	U	**R**	**D**
1,2-Dichlorobenzene	95-50-1	82.6	165	82.6	ug/kg	U	**R**	**D**
1,3-Dichlorobenzene	541-73-1	82.6	165	82.6	ug/kg	U	**R**	**D**
1,4-Dichlorobenzene	106-46-7	82.6	165	82.6	ug/kg	U	**R**	**D**

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2,4,5-Trichlorophenol	95-95-4	82.6	165	82.6	ug/kg	U	**R**	**D**
2,4,6-Trichlorophenol	88-06-2	82.6	165	82.6	ug/kg	U	**R**	**D**
2,4-Dichlorophenol	120-83-2	82.6	165	82.6	ug/kg	U	**R**	**D**
2,4-Dimethylphenol	105-67-9	82.6	165	82.6	ug/kg	U	**R**	**D**
4-Bromophenyl-phenylether	101-55-3	82.6	165	82.6	ug/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	82.6	165	82.6	ug/kg	U	**R**	**D**
1,2,4-Trichlorobenzene	120-82-1	82.6	165	82.6	ug/kg	U	**R**	**D**
2-Chloronaphthalene	91-58-7	82.6	165	82.6	ug/kg	U	**R**	**D**
2-Chlorophenol	95-57-8	82.6	165	82.6	ug/kg	U	**R**	**D**
2-Methylnaphthalene	91-57-6	82.6	165	82.6	ug/kg	U	**R**	**D**
2-Methylphenol	95-48-7	82.6	165	82.6	ug/kg	U	**R**	**D**
2-Nitroaniline	88-74-4	413	826	413	ug/kg	U	**R**	**D**
2-Nitrophenol	88-75-5	82.6	165	82.6	ug/kg	U	**R**	**D**
3,3'-Dichlorobenzidine	91-94-1	165	330	165	ug/kg	U	**R**	**D**
3-,4-Methylphenol	106-44-5	82.6	165	82.6	ug/kg	U	**R**	**D**
2,4-Dinitrophenol	51-28-5	413	826	413	ug/kg	U	**R**	**D**
Dibenzofuran	132-64-9	83.8	168	83.8	ug/kg	U	**U**	
Isophorone	78-59-1	83.8	168	83.8	ug/kg	U	**U**	
Indeno(1,2,3-cd)pyrene	193-39-5	83.8	168	83.8	ug/kg	J	**-J**	**C**
Hexachloroethane	67-72-1	83.8	168	83.8	ug/kg	U	**U**	
Hexachlorocyclopentadiene	77-47-4	83.8	168	83.8	ug/kg	U	**R**	**C**
Hexachlorobutadiene	87-68-3	83.8	168	83.8	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	83.8	168	83.8	ug/kg	U	**U**	
Fluorene	86-73-7	83.8	168	83.8	ug/kg	U	**U**	
Fluoranthene	206-44-0	320	168	83.8	ug/kg			
Bis(2-Chloroethoxy)Methane	111-91-1	83.8	168	83.8	ug/kg	U	**U**	
Diethylphthalate	84-66-2	83.8	168	83.8	ug/kg	U	**U**	
Naphthalene	91-20-3	83.8	168	83.8	ug/kg	U	**U**	
Di-n-octylphthalate	117-84-0	83.8	168	83.8	ug/kg	U	**UJ**	**L,C**
3-Nitroaniline	99-09-2	418	838	418	ug/kg	U	**U**	
Chrysene	218-01-9	165	168	83.8	ug/kg	J	**J**	
Carbazole	86-74-8	83.8	168	83.8	ug/kg	U	**U**	
Butylbenzylphthalate	85-68-7	83.8	168	83.8	ug/kg	U	**U**	
bis(2-Ethylhexyl)phthalate	117-81-7	83.8	168	83.8	ug/kg	U	**UJ**	**C**

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bis(2-Chloroisopropyl)ether	39638-32-9	83.8	168	83.8	ug/kg	U	**U**	
Di-N-Butylphthalate	84-74-2	83.8	168	83.8	ug/kg	U	**U**	
Dimethylphthalate	131-11-3	83.8	168	83.8	ug/kg	U	**U**	
Dibenzofuran	132-64-9	82.6	165	82.6	ug/kg	U	**R**	**D**
Isophorone	78-59-1	82.6	165	82.6	ug/kg	U	**R**	**D**
Indeno(1,2,3-cd)pyrene	193-39-5	82.6	165	82.6	ug/kg	U	**R**	**D**
Hexachloroethane	67-72-1	82.6	165	82.6	ug/kg	U	**R**	**D**
Hexachlorocyclopentadiene	77-47-4	82.6	165	82.6	ug/kg	U	**R**	**D**
Hexachlorobutadiene	87-68-3	82.6	165	82.6	ug/kg	U	**R**	**D**
Hexachlorobenzene	118-74-1	82.6	165	82.6	ug/kg	U	**R**	**D**
Fluorene	86-73-7	82.6	165	82.6	ug/kg	U	**R**	**D**
Fluoranthene	206-44-0	158	165	82.6	ug/kg	J	**R**	**D**
N-Nitrosodiphenylamine	86-30-6	83.8	168	83.8	ug/kg	U	**UJ**	**L**
Diethylphthalate	84-66-2	82.6	165	82.6	ug/kg	U	**R**	**D**
N-Nitrosodipropylamine	621-64-7	83.8	168	83.8	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	82.6	165	82.6	ug/kg	U	**R**	**D**
Di-n-octylphthalate	117-84-0	82.6	165	82.6	ug/kg	U	**R**	**D**
Di-N-Butylphthalate	84-74-2	82.6	165	82.6	ug/kg	U	**R**	**D**
Pyrene	129-00-0	252	168	83.8	ug/kg			
Phenol	108-95-2	83.8	168	83.8	ug/kg	U	**U**	
Phenanthrene	85-01-8	95.9	168	83.8	ug/kg	J	**J**	
Pentachlorophenol	87-86-5	418	838	418	ug/kg	U	**U**	
Nitrobenzene	98-95-3	83.8	168	83.8	ug/kg	U	**U**	
Benzyl alcohol	100-51-6	83.8	168	83.8	ug/kg	U	**U**	
Dimethylphthalate	131-11-3	82.6	165	82.6	ug/kg	U	**R**	**D**
Chrysene	218-01-9	93.3	165	82.6	ug/kg	J	**R**	**D**
Bis(2-Chloroethyl)ether	111-44-4	83.8	168	83.8	ug/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	83.8	168	83.8	ug/kg	U	**U**	
2-Chloronaphthalene	91-58-7	83.8	168	83.8	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	83.8	168	83.8	ug/kg	U	**U**	
2-Methylnaphthalene	91-57-6	83.8	168	83.8	ug/kg	U	**U**	
2-Methylphenol	95-48-7	83.8	168	83.8	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	418	838	418	ug/kg	U	**U**	
2-Nitrophenol	88-75-5	83.8	168	83.8	ug/kg	U	**U**	

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2,4-Dinitrophenol	51-28-5	418	838	418	ug/kg	U	**U**	
3-,4-Methylphenol	106-44-5	83.8	168	83.8	ug/kg	U	**U**	
2,4-Dimethylphenol	105-67-9	83.8	168	83.8	ug/kg	U	**U**	
Carbazole	86-74-8	82.6	165	82.6	ug/kg	U	**R**	**D**
Butylbenzylphthalate	85-68-7	82.6	165	82.6	ug/kg	U	**R**	**D**
bis(2-Ethylhexyl)phthalate	117-81-7	82.6	165	82.6	ug/kg	U	**R**	**D**
bis(2-Chloroisopropyl)ether	39638-32-9	82.6	165	82.6	ug/kg	U	**R**	**D**
Bis(2-Chloroethyl)ether	111-44-4	82.6	165	82.6	ug/kg	U	**R**	**D**
Bis(2-Chloroethoxy)Methane	111-91-1	82.6	165	82.6	ug/kg	U	**R**	**D**
Benzyl alcohol	100-51-6	82.6	165	82.6	ug/kg	U	**R**	**D**
Benzoic acid	65-85-0	330	5010	330	ug/kg	U	**R**	**D**
Benzo(k)fluoranthene	207-08-9	108	165	82.6	ug/kg	J	**R**	**D**
3,3'-Dichlorobenzidine	91-94-1	168	335	168	ug/kg	U	**UJ**	**C**
Naphthalene	91-20-3	82.6	165	82.6	ug/kg	U	**R**	**D**
Benzoic acid	65-85-0	335	5080	335	ug/kg	U	**R**	**C**
Benzo(k)fluoranthene	207-08-9	202	168	83.8	ug/kg			
Benzo(g,h,i)Perylene	191-24-2	83.8	168	83.8	ug/kg	U	**UJ**	**C**
Benzo(b)fluoranthene	205-99-2	127	168	83.8	ug/kg	J	**J**	
1,2,4-Trichlorobenzene	120-82-1	83.8	168	83.8	ug/kg	U	**U**	
1,2-Dichlorobenzene	95-50-1	83.8	168	83.8	ug/kg	U	**U**	
1,3-Dichlorobenzene	541-73-1	83.8	168	83.8	ug/kg	U	**U**	
N-Nitrosodiphenylamine	86-30-6	82.6	165	82.6	ug/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	83.8	168	83.8	ug/kg	U	**U**	
N-Nitrosodipropylamine	621-64-7	82.6	165	82.6	ug/kg	U	**R**	**D**
Benzo(g,h,i)Perylene	191-24-2	82.6	165	82.6	ug/kg	U	**R**	**D**
Nitrobenzene	98-95-3	82.6	165	82.6	ug/kg	U	**R**	**D**
Pentachlorophenol	87-86-5	413	826	413	ug/kg	U	**R**	**D**
Phenanthrene	85-01-8	82.6	165	82.6	ug/kg	U	**R**	**D**
Phenol	108-95-2	82.6	165	82.6	ug/kg	U	**R**	**D**
Pyrene	129-00-0	132	165	82.6	ug/kg	J	**R**	**D**
1,4-Dichlorobenzene	106-46-7	83.8	168	83.8	ug/kg	U	**U**	
2,4,5-Trichlorophenol	95-95-4	83.8	168	83.8	ug/kg	U	**U**	
2,4,6-Trichlorophenol	88-06-2	83.8	168	83.8	ug/kg	U	**U**	
2,4-Dichlorophenol	120-83-2	83.8	168	83.8	ug/kg	U	**U**	

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Sample Name LL2SS-288M-1251-SO **AnalysisType:** RE

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Fluorene	86-73-7	81.3	163	81.3	ug/kg	U	**R**	**D**
Naphthalene	91-20-3	81.3	163	81.3	ug/kg	U	**R**	**D**
Dimethylphthalate	131-11-3	81.3	163	81.3	ug/kg	U	**R**	**D**
2,4-Dichlorophenol	120-83-2	81.3	163	81.3	ug/kg	U	**R**	**D**
Pyrene	129-00-0	81.3	163	81.3	ug/kg	U	**R**	**D**
Phenol	108-95-2	81.3	163	81.3	ug/kg	U	**R**	**D**
Phenanthrene	85-01-8	81.3	163	81.3	ug/kg	U	**R**	**D**
2,4-Dinitrophenol	51-28-5	406	813	406	ug/kg	U	**R**	**D**
Nitrobenzene	98-95-3	81.3	163	81.3	ug/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	81.3	163	81.3	ug/kg	U	**R**	**D**
N-Nitrosodipropylamine	621-64-7	81.3	163	81.3	ug/kg	U	**R**	**D**
N-Nitrosodiphenylamine	86-30-6	81.3	163	81.3	ug/kg	U	**R**	**D**
Isophorone	78-59-1	81.3	163	81.3	ug/kg	U	**R**	**D**
Indeno(1,2,3-cd)pyrene	193-39-5	81.3	163	81.3	ug/kg	U	**R**	**D**
Hexachloroethane	67-72-1	81.3	163	81.3	ug/kg	U	**R**	**D**
Hexachlorocyclopentadiene	77-47-4	81.3	163	81.3	ug/kg	U	**R**	**D**
Pentachlorophenol	87-86-5	406	813	406	ug/kg	U	**R**	**D**
2-Nitrophenol	88-75-5	81.3	163	81.3	ug/kg	U	**R**	**D**
4-Chloroaniline	106-47-8	81.3	163	81.3	ug/kg	U	**R**	**D**
4-Chloro-3-methylphenol	59-50-7	81.3	163	81.3	ug/kg	U	**R**	**D**
4-Bromophenyl-phenylether	101-55-3	81.3	163	81.3	ug/kg	U	**R**	**D**
4,6-Dinitro-2-methylphenol	534-52-1	406	813	406	ug/kg	U	**R**	**D**
3-Nitroaniline	99-09-2	406	813	406	ug/kg	U	**R**	**D**
2,4-Dimethylphenol	105-67-9	81.3	163	81.3	ug/kg	U	**R**	**D**
3,3'-Dichlorobenzidine	91-94-1	163	325	163	ug/kg	U	**R**	**D**
4-Bromophenyl-phenylether	101-55-3	83.3	167	83.3	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	406	813	406	ug/kg	U	**R**	**D**
2-Methylphenol	95-48-7	81.3	163	81.3	ug/kg	U	**R**	**D**
2-Methylnaphthalene	91-57-6	81.3	163	81.3	ug/kg	U	**R**	**D**
2-Chlorophenol	95-57-8	81.3	163	81.3	ug/kg	U	**R**	**D**

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2-Chloronaphthalene	91-58-7	81.3	163	81.3	ug/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	81.3	163	81.3	ug/kg	U	**R**	**D**
3-,4-Methylphenol	106-44-5	81.3	163	81.3	ug/kg	U	**R**	**D**
bis(2-Chloroisopropyl)ether	39638-32-9	81.3	163	81.3	ug/kg	U	**R**	**D**
Dibenzo(a,h)Anthracene	53-70-3	81.3	163	81.3	ug/kg	U	**R**	**D**
Di-n-octylphthalate	117-84-0	81.3	163	81.3	ug/kg	U	**R**	**D**
Di-N-Butylphthalate	84-74-2	81.3	163	81.3	ug/kg	U	**R**	**D**
Chrysene	218-01-9	81.3	163	81.3	ug/kg	U	**R**	**D**
Carbazole	86-74-8	81.3	163	81.3	ug/kg	U	**R**	**D**
Hexachlorobutadiene	87-68-3	81.3	163	81.3	ug/kg	U	**R**	**D**
bis(2-Ethylhexyl)phthalate	117-81-7	81.3	163	81.3	ug/kg	U	**R**	**D**
2-Chloronaphthalene	91-58-7	83.3	167	83.3	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	81.3	163	81.3	ug/kg	U	**R**	**D**
Bis(2-Chloroethoxy)Methane	111-91-1	81.3	163	81.3	ug/kg	U	**R**	**D**
Benzyl alcohol	100-51-6	81.3	163	81.3	ug/kg	U	**R**	**D**
Benzoic acid	65-85-0	325	4930	325	ug/kg	U	**R**	**D**
Benzo(k)fluoranthene	207-08-9	81.3	163	81.3	ug/kg	U	**R**	**D**
Benzo(g,h,i)Perylene	191-24-2	81.3	163	81.3	ug/kg	U	**R**	**D**
Butylbenzylphthalate	85-68-7	81.3	163	81.3	ug/kg	U	**R**	**D**
2,4,6-Trichlorophenol	88-06-2	83.3	167	83.3	ug/kg	U	**U**	
Benzo(b)fluoranthene	205-99-2	81.3	163	81.3	ug/kg	U	**R**	**D**
Fluoranthene	206-44-0	81.3	163	81.3	ug/kg	U	**R**	**D**
Diethylphthalate	84-66-2	81.3	163	81.3	ug/kg	U	**R**	**D**
1,2,4-Trichlorobenzene	120-82-1	83.3	167	83.3	ug/kg	U	**U**	
1,2-Dichlorobenzene	95-50-1	83.3	167	83.3	ug/kg	U	**U**	
1,3-Dichlorobenzene	541-73-1	83.3	167	83.3	ug/kg	U	**U**	
Dibenzofuran	132-64-9	81.3	163	81.3	ug/kg	U	**R**	**D**
2,4,5-Trichlorophenol	95-95-4	83.3	167	83.3	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	83.3	167	83.3	ug/kg	U	**U**	
2,4-Dichlorophenol	120-83-2	83.3	167	83.3	ug/kg	U	**U**	
2,4-Dimethylphenol	105-67-9	83.3	167	83.3	ug/kg	U	**U**	
2,4-Dinitrophenol	51-28-5	416	833	416	ug/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	83.3	167	83.3	ug/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	83.3	167	83.3	ug/kg	U	**U**	

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Hexachlorobenzene	118-74-1	81.3	163	81.3	ug/kg	U	**R**	**D**
1,4-Dichlorobenzene	106-46-7	83.3	167	83.3	ug/kg	U	**U**	
Isophorone	78-59-1	83.3	167	83.3	ug/kg	U	**U**	
Fluoranthene	206-44-0	83.3	167	83.3	ug/kg	U	**U**	
Fluorene	86-73-7	83.3	167	83.3	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	83.3	167	83.3	ug/kg	U	**U**	
Hexachlorobutadiene	87-68-3	83.3	167	83.3	ug/kg	U	**U**	
Hexachlorocyclopentadiene	77-47-4	83.3	167	83.3	ug/kg	U	**R**	**C**
Benzo(a)pyrene	50-32-8	81.3	163	81.3	ug/kg	U	**R**	**D**
Indeno(1,2,3-cd)pyrene	193-39-5	83.3	167	83.3	ug/kg	U	**UJ**	**C**
Dibenzofuran	132-64-9	83.3	167	83.3	ug/kg	U	**U**	
N-Nitrosodipropylamine	621-64-7	83.3	167	83.3	ug/kg	U	**U**	
Nitrobenzene	98-95-3	83.3	167	83.3	ug/kg	U	**U**	
Pentachlorophenol	87-86-5	416	833	416	ug/kg	U	**U**	
Phenanthrene	85-01-8	83.3	167	83.3	ug/kg	U	**U**	
Phenol	108-95-2	83.3	167	83.3	ug/kg	U	**U**	
Pyrene	129-00-0	83.3	167	83.3	ug/kg	U	**U**	
Hexachloroethane	67-72-1	83.3	167	83.3	ug/kg	U	**U**	
Butylbenzylphthalate	85-68-7	83.3	167	83.3	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	416	833	416	ug/kg	U	**U**	
2-Methylnaphthalene	91-57-6	83.3	167	83.3	ug/kg	U	**U**	
2-Methylphenol	95-48-7	83.3	167	83.3	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	416	833	416	ug/kg	U	**U**	
Bis(2-Chloroethoxy)Methane	111-91-1	83.3	167	83.3	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	83.3	167	83.3	ug/kg	U	**U**	
Dimethylphthalate	131-11-3	83.3	167	83.3	ug/kg	U	**U**	
bis(2-Ethylhexyl)phthalate	117-81-7	83.3	167	83.3	ug/kg	U	**UJ**	**C**
Diethylphthalate	84-66-2	83.3	167	83.3	ug/kg	U	**U**	
Carbazole	86-74-8	83.3	167	83.3	ug/kg	U	**U**	
Chrysene	218-01-9	83.3	167	83.3	ug/kg	U	**U**	
Di-N-Butylphthalate	84-74-2	83.3	167	83.3	ug/kg	U	**U**	
Di-n-octylphthalate	117-84-0	83.3	167	83.3	ug/kg	U	**UJ**	**L,C**
Dibenzo(a,h)Anthracene	53-70-3	83.3	167	83.3	ug/kg	U	**UJ**	**C**
Naphthalene	91-20-3	83.3	167	83.3	ug/kg	U	**U**	

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bis(2-Chloroisopropyl)ether	39638-32-9	83.3	167	83.3	ug/kg	U	**UJ**	**Q**
4-Chlorophenyl-phenyl ether	7005-72-3	81.3	163	81.3	ug/kg	U	**R**	**D**
4-Nitroaniline	100-01-6	416	833	416	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	7005-72-3	83.3	167	83.3	ug/kg	U	**U**	
4-Chloroaniline	106-47-8	83.3	167	83.3	ug/kg	U	**U**	
4-Chloro-3-methylphenol	59-50-7	83.3	167	83.3	ug/kg	U	**U**	
Benzo(a)anthracene	56-55-3	81.3	163	81.3	ug/kg	U	**R**	**D**
3-,4-Methylphenol	106-44-5	83.3	167	83.3	ug/kg	U	**U**	
4-Nitroaniline	100-01-6	406	813	406	ug/kg	U	**R**	**D**
2-Nitrophenol	88-75-5	83.3	167	83.3	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	534-52-1	416	833	416	ug/kg	U	**U**	
2,4,6-Trichlorophenol	88-06-2	81.3	163	81.3	ug/kg	U	**R**	**D**
2,4,5-Trichlorophenol	95-95-4	81.3	163	81.3	ug/kg	U	**R**	**D**
1,4-Dichlorobenzene	106-46-7	81.3	163	81.3	ug/kg	U	**R**	**D**
1,3-Dichlorobenzene	541-73-1	81.3	163	81.3	ug/kg	U	**R**	**D**
1,2-Dichlorobenzene	95-50-1	81.3	163	81.3	ug/kg	U	**R**	**D**
1,2,4-Trichlorobenzene	120-82-1	81.3	163	81.3	ug/kg	U	**R**	**D**
N-Nitrosodiphenylamine	86-30-6	83.3	167	83.3	ug/kg	U	**UJ**	**L**
Benzoic acid	65-85-0	333	5050	333	ug/kg	U	**R**	**C,Q**
Anthracene	120-12-7	81.3	163	81.3	ug/kg	U	**R**	**D**
3,3'-Dichlorobenzidine	91-94-1	167	333	167	ug/kg	U	**UJ**	**C**
Benzyl alcohol	100-51-6	83.3	167	83.3	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	406	813	406	ug/kg	U	**R**	**D**
Benzo(k)fluoranthene	207-08-9	83.3	167	83.3	ug/kg	U	**U**	
Benzo(g,h,i)Perylene	191-24-2	83.3	167	83.3	ug/kg	U	**UJ**	**C**
Benzo(b)fluoranthene	205-99-2	83.3	167	83.3	ug/kg	U	**U**	
Benzo(a)anthracene	56-55-3	83.3	167	83.3	ug/kg	U	**U**	
Anthracene	120-12-7	83.3	167	83.3	ug/kg	U	**U**	
Acenaphthylene	208-96-8	83.3	167	83.3	ug/kg	U	**U**	
Acenaphthene	83-32-9	83.3	167	83.3	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	416	833	416	ug/kg	U	**U**	
Acenaphthylene	208-96-8	81.3	163	81.3	ug/kg	U	**R**	**D**
Benzo(a)pyrene	50-32-8	83.3	167	83.3	ug/kg	U	**U**	
Acenaphthene	83-32-9	81.3	163	81.3	ug/kg	U	**R**	**D**

Analysis Method 8330

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3-Dinitrobenzene	99-65-0	0.100	0.250	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.250	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.250	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.250	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.100	0.250	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.250	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.100	0.250	0.100	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.250	0.100	mg/kg	U	**U**	
PETN	78-11-5	0.501	1.50	0.501	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.100	0.250	0.100	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.100	0.250	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.250	0.100	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.100	0.250	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.250	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.250	0.100	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-278M-1233-SO **AnalysisType:** RES

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
HMX	2691-41-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
Tetryl	479-45-8	0.0991	0.248	0.0991	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0991	0.248	0.0991	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0991	0.248	0.0991	mg/kg	U	**U**	
PETN	78-11-5	0.496	1.49	0.496	mg/kg	U	**U**	
RDX	121-82-4	0.0991	0.248	0.0991	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0991	0.248	0.0991	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-278M-1234-SO **AnalysisType:** RES

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,4,6-Trinitrotoluene	118-96-7	0.100	0.250	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.250	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.250	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.100	0.250	0.100	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.250	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.250	0.100	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.100	0.250	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.250	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.250	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.250	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.250	0.100	mg/kg	U	**U**	
PETN	78-11-5	0.500	1.50	0.500	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.100	0.250	0.100	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-288M-1251-SO **AnalysisType:** CF

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrobenzene	98-95-3	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
RDX	121-82-4	0.398	0.248	0.0992	mg/kg		**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.523	0.248	0.0992	mg/kg		**R**	**D**
Tetryl	479-45-8	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.732	0.248	0.0992	mg/kg		**R**	**D**
4-Nitrotoluene	99-99-0	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.0992	0.248	0.0992	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	62.8	0.248	0.0992	mg/kg	I	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	1.25	0.248	0.0992	mg/kg			
Nitroglycerin	55-63-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
Tetryl	479-45-8	1.98	4.96	1.98	mg/kg	U	**R**	**D**
PETN	78-11-5	0.496	1.49	0.496	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	1.21	0.248	0.0992	mg/kg		**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0992	0.248	0.0992	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	66.5	0.248	0.0992	mg/kg	I	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0992	0.248	0.0992	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0992	0.248	0.0992	mg/kg	U	**U**	
Nitrobenzene	98-95-3	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.538	0.248	0.0992	mg/kg			
2,6-Dinitrotoluene	606-20-2	0.0992	0.248	0.0992	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0992	0.248	0.0992	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	1.17	0.248	0.0992	mg/kg			

Analysis Method 8330

2-Amino-4,6-dinitrotoluene	35572-78-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.0992	0.248	0.0992	mg/kg	U	**U**	
Tetryl	479-45-8	1.98	4.96	1.98	mg/kg	U	**R**	**D**
RDX	121-82-4	1.98	4.96	1.98	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	1.98	4.96	1.98	mg/kg	U	**R**	**D**
HMX	2691-41-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	1.98	4.96	1.98	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	63.3	4.96	1.98	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
RDX	121-82-4	1.98	4.96	1.98	mg/kg	U	**R**	**D**
HMX	2691-41-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0992	0.248	0.0992	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.133	0.248	0.0992	mg/kg	J	**R**	**D**
2,4-Dinitrotoluene	121-14-2	1.98	4.96	1.98	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	66.6	4.96	1.98	mg/kg			
1,3-Dinitrobenzene	99-65-0	1.98	4.96	1.98	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	1.98	4.96	1.98	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.0992	0.248	0.0992	mg/kg	U	**U**	
Tetryl	479-45-8	0.0992	0.248	0.0992	mg/kg	U	**U**	
RDX	121-82-4	0.477	0.248	0.0992	mg/kg			
Nitrobenzene	98-95-3	0.0992	0.248	0.0992	mg/kg	U	**U**	

Analysis Method 8330-NG

Sample Name LL2SS-288M-1251-SO **AnalysisType:** RES

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	127	253	127	ug/kg	U	UJ	H

Analysis Method SM3500Cr-D 7196A

Sample Name LL2SS-278M-1231-SO **AnalysisType:** RES

Lab Sample Name: L08060612-05 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0464	0.0928	0.0464	mg/kg	U	UJ	Q

Sample Name LL2SS-278M-1233-SO **AnalysisType:** RES

Lab Sample Name: L08060612-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0773	0.0983	0.0491	mg/kg	J	J-	Q

Sample Name LL2SS-278M-1234-SO **AnalysisType:** RES

Lab Sample Name: L08060612-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0457	0.0913	0.0457	mg/kg	U	UJ	Q

Sample Name LL2SS-288M-1251-SO **AnalysisType:** RES

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.119	0.204	0.102	mg/kg	J	J	Q

Analysis Method USACRREL

Sample Name LL2SS-288M-1251-SO **AnalysisType:** RES

Lab Sample Name: L08060612-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrocellulose	9004-70-0	36.2	9.96	9.96	mg/kg		J	*III,Q,C

Validated Sample Result Forms: L08060623

Analysis Method 6010B

Sample Name LL2SS-305M-1273-SO **AnalysisType:** RES

Lab Sample Name: L08060623-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Zinc	7440-66-6	59.5	0.807	0.403	mg/kg		**J-**	**A**
Calcium	7440-70-2	4180	8.07	4.03	mg/kg			
Cadmium	7440-43-9	0.432	0.0807	0.0403	mg/kg			
Cobalt	7440-48-4	5.88	0.202	0.0968	mg/kg		**J**	**Q,A**
Chromium	7440-47-3	17.5	0.202	0.0968	mg/kg			
Copper	7440-50-8	17.6	0.202	0.0968	mg/kg		**J**	**Q,A**
Iron	7439-89-6	18900	1.61	0.807	mg/kg			
Potassium	7440-09-7	664	40.3	20.2	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	2280	20.2	9.68	mg/kg			
Manganese	7439-96-5	345	0.403	0.0807	mg/kg		**J-**	**A**
Vanadium	7440-62-2	12.7	0.403	0.202	mg/kg		**J-**	**A**
Beryllium	7440-41-7	0.417	0.0202	0.00968	mg/kg			
Aluminum	7429-90-5	8280	16.1	8.07	mg/kg			
Barium	7440-39-3	51.5	0.403	0.0807	mg/kg			
Sodium	7440-23-5	40.8	20.2	4.03	mg/kg			
Silver	7440-22-4	0.202	0.403	0.202	mg/kg	U	**UJ**	**C**

Analysis Method 6010B

Sample Name LL2SS-305M-1275-SO **AnalysisType:** RES

Lab Sample Name: L08060623-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Calcium	7440-70-2	4230	7.90	3.95	mg/kg			
Iron	7439-89-6	22800	7.90	3.95	mg/kg			
Vanadium	7440-62-2	14.3	0.395	0.197	mg/kg		**J-**	**A**
Sodium	7440-23-5	44.2	19.7	3.95	mg/kg			
Cadmium	7440-43-9	0.475	0.0790	0.0395	mg/kg			
Barium	7440-39-3	50.0	0.395	0.0790	mg/kg			
Beryllium	7440-41-7	0.424	0.0197	0.00948	mg/kg			
Cobalt	7440-48-4	6.38	0.197	0.0948	mg/kg		**J**	**Q,A**
Silver	7440-22-4	0.197	0.395	0.197	mg/kg	U	**UJ**	**C**
Magnesium	7439-95-4	2330	19.7	9.48	mg/kg			
Potassium	7440-09-7	812	39.5	19.7	mg/kg		**J+**	**Q**
Copper	7440-50-8	17.8	0.197	0.0948	mg/kg		**J+**	**Q**
Chromium	7440-47-3	21.2	0.197	0.0948	mg/kg			
Aluminum	7429-90-5	9180	15.8	7.90	mg/kg			
Manganese	7439-96-5	327	0.395	0.0790	mg/kg		**J-**	**A**
Zinc	7440-66-6	60.9	0.790	0.395	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL2SS-305M-1276-SO **AnalysisType:** RES

Lab Sample Name: L08060623-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cobalt	7440-48-4	5.96	0.197	0.0945	mg/kg		**J+**	**Q,A**
Cadmium	7440-43-9	0.459	0.0788	0.0394	mg/kg			
Calcium	7440-70-2	3580	7.88	3.94	mg/kg			
Beryllium	7440-41-7	0.386	0.0197	0.00945	mg/kg			
Barium	7440-39-3	43.7	0.394	0.0788	mg/kg			
Aluminum	7429-90-5	7980	15.8	7.88	mg/kg			
Chromium	7440-47-3	17.9	0.197	0.0945	mg/kg			
Silver	7440-22-4	0.197	0.394	0.197	mg/kg	U	**UJ**	**C**
Iron	7439-89-6	19600	1.58	0.788	mg/kg			
Potassium	7440-09-7	652	39.4	19.7	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	2110	19.7	9.45	mg/kg			
Manganese	7439-96-5	299	0.394	0.0788	mg/kg		**J**	**A**
Sodium	7440-23-5	36.8	19.7	3.94	mg/kg			
Zinc	7440-66-6	60.4	0.788	0.394	mg/kg		**J**	**A**
Vanadium	7440-62-2	12.4	0.394	0.197	mg/kg		**J**	**A**
Copper	7440-50-8	17.9	0.197	0.0945	mg/kg		**J+**	**Q**

Analysis Method 6020

Sample Name LL2SS-305M-1273-SO **AnalysisType:** RES

Lab Sample Name: L08060623-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	11.5	0.317	0.0793	mg/kg			
Antimony	7440-36-0	0.0568	0.106	0.0528	mg/kg	J	**R**	**Q,B**
Nickel	7440-02-0	41.9	4.23	1.06	mg/kg		**J+**	**Q**
Thallium	7440-28-0	0.130	0.0211	0.0106	mg/kg			
Lead	7439-92-1	22.9	0.211	0.106	mg/kg		**J-**	**Q**
Selenium	7782-49-2	0.206	0.211	0.106	mg/kg	J	**J**	

Sample Name LL2SS-305M-1275-SO **AnalysisType:** RES

Lab Sample Name: L08060623-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	10.4	0.317	0.0793	mg/kg			
Lead	7439-92-1	19.5	0.211	0.106	mg/kg		**J-**	**Q**
Selenium	7782-49-2	0.238	0.211	0.106	mg/kg			
Thallium	7440-28-0	0.119	0.0211	0.0106	mg/kg			
Nickel	7440-02-0	37.8	0.846	0.211	mg/kg		**J+**	**Q**
Antimony	7440-36-0	0.0529	0.106	0.0529	mg/kg	U	**R**	**Q**

Sample Name LL2SS-305M-1276-SO **AnalysisType:** RE

Lab Sample Name: L08060623-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0532	0.106	0.0532	mg/kg	U	**R**	**Q**
Nickel	7440-02-0	84.9	8.51	2.13	mg/kg		**J+**	**Q**
Lead	7439-92-1	17.9	0.213	0.106	mg/kg		**J-**	**Q**
Selenium	7782-49-2	0.253	0.213	0.106	mg/kg			
Arsenic	7440-38-2	10.8	0.319	0.0797	mg/kg			
Thallium	7440-28-0	0.124	0.0213	0.0106	mg/kg			

Analysis Method 7471A

Sample Name	LL2SS-305M-1273-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060623-01	**Validation Level:** IV						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0141	0.104	0.0104	mg/kg	J	**J**	

Sample Name	LL2SS-305M-1275-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060623-02	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0139	0.104	0.0104	mg/kg	J	**J**	

Sample Name	LL2SS-305M-1276-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060623-03	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0106	0.106	0.0106	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-305M-1273-SO **AnalysisType:** CF1

Lab Sample Name: L08060623-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene	99-35-4	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	5.48	0.249	0.0994	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.327	0.249	0.0994	mg/kg			
2-Nitrotoluene	88-72-2	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.607	0.249	0.0994	mg/kg			
Nitrobenzene	98-95-3	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.0994	0.249	0.0994	mg/kg	U	**U**	
RDX	121-82-4	0.0994	0.249	0.0994	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0994	0.249	0.0994	mg/kg	U	**U**	
PETN	78-11-5	0.497	1.49	0.497	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	5.81	0.249	0.0994	mg/kg			
2,4-Dinitrotoluene	121-14-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.574	0.249	0.0994	mg/kg		**R**	**D**
HMX	2691-41-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.289	0.249	0.0994	mg/kg		**R**	**D**
RDX	121-82-4	0.0994	0.249	0.0994	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0994	0.249	0.0994	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-305M-1275-SO **AnalysisType:** RES

Lab Sample Name: L08060623-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Tetryl	479-45-8	0.0993	0.248	0.0993	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.345	0.248	0.0993	mg/kg			
2,6-Dinitrotoluene	606-20-2	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	7.78	0.248	0.0993	mg/kg		**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0993	0.248	0.0993	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
RDX	121-82-4	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
HMX	2691-41-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.326	0.248	0.0993	mg/kg		**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.618	0.248	0.0993	mg/kg		**R**	**D**
PETN	78-11-5	0.497	1.49	0.497	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0993	0.248	0.0993	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.667	0.248	0.0993	mg/kg			
3-Nitrotoluene	99-08-1	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
Tetryl	479-45-8	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
RDX	121-82-4	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.0993	0.248	0.0993	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	8.22	0.248	0.0993	mg/kg			

Analysis Method 8330

Sample Name LL2SS-305M-1276-SO **AnalysisType:** RES

Lab Sample Name: L08060623-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroglycerin	55-63-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
RDX	121-82-4	0.0996	0.249	0.0996	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	11.2	0.249	0.0996	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.365	0.249	0.0996	mg/kg		**R**	**D**
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.570	0.249	0.0996	mg/kg		**R**	**D**
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
RDX	121-82-4	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.398	0.996	0.398	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	11.2	0.996	0.398	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.404	0.996	0.398	mg/kg	J	**R**	**D**
2-Nitrotoluene	88-72-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.398	0.996	0.398	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.579	0.996	0.398	mg/kg	J	**R**	**D**
HMX	2691-41-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.398	0.996	0.398	mg/kg	U	**R**	**D**
RDX	121-82-4	0.398	0.996	0.398	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.398	0.996	0.398	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**

Analysis Method 8330

Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	11.7	0.249	0.0996	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.379	0.249	0.0996	mg/kg			
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.656	0.249	0.0996	mg/kg			
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**U**	
PETN	78-11-5	0.498	1.49	0.498	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.398	0.996	0.398	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.398	0.996	0.398	mg/kg	U	**R**	**D**
RDX	121-82-4	0.398	0.996	0.398	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.398	0.996	0.398	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.398	0.996	0.398	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	11.8	0.996	0.398	mg/kg			
1,3-Dinitrobenzene	99-65-0	0.398	0.996	0.398	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.565	0.996	0.398	mg/kg	J	**R**	**D**

Analysis Method SM3500Cr-D 7196A

Sample Name LL2SS-305M-1273-SO **AnalysisType:** RES

Lab Sample Name: L08060623-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0972	0.194	0.0972	mg/kg	U	**U**	

Sample Name LL2SS-305M-1275-SO **AnalysisType:** RES

Lab Sample Name: L08060623-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.103	0.205	0.103	mg/kg	U	**U**	

Sample Name LL2SS-305M-1276-SO **AnalysisType:** RES

Lab Sample Name: L08060623-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.102	0.203	0.102	mg/kg	U	**U**	

Validated Sample Result Forms: L08060652

Analysis Method 6010B

Sample Name LL2SS-285M-1244-SO **AnalysisType:** RES

Lab Sample Name: L08060652-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Sodium	7440-23-5	43.0	20.9	4.17	mg/kg			
Silver	7440-22-4	0.216	0.417	0.209	mg/kg	J	**J**	
Barium	7440-39-3	57.8	0.417	0.0834	mg/kg			
Beryllium	7440-41-7	0.476	0.0209	0.0100	mg/kg			
Calcium	7440-70-2	5350	8.34	4.17	mg/kg			
Cadmium	7440-43-9	0.865	0.0834	0.0417	mg/kg			
Cobalt	7440-48-4	7.25	0.209	0.100	mg/kg		**J-**	**A**
Chromium	7440-47-3	14.0	0.209	0.100	mg/kg		**J-**	**A**
Copper	7440-50-8	20.5	0.209	0.100	mg/kg			
Iron	7439-89-6	21200	1.67	0.834	mg/kg		**J-**	**A**
Potassium	7440-09-7	540	41.7	20.9	mg/kg			
Manganese	7439-96-5	405	0.417	0.0834	mg/kg		**J-**	**A**
Vanadium	7440-62-2	13.4	0.417	0.209	mg/kg		**J-**	**A**
Zinc	7440-66-6	93.0	0.834	0.417	mg/kg		**J-**	**A**
Aluminum	7429-90-5	7840	16.7	8.34	mg/kg			
Magnesium	7439-95-4	2170	20.9	10.0	mg/kg			

Analysis Method 6010B

Sample Name LL2SS-285M-1246-SO **AnalysisType:** RES

Lab Sample Name: L08060652-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cadmium	7440-43-9	0.647	0.0818	0.0409	mg/kg			
Vanadium	7440-62-2	13.6	0.409	0.204	mg/kg		**J-**	**A**
Sodium	7440-23-5	35.0	20.4	4.09	mg/kg			
Manganese	7439-96-5	374	0.409	0.0818	mg/kg		**J-**	**A**
Magnesium	7439-95-4	1970	20.4	9.81	mg/kg			
Potassium	7440-09-7	494	40.9	20.4	mg/kg			
Zinc	7440-66-6	102	0.818	0.409	mg/kg		**J-**	**A**
Chromium	7440-47-3	12.2	0.204	0.0981	mg/kg		**J-**	**A**
Copper	7440-50-8	18.4	0.204	0.0981	mg/kg			
Calcium	7440-70-2	4730	8.18	4.09	mg/kg			
Beryllium	7440-41-7	0.449	0.0204	0.00981	mg/kg			
Barium	7440-39-3	56.3	0.409	0.0818	mg/kg			
Silver	7440-22-4	0.229	0.409	0.204	mg/kg	J	**J**	
Aluminum	7429-90-5	7640	16.4	8.18	mg/kg			
Iron	7439-89-6	21300	1.64	0.818	mg/kg		**J-**	**A**
Cobalt	7440-48-4	7.49	0.204	0.0981	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL2SS-285M-1247-SO **AnalysisType:** RES

Lab Sample Name: L08060652-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium	7440-47-3	13.7	0.202	0.0968	mg/kg		**J-**	**A**
Vanadium	7440-62-2	15.0	0.403	0.202	mg/kg		**J-**	**A**
Sodium	7440-23-5	35.4	20.2	4.03	mg/kg			
Manganese	7439-96-5	384	0.403	0.0807	mg/kg		**J-**	**A**
Magnesium	7439-95-4	2200	20.2	9.68	mg/kg			
Potassium	7440-09-7	605	40.3	20.2	mg/kg			
Zinc	7440-66-6	92.6	0.807	0.403	mg/kg		**J-**	**A**
Copper	7440-50-8	18.7	0.202	0.0968	mg/kg			
Barium	7440-39-3	68.1	0.403	0.0807	mg/kg			
Cobalt	7440-48-4	8.25	0.202	0.0968	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.735	0.0807	0.0403	mg/kg			
Calcium	7440-70-2	3930	8.07	4.03	mg/kg			
Beryllium	7440-41-7	0.529	0.0202	0.00968	mg/kg			
Silver	7440-22-4	0.230	0.403	0.202	mg/kg	J	**J**	
Iron	7439-89-6	22900	1.61	0.807	mg/kg		**J-**	**A**
Aluminum	7429-90-5	8600	16.1	8.07	mg/kg			

Analysis Method 6020

Sample Name LL2SS-285M-1244-SO **AnalysisType:** RES

Lab Sample Name: L08060652-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Lead	7439-92-1	38.7	0.218	0.109	mg/kg			
Antimony	7440-36-0	0.0545	0.109	0.0545	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.174	0.218	0.109	mg/kg	J	**J-**	**Q**
Thallium	7440-28-0	0.111	0.0218	0.0109	mg/kg			
Nickel	7440-02-0	22.0	0.872	0.218	mg/kg		**J-**	**Q,E**
Arsenic	7440-38-2	9.75	0.327	0.0818	mg/kg		**J-**	**Q,A**

Sample Name LL2SS-285M-1246-SO **AnalysisType:** RES

Lab Sample Name: L08060652-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Selenium	7782-49-2	0.209	0.222	0.111	mg/kg	J	**J-**	**Q**
Arsenic	7440-38-2	9.95	0.332	0.0831	mg/kg		**J-**	**Q,A**
Antimony	7440-36-0	0.0554	0.111	0.0554	mg/kg	U	**R**	**Q**
Thallium	7440-28-0	0.0973	0.0222	0.0111	mg/kg			
Lead	7439-92-1	1170	22.2	11.1	mg/kg			
Nickel	7440-02-0	21.9	0.886	0.222	mg/kg		**J-**	**Q,E**

Sample Name LL2SS-285M-1247-SO **AnalysisType:** RES

Lab Sample Name: L08060652-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Lead	7439-92-1	29.8	0.223	0.111	mg/kg			
Antimony	7440-36-0	0.0557	0.111	0.0557	mg/kg	U	**R**	**Q**
Thallium	7440-28-0	0.117	0.0223	0.0111	mg/kg			
Selenium	7782-49-2	0.238	0.223	0.111	mg/kg		**J-**	**Q**
Arsenic	7440-38-2	10.0	0.334	0.0835	mg/kg		**J-**	**Q,A**
Nickel	7440-02-0	27.5	0.890	0.223	mg/kg		**J-**	**Q,E**

Analysis Method 7471A

Sample Name	LL2SS-285M-1244-SO	**AnalysisType:** RES	
Lab Sample Name:	L08060652-01	**Validation Level:** IV	

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0346	0.108	0.0108	mg/kg	J	**J**	

Sample Name	LL2SS-285M-1246-SO	**AnalysisType:** RES	
Lab Sample Name:	L08060652-02	**Validation Level:** III	

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0350	0.103	0.0103	mg/kg	J	**J**	

Sample Name	LL2SS-285M-1247-SO	**AnalysisType:** RES	
Lab Sample Name:	L08060652-03	**Validation Level:** III	

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0527	0.110	0.0110	mg/kg	J	**J**	

Analysis Method 8082

Sample Name LL2SS-285M-1244-SO **AnalysisType:** CFDL

Lab Sample Name: L08060652-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1232	11141-16-5	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.88	17.8	8.88	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	44.4	88.8	44.4	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	377	88.8	44.4	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	391	90.0	45.0	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	191	88.8	44.4	ug/kg		**J+**	**H,*III**
Aroclor-1254	11097-69-1	687	90.0	45.0	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	44.4	88.8	44.4	ug/kg	U	**UJ**	**L**
Aroclor-1221	11104-28-2	8.88	17.8	8.88	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	44.4	88.8	44.4	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	261	90.0	45.0	ug/kg		**R**	**D**
Aroclor-1254	11097-69-1	647	90.0	45.0	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	44.4	88.8	44.4	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	44.4	88.8	44.4	ug/kg	U	**UJ**	**H**
Aroclor-1242	53469-21-9	44.4	88.8	44.4	ug/kg	U	**UJ**	**H**
Aroclor-1232	11141-16-5	44.4	88.8	44.4	ug/kg	U	**UJ**	**H**
Aroclor-1221	11104-28-2	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.88	17.8	8.88	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	45.0	90.0	45.0	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	305	17.8	8.88	ug/kg		**R**	**D**
Aroclor-1232	11141-16-5	44.4	88.8	44.4	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	172	88.8	44.4	ug/kg		**R**	**D**
Aroclor-1254	11097-69-1	779	17.8	8.88	ug/kg	I	**R**	**D**

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Aroclor-1221	11104-28-2	44.4	88.8	44.4	ug/kg	U	**UJ**	**H**
Aroclor-1248	12672-29-6	8.88	17.8	8.88	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	437	88.8	44.4	ug/kg		**J+**	**H,*III**
Aroclor-1242	53469-21-9	8.88	17.8	8.88	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	44.4	88.8	44.4	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL2SS-285M-1246-SO **AnalysisType:** CFDL

Lab Sample Name: L08060652-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1221	11104-28-2	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	427	17.8	8.89	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	722	91.3	45.6	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1040	17.8	8.89	ug/kg	I	**R**	**D**
Aroclor-1242	53469-21-9	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	45.6	91.3	45.6	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	769	91.3	45.6	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	379	91.3	45.6	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	293	91.3	45.6	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	45.3	90.7	45.3	ug/kg	U	**UJ**	**H**
Aroclor-1260	11096-82-5	110	90.7	45.3	ug/kg		**J+**	**H,*III**
Aroclor-1016	12674-11-2	45.3	90.7	45.3	ug/kg	U	**UJ**	**H**
Aroclor-1221	11104-28-2	45.3	90.7	45.3	ug/kg	U	**UJ**	**H**
Aroclor-1260	11096-82-5	101	90.7	45.3	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	45.3	90.7	45.3	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.89	17.8	8.89	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	45.3	90.7	45.3	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	216	90.7	45.3	ug/kg		**R**	**D**
Aroclor-1221	11104-28-2	45.3	90.7	45.3	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	45.3	90.7	45.3	ug/kg	U	**UJ**	**H**
Aroclor-1016	12674-11-2	45.3	90.7	45.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	45.3	90.7	45.3	ug/kg	U	**UJ**	**H**
Aroclor-1016	12674-11-2	8.89	17.8	8.89	ug/kg	U	**R**	**D**

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Aroclor-1221	11104-28-2	8.89	17.8	8.89	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.89	17.8	8.89	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	250	90.7	45.3	ug/kg		**J+**	**H,*III**
Aroclor-1242	53469-21-9	8.89	17.8	8.89	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	45.3	90.7	45.3	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL2SS-285M-1247-SO **AnalysisType:** CF1

Lab Sample Name: L08060652-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1016	12674-11-2	9.08	18.2	9.08	ug/kg	U	**UJ**	**H**
Aroclor-1221	11104-28-2	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	269	18.0	9.01	ug/kg		**R**	**D**
Aroclor-1254	11097-69-1	608	18.0	9.01	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	9.01	18.0	9.01	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	577	17.9	8.97	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	211	17.9	8.97	ug/kg		**R**	**D**
Aroclor-1232	11141-16-5	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	454	17.9	8.97	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	276	17.9	8.97	ug/kg		**R**	**D**
Aroclor-1254	11097-69-1	240	18.2	9.08	ug/kg		**J+**	**H,*III**
Aroclor-1232	11141-16-5	9.08	18.2	9.08	ug/kg	U	**UJ**	**H**
Aroclor-1260	11096-82-5	138	18.2	9.08	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	8.97	17.9	8.97	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	9.08	18.2	9.08	ug/kg	U	**UJ**	**H**
Aroclor-1242	53469-21-9	9.08	18.2	9.08	ug/kg	U	**UJ**	**H**
Aroclor-1016	12674-11-2	9.08	18.2	9.08	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	9.08	18.2	9.08	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	9.08	18.2	9.08	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	9.01	18.0	9.01	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	9.08	18.2	9.08	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	9.01	18.0	9.01	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	9.01	18.0	9.01	ug/kg	U	**R**	**D**

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Aroclor-1221	11104-28-2	9.08	18.2	9.08	ug/kg	U	**UJ**	**H**
Aroclor-1260	11096-82-5	164	18.2	9.08	ug/kg		**J+**	**H,*III**
Aroclor-1254	11097-69-1	216	18.2	9.08	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	9.08	18.2	9.08	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	9.01	18.0	9.01	ug/kg	U	**R**	**D**

Analysis Method 8270C

Sample Name LL2SS-285M-1244-SO **AnalysisType:** RES

Lab Sample Name: L08060652-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2-Nitroaniline	88-74-4	445	890	445	ug/kg	U	**U**	
1,4-Dichlorobenzene	106-46-7	89.0	178	89.0	ug/kg	U	**U**	
2-Nitrophenol	88-75-5	89.0	178	89.0	ug/kg	U	**UJ**	**S**
2,4-Dinitrotoluene	121-14-2	89.0	178	89.0	ug/kg	U	**U**	
2-Methylphenol	95-48-7	89.0	178	89.0	ug/kg	U	**UJ**	**S**
2-Methylnaphthalene	91-57-6	89.0	178	89.0	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	89.0	178	89.0	ug/kg	U	**UJ**	**S**
2-Chloronaphthalene	91-58-7	89.0	178	89.0	ug/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	89.0	178	89.0	ug/kg	U	**U**	
2,4-Dinitrophenol	51-28-5	445	890	445	ug/kg	U	**UJ**	**S**
2,4-Dimethylphenol	105-67-9	89.0	178	89.0	ug/kg	U	**UJ**	**S**
2,4-Dichlorophenol	120-83-2	89.0	178	89.0	ug/kg	U	**UJ**	**S**
1,2,4-Trichlorobenzene	120-82-1	89.0	178	89.0	ug/kg	U	**U**	
2,4,5-Trichlorophenol	95-95-4	89.0	178	89.0	ug/kg	U	**UJ**	**S**
1,3-Dichlorobenzene	541-73-1	89.0	178	89.0	ug/kg	U	**U**	
1,2-Dichlorobenzene	95-50-1	89.0	178	89.0	ug/kg	U	**U**	
N-Nitrosodiphenylamine	86-30-6	89.0	178	89.0	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	91-94-1	178	356	178	ug/kg	U	**U**	
2,4,6-Trichlorophenol	88-06-2	89.0	178	89.0	ug/kg	U	**UJ**	**S**
Hexachlorobutadiene	87-68-3	89.0	178	89.0	ug/kg	U	**U**	
bis(2-Ethylhexyl)phthalate	117-81-7	89.0	178	89.0	ug/kg	U	**U**	
Butylbenzylphthalate	85-68-7	89.0	178	89.0	ug/kg	U	**U**	
Carbazole	86-74-8	89.0	178	89.0	ug/kg	U	**U**	
Chrysene	218-01-9	477	178	89.0	ug/kg			
Di-N-Butylphthalate	84-74-2	89.0	178	89.0	ug/kg	U	**U**	
Di-n-octylphthalate	117-84-0	89.0	178	89.0	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	89.0	178	89.0	ug/kg	U	**UJ**	**C**
Dibenzofuran	132-64-9	89.0	178	89.0	ug/kg	U	**U**	
Diethylphthalate	84-66-2	89.0	178	89.0	ug/kg	U	**U**	
Dimethylphthalate	131-11-3	89.0	178	89.0	ug/kg	U	**U**	

Analysis Method 8270C

Fluoranthene	206-44-0	1090	178	89.0	ug/kg			
bis(2-Chloroisopropyl)ether	39638-32-9	89.0	178	89.0	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	89.0	178	89.0	ug/kg	U	**U**	
Phenol	108-95-2	89.0	178	89.0	ug/kg	U	**UJ**	**S**
Hexachlorocyclopentadiene	77-47-4	89.0	178	89.0	ug/kg	U	**R**	**C**
Hexachloroethane	67-72-1	89.0	178	89.0	ug/kg	U	**U**	
Isophorone	78-59-1	89.0	178	89.0	ug/kg	U	**U**	
N-Nitrosodipropylamine	621-64-7	89.0	178	89.0	ug/kg	U	**U**	
Naphthalene	91-20-3	89.0	178	89.0	ug/kg	U	**U**	
Nitrobenzene	98-95-3	89.0	178	89.0	ug/kg	U	**U**	
Pentachlorophenol	87-86-5	445	890	445	ug/kg	U	**UJ**	**S**
Phenanthrene	85-01-8	885	178	89.0	ug/kg			
3-,4-Methylphenol	106-44-5	89.0	178	89.0	ug/kg	U	**UJ**	**S**
Pyrene	129-00-0	978	178	89.0	ug/kg			
Indeno(1,2,3-cd)pyrene	193-39-5	201	178	89.0	ug/kg		**J**	**C**
Fluorene	86-73-7	89.0	178	89.0	ug/kg	U	**U**	
4-Nitroaniline	100-01-6	445	890	445	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	445	890	445	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	534-52-1	445	890	445	ug/kg	U	**UJ**	**S**
4-Bromophenyl-phenylether	101-55-3	89.0	178	89.0	ug/kg	U	**U**	
4-Chloro-3-methylphenol	59-50-7	89.0	178	89.0	ug/kg	U	**UJ**	**S**
4-Chlorophenyl-phenyl ether	7005-72-3	89.0	178	89.0	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	445	890	445	ug/kg	U	**UJ**	**S**
Acenaphthene	83-32-9	89.0	178	89.0	ug/kg	U	**U**	
Acenaphthylene	208-96-8	89.0	178	89.0	ug/kg	U	**U**	
Anthracene	120-12-7	175	178	89.0	ug/kg	J	**J**	
Benzo(a)anthracene	56-55-3	427	178	89.0	ug/kg			
Benzo(a)pyrene	50-32-8	379	178	89.0	ug/kg			
Benzo(b)fluoranthene	205-99-2	301	178	89.0	ug/kg			
Benzo(g,h,i)Perylene	191-24-2	237	178	89.0	ug/kg		**J**	**C**
Benzoic acid	65-85-0	356	5400	356	ug/kg	U	**R**	**C**
Benzyl alcohol	100-51-6	89.0	178	89.0	ug/kg	U	**U**	
Bis(2-Chloroethoxy)Methane	111-91-1	89.0	178	89.0	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	89.0	178	89.0	ug/kg	U	**U**	

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4-Chloroaniline	106-47-8	89.0	178	89.0	ug/kg	U	**U**
Benzo(k)fluoranthene	207-08-9	382	178	89.0	ug/kg		

Analysis Method 8270C

Sample Name LL2SS-285M-1246-SO **AnalysisType:** RES

Lab Sample Name: L08060652-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
bis(2-Chloroisopropyl)ether	39638-32-9	91.0	182	91.0	ug/kg	U	**U**	
Dibenzofuran	132-64-9	91.0	182	91.0	ug/kg	U	**U**	
Dibenzo(a,h)Anthracene	53-70-3	91.0	182	91.0	ug/kg	U	**UJ**	**C**
Di-n-octylphthalate	117-84-0	91.0	182	91.0	ug/kg	U	**U**	
Di-N-Butylphthalate	84-74-2	91.0	182	91.0	ug/kg	U	**U**	
Chrysene	218-01-9	251	182	91.0	ug/kg			
Carbazole	86-74-8	91.0	182	91.0	ug/kg	U	**U**	
Diethylphthalate	84-66-2	91.0	182	91.0	ug/kg	U	**U**	
bis(2-Ethylhexyl)phthalate	117-81-7	91.0	182	91.0	ug/kg	U	**U**	
Hexachlorobutadiene	87-68-3	91.0	182	91.0	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	91.0	182	91.0	ug/kg	U	**U**	
Bis(2-Chloroethoxy)Methane	111-91-1	91.0	182	91.0	ug/kg	U	**U**	
Benzyl alcohol	100-51-6	91.0	182	91.0	ug/kg	U	**U**	
Benzoic acid	65-85-0	364	5520	364	ug/kg	U	**R**	**C**
3-,4-Methylphenol	106-44-5	91.0	182	91.0	ug/kg	U	**U**	
Butylbenzylphthalate	85-68-7	91.0	182	91.0	ug/kg	U	**U**	
Benzo(k)fluoranthene	207-08-9	183	182	91.0	ug/kg			
Indeno(1,2,3-cd)pyrene	193-39-5	91.0	182	91.0	ug/kg	U	**UJ**	**C**
Isophorone	78-59-1	91.0	182	91.0	ug/kg	U	**U**	
Hexachloroethane	67-72-1	91.0	182	91.0	ug/kg	U	**U**	
N-Nitrosodiphenylamine	86-30-6	91.0	182	91.0	ug/kg	U	**U**	
Hexachlorocyclopentadiene	77-47-4	91.0	182	91.0	ug/kg	U	**R**	**C**
N-Nitrosodipropylamine	621-64-7	91.0	182	91.0	ug/kg	U	**U**	
Fluorene	86-73-7	91.0	182	91.0	ug/kg	U	**U**	
Naphthalene	91-20-3	91.0	182	91.0	ug/kg	U	**U**	
Dimethylphthalate	131-11-3	91.0	182	91.0	ug/kg	U	**U**	
Nitrobenzene	98-95-3	91.0	182	91.0	ug/kg	U	**U**	
Pentachlorophenol	87-86-5	455	910	455	ug/kg	U	**U**	
Pyrene	129-00-0	555	182	91.0	ug/kg			
Phenol	108-95-2	91.0	182	91.0	ug/kg	U	**U**	

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Hexachlorobenzene	118-74-1	91.0	182	91.0	ug/kg	U	**U**	
Fluoranthene	206-44-0	638	182	91.0	ug/kg			
2-Chloronaphthalene	91-58-7	91.0	182	91.0	ug/kg	U	**U**	
4-Bromophenyl-phenylether	101-55-3	91.0	182	91.0	ug/kg	U	**U**	
2-Methylnaphthalene	91-57-6	91.0	182	91.0	ug/kg	U	**U**	
1,4-Dichlorobenzene	106-46-7	91.0	182	91.0	ug/kg	U	**U**	
1,3-Dichlorobenzene	541-73-1	91.0	182	91.0	ug/kg	U	**U**	
1,2-Dichlorobenzene	95-50-1	91.0	182	91.0	ug/kg	U	**U**	
Phenanthrene	85-01-8	633	182	91.0	ug/kg			
2,4,6-Trichlorophenol	88-06-2	91.0	182	91.0	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	534-52-1	455	910	455	ug/kg	U	**U**	
2,4-Dichlorophenol	120-83-2	91.0	182	91.0	ug/kg	U	**U**	
4-Chloro-3-methylphenol	59-50-7	91.0	182	91.0	ug/kg	U	**U**	
4-Chloroaniline	106-47-8	91.0	182	91.0	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	7005-72-3	91.0	182	91.0	ug/kg	U	**U**	
Acenaphthylene	208-96-8	91.0	182	91.0	ug/kg	U	**U**	
Acenaphthene	83-32-9	91.0	182	91.0	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	455	910	455	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	455	910	455	ug/kg	U	**U**	
1,2,4-Trichlorobenzene	120-82-1	91.0	182	91.0	ug/kg	U	**U**	
Benzo(b)fluoranthene	205-99-2	150	182	91.0	ug/kg	J	**J**	
Benzo(a)pyrene	50-32-8	219	182	91.0	ug/kg			
Benzo(a)anthracene	56-55-3	238	182	91.0	ug/kg			
Anthracene	120-12-7	147	182	91.0	ug/kg	J	**J**	
3,3'-Dichlorobenzidine	91-94-1	182	364	182	ug/kg	U	**U**	
2-Nitrophenol	88-75-5	91.0	182	91.0	ug/kg	U	**U**	
2,4,5-Trichlorophenol	95-95-4	91.0	182	91.0	ug/kg	U	**U**	
2-Methylphenol	95-48-7	91.0	182	91.0	ug/kg	U	**U**	
Benzo(g,h,i)Perylene	191-24-2	100	182	91.0	ug/kg	J	**J**	**C**
2-Chlorophenol	95-57-8	91.0	182	91.0	ug/kg	U	**U**	
4-Nitroaniline	100-01-6	455	910	455	ug/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	91.0	182	91.0	ug/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	91.0	182	91.0	ug/kg	U	**U**	
2,4-Dinitrophenol	51-28-5	455	910	455	ug/kg	U	**U**	

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2,4-Dimethylphenol	105-67-9	91.0	182	91.0	ug/kg	U	**U**
2-Nitroaniline	88-74-4	455	910	455	ug/kg	U	**U**

Analysis Method 8270C

Sample Name LL2SS-285M-1247-SO **AnalysisType:** RES

Lab Sample Name: L08060652-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Dibenzo(a,h)Anthracene	53-70-3	87.6	175	87.6	ug/kg	U	**UJ**	**C**
Nitrobenzene	98-95-3	87.6	175	87.6	ug/kg	U	**U**	
1,2,4-Trichlorobenzene	120-82-1	87.6	175	87.6	ug/kg	U	**U**	
Pyrene	129-00-0	337	175	87.6	ug/kg			
Phenol	108-95-2	87.6	175	87.6	ug/kg	U	**U**	
Phenanthrene	85-01-8	365	175	87.6	ug/kg			
Di-N-Butylphthalate	84-74-2	87.6	175	87.6	ug/kg	U	**U**	
Hexachlorobenzene	118-74-1	87.6	175	87.6	ug/kg	U	**U**	
Pentachlorophenol	87-86-5	437	876	437	ug/kg	U	**U**	
1,4-Dichlorobenzene	106-46-7	87.6	175	87.6	ug/kg	U	**U**	
N-Nitrosodipropylamine	621-64-7	87.6	175	87.6	ug/kg	U	**U**	
Isophorone	78-59-1	87.6	175	87.6	ug/kg	U	**U**	
Indeno(1,2,3-cd)pyrene	193-39-5	87.6	175	87.6	ug/kg	U	**UJ**	**C**
Hexachloroethane	67-72-1	87.6	175	87.6	ug/kg	U	**U**	
Hexachlorocyclopentadiene	77-47-4	87.6	175	87.6	ug/kg	U	**R**	**C**
Hexachlorobutadiene	87-68-3	87.6	175	87.6	ug/kg	U	**U**	
3-,4-Methylphenol	106-44-5	87.6	175	87.6	ug/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	231	175	87.6	ug/kg			
3,3'-Dichlorobenzidine	91-94-1	175	350	175	ug/kg	U	**U**	
2-Nitrophenol	88-75-5	87.6	175	87.6	ug/kg	U	**U**	
2-Nitroaniline	88-74-4	437	876	437	ug/kg	U	**U**	
2-Methylphenol	95-48-7	87.6	175	87.6	ug/kg	U	**U**	
2-Methylnaphthalene	91-57-6	87.6	175	87.6	ug/kg	U	**U**	
2-Chlorophenol	95-57-8	87.6	175	87.6	ug/kg	U	**U**	
1,2-Dichlorobenzene	95-50-1	87.6	175	87.6	ug/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	87.6	175	87.6	ug/kg	U	**U**	
1,3-Dichlorobenzene	541-73-1	87.6	175	87.6	ug/kg	U	**U**	
2,4-Dinitrophenol	51-28-5	437	876	437	ug/kg	U	**U**	
2,4-Dimethylphenol	105-67-9	87.6	175	87.6	ug/kg	U	**U**	
2,4-Dichlorophenol	120-83-2	87.6	175	87.6	ug/kg	U	**U**	

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2,4,6-Trichlorophenol	88-06-2	87.6	175	87.6	ug/kg	U	**U**	
2,4,5-Trichlorophenol	95-95-4	87.6	175	87.6	ug/kg	U	**U**	
N-Nitrosodiphenylamine	86-30-6	87.6	175	87.6	ug/kg	U	**U**	
2-Chloronaphthalene	91-58-7	87.6	175	87.6	ug/kg	U	**U**	
bis(2-Chloroisopropyl)ether	39638-32-9	87.6	175	87.6	ug/kg	U	**U**	
Acenaphthene	83-32-9	87.6	175	87.6	ug/kg	U	**U**	
Acenaphthylene	208-96-8	87.6	175	87.6	ug/kg	U	**U**	
Anthracene	120-12-7	87.6	175	87.6	ug/kg	U	**U**	
Benzo(a)anthracene	56-55-3	141	175	87.6	ug/kg	J	**J**	
Fluorene	86-73-7	87.6	175	87.6	ug/kg	U	**U**	
Benzo(b)fluoranthene	205-99-2	103	175	87.6	ug/kg	J	**J**	
Naphthalene	91-20-3	87.6	175	87.6	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	7005-72-3	87.6	175	87.6	ug/kg	U	**U**	
Bis(2-Chloroethyl)ether	111-44-4	87.6	175	87.6	ug/kg	U	**U**	
Bis(2-Chloroethoxy)Methane	111-91-1	87.6	175	87.6	ug/kg	U	**U**	
Benzyl alcohol	100-51-6	87.6	175	87.6	ug/kg	U	**U**	
Benzoic acid	65-85-0	350	5310	350	ug/kg	U	**R**	**C**
Benzo(k)fluoranthene	207-08-9	113	175	87.6	ug/kg	J	**J**	
Benzo(g,h,i)Perylene	191-24-2	87.6	175	87.6	ug/kg	U	**UJ**	**C**
Benzo(a)pyrene	50-32-8	124	175	87.6	ug/kg	J	**J**	
Chrysene	218-01-9	157	175	87.6	ug/kg	J	**J**	
Fluoranthene	206-44-0	377	175	87.6	ug/kg			
Dimethylphthalate	131-11-3	87.6	175	87.6	ug/kg	U	**U**	
Diethylphthalate	84-66-2	87.6	175	87.6	ug/kg	U	**U**	
Dibenzofuran	132-64-9	87.6	175	87.6	ug/kg	U	**U**	
Di-n-octylphthalate	117-84-0	87.6	175	87.6	ug/kg	U	**U**	
3-Nitroaniline	99-09-2	437	876	437	ug/kg	U	**U**	
4-Nitrophenol	100-02-7	437	876	437	ug/kg	U	**U**	
4-Bromophenyl-phenylether	101-55-3	87.6	175	87.6	ug/kg	U	**U**	
4-Nitroaniline	100-01-6	437	876	437	ug/kg	U	**U**	
Carbazole	86-74-8	87.6	175	87.6	ug/kg	U	**U**	
4-Chloro-3-methylphenol	59-50-7	87.6	175	87.6	ug/kg	U	**U**	
Butylbenzylphthalate	85-68-7	87.6	175	87.6	ug/kg	U	**U**	
4-Chloroaniline	106-47-8	87.6	175	87.6	ug/kg	U	**U**	

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bis(2-Ethylhexyl)phthalate	117-81-7	87.6	175	87.6	ug/kg	U	**U**
4,6-Dinitro-2-methylphenol	534-52-1	437	876	437	ug/kg	U	**U**

Analysis Method 8330

Sample Name LL2SS-285M-1244-SO **AnalysisType:** RES

Lab Sample Name: L08060652-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.793	0.249	0.0996	mg/kg		**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	122	0.249	0.0996	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.111	0.249	0.0996	mg/kg	J	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	1.75	0.249	0.0996	mg/kg			
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
RDX	121-82-4	0.441	0.249	0.0996	mg/kg		**R**	**D**
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
PETN	78-11-5	0.498	1.49	0.498	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**U**	
Tetryl	479-45-8	3.98	9.96	3.98	mg/kg	U	**R**	**D**
RDX	121-82-4	3.98	9.96	3.98	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	3.98	9.96	3.98	mg/kg	U	**R**	**D**
HMX	2691-41-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	3.98	9.96	3.98	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	116	9.96	3.98	mg/kg		**R**	**D**

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1,3-Dinitrobenzene	99-65-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	3.98	9.96	3.98	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.821	0.249	0.0996	mg/kg			
4-Amino-2,6-dinitrotoluene	19406-51-0	2.55	0.249	0.0996	mg/kg		**R**	**D**
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	1.75	0.249	0.0996	mg/kg		**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
Tetryl	479-45-8	3.98	9.96	3.98	mg/kg	U	**R**	**D**
RDX	121-82-4	3.98	9.96	3.98	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	3.98	9.96	3.98	mg/kg	U	**R**	**D**
HMX	2691-41-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	116	0.249	0.0996	mg/kg	I	**R**	**D**
1,3-Dinitrobenzene	99-65-0	3.98	9.96	3.98	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	125	9.96	3.98	mg/kg			
2,4-Dinitrotoluene	121-14-2	3.98	9.96	3.98	mg/kg	U	**R**	**D**
RDX	121-82-4	0.186	0.249	0.0996	mg/kg	J	**J**	
4-Amino-2,6-dinitrotoluene	19406-51-0	3.07	0.249	0.0996	mg/kg			
1,3,5-Trinitrobenzene	99-35-4	3.98	9.96	3.98	mg/kg	U	**R**	**D**

Analysis Method 8330

Sample Name LL2SS-285M-1246-SO **AnalysisType:** CFDL

Lab Sample Name: L08060652-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene	99-35-4	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	197	0.247	0.0989	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.156	0.247	0.0989	mg/kg	J	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	1.92	0.247	0.0989	mg/kg		**R**	**D**
3-Nitrotoluene	99-08-1	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	2.82	0.247	0.0989	mg/kg		**R**	**D**
HMX	2691-41-0	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
Tetryl	479-45-8	9.89	24.7	9.89	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	199	24.7	9.89	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
RDX	121-82-4	0.123	0.247	0.0989	mg/kg	J	**J**	
4-Amino-2,6-dinitrotoluene	19406-51-0	3.73	0.247	0.0989	mg/kg			
PETN	78-11-5	0.495	1.48	0.495	mg/kg	U	**R**	**L**
1,3,5-Trinitrobenzene	99-35-4	0.357	0.247	0.0989	mg/kg		**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	208	0.247	0.0989	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.182	0.247	0.0989	mg/kg	J	**J**	
2,6-Dinitrotoluene	606-20-2	0.0989	0.247	0.0989	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	2.05	0.247	0.0989	mg/kg			
2-Nitrotoluene	88-72-2	0.0989	0.247	0.0989	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.383	0.247	0.0989	mg/kg			
4-Nitrotoluene	99-99-0	0.0989	0.247	0.0989	mg/kg	U	**U**	

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2,4,6-Trinitrotoluene	118-96-7	215	24.7	9.89	mg/kg			
HMX	2691-41-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0989	0.247	0.0989	mg/kg	U	**U**	
RDX	121-82-4	0.259	0.247	0.0989	mg/kg		**R**	**D**
Tetryl	479-45-8	0.0989	0.247	0.0989	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0989	0.247	0.0989	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
Tetryl	479-45-8	9.89	24.7	9.89	mg/kg	U	**R**	**D**
RDX	121-82-4	9.89	24.7	9.89	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	9.89	24.7	9.89	mg/kg	U	**R**	**D**
HMX	2691-41-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	9.89	24.7	9.89	mg/kg	U	**R**	**D**
RDX	121-82-4	9.89	24.7	9.89	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
HMX	2691-41-0	9.89	24.7	9.89	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	9.89	24.7	9.89	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	9.89	24.7	9.89	mg/kg	U	**R**	**D**

Analysis Method 8330

Sample Name LL2SS-285M-1247-SO **AnalysisType:** RES

Lab Sample Name: L08060652-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene	99-35-4	0.822	0.248	0.0991	mg/kg		**R**	**D**
1,3-Dinitrobenzene	99-65-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
Tetryl	479-45-8	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	315	24.8	9.91	mg/kg		**R**	**D**
RDX	121-82-4	9.91	24.8	9.91	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	3.39	0.248	0.0991	mg/kg			
2,6-Dinitrotoluene	606-20-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.211	0.248	0.0991	mg/kg	J	**J**	
1,3-Dinitrobenzene	99-65-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
PETN	78-11-5	0.496	1.49	0.496	mg/kg	U	**R**	**L**
2,4-Dinitrotoluene	121-14-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	9.91	24.8	9.91	mg/kg	U	**R**	**D**
HMX	2691-41-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	9.91	24.8	9.91	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	9.91	24.8	9.91	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	329	0.248	0.0991	mg/kg	I	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	339	24.8	9.91	mg/kg			
4-Amino-2,6-dinitrotoluene	19406-51-0	4.84	0.248	0.0991	mg/kg			
HMX	2691-41-0	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.0991	0.248	0.0991	mg/kg	U	**U**	
RDX	121-82-4	0.362	0.248	0.0991	mg/kg		**R**	**D**

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Tetryl	479-45-8	0.0991	0.248	0.0991	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
Tetryl	479-45-8	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	9.91	24.8	9.91	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	9.91	24.8	9.91	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
RDX	121-82-4	0.0991	0.248	0.0991	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	3.49	0.248	0.0991	mg/kg		**R**	**D**
3-Nitrotoluene	99-08-1	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	3.12	0.248	0.0991	mg/kg		**R**	**D**
HMX	2691-41-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.177	0.248	0.0991	mg/kg	J	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	311	0.248	0.0991	mg/kg	I	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.855	0.248	0.0991	mg/kg			
Nitroglycerin	55-63-0	9.91	24.8	9.91	mg/kg	U	**R**	**D**
Tetryl	479-45-8	9.91	24.8	9.91	mg/kg	U	**R**	**D**
RDX	121-82-4	9.91	24.8	9.91	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	9.91	24.8	9.91	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0991	0.248	0.0991	mg/kg	U	**R**	**D**

Analysis Method SM3500Cr-D 7196A

Sample Name LL2SS-285M-1244-SO **AnalysisType:** RES

Lab Sample Name: L08060652-01 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.262	0.524	0.262	mg/kg	U	**U**	

Sample Name LL2SS-285M-1246-SO **AnalysisType:** RES

Lab Sample Name: L08060652-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.275	0.551	0.275	mg/kg	U	**U**	

Sample Name LL2SS-285M-1247-SO **AnalysisType:** RES

Lab Sample Name: L08060652-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.278	0.556	0.278	mg/kg	U	**U**	

Validated Sample Result Forms: L08060761

Analysis Method 6010B

Sample Name LL2SS-297M-1261-SO **AnalysisType:** RES

Lab Sample Name: L08060761-04 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cobalt	7440-48-4	6.44	0.192	0.0922	mg/kg		**J-**	**A**
Sodium	7440-23-5	48.1	19.2	3.84	mg/kg			
Manganese	7439-96-5	428	0.384	0.0768	mg/kg		**J-**	**A**
Magnesium	7439-95-4	2130	19.2	9.22	mg/kg			
Potassium	7440-09-7	711	38.4	19.2	mg/kg			
Iron	7439-89-6	21400	1.54	0.768	mg/kg		**J-**	**A**
Vanadium	7440-62-2	12.6	0.384	0.192	mg/kg			
Chromium	7440-47-3	9.80	0.192	0.0922	mg/kg		**J-**	**A**
Zinc	7440-66-6	80.9	0.768	0.384	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.453	0.0768	0.0384	mg/kg			
Calcium	7440-70-2	3700	7.68	3.84	mg/kg		**J-**	**A**
Beryllium	7440-41-7	0.382	0.0192	0.00922	mg/kg			
Barium	7440-39-3	44.7	0.384	0.0768	mg/kg			
Silver	7440-22-4	0.192	0.384	0.192	mg/kg	U	**U**	
Aluminum	7429-90-5	7360	15.4	7.68	mg/kg			
Copper	7440-50-8	22.6	0.192	0.0922	mg/kg			

Analysis Method 6010B

Sample Name LL2SS-297M-1263-SO **AnalysisType:** RES

Lab Sample Name: L08060761-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Vanadium	7440-62-2	11.9	0.400	0.200	mg/kg			
Silver	7440-22-4	0.200	0.400	0.200	mg/kg	U	**U**	
Barium	7440-39-3	50.1	0.400	0.0799	mg/kg			
Beryllium	7440-41-7	0.428	0.0200	0.00959	mg/kg			
Calcium	7440-70-2	6740	7.99	4.00	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.454	0.0799	0.0400	mg/kg			
Cobalt	7440-48-4	6.08	0.200	0.0959	mg/kg		**J-**	**A**
Chromium	7440-47-3	9.58	0.200	0.0959	mg/kg		**J-**	**A**
Copper	7440-50-8	22.7	0.200	0.0959	mg/kg			
Iron	7439-89-6	19300	1.60	0.799	mg/kg		**J-**	**A**
Potassium	7440-09-7	679	40.0	20.0	mg/kg			
Magnesium	7439-95-4	2260	20.0	9.59	mg/kg			
Aluminum	7429-90-5	7320	16.0	7.99	mg/kg			
Sodium	7440-23-5	58.3	20.0	4.00	mg/kg			
Zinc	7440-66-6	86.8	0.799	0.400	mg/kg		**J-**	**A**
Manganese	7439-96-5	457	0.400	0.0799	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL2SS-297M-1264-SO **AnalysisType:** RES

Lab Sample Name: L08060761-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Vanadium	7440-62-2	12.4	0.408	0.204	mg/kg			
Zinc	7440-66-6	88.2	0.817	0.408	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.508	0.0817	0.0408	mg/kg			
Sodium	7440-23-5	44.4	20.4	4.08	mg/kg			
Manganese	7439-96-5	447	0.408	0.0817	mg/kg		**J-**	**A**
Magnesium	7439-95-4	2150	20.4	9.80	mg/kg			
Potassium	7440-09-7	627	40.8	20.4	mg/kg			
Iron	7439-89-6	21500	1.63	0.817	mg/kg		**J-**	**A**
Chromium	7440-47-3	11.5	0.204	0.0980	mg/kg		**J-**	**A**
Cobalt	7440-48-4	6.79	0.204	0.0980	mg/kg		**J-**	**A**
Aluminum	7429-90-5	7250	16.3	8.17	mg/kg			
Silver	7440-22-4	0.504	0.408	0.204	mg/kg			
Barium	7440-39-3	45.9	0.408	0.0817	mg/kg			
Beryllium	7440-41-7	0.403	0.0204	0.00980	mg/kg			
Calcium	7440-70-2	4270	8.17	4.08	mg/kg		**J-**	**A**
Copper	7440-50-8	24.8	0.204	0.0980	mg/kg			

Analysis Method 6020

Sample Name LL2SS-297M-1261-SO **AnalysisType:** RES

Lab Sample Name: L08060761-04 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0525	0.105	0.0525	mg/kg	U	**R**	**Q**
Thallium	7440-28-0	0.125	0.0210	0.0105	mg/kg			
Nickel	7440-02-0	20.3	0.839	0.210	mg/kg		**J-**	**A**
Arsenic	7440-38-2	17.0	0.315	0.0787	mg/kg		**J-**	**A**
Selenium	7782-49-2	0.312	0.210	0.105	mg/kg		**J-**	**Q**
Lead	7439-92-1	23.5	0.210	0.105	mg/kg			

Sample Name LL2SS-297M-1263-SO **AnalysisType:** RES

Lab Sample Name: L08060761-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	11.3	0.326	0.0815	mg/kg		**J-**	**A**
Lead	7439-92-1	28.9	0.217	0.109	mg/kg			
Antimony	7440-36-0	0.0543	0.109	0.0543	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.308	0.217	0.109	mg/kg		**J-**	**Q**
Thallium	7440-28-0	0.126	0.0217	0.0109	mg/kg			
Nickel	7440-02-0	17.6	0.870	0.217	mg/kg		**J-**	**A**

Sample Name LL2SS-297M-1264-SO **AnalysisType:** RES

Lab Sample Name: L08060761-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Thallium	7440-28-0	0.157	0.0213	0.0106	mg/kg			
Selenium	7782-49-2	0.357	0.213	0.106	mg/kg		**J-**	**Q**
Nickel	7440-02-0	27.8	0.850	0.213	mg/kg		**J-**	**A**
Arsenic	7440-38-2	11.6	0.319	0.0797	mg/kg		**J-**	**A**
Antimony	7440-36-0	0.0531	0.106	0.0531	mg/kg	U	**R**	**Q**
Lead	7439-92-1	27.0	0.213	0.106	mg/kg			

Analysis Method 7471A

Sample Name	LL2SS-297M-1261-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060761-04	**Validation Level:** IV						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0106	0.106	0.0106	mg/kg	U	**UJ**	**B**

Sample Name	LL2SS-297M-1263-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060761-05	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0106	0.106	0.0106	mg/kg	U	**UJ**	**B**

Sample Name	LL2SS-297M-1264-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060761-06	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0118	0.109	0.0109	mg/kg	J	**J**	**B**

Analysis Method 8260B

Sample Name LL3SS-249D-1179-SO **AnalysisType:** RES

Lab Sample Name: L08060761-16 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Styrene	100-42-5	0.424	4.24	0.424	ug/kg	U	**R**	**C**
Carbon disulfide	75-15-0	0.424	4.24	0.424	ug/kg	U	**U**	
Carbon tetrachloride	56-23-5	0.424	4.24	0.424	ug/kg	U	**U**	
Chlorobenzene	108-90-7	0.424	4.24	0.424	ug/kg	U	**U**	
Chloroethane	75-00-3	0.848	4.24	0.848	ug/kg	U	**U**	
Chloroform	67-66-3	0.424	4.24	0.424	ug/kg	U	**U**	
Chloromethane	74-87-3	1.70	4.24	1.70	ug/kg	U	**U**	
cis-1,3-Dichloropropene	10061-01-5	0.424	4.24	0.424	ug/kg	U	**U**	
Dibromochloromethane	124-48-1	0.424	4.24	0.424	ug/kg	U	**U**	
Methylene chloride	75-09-2	0.848	4.24	0.848	ug/kg	U	**U**	
Bromochloromethane	74-97-5	0.424	4.24	0.424	ug/kg	U	**U**	
Tetrachloroethene	127-18-4	0.424	4.24	0.424	ug/kg	U	**U**	
Toluene	108-88-3	0.424	4.24	0.424	ug/kg	U	**U**	
trans-1,3-Dichloropropene	10061-02-6	0.424	4.24	0.424	ug/kg	U	**U**	
Trichloroethene	79-01-6	0.424	4.24	0.424	ug/kg	U	**U**	
Vinyl chloride	75-01-4	0.848	4.24	0.848	ug/kg	U	**U**	
Xylenes, Total	1330-20-7	0.424	4.24	0.424	ug/kg	U	**U**	
Ethyl benzene	100-41-4	0.424	4.24	0.424	ug/kg	U	**U**	
1,2-Dichloroethane	107-06-2	0.424	4.24	0.424	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	79-34-5	0.424	4.24	0.424	ug/kg	U	**U**	
1,1,1-Trichloroethane	71-55-6	0.424	4.24	0.424	ug/kg	U	**U**	
1,1,2-Trichloroethane	79-00-5	0.424	4.24	0.424	ug/kg	U	**U**	
1,1-Dichloroethane	75-34-3	0.848	4.24	0.848	ug/kg	U	**U**	
Bromoform	75-25-2	0.424	4.24	0.424	ug/kg	U	**U**	
1,2-Dibromoethane	106-93-4	0.424	4.24	0.424	ug/kg	U	**U**	
Bromomethane	74-83-9	0.848	4.24	0.848	ug/kg	U	**U**	
1,2-Dichloroethene (total)	540-59-0	0.424	4.24	0.424	ug/kg	U	**U**	
1,2-Dichloropropane	78-87-5	0.424	4.24	0.424	ug/kg	U	**U**	
2-Butanone	78-93-3	2.12	4.24	2.12	ug/kg	U	**U**	
2-Hexanone	591-78-6	2.12	4.24	2.12	ug/kg	U	**U**	

Analysis Method 8260B

4-Methyl-2-pentanone	108-10-1	2.12	4.24	2.12	ug/kg	U	**UJ**	**C**
Acetone	67-64-1	4.24	8.48	4.24	ug/kg	U	**R**	**C**
Benzene	71-43-2	0.424	4.24	0.424	ug/kg	U	**U**	
Bromodichloromethane	75-27-4	0.424	4.24	0.424	ug/kg	U	**U**	
1,1-Dichloroethene	75-35-4	0.424	4.24	0.424	ug/kg	U	**U**	

Analysis Method 8260B

Sample Name LL3SS-249D-1181-SO **AnalysisType:** RES

Lab Sample Name: L08060761-17 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,2-Dibromoethane	106-93-4	0.461	4.61	0.461	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	79-34-5	0.461	4.61	0.461	ug/kg	U	**U**	
1,1,1-Trichloroethane	71-55-6	0.461	4.61	0.461	ug/kg	U	**U**	
Styrene	100-42-5	0.461	4.61	0.461	ug/kg	U	**R**	**C**
Carbon tetrachloride	56-23-5	0.461	4.61	0.461	ug/kg	U	**U**	
Chlorobenzene	108-90-7	0.461	4.61	0.461	ug/kg	U	**U**	
Chloroform	67-66-3	0.461	4.61	0.461	ug/kg	U	**U**	
cis-1,3-Dichloropropene	10061-01-5	0.461	4.61	0.461	ug/kg	U	**U**	
Dibromochloromethane	124-48-1	0.461	4.61	0.461	ug/kg	U	**U**	
Carbon disulfide	75-15-0	0.461	4.61	0.461	ug/kg	U	**U**	
Methylene chloride	75-09-2	0.921	4.61	0.921	ug/kg	U	**U**	
Chloroethane	75-00-3	0.921	4.61	0.921	ug/kg	U	**U**	
Tetrachloroethene	127-18-4	0.461	4.61	0.461	ug/kg	U	**U**	
Toluene	108-88-3	0.461	4.61	0.461	ug/kg	U	**U**	
trans-1,3-Dichloropropene	10061-02-6	0.461	4.61	0.461	ug/kg	U	**U**	
Trichloroethene	79-01-6	0.461	4.61	0.461	ug/kg	U	**U**	
Vinyl chloride	75-01-4	0.921	4.61	0.921	ug/kg	U	**U**	
Xylenes, Total	1330-20-7	0.461	4.61	0.461	ug/kg	U	**U**	
Ethyl benzene	100-41-4	0.461	4.61	0.461	ug/kg	U	**U**	
1,2-Dichloropropane	78-87-5	0.461	4.61	0.461	ug/kg	U	**U**	
1,1-Dichloroethane	75-34-3	0.921	4.61	0.921	ug/kg	U	**U**	
1,1-Dichloroethene	75-35-4	0.461	4.61	0.461	ug/kg	U	**U**	
1,1,2-Trichloroethane	79-00-5	0.461	4.61	0.461	ug/kg	U	**U**	
Chloromethane	74-87-3	1.84	4.61	1.84	ug/kg	U	**U**	
1,2-Dichloroethene (total)	540-59-0	0.461	4.61	0.461	ug/kg	U	**U**	
Bromomethane	74-83-9	0.921	4.61	0.921	ug/kg	U	**U**	
2-Butanone	78-93-3	2.30	4.61	2.30	ug/kg	U	**U**	
2-Hexanone	591-78-6	2.30	4.61	2.30	ug/kg	U	**U**	
4-Methyl-2-pentanone	108-10-1	2.30	4.61	2.30	ug/kg	U	**UJ**	**C**
Acetone	67-64-1	4.61	9.21	4.61	ug/kg	U	**R**	**C**

Analysis Method 8260B

Benzene	71-43-2	0.461	4.61	0.461	ug/kg	U	**U**
Bromochloromethane	74-97-5	0.461	4.61	0.461	ug/kg	U	**U**
Bromodichloromethane	75-27-4	0.461	4.61	0.461	ug/kg	U	**U**
Bromoform	75-25-2	0.461	4.61	0.461	ug/kg	U	**U**
1,2-Dichloroethane	107-06-2	0.461	4.61	0.461	ug/kg	U	**U**

Analysis Method 8330

Sample Name LL2SS-297M-1261-SO **AnalysisType:** RES

Lab Sample Name: L08060761-04 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4-Nitrotoluene	99-99-0	0.0997	0.249	0.0997	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0997	0.249	0.0997	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0997	0.249	0.0997	mg/kg	U	**U**	
Tetryl	479-45-8	0.0997	0.249	0.0997	mg/kg	U	**U**	
RDX	121-82-4	0.0997	0.249	0.0997	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0997	0.249	0.0997	mg/kg	U	**U**	
HMX	2691-41-0	0.0997	0.249	0.0997	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0997	0.249	0.0997	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0997	0.249	0.0997	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0997	0.249	0.0997	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0997	0.249	0.0997	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0997	0.249	0.0997	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0997	0.249	0.0997	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0997	0.249	0.0997	mg/kg	U	**U**	
PETN	78-11-5	0.499	1.50	0.499	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0997	0.249	0.0997	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-297M-1263-SO **AnalysisType:** RES

Lab Sample Name: L08060761-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
RDX	121-82-4	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0994	0.249	0.0994	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
Tetryl	479-45-8	0.0994	0.249	0.0994	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
HMX	2691-41-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0994	0.249	0.0994	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0994	0.249	0.0994	mg/kg	U	**U**	
PETN	78-11-5	0.497	1.49	0.497	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0994	0.249	0.0994	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL2SS-297M-1264-SO **AnalysisType:** CF

Lab Sample Name: L08060761-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
PETN	78-11-5	0.498	1.49	0.498	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
RDX	121-82-4	0.212	0.249	0.0996	mg/kg	J	**J**	
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	0.408	0.249	0.0996	mg/kg		**R**	**D**
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	0.438	0.249	0.0996	mg/kg			
2,4-Dinitrotoluene	121-14-2	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.107	0.249	0.0996	mg/kg	J	**R**	**D**
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**U**	
RDX	121-82-4	0.184	0.249	0.0996	mg/kg	J	**R**	**D**
Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**U**	

Analysis Method 8330-NG

Sample Name LL2SS-297M-1261-SO **AnalysisType:** RES

Lab Sample Name: L08060761-04 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	131	261	131	ug/kg	U	**UJ**	**H**

Sample Name LL2SS-297M-1263-SO **AnalysisType:** RES

Lab Sample Name: L08060761-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	132	263	132	ug/kg	U	**UJ**	**H**

Sample Name LL2SS-297M-1264-SO **AnalysisType:** RES

Lab Sample Name: L08060761-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	133	266	133	ug/kg	U	**UJ**	**H**

Analysis Method SM3500Cr-D 7196A

Sample Name LL2SS-297M-1261-SO **AnalysisType:** RES

Lab Sample Name: L08060761-04 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.542	1.08	0.542	mg/kg	U	**U**	

Sample Name LL2SS-297M-1263-SO **AnalysisType:** RES

Lab Sample Name: L08060761-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.540	1.08	0.540	mg/kg	U	**U**	

Sample Name LL2SS-297M-1264-SO **AnalysisType:** RES

Lab Sample Name: L08060761-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.514	1.03	0.514	mg/kg	U	**U**	

Analysis Method USACRREL

Sample Name	LL2SS-297M-1261-SO	**AnalysisType:** RES	
Lab Sample Name:	L08060761-04	**Validation Level:** IV	

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrocellulose	9004-70-0	2.00	2.00	2.00	mg/kg	U	UJ	Q,C

Sample Name	LL2SS-297M-1263-SO	**AnalysisType:** RES	
Lab Sample Name:	L08060761-05	**Validation Level:** III	

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrocellulose	9004-70-0	1.99	1.99	1.99	mg/kg	U	UJ	Q,C

Sample Name	LL2SS-297M-1264-SO	**AnalysisType:** RES	
Lab Sample Name:	L08060761-06	**Validation Level:** III	

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrocellulose	9004-70-0	1.99	1.99	1.99	mg/kg	U	UJ	Q,C

Validated Sample Result Forms: L08060852

Analysis Method 6010B

Sample Name LL3SS-256M-1188-SO **AnalysisType:** RES

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Sodium	7440-23-5	114	19.4	3.88	mg/kg			
Vanadium	7440-62-2	14.5	0.388	0.194	mg/kg			
Manganese	7439-96-5	357	0.388	0.0777	mg/kg		**J-**	**A**
Magnesium	7439-95-4	2980	19.4	9.32	mg/kg			
Potassium	7440-09-7	1040	38.8	19.4	mg/kg		**J+**	**Q**
Iron	7439-89-6	19600	1.55	0.777	mg/kg			
Copper	7440-50-8	24.0	0.194	0.0932	mg/kg			
Chromium	7440-47-3	13.4	0.194	0.0932	mg/kg			
Cadmium	7440-43-9	0.837	0.0777	0.0388	mg/kg			
Calcium	7440-70-2	10400	7.77	3.88	mg/kg			
Beryllium	7440-41-7	0.581	0.0194	0.00932	mg/kg			
Barium	7440-39-3	65.6	0.388	0.0777	mg/kg			
Silver	7440-22-4	0.259	0.388	0.194	mg/kg	J	**J**	
Aluminum	7429-90-5	9700	15.5	7.77	mg/kg			
Cobalt	7440-48-4	6.57	0.194	0.0932	mg/kg			
Zinc	7440-66-6	104	0.777	0.388	mg/kg			

Analysis Method 6010B

Sample Name LL3SS-256M-1190-SO **AnalysisType:** RES

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Silver	7440-22-4	0.308	0.367	0.184	mg/kg	J	**J**	
Vanadium	7440-62-2	15.7	0.367	0.184	mg/kg			
Manganese	7439-96-5	380	0.367	0.0734	mg/kg		**J-**	**A**
Potassium	7440-09-7	1210	36.7	18.4	mg/kg		**J+**	**Q**
Iron	7439-89-6	19800	1.47	0.734	mg/kg			
Copper	7440-50-8	22.3	0.184	0.0881	mg/kg			
Chromium	7440-47-3	15.7	0.184	0.0881	mg/kg			
Cobalt	7440-48-4	6.63	0.184	0.0881	mg/kg			
Cadmium	7440-43-9	0.887	0.0734	0.0367	mg/kg			
Calcium	7440-70-2	12100	7.34	3.67	mg/kg			
Barium	7440-39-3	71.9	0.367	0.0734	mg/kg			
Aluminum	7429-90-5	10800	14.7	7.34	mg/kg			
Zinc	7440-66-6	86.8	0.734	0.367	mg/kg			
Sodium	7440-23-5	131	18.4	3.67	mg/kg			
Beryllium	7440-41-7	0.647	0.0184	0.00881	mg/kg			
Magnesium	7439-95-4	3310	18.4	8.81	mg/kg			

Analysis Method 6010B

Sample Name LL3SS-256M-1191-SO **AnalysisType:** RES

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Vanadium	7440-62-2	16.8	0.397	0.198	mg/kg			
Barium	7440-39-3	79.9	0.397	0.0793	mg/kg			
Beryllium	7440-41-7	0.772	0.0198	0.00952	mg/kg			
Calcium	7440-70-2	17400	7.93	3.97	mg/kg			
Cadmium	7440-43-9	0.968	0.0793	0.0397	mg/kg			
Cobalt	7440-48-4	8.30	0.198	0.0952	mg/kg			
Silver	7440-22-4	0.315	0.397	0.198	mg/kg	J	**J**	
Copper	7440-50-8	24.9	0.198	0.0952	mg/kg			
Aluminum	7429-90-5	12100	15.9	7.93	mg/kg			
Iron	7439-89-6	22100	1.59	0.793	mg/kg			
Potassium	7440-09-7	1340	39.7	19.8	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	4370	19.8	9.52	mg/kg			
Zinc	7440-66-6	89.9	0.793	0.397	mg/kg			
Manganese	7439-96-5	445	0.397	0.0793	mg/kg		**J-**	**A**
Sodium	7440-23-5	168	19.8	3.97	mg/kg			
Chromium	7440-47-3	16.1	0.198	0.0952	mg/kg			

Analysis Method 6010B

Sample Name LL3SS-268M-1208-SO **AnalysisType:** RES

Lab Sample Name: L08060852-06 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Copper	7440-50-8	17.6	0.191	0.0916	mg/kg			
Aluminum	7429-90-5	10900	15.3	7.64	mg/kg			
Silver	7440-22-4	0.360	0.382	0.191	mg/kg	J	**J**	
Barium	7440-39-3	65.6	0.382	0.0764	mg/kg			
Beryllium	7440-41-7	0.571	0.0191	0.00916	mg/kg			
Calcium	7440-70-2	2920	7.64	3.82	mg/kg			
Cadmium	7440-43-9	0.553	0.0764	0.0382	mg/kg			
Zinc	7440-66-6	70.6	0.764	0.382	mg/kg			
Chromium	7440-47-3	15.6	0.191	0.0916	mg/kg			
Iron	7439-89-6	21700	1.53	0.764	mg/kg			
Potassium	7440-09-7	934	38.2	19.1	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	2380	19.1	9.16	mg/kg			
Manganese	7439-96-5	455	0.382	0.0764	mg/kg		**J-**	**A**
Sodium	7440-23-5	40.1	19.1	3.82	mg/kg			
Vanadium	7440-62-2	18.4	0.382	0.191	mg/kg			
Cobalt	7440-48-4	8.16	0.191	0.0916	mg/kg			

Analysis Method 6010B

Sample Name LL3SS-268M-1210-SO **AnalysisType:** RES

Lab Sample Name: L08060852-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium	7440-47-3	17.7	0.189	0.0910	mg/kg			
Cobalt	7440-48-4	7.98	0.189	0.0910	mg/kg			
Aluminum	7429-90-5	11300	15.2	7.58	mg/kg			
Silver	7440-22-4	0.196	0.379	0.189	mg/kg	J	**J**	
Barium	7440-39-3	61.7	0.379	0.0758	mg/kg			
Beryllium	7440-41-7	0.550	0.0189	0.00910	mg/kg			
Calcium	7440-70-2	2710	7.58	3.79	mg/kg			
Iron	7439-89-6	20500	1.52	0.758	mg/kg			
Cadmium	7440-43-9	0.491	0.0758	0.0379	mg/kg			
Zinc	7440-66-6	66.4	0.758	0.379	mg/kg			
Copper	7440-50-8	17.7	0.189	0.0910	mg/kg			
Potassium	7440-09-7	1090	37.9	18.9	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	2480	18.9	9.10	mg/kg			
Manganese	7439-96-5	428	0.379	0.0758	mg/kg		**J-**	**A**
Sodium	7440-23-5	44.5	18.9	3.79	mg/kg			
Vanadium	7440-62-2	18.8	0.379	0.189	mg/kg			

Analysis Method 6010B

Sample Name LL3SS-268M-1211-SO **AnalysisType:** RES

Lab Sample Name: L08060852-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Silver	7440-22-4	0.353	0.349	0.175	mg/kg			
Potassium	7440-09-7	1030	34.9	17.5	mg/kg		**J+**	**Q**
Aluminum	7429-90-5	11400	14.0	6.98	mg/kg			
Barium	7440-39-3	62.2	0.349	0.0698	mg/kg			
Calcium	7440-70-2	2920	6.98	3.49	mg/kg			
Cadmium	7440-43-9	0.483	0.0698	0.0349	mg/kg			
Cobalt	7440-48-4	8.04	0.175	0.0838	mg/kg			
Chromium	7440-47-3	15.6	0.175	0.0838	mg/kg			
Beryllium	7440-41-7	0.582	0.0175	0.00838	mg/kg			
Iron	7439-89-6	21600	1.40	0.698	mg/kg			
Magnesium	7439-95-4	2480	17.5	8.38	mg/kg			
Manganese	7439-96-5	429	0.349	0.0698	mg/kg		**J-**	**A**
Sodium	7440-23-5	42.8	17.5	3.49	mg/kg			
Vanadium	7440-62-2	19.0	0.349	0.175	mg/kg			
Zinc	7440-66-6	68.7	0.698	0.349	mg/kg			
Copper	7440-50-8	17.9	0.175	0.0838	mg/kg			

Analysis Method 6020

Sample Name LL3SS-256M-1188-SO **AnalysisType:** RE

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Selenium	7782-49-2	0.332	0.204	0.102	mg/kg		J+	C
Arsenic	7440-38-2	9.26	0.307	0.0767	mg/kg		J-	A,Q
Lead	7439-92-1	33.7	0.204	0.102	mg/kg		J-	A
Antimony	7440-36-0	0.0511	0.102	0.0511	mg/kg	U	R	Q
Thallium	7440-28-0	0.106	0.0204	0.0102	mg/kg			
Nickel	7440-02-0	18.8	0.818	0.204	mg/kg		J-	A,Q,E

Sample Name LL3SS-256M-1190-SO **AnalysisType:** RES

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Thallium	7440-28-0	0.0935	0.0202	0.0101	mg/kg			
Arsenic	7440-38-2	9.38	0.303	0.0758	mg/kg		J-	A,Q
Antimony	7440-36-0	0.0506	0.101	0.0506	mg/kg	U	R	Q
Nickel	7440-02-0	18.0	0.809	0.202	mg/kg		J-	A,Q,E
Lead	7439-92-1	76.2	2.02	1.01	mg/kg			
Selenium	7782-49-2	0.325	0.202	0.101	mg/kg		J+	C

Sample Name LL3SS-256M-1191-SO **AnalysisType:** RES

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0527	0.105	0.0527	mg/kg	U	R	Q
Lead	7439-92-1	30.2	0.211	0.105	mg/kg		J-	A
Nickel	7440-02-0	21.8	0.844	0.211	mg/kg		J-	A,Q,E
Arsenic	7440-38-2	10.1	0.316	0.0791	mg/kg		J-	A,Q
Selenium	7782-49-2	0.365	0.211	0.105	mg/kg		J+	C
Thallium	7440-28-0	0.108	0.0211	0.0105	mg/kg			

Analysis Method 6020

Sample Name LL3SS-268M-1208-SO **AnalysisType:** RE

Lab Sample Name: L08060852-06 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Selenium	7782-49-2	0.384	0.209	0.105	mg/kg		**J+**	**C**
Thallium	7440-28-0	0.122	0.0209	0.0105	mg/kg			
Nickel	7440-02-0	31.2	0.837	0.209	mg/kg		**J-**	**A,Q,E**
Antimony	7440-36-0	0.0523	0.105	0.0523	mg/kg	U	**R**	**Q**
Lead	7439-92-1	22.4	0.209	0.105	mg/kg		**J-**	**A**
Arsenic	7440-38-2	9.42	0.314	0.0785	mg/kg		**J-**	**A,Q**

Sample Name LL3SS-268M-1210-SO **AnalysisType:** RES

Lab Sample Name: L08060852-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Thallium	7440-28-0	0.126	0.0209	0.0105	mg/kg			
Selenium	7782-49-2	0.334	0.209	0.105	mg/kg		**J+**	**C**
Nickel	7440-02-0	28.3	0.836	0.209	mg/kg		**J-**	**A,Q,E**
Arsenic	7440-38-2	10.3	0.314	0.0784	mg/kg		**J-**	**A,Q**
Antimony	7440-36-0	0.0523	0.105	0.0523	mg/kg	U	**R**	**Q**
Lead	7439-92-1	23.7	0.209	0.105	mg/kg		**J-**	**A**

Sample Name LL3SS-268M-1211-SO **AnalysisType:** RES

Lab Sample Name: L08060852-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Lead	7439-92-1	26.9	0.205	0.103	mg/kg		**J-**	**A**
Arsenic	7440-38-2	9.22	0.308	0.0770	mg/kg		**J-**	**A,Q**
Selenium	7782-49-2	0.331	0.205	0.103	mg/kg		**J+**	**C**
Antimony	7440-36-0	0.0513	0.103	0.0513	mg/kg	U	**R**	**Q**
Thallium	7440-28-0	0.132	0.0205	0.0103	mg/kg			
Nickel	7440-02-0	28.2	0.821	0.205	mg/kg		**J-**	**A,Q,E**

Analysis Method 7471A

Sample Name LL3SS-256M-1188-SO **AnalysisType:** RES

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0194	0.105	0.0105	mg/kg	J	**J**	

Sample Name LL3SS-256M-1190-SO **AnalysisType:** RES

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0307	0.103	0.0103	mg/kg	J	**J**	

Sample Name LL3SS-256M-1191-SO **AnalysisType:** RES

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0250	0.102	0.0102	mg/kg	J	**J**	

Sample Name LL3SS-268M-1208-SO **AnalysisType:** RES

Lab Sample Name: L08060852-06 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0360	0.105	0.0105	mg/kg	J	**J**	

Sample Name LL3SS-268M-1210-SO **AnalysisType:** RES

Lab Sample Name: L08060852-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0284	0.104	0.0104	mg/kg	J	**J**	

Sample Name LL3SS-268M-1211-SO **AnalysisType:** RES

Lab Sample Name: L08060852-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0311	0.102	0.0102	mg/kg	J	**J**	

Analysis Method 8081A

Sample Name LL3SS-256M-1188-SO **AnalysisType:** DL

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
beta-BHC	319-85-7	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Endrin	72-20-8	3.36	16.8	3.36	ug/kg	U	**R**	**D**
gamma-BHC (Lindane)	58-89-9	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Aldrin	309-00-2	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	3.36	16.8	3.36	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	3.40	17.0	3.40	ug/kg	U	**U**	
alpha Chlordane	5103-71-9	3.36	16.8	3.36	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	3.36	16.8	3.36	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	3.36	16.8	3.36	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.40	17.0	3.40	ug/kg	U	**NJ**	***III,-,$**
alpha-BHC	319-84-6	3.36	16.8	3.36	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	3.36	16.8	3.36	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	170	336	170	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	3.36	16.8	3.36	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	3.40	17.0	3.40	ug/kg	U	**U**	
beta-BHC	319-85-7	3.40	17.0	3.40	ug/kg	U	**U**	
delta-BHC	319-86-8	3.40	17.0	3.40	ug/kg	U	**U**	
gamma-BHC (Lindane)	58-89-9	3.40	17.0	3.40	ug/kg	U	**U**	
Toxaphene	8001-35-2	172	340	172	ug/kg	U	**U**	
Aldrin	309-00-2	3.40	17.0	3.40	ug/kg	U	**U**	
Endosulfan I	959-98-8	3.40	17.0	3.40	ug/kg	U	**U**	

Analysis Method 8081A

Dieldrin	60-57-1	3.40	17.0	3.40	ug/kg	U	**J**	***III,-,$**
Endrin aldehyde	7421-93-4	3.40	17.0	3.40	ug/kg	U		**-,$**
Heptachlor	76-44-8	3.40	17.0	3.40	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	3.40	17.0	3.40	ug/kg	U	**NJ**	***III,-,$**
4,4'-DDE	72-55-9	3.40	17.0	3.40	ug/kg	U	**U**	
Endrin ketone	53494-70-5	3.40	17.0	3.40	ug/kg	U	**U**	
Methoxychlor	72-43-5	3.40	17.0	3.40	ug/kg	U	**U**	
4,4'-DDT	50-29-3	3.40	17.0	3.40	ug/kg	U	**U**	
Endosulfan sulfate	1031-07-8	3.40	17.0	3.40	ug/kg	U	**U**	
4,4'-DDD	72-54-8	3.40	17.0	3.40	ug/kg	U	**U**	
Endosulfan II	33213-65-9	3.40	17.0	3.40	ug/kg	U	**U**	
Endrin	72-20-8	3.40	17.0	3.40	ug/kg	U		**-,$**

Analysis Method 8081A

Sample Name LL3SS-256M-1190-SO **AnalysisType:** DL

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Heptachlor	76-44-8	3.45	17.3	3.45	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Aldrin	309-00-2	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	3.42	17.1	3.42	ug/kg	U	**U**	
alpha-BHC	319-84-6	3.45	17.3	3.45	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Aldrin	309-00-2	3.42	17.1	3.42	ug/kg	U	**U**	
alpha Chlordane	5103-71-9	3.42	17.1	3.42	ug/kg	U	**U**	
gamma-BHC (Lindane)	58-89-9	3.42	17.1	3.42	ug/kg	U	**U**	
delta-BHC	319-86-8	3.42	17.1	3.42	ug/kg	U	**U**	
Endosulfan I	959-98-8	3.42	17.1	3.42	ug/kg	U	**U**	
alpha-BHC	319-84-6	3.42	17.1	3.42	ug/kg	U	**U**	
Heptachlor epoxide	1024-57-3	3.42	17.1	3.42	ug/kg	U	**U**	
beta-BHC	319-85-7	3.45	17.3	3.45	ug/kg	U	**R**	**D**
delta-BHC	319-86-8	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Toxaphene	8001-35-2	175	345	175	ug/kg	U	**R**	**D**
gamma Chlordane	5103-74-2	3.45	17.3	3.45	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	3.45	17.3	3.45	ug/kg	U	**R**	**D**
beta-BHC	319-85-7	3.42	17.1	3.42	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	3.42	17.1	3.42	ug/kg	U	**U**	
Endrin	72-20-8	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Endosulfan II	33213-65-9	3.45	17.3	3.45	ug/kg	U	**R**	**D**
4,4'-DDD	72-54-8	3.45	17.3	3.45	ug/kg	U	**R**	**D**

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gamma-BHC (Lindane)	58-89-9	3.45	17.3	3.45	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	3.42	17.1	3.42	ug/kg	U	**U**	
Toxaphene	8001-35-2	173	342	173	ug/kg	U	**U**	
Dieldrin	60-57-1	3.42	17.1	3.42	ug/kg	U	**U**	
Endrin aldehyde	7421-93-4	3.42	17.1	3.42	ug/kg	U	**U**	
Methoxychlor	72-43-5	3.42	17.1	3.42	ug/kg	U	**U**	
4,4'-DDT	50-29-3	3.42	17.1	3.42	ug/kg	U	**U**	
Endosulfan sulfate	1031-07-8	3.42	17.1	3.42	ug/kg	U	**U**	
4,4'-DDD	72-54-8	3.42	17.1	3.42	ug/kg	U	**U**	
Endosulfan II	33213-65-9	3.42	17.1	3.42	ug/kg	U	**U**	
Endrin	72-20-8	3.42	17.1	3.42	ug/kg	U	**U**	
4,4'-DDE	72-55-9	3.42	17.1	3.42	ug/kg	U	**U**	

Analysis Method 8081A

Sample Name LL3SS-256M-1191-SO **AnalysisType:** REDL

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4,4'-DDT	50-29-3	3.48	17.4	3.48	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	3.48	17.4	3.48	ug/kg	U	**U**	
Toxaphene	8001-35-2	176	348	176	ug/kg	U	**U**	
beta-BHC	319-85-7	3.41	17.1	3.41	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	3.41	17.1	3.41	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	3.48	17.4	3.48	ug/kg	U	**U**	
Toxaphene	8001-35-2	173	341	173	ug/kg	U	**R**	**D**
Heptachlor	76-44-8	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Aldrin	309-00-2	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	3.41	17.1	3.41	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	3.48	17.4	3.48	ug/kg	U	**U**	
Endosulfan II	33213-65-9	3.41	17.1	3.41	ug/kg	U	**R**	**D**
alpha-BHC	319-84-6	3.48	17.4	3.48	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	3.41	17.1	3.41	ug/kg	U	**R**	**D**
alpha Chlordane	5103-71-9	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endrin aldehyde	7421-93-4	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endrin ketone	53494-70-5	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Methoxychlor	72-43-5	3.41	17.1	3.41	ug/kg	U	**R**	**D**
4,4'-DDT	50-29-3	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endosulfan sulfate	1031-07-8	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endrin	72-20-8	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Endosulfan I	959-98-8	3.48	17.4	3.48	ug/kg	U	**U**	
Endrin aldehyde	7421-93-4	3.48	17.4	3.48	ug/kg	U	**U**	
Methoxychlor	72-43-5	3.48	17.4	3.48	ug/kg	U	**U**	
Endosulfan sulfate	1031-07-8	3.48	17.4	3.48	ug/kg	U	**U**	
4,4'-DDD	72-54-8	3.48	17.4	3.48	ug/kg	U	**U**	
Endosulfan II	33213-65-9	3.48	17.4	3.48	ug/kg	U	**U**	

Analysis Method 8081A

Endrin	72-20-8	3.48	17.4	3.48	ug/kg	U	**U**	
gamma-BHC (Lindane)	58-89-9	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Dieldrin	60-57-1	3.48	17.4	3.48	ug/kg	U	**U**	
delta-BHC	319-86-8	3.41	17.1	3.41	ug/kg	U	**R**	**D**
Heptachlor epoxide	1024-57-3	3.48	17.4	3.48	ug/kg	U	**U**	
Aldrin	309-00-2	3.48	17.4	3.48	ug/kg	U	**U**	
Heptachlor	76-44-8	3.48	17.4	3.48	ug/kg	U	**U**	
gamma-BHC (Lindane)	58-89-9	3.48	17.4	3.48	ug/kg	U	**U**	
delta-BHC	319-86-8	3.48	17.4	3.48	ug/kg	U	**U**	
beta-BHC	319-85-7	3.48	17.4	3.48	ug/kg	U	**U**	
4,4'-DDD	72-54-8	3.41	17.1	3.41	ug/kg	U	**R**	**D**
4,4'-DDE	72-55-9	3.48	17.4	3.48	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL3SS-256M-1188-SO **AnalysisType:** CF2DL

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1232	11141-16-5	84.3	169	84.3	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	84.3	169	84.3	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	84.3	169	84.3	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	84.3	169	84.3	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	84.3	169	84.3	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1380	169	84.3	ug/kg			
Aroclor-1260	11096-82-5	84.3	169	84.3	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	2270	168	84.0	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	84.3	169	84.3	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	84.0	168	84.0	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	84.3	169	84.3	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	84.3	169	84.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	84.3	169	84.3	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	84.3	169	84.3	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1260	169	84.3	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	84.3	169	84.3	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	2430	168	84.0	ug/kg		**R**	**D**
Aroclor-1221	11104-28-2	84.0	168	84.0	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL3SS-256M-1190-SO **AnalysisType:** CF2DL

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1260	11096-82-5	85.7	171	85.7	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	85.7	171	85.7	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	85.7	171	85.7	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	85.7	171	85.7	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	85.7	171	85.7	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1390	171	85.7	ug/kg			
Aroclor-1248	12672-29-6	85.7	171	85.7	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	85.7	171	85.7	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	85.7	171	85.7	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	85.7	171	85.7	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	85.7	171	85.7	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	85.7	171	85.7	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1220	171	85.7	ug/kg		**R**	**D**
Aroclor-1242	53469-21-9	85.7	171	85.7	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1570	173	86.3	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1780	173	86.3	ug/kg		**R**	**D**
Aroclor-1232	11141-16-5	86.3	173	86.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	86.3	173	86.3	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL3SS-256M-1191-SO **AnalysisType:** REDL

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1248	12672-29-6	85.4	171	85.4	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1200	171	85.4	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	85.4	171	85.4	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	85.4	171	85.4	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	85.4	171	85.4	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	85.4	171	85.4	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	85.4	171	85.4	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	85.4	171	85.4	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	1290	171	85.4	ug/kg			
Aroclor-1232	11141-16-5	85.4	171	85.4	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	85.4	171	85.4	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	2040	171	85.3	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	85.3	171	85.3	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	85.4	171	85.4	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	85.4	171	85.4	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	85.4	171	85.4	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	1790	171	85.3	ug/kg		**R**	**D**

Analysis Method 8082

Sample Name LL3SS-268M-1208-SO **AnalysisType:** RE

Lab Sample Name: L08060852-06 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1248	12672-29-6	8.51	17.0	8.51	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.51	17.0	8.51	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	93.8	16.8	8.40	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	87.0	16.8	8.40	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.51	17.0	8.51	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.51	17.0	8.51	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.51	17.0	8.51	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.51	17.0	8.51	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	49.8	17.0	8.51	ug/kg			
Aroclor-1016	12674-11-2	8.40	16.8	8.40	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	38.2	17.0	8.51	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	8.51	17.0	8.51	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.51	17.0	8.51	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.51	17.0	8.51	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.51	17.0	8.51	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.51	17.0	8.51	ug/kg	U	**U**	
Aroclor-1248	12672-29-6	8.51	17.0	8.51	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.40	16.8	8.40	ug/kg	U	**R**	**D**

Analysis Method 8082

Sample Name LL3SS-268M-1210-SO **AnalysisType:** RES

Lab Sample Name: L08060852-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1232	11141-16-5	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	65.8	17.2	8.58	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.58	17.2	8.58	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.66	17.3	8.66	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	61.6	17.2	8.58	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	8.66	17.3	8.66	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.66	17.3	8.66	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.66	17.3	8.66	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.66	17.3	8.66	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.66	17.3	8.66	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	45.0	17.3	8.66	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	8.66	17.3	8.66	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.66	17.3	8.66	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.66	17.3	8.66	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.66	17.3	8.66	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	49.9	17.3	8.66	ug/kg			
Aroclor-1260	11096-82-5	8.66	17.3	8.66	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.66	17.3	8.66	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL3SS-268M-1211-SO **AnalysisType:** CF

Lab Sample Name: L08060852-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1242	53469-21-9	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	63.8	16.7	8.36	ug/kg			
Aroclor-1248	12672-29-6	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	61.8	16.5	8.26	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	60.0	16.5	8.26	ug/kg		**R**	**D**
Aroclor-1016	12674-11-2	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.26	16.5	8.26	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	8.36	16.7	8.36	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1248	12672-29-6	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	59.3	16.7	8.36	ug/kg		**R**	**D**
Aroclor-1221	11104-28-2	8.36	16.7	8.36	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.36	16.7	8.36	ug/kg	U	**U**	

Analysis Method 8330

Sample Name LL3SS-256M-1188-SO **AnalysisType:** CFDL

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene	99-35-4	2.00	5.00	2.00	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.100	0.250	0.100	mg/kg	U	**UJ**	**C**
RDX	121-82-4	0.100	0.250	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.250	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	2.21	0.250	0.100	mg/kg			
3-Nitrotoluene	99-08-1	0.100	0.250	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	2.42	5.00	2.00	mg/kg	J	**R**	**D**
4-Nitrotoluene	99-99-0	0.100	0.250	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	43.1	5.00	2.00	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
HMX	2691-41-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	1.00	0.250	0.100	mg/kg			
RDX	121-82-4	2.00	5.00	2.00	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	2.00	5.00	2.00	mg/kg	U	**R**	**D**
HMX	2691-41-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
Tetryl	479-45-8	2.00	5.00	2.00	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	2.00	5.00	2.00	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	51.0	5.00	2.00	mg/kg			
2,4-Dinitrotoluene	121-14-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**

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2-Nitrotoluene	88-72-2	2.00	5.00	2.00	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	2.00	5.00	2.00	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.100	0.250	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	2.00	5.00	2.00	mg/kg	U	**R**	**D**
RDX	121-82-4	2.00	5.00	2.00	mg/kg	U	**R**	**D**
Tetryl	479-45-8	2.00	5.00	2.00	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**
PETN	78-11-5	0.500	1.50	0.500	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.863	0.250	0.100	mg/kg			
1,3-Dinitrobenzene	99-65-0	0.100	0.250	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	42.7	0.250	0.100	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.100	0.250	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	2.00	5.00	2.00	mg/kg	U	**R**	**D**

Analysis Method 8330

Sample Name LL3SS-256M-1190-SO **AnalysisType:** CFDL

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
HMX	2691-41-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.892	0.251	0.100	mg/kg		**U**	**$**
2-Nitrotoluene	88-72-2	0.100	0.251	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.251	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.251	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	2.16	0.251	0.100	mg/kg			
HMX	2691-41-0	0.100	0.251	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.251	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.100	0.251	0.100	mg/kg	U	**UJ**	**C**
2,4,6-Trinitrotoluene	118-96-7	252	0.251	0.100	mg/kg	I	**R**	**D**
1,3-Dinitrobenzene	99-65-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	255	25.1	10.0	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	10.0	25.1	10.0	mg/kg	U	**R**	**D**
RDX	121-82-4	0.100	0.251	0.100	mg/kg	U	**U**	
HMX	2691-41-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	10.0	25.1	10.0	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	295	25.1	10.0	mg/kg			
2,4-Dinitrotoluene	121-14-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
RDX	121-82-4	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.100	0.251	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**

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2,4-Dinitrotoluene	121-14-2	0.116	0.251	0.100	mg/kg	J	**U**	**$**
Nitrobenzene	98-95-3	10.0	25.1	10.0	mg/kg	U	**R**	**D**
RDX	121-82-4	10.0	25.1	10.0	mg/kg	U	**R**	**D**
Tetryl	479-45-8	10.0	25.1	10.0	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
PETN	78-11-5	0.502	1.50	0.502	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.612	0.251	0.100	mg/kg			
1,3-Dinitrobenzene	99-65-0	0.100	0.251	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	10.0	25.1	10.0	mg/kg	U	**R**	**D**
Tetryl	479-45-8	10.0	25.1	10.0	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	10.0	25.1	10.0	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	10.0	25.1	10.0	mg/kg	U	**R**	**D**

Analysis Method 8330

Sample Name LL3SS-256M-1191-SO **AnalysisType:** DL

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2-Nitrotoluene	88-72-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
RDX	121-82-4	0.0993	0.248	0.0993	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0993	0.248	0.0993	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.993	2.48	0.993	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.0993	0.248	0.0993	mg/kg	U	**UJ**	**C**
RDX	121-82-4	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	26.3	2.48	0.993	mg/kg		**R**	**D**
Tetryl	479-45-8	0.993	2.48	0.993	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.993	2.48	0.993	mg/kg	U	**R**	**D**
PETN	78-11-5	0.497	1.49	0.497	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	1.24	2.48	0.993	mg/kg	J	**R**	**D**
2-Nitrotoluene	88-72-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.993	2.48	0.993	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	2.27	2.48	0.993	mg/kg	J	**R**	**D**
Nitrobenzene	98-95-3	0.993	2.48	0.993	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.993	2.48	0.993	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.993	2.48	0.993	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	28.7	2.48	0.993	mg/kg			

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2,4-Dinitrotoluene	121-14-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.993	2.48	0.993	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.287	0.248	0.0993	mg/kg			
1,3-Dinitrobenzene	99-65-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	25.9	0.248	0.0993	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	1.21	0.248	0.0993	mg/kg			
3-Nitrotoluene	99-08-1	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	2.24	0.248	0.0993	mg/kg			
HMX	2691-41-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
RDX	121-82-4	0.993	2.48	0.993	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0993	0.248	0.0993	mg/kg	U	**U**	

Sample Name LL3SS-268M-1208-SO **AnalysisType:** RES

Lab Sample Name: L08060852-06 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4-Nitrotoluene	99-99-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
PETN	78-11-5	0.499	1.50	0.499	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
RDX	121-82-4	0.0998	0.250	0.0998	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0998	0.250	0.0998	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0998	0.250	0.0998	mg/kg	U	**U**	
HMX	2691-41-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0998	0.250	0.0998	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0998	0.250	0.0998	mg/kg	U	**U**	
Tetryl	479-45-8	0.0998	0.250	0.0998	mg/kg	U	**R**	**C**

Analysis Method 8330

Sample Name LL3SS-268M-1210-SO **AnalysisType:** RES

Lab Sample Name: L08060852-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,6-Dinitrotoluene	606-20-2	0.101	0.251	0.101	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.101	0.251	0.101	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.101	0.251	0.101	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.101	0.251	0.101	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.101	0.251	0.101	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.101	0.251	0.101	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.101	0.251	0.101	mg/kg	U	**U**	
HMX	2691-41-0	0.101	0.251	0.101	mg/kg	U	**U**	
Tetryl	479-45-8	0.101	0.251	0.101	mg/kg	U	**R**	**C**
Nitroglycerin	55-63-0	0.101	0.251	0.101	mg/kg	U	**U**	
PETN	78-11-5	0.503	1.51	0.503	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.101	0.251	0.101	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.101	0.251	0.101	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.101	0.251	0.101	mg/kg	U	**U**	
RDX	121-82-4	0.101	0.251	0.101	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.101	0.251	0.101	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL3SS-268M-1211-SO **AnalysisType:** RES

Lab Sample Name: L08060852-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrobenzene	98-95-3	0.100	0.250	0.100	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.100	0.250	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.100	0.250	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.250	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.250	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.250	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.100	0.250	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.250	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.250	0.100	mg/kg	U	**R**	**C**
Nitroglycerin	55-63-0	0.100	0.250	0.100	mg/kg	U	**U**	
PETN	78-11-5	0.501	1.50	0.501	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.100	0.250	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.250	0.100	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.100	0.250	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.250	0.100	mg/kg	U	**U**	

Analysis Method 8330-NG

Sample Name LL3SS-256M-1188-SO **AnalysisType:** RES

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	127	254	127	ug/kg	U	**UJ**	**H**

Sample Name LL3SS-256M-1190-SO **AnalysisType:** RES

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	129	259	129	ug/kg	U	**UJ**	**H**

Sample Name LL3SS-256M-1191-SO **AnalysisType:** RES

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine	556-88-7	130	261	130	ug/kg	U	**UJ**	**H**

Analysis Method SM3500Cr-D 7196A

Sample Name LL3SS-256M-1188-SO **AnalysisType:** RES

Lab Sample Name: L08060852-13 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.519	1.04	0.519	mg/kg	U	**U**	

Sample Name LL3SS-256M-1190-SO **AnalysisType:** RES

Lab Sample Name: L08060852-14 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0523	0.105	0.0523	mg/kg	U	**U**	

Sample Name LL3SS-256M-1191-SO **AnalysisType:** RES

Lab Sample Name: L08060852-15 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.531	1.06	0.531	mg/kg	U	**U**	

Sample Name LL3SS-268M-1208-SO **AnalysisType:** RES

Lab Sample Name: L08060852-06 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0516	0.103	0.0516	mg/kg	U	**U**	

Sample Name LL3SS-268M-1210-SO **AnalysisType:** RES

Lab Sample Name: L08060852-07 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0526	0.105	0.0526	mg/kg	U	**U**	

Sample Name LL3SS-268M-1211-SO **AnalysisType:** RES

Lab Sample Name: L08060852-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.253	0.507	0.253	mg/kg	U	**U**	

Analysis Method USACRREL

Sample Name	LL3SS-256M-1188-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060852-13	**Validation Level:** IV						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Nitrocellulose	9004-70-0	16.0	1.99	1.99	mg/kg			

Sample Name	LL3SS-256M-1190-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060852-14	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Nitrocellulose	9004-70-0	65.2	9.96	9.96	mg/kg			

Sample Name	LL3SS-256M-1191-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060852-15	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Nitrocellulose	9004-70-0	19.1	9.98	9.98	mg/kg		**J**	**C**

Validated Sample Result Forms: L08060886

Analysis Method 6010B

Sample Name LL3SS-258M-1194-SO **AnalysisType:** RES

Lab Sample Name: L08060886-01 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Iron	7439-89-6	19500	1.56	0.778	mg/kg		**J-**	**A**
Beryllium	7440-41-7	0.534	0.0194	0.00933	mg/kg			
Aluminum	7429-90-5	9340	15.6	7.78	mg/kg			
Calcium	7440-70-2	4790	7.78	3.89	mg/kg		**J**	**E**
Cadmium	7440-43-9	0.678	0.0778	0.0389	mg/kg			
Cobalt	7440-48-4	6.56	0.194	0.0933	mg/kg		**J-**	**A**
Barium	7440-39-3	46.8	0.389	0.0778	mg/kg			
Copper	7440-50-8	19.5	0.194	0.0933	mg/kg			
Vanadium	7440-62-2	14.3	0.389	0.194	mg/kg			
Potassium	7440-09-7	889	38.9	19.4	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	2530	19.4	9.33	mg/kg			
Manganese	7439-96-5	304	0.389	0.0778	mg/kg		**J-**	**A**
Sodium	7440-23-5	60.4	19.4	3.89	mg/kg			
Zinc	7440-66-6	74.1	0.778	0.389	mg/kg		**J-**	**A**
Silver	7440-22-4	0.352	0.389	0.194	mg/kg	J	**J**	
Chromium	7440-47-3	12.8	0.194	0.0933	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL3SS-258M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08060886-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cobalt	7440-48-4	5.65	0.190	0.0910	mg/kg		**J-**	**A**
Zinc	7440-66-6	70.0	0.758	0.379	mg/kg		**J-**	**A**
Vanadium	7440-62-2	11.4	0.379	0.190	mg/kg			
Sodium	7440-23-5	43.9	19.0	3.79	mg/kg			
Manganese	7439-96-5	285	0.379	0.0758	mg/kg		**J-**	**A**
Magnesium	7439-95-4	1980	19.0	9.10	mg/kg			
Potassium	7440-09-7	632	37.9	19.0	mg/kg		**J+**	**Q**
Iron	7439-89-6	17800	1.52	0.758	mg/kg		**J-**	**A**
Aluminum	7429-90-5	7160	15.2	7.58	mg/kg			
Chromium	7440-47-3	10.4	0.190	0.0910	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.573	0.0758	0.0379	mg/kg			
Calcium	7440-70-2	3340	7.58	3.79	mg/kg		**J**	**E**
Beryllium	7440-41-7	0.411	0.0190	0.00910	mg/kg			
Barium	7440-39-3	37.0	0.379	0.0758	mg/kg			
Silver	7440-22-4	0.190	0.379	0.190	mg/kg	U	**U**	
Copper	7440-50-8	17.8	0.190	0.0910	mg/kg			

Analysis Method 6010B

Sample Name LL3SS-258M-1197-SO **AnalysisType:** RES

Lab Sample Name: L08060886-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Magnesium	7439-95-4	2810	19.3	9.28	mg/kg			
Silver	7440-22-4	0.291	0.387	0.193	mg/kg	J	**J**	
Barium	7440-39-3	50.2	0.387	0.0773	mg/kg			
Iron	7439-89-6	25000	7.73	3.87	mg/kg			
Zinc	7440-66-6	88.2	0.773	0.387	mg/kg		**J-**	**A**
Vanadium	7440-62-2	16.0	0.387	0.193	mg/kg			
Manganese	7439-96-5	305	0.387	0.0773	mg/kg		**J-**	**A**
Aluminum	7429-90-5	10200	15.5	7.73	mg/kg			
Potassium	7440-09-7	1090	38.7	19.3	mg/kg		**J+**	**Q**
Copper	7440-50-8	21.1	0.193	0.0928	mg/kg			
Chromium	7440-47-3	14.8	0.193	0.0928	mg/kg		**J-**	**A**
Cobalt	7440-48-4	6.68	0.193	0.0928	mg/kg		**J-**	**A**
Beryllium	7440-41-7	0.538	0.0193	0.00928	mg/kg			
Cadmium	7440-43-9	0.780	0.0773	0.0387	mg/kg			
Calcium	7440-70-2	5930	7.73	3.87	mg/kg		**J**	**E**
Sodium	7440-23-5	73.6	19.3	3.87	mg/kg			

Analysis Method 6020

Sample Name LL3SS-258M-1194-SO **AnalysisType:** RES

Lab Sample Name: L08060886-01 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0502	0.100	0.0502	mg/kg	U	**R**	**Q**
Lead	7439-92-1	28.3	0.201	0.100	mg/kg			
Selenium	7782-49-2	0.173	0.201	0.100	mg/kg	J	**J-**	**Q**
Thallium	7440-28-0	0.103	0.0201	0.0100	mg/kg			
Nickel	7440-02-0	21.2	0.802	0.201	mg/kg		**J-**	**Q,A**
Arsenic	7440-38-2	9.77	0.301	0.0752	mg/kg		**J-**	**Q,A**

Sample Name LL3SS-258M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08060886-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nickel	7440-02-0	19.7	0.796	0.199	mg/kg		**J-**	**Q,A**
Thallium	7440-28-0	0.0881	0.0199	0.00994	mg/kg			
Selenium	7782-49-2	0.177	0.199	0.0994	mg/kg	J	**J-**	**Q**
Antimony	7440-36-0	0.0497	0.0994	0.0497	mg/kg	U	**R**	**Q**
Lead	7439-92-1	20.4	0.199	0.0994	mg/kg			
Arsenic	7440-38-2	9.79	0.298	0.0746	mg/kg		**J-**	**Q,A**

Sample Name LL3SS-258M-1197-SO **AnalysisType:** RES

Lab Sample Name: L08060886-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0662	0.103	0.0516	mg/kg	J	**J**	**Q**
Thallium	7440-28-0	0.103	0.0206	0.0103	mg/kg			
Arsenic	7440-38-2	10.5	0.310	0.0774	mg/kg		**J-**	**Q,A**
Lead	7439-92-1	33.4	0.206	0.103	mg/kg			
Selenium	7782-49-2	0.218	0.206	0.103	mg/kg		**J-**	**Q**
Nickel	7440-02-0	20.8	0.825	0.206	mg/kg		**J-**	**Q,A**

Analysis Method 7471A

Sample Name	LL3SS-258M-1194-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060886-01	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0172	0.101	0.0101	mg/kg	J	**J**	

Sample Name	LL3SS-258M-1196-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060886-02	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0119	0.0998	0.00998	mg/kg	J	**J**	

Sample Name	LL3SS-258M-1197-SO	**AnalysisType:** RES						
Lab Sample Name:	L08060886-03	**Validation Level:** III						
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury	7439-97-6	0.0259	0.102	0.0102	mg/kg	J	**J**	

Analysis Method 8260B

Sample Name LL4SS-201D-1185-SO **AnalysisType:** RES

Lab Sample Name: L08060886-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,2-Dichloropropane	78-87-5	0.599	5.99	0.599	ug/kg	U	**U**	
Xylenes, Total	1330-20-7	0.599	5.99	0.599	ug/kg	U	**U**	
Bromodichloromethane	75-27-4	0.599	5.99	0.599	ug/kg	U	**U**	
Bromochloromethane	74-97-5	0.599	5.99	0.599	ug/kg	U	**U**	
Benzene	71-43-2	0.599	5.99	0.599	ug/kg	U	**U**	
Acetone	67-64-1	5.99	12.0	5.99	ug/kg	U	**R**	**C**
4-Methyl-2-pentanone	108-10-1	2.99	5.99	2.99	ug/kg	U	**UJ**	**C**
1,1,1-Trichloroethane	71-55-6	0.599	5.99	0.599	ug/kg	U	**U**	
2-Butanone	78-93-3	2.99	5.99	2.99	ug/kg	U	**UJ**	**C**
1,2-Dichloroethene (total)	540-59-0	0.599	5.99	0.599	ug/kg	U	**U**	
1,2-Dichloroethane	107-06-2	0.599	5.99	0.599	ug/kg	U	**U**	
1,2-Dibromoethane	106-93-4	0.599	5.99	0.599	ug/kg	U	**U**	
1,1-Dichloroethene	75-35-4	0.599	5.99	0.599	ug/kg	U	**U**	
1,1-Dichloroethane	75-34-3	1.20	5.99	1.20	ug/kg	U	**U**	
1,1,2-Trichloroethane	79-00-5	0.599	5.99	0.599	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	79-34-5	0.599	5.99	0.599	ug/kg	U	**U**	
2-Hexanone	591-78-6	2.99	5.99	2.99	ug/kg	U	**U**	
Dibromochloromethane	124-48-1	0.599	5.99	0.599	ug/kg	U	**U**	
Vinyl chloride	75-01-4	1.20	5.99	1.20	ug/kg	U	**U**	
Trichloroethene	79-01-6	0.599	5.99	0.599	ug/kg	U	**U**	
trans-1,3-Dichloropropene	10061-02-6	0.599	5.99	0.599	ug/kg	U	**U**	
Toluene	108-88-3	0.599	5.99	0.599	ug/kg	U	**U**	
Tetrachloroethene	127-18-4	0.599	5.99	0.599	ug/kg	U	**U**	
Styrene	100-42-5	0.599	5.99	0.599	ug/kg	U	**R**	**C**
Bromoform	75-25-2	0.599	5.99	0.599	ug/kg	U	**U**	
Ethyl benzene	100-41-4	0.599	5.99	0.599	ug/kg	U	**U**	
Bromomethane	74-83-9	1.20	5.99	1.20	ug/kg	U	**U**	
cis-1,3-Dichloropropene	10061-01-5	0.599	5.99	0.599	ug/kg	U	**U**	
Chloromethane	74-87-3	2.40	5.99	2.40	ug/kg	U	**U**	
Chloroform	67-66-3	0.599	5.99	0.599	ug/kg	U	**U**	

Analysis Method 8260B

Chloroethane	75-00-3	1.20	5.99	1.20	ug/kg	U	**U**	
Chlorobenzene	108-90-7	0.599	5.99	0.599	ug/kg	U	**U**	
Carbon tetrachloride	56-23-5	0.599	5.99	0.599	ug/kg	U	**U**	
Carbon disulfide	75-15-0	0.599	5.99	0.599	ug/kg	U	**R**	**C**
Methylene chloride	75-09-2	1.20	5.99	1.20	ug/kg	U	**U**	

Analysis Method 8260B

Sample Name LL4SS-201D-1187-SO **AnalysisType:** RES

Lab Sample Name: L08060886-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Vinyl chloride	75-01-4	0.875	4.38	0.875	ug/kg	U	**U**	
cis-1,3-Dichloropropene	10061-01-5	0.438	4.38	0.438	ug/kg	U	**U**	
Bromomethane	74-83-9	0.875	4.38	0.875	ug/kg	U	**U**	
Carbon disulfide	75-15-0	0.438	4.38	0.438	ug/kg	U	**R**	**C**
Carbon tetrachloride	56-23-5	0.438	4.38	0.438	ug/kg	U	**U**	
Chlorobenzene	108-90-7	0.438	4.38	0.438	ug/kg	U	**U**	
Chloroethane	75-00-3	0.875	4.38	0.875	ug/kg	U	**U**	
trans-1,3-Dichloropropene	10061-02-6	0.438	4.38	0.438	ug/kg	U	**U**	
Chloromethane	74-87-3	1.75	4.38	1.75	ug/kg	U	**U**	
Bromochloromethane	74-97-5	0.438	4.38	0.438	ug/kg	U	**U**	
Dibromochloromethane	124-48-1	0.438	4.38	0.438	ug/kg	U	**U**	
Ethyl benzene	100-41-4	0.438	4.38	0.438	ug/kg	U	**U**	
Methylene chloride	75-09-2	0.875	4.38	0.875	ug/kg	U	**U**	
Styrene	100-42-5	0.438	4.38	0.438	ug/kg	U	**R**	**C**
Tetrachloroethene	127-18-4	0.438	4.38	0.438	ug/kg	U	**U**	
Toluene	108-88-3	0.438	4.38	0.438	ug/kg	U	**U**	
Chloroform	67-66-3	0.438	4.38	0.438	ug/kg	U	**U**	
1,2-Dichloropropane	78-87-5	0.438	4.38	0.438	ug/kg	U	**U**	
1,1,1-Trichloroethane	71-55-6	0.438	4.38	0.438	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	79-34-5	0.438	4.38	0.438	ug/kg	U	**U**	
1,1,2-Trichloroethane	79-00-5	0.438	4.38	0.438	ug/kg	U	**U**	
1,1-Dichloroethane	75-34-3	0.875	4.38	0.875	ug/kg	U	**U**	
1,1-Dichloroethene	75-35-4	0.438	4.38	0.438	ug/kg	U	**U**	
1,2-Dibromoethane	106-93-4	0.438	4.38	0.438	ug/kg	U	**U**	
Bromoform	75-25-2	0.438	4.38	0.438	ug/kg	U	**U**	
1,2-Dichloroethene (total)	540-59-0	0.438	4.38	0.438	ug/kg	U	**U**	
Bromodichloromethane	75-27-4	0.438	4.38	0.438	ug/kg	U	**U**	
2-Butanone	78-93-3	2.19	4.38	2.19	ug/kg	U	**UJ**	**C**
2-Hexanone	591-78-6	2.19	4.38	2.19	ug/kg	U	**U**	
4-Methyl-2-pentanone	108-10-1	2.19	4.38	2.19	ug/kg	U	**UJ**	**C**

Analysis Method 8260B

Acetone	67-64-1	4.38	8.75	4.38	ug/kg	U	**R**	**C**
Benzene	71-43-2	0.438	4.38	0.438	ug/kg	U	**U**	
Trichloroethene	79-01-6	0.438	4.38	0.438	ug/kg	U	**U**	
1,2-Dichloroethane	107-06-2	0.438	4.38	0.438	ug/kg	U	**U**	
Xylenes, Total	1330-20-7	0.438	4.38	0.438	ug/kg	U	**U**	

Analysis Method 8270C

Sample Name LL3SS-258M-1194-SO **AnalysisType:** RES

Lab Sample Name: L08060886-01 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,6-Dinitrotoluene	606-20-2	81.0	162	81.0	ug/kg	U	UJ	S
1,3-Dichlorobenzene	541-73-1	81.0	162	81.0	ug/kg	U	UJ	S
1,4-Dichlorobenzene	106-46-7	81.0	162	81.0	ug/kg	U	UJ	S
2,4,5-Trichlorophenol	95-95-4	81.0	162	81.0	ug/kg	U	UJ	C
2,4,6-Trichlorophenol	88-06-2	81.0	162	81.0	ug/kg	U	UJ	C
2,4-Dichlorophenol	120-83-2	81.0	162	81.0	ug/kg	U	UJ	C
2,4-Dimethylphenol	105-67-9	81.0	162	81.0	ug/kg	U	U	
Hexachlorobenzene	118-74-1	81.0	162	81.0	ug/kg	U	UJ	S
2,4-Dinitrotoluene	121-14-2	81.0	162	81.0	ug/kg	U	UJ	S
3,3'-Dichlorobenzidine	91-94-1	162	324	162	ug/kg	U	UJ	S
2-Chloronaphthalene	91-58-7	81.0	162	81.0	ug/kg	U	UJ	S
2-Chlorophenol	95-57-8	81.0	162	81.0	ug/kg	U	U	
2-Methylnaphthalene	91-57-6	81.0	162	81.0	ug/kg	U	UJ	S
2-Methylphenol	95-48-7	81.0	162	81.0	ug/kg	U	U	
2-Nitroaniline	88-74-4	404	810	404	ug/kg	U	UJ	S
2,4-Dinitrophenol	51-28-5	404	810	404	ug/kg	U	U	
4-Chloroaniline	106-47-8	81.0	162	81.0	ug/kg	U	UJ	S,C
Benzo(a)pyrene	50-32-8	81.0	162	81.0	ug/kg	U	UJ	S
Benzo(a)anthracene	56-55-3	81.0	162	81.0	ug/kg	U	UJ	S
Anthracene	120-12-7	81.0	162	81.0	ug/kg	U	UJ	S
Acenaphthylene	208-96-8	81.0	162	81.0	ug/kg	U	UJ	S
Acenaphthene	83-32-9	81.0	162	81.0	ug/kg	U	UJ	S
4-Nitrophenol	100-02-7	404	810	404	ug/kg	U	U	
1,2-Dichlorobenzene	95-50-1	81.0	162	81.0	ug/kg	U	UJ	S
4-Chlorophenyl-phenyl ether	7005-72-3	81.0	162	81.0	ug/kg	U	UJ	S
1,2,4-Trichlorobenzene	120-82-1	81.0	162	81.0	ug/kg	U	UJ	S
4-Chloro-3-methylphenol	59-50-7	81.0	162	81.0	ug/kg	U	UJ	C
4-Bromophenyl-phenylether	101-55-3	81.0	162	81.0	ug/kg	U	UJ	S
4,6-Dinitro-2-methylphenol	534-52-1	404	810	404	ug/kg	U	UJ	C
3-Nitroaniline	99-09-2	404	810	404	ug/kg	U	UJ	S

Analysis Method 8270C

3-,4-Methylphenol	106-44-5	81.0	162	81.0	ug/kg	U	**U**	
2-Nitrophenol	88-75-5	81.0	162	81.0	ug/kg	U	**UJ**	**C**
4-Nitroaniline	100-01-6	404	810	404	ug/kg	U	**UJ**	**S**
N-Nitrosodiphenylamine	86-30-6	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Benzo(b)fluoranthene	205-99-2	81.0	162	81.0	ug/kg	U	**UJ**	**S,C**
Fluorene	86-73-7	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Hexachlorobutadiene	87-68-3	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Hexachlorocyclopentadiene	77-47-4	81.0	162	81.0	ug/kg	U	**R**	**C**
Hexachloroethane	67-72-1	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Fluoranthene	206-44-0	135	162	81.0	ug/kg	J	**J**	**L,S**
Isophorone	78-59-1	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Dibenzofuran	132-64-9	81.0	162	81.0	ug/kg	U	**UJ**	**S**
N-Nitrosodipropylamine	621-64-7	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Naphthalene	91-20-3	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Nitrobenzene	98-95-3	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Pentachlorophenol	87-86-5	404	810	404	ug/kg	U	**U**	
Phenanthrene	85-01-8	83.5	162	81.0	ug/kg	J	**J**	**S**
Pyrene	129-00-0	111	162	81.0	ug/kg	J	**J**	**S**
Indeno(1,2,3-cd)pyrene	193-39-5	81.0	162	81.0	ug/kg	U	**UJ**	**S,C**
Butylbenzylphthalate	85-68-7	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Benzo(g,h,i)Perylene	191-24-2	81.0	162	81.0	ug/kg	U	**UJ**	**S,C**
Benzo(k)fluoranthene	207-08-9	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Benzoic acid	65-85-0	324	4910	324	ug/kg	U	**R**	**C**
Benzyl alcohol	100-51-6	81.0	162	81.0	ug/kg	U	**UJ**	**C,S**
Bis(2-Chloroethoxy)Methane	111-91-1	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Bis(2-Chloroethyl)ether	111-44-4	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Dimethylphthalate	131-11-3	81.0	162	81.0	ug/kg	U	**UJ**	**S**
bis(2-Ethylhexyl)phthalate	117-81-7	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Diethylphthalate	84-66-2	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Carbazole	86-74-8	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Chrysene	218-01-9	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Di-N-Butylphthalate	84-74-2	81.0	162	81.0	ug/kg	U	**UJ**	**S**
Di-n-octylphthalate	117-84-0	81.0	162	81.0	ug/kg	U	**UJ**	**S,C**
Dibenzo(a,h)Anthracene	53-70-3	81.0	162	81.0	ug/kg	U	**UJ**	**S,C**

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Phenol	108-95-2	81.0	162	81.0	ug/kg	U	**U**	
bis(2-Chloroisopropyl)ether	39638-32-9	81.0	162	81.0	ug/kg	U	**R**	**C**

Analysis Method 8270C

Sample Name LL3SS-258M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08060886-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Bis(2-Chloroethyl)ether	111-44-4	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Dibenzo(a,h)Anthracene	53-70-3	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
Di-n-octylphthalate	117-84-0	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
Di-N-Butylphthalate	84-74-2	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Chrysene	218-01-9	101	159	79.5	ug/kg	J	**J**	**S**
Carbazole	86-74-8	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Butylbenzylphthalate	85-68-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Pyrene	129-00-0	191	159	79.5	ug/kg		**J-**	**S**
bis(2-Chloroisopropyl)ether	39638-32-9	79.5	159	79.5	ug/kg	U	**R**	**C**
Dimethylphthalate	131-11-3	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Bis(2-Chloroethoxy)Methane	111-91-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Benzyl alcohol	100-51-6	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
Benzoic acid	65-85-0	318	4820	318	ug/kg	U	**R**	**C**
Benzo(k)fluoranthene	207-08-9	81.2	159	79.5	ug/kg	J	**J**	**S**
Benzo(g,h,i)Perylene	191-24-2	79.5	159	79.5	ug/kg	U	**U**	**C,S**
Benzo(b)fluoranthene	205-99-2	79.8	159	79.5	ug/kg	J	**J**	**C,S**
bis(2-Ethylhexyl)phthalate	117-81-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Indeno(1,2,3-cd)pyrene	193-39-5	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
2,4-Dimethylphenol	105-67-9	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Phenanthrene	85-01-8	192	159	79.5	ug/kg		**J-**	**S**
Pentachlorophenol	87-86-5	397	795	397	ug/kg	U	**UJ**	**S**
Nitrobenzene	98-95-3	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Naphthalene	91-20-3	79.5	159	79.5	ug/kg	U	**UJ**	**S**
N-Nitrosodipropylamine	621-64-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Dibenzofuran	132-64-9	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Isophorone	78-59-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Diethylphthalate	84-66-2	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Hexachloroethane	67-72-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Hexachlorocyclopentadiene	77-47-4	79.5	159	79.5	ug/kg	U	**R**	**C**
Hexachlorobutadiene	87-68-3	79.5	159	79.5	ug/kg	U	**UJ**	**S**

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Hexachlorobenzene	118-74-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Fluorene	86-73-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Fluoranthene	206-44-0	231	159	79.5	ug/kg		**J**	**L,S**
Phenol	108-95-2	79.5	159	79.5	ug/kg	U	**UJ**	**S**
N-Nitrosodiphenylamine	86-30-6	79.5	159	79.5	ug/kg	U	**UJ**	**S**
4-Chlorophenyl-phenyl ether	7005-72-3	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2,4,6-Trichlorophenol	88-06-2	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
Benzo(a)pyrene	50-32-8	97.7	159	79.5	ug/kg	J	**J**	**J**
Benzo(a)anthracene	56-55-3	100	159	79.5	ug/kg	J	**J**	**J**
Anthracene	120-12-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Acenaphthylene	208-96-8	79.5	159	79.5	ug/kg	U	**UJ**	**S**
Acenaphthene	83-32-9	79.5	159	79.5	ug/kg	U	**UJ**	**S**
4-Nitroaniline	100-01-6	397	795	397	ug/kg	U	**UJ**	**S**
1,2,4-Trichlorobenzene	120-82-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
4-Chloroaniline	106-47-8	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
4-Chloro-3-methylphenol	59-50-7	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
4-Bromophenyl-phenylether	101-55-3	79.5	159	79.5	ug/kg	U	**UJ**	**S**
4,6-Dinitro-2-methylphenol	534-52-1	397	795	397	ug/kg	U	**UJ**	**C,S**
3-Nitroaniline	99-09-2	397	795	397	ug/kg	U	**UJ**	**S**
3-,4-Methylphenol	106-44-5	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2,4-Dinitrophenol	51-28-5	397	795	397	ug/kg	U	**UJ**	**S**
4-Nitrophenol	100-02-7	397	795	397	ug/kg	U	**UJ**	**S**
3,3'-Dichlorobenzidine	91-94-1	159	318	159	ug/kg	U	**UJ**	**S**
1,3-Dichlorobenzene	541-73-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
1,4-Dichlorobenzene	106-46-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2,4-Dichlorophenol	120-83-2	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
1,2-Dichlorobenzene	95-50-1	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2,4-Dinitrotoluene	121-14-2	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2,6-Dinitrotoluene	606-20-2	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2-Chloronaphthalene	91-58-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2-Chlorophenol	95-57-8	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2-Methylnaphthalene	91-57-6	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2-Methylphenol	95-48-7	79.5	159	79.5	ug/kg	U	**UJ**	**S**
2-Nitroaniline	88-74-4	397	795	397	ug/kg	U	**UJ**	**S**

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2-Nitrophenol	88-75-5	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**
2,4,5-Trichlorophenol	95-95-4	79.5	159	79.5	ug/kg	U	**UJ**	**C,S**

Analysis Method 8270C

Sample Name LL3SS-258M-1197-SO **AnalysisType:** RES

Lab Sample Name: L08060886-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Dimethylphthalate	131-11-3	85.3	171	85.3	ug/kg	U	UJ	S
Chrysene	218-01-9	92.9	171	85.3	ug/kg	J	J	S
Diethylphthalate	84-66-2	85.3	171	85.3	ug/kg	U	UJ	S
Dibenzofuran	132-64-9	85.3	171	85.3	ug/kg	U	UJ	S
Dibenzo(a,h)Anthracene	53-70-3	85.3	171	85.3	ug/kg	U	UJ	S
Di-n-octylphthalate	117-84-0	85.3	171	85.3	ug/kg	U	UJ	S
Di-N-Butylphthalate	84-74-2	85.3	171	85.3	ug/kg	U	UJ	S
Carbazole	86-74-8	85.3	171	85.3	ug/kg	U	UJ	S
Butylbenzylphthalate	85-68-7	85.3	171	85.3	ug/kg	U	UJ	S
bis(2-Ethylhexyl)phthalate	117-81-7	85.3	171	85.3	ug/kg	U	UJ	S
bis(2-Chloroisopropyl)ether	39638-32-9	85.3	171	85.3	ug/kg	U	UJ	S
Bis(2-Chloroethyl)ether	111-44-4	85.3	171	85.3	ug/kg	U	UJ	S
Bis(2-Chloroethoxy)Methane	111-91-1	85.3	171	85.3	ug/kg	U	UJ	S
Benzoic acid	65-85-0	341	5170	341	ug/kg	U	R	C
Fluoranthene	206-44-0	204	171	85.3	ug/kg		J	S
Benzyl alcohol	100-51-6	85.3	171	85.3	ug/kg	U	UJ	S,C
N-Nitrosodiphenylamine	86-30-6	85.3	171	85.3	ug/kg	U	UJ	S
Anthracene	120-12-7	85.3	171	85.3	ug/kg	U	UJ	S
Pyrene	129-00-0	160	171	85.3	ug/kg	J	J	S
Benzo(k)fluoranthene	207-08-9	85.3	171	85.3	ug/kg	U	UJ	S
Phenanthrene	85-01-8	129	171	85.3	ug/kg	J	J	S
Pentachlorophenol	87-86-5	426	853	426	ug/kg	U	UJ	S
Nitrobenzene	98-95-3	85.3	171	85.3	ug/kg	U	UJ	S
Phenol	108-95-2	85.3	171	85.3	ug/kg	U	UJ	S
N-Nitrosodipropylamine	621-64-7	85.3	171	85.3	ug/kg	U	UJ	S
Fluorene	86-73-7	85.3	171	85.3	ug/kg	U	UJ	S
Isophorone	78-59-1	85.3	171	85.3	ug/kg	U	UJ	S
Indeno(1,2,3-cd)pyrene	193-39-5	85.3	171	85.3	ug/kg	U	UJ	S
Hexachloroethane	67-72-1	85.3	171	85.3	ug/kg	U	UJ	S
Hexachlorocyclopentadiene	77-47-4	85.3	171	85.3	ug/kg	U	UJ	S

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Hexachlorobutadiene	87-68-3	85.3	171	85.3	ug/kg	U	**UJ**	**S**
Hexachlorobenzene	118-74-1	85.3	171	85.3	ug/kg	U	**UJ**	**S**
Naphthalene	91-20-3	85.3	171	85.3	ug/kg	U	**UJ**	**S**
Benzo(g,h,i)Perylene	191-24-2	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
2-Methylphenol	95-48-7	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2-Methylnaphthalene	91-57-6	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2-Chlorophenol	95-57-8	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2-Chloronaphthalene	91-58-7	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2,6-Dinitrotoluene	606-20-2	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2,4-Dinitrotoluene	121-14-2	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2-Nitroaniline	88-74-4	426	853	426	ug/kg	U	**UJ**	**S**
2,4-Dimethylphenol	105-67-9	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2,4-Dichlorophenol	120-83-2	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
2,4,6-Trichlorophenol	88-06-2	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
Benzo(a)pyrene	50-32-8	92.4	171	85.3	ug/kg	J	**J**	**S**
1,4-Dichlorobenzene	106-46-7	85.3	171	85.3	ug/kg	U	**UJ**	**S**
1,3-Dichlorobenzene	541-73-1	85.3	171	85.3	ug/kg	U	**UJ**	**S**
1,2-Dichlorobenzene	95-50-1	85.3	171	85.3	ug/kg	U	**UJ**	**S**
1,2,4-Trichlorobenzene	120-82-1	85.3	171	85.3	ug/kg	U	**UJ**	**S**
2,4-Dinitrophenol	51-28-5	426	853	426	ug/kg	U	**UJ**	**S**
Acenaphthylene	208-96-8	85.3	171	85.3	ug/kg	U	**UJ**	**S**
Benzo(b)fluoranthene	205-99-2	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
2,4,5-Trichlorophenol	95-95-4	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
2-Nitrophenol	88-75-5	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
Benzo(a)anthracene	56-55-3	94.7	171	85.3	ug/kg	J	**J**	**S**
Acenaphthene	83-32-9	85.3	171	85.3	ug/kg	U	**UJ**	**S**
4-Nitrophenol	100-02-7	426	853	426	ug/kg	U	**UJ**	**S**
4-Nitroaniline	100-01-6	426	853	426	ug/kg	U	**UJ**	**S**
4-Chloroaniline	106-47-8	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
4-Chloro-3-methylphenol	59-50-7	85.3	171	85.3	ug/kg	U	**UJ**	**S,C**
4-Bromophenyl-phenylether	101-55-3	85.3	171	85.3	ug/kg	U	**UJ**	**S**
4,6-Dinitro-2-methylphenol	534-52-1	426	853	426	ug/kg	U	**UJ**	**S,C**
3,3'-Dichlorobenzidine	91-94-1	171	341	171	ug/kg	U	**UJ**	**S**
4-Chlorophenyl-phenyl ether	7005-72-3	85.3	171	85.3	ug/kg	U	**UJ**	**S**

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3-,4-Methylphenol	106-44-5	85.3	171	85.3	ug/kg	U	**UJ**	**S**
3-Nitroaniline	99-09-2	426	853	426	ug/kg	U	**UJ**	**S**

Analysis Method 8330

Sample Name LL3SS-258M-1194-SO **AnalysisType:** CF

Lab Sample Name: L08060886-01 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4-Nitrotoluene	99-99-0	0.100	0.251	0.100	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.453	0.251	0.100	mg/kg		**R**	**D**
Tetryl	479-45-8	0.100	0.251	0.100	mg/kg	U	**R**	**D**
RDX	121-82-4	0.100	0.251	0.100	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.100	0.251	0.100	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.100	0.251	0.100	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.18	0.251	0.100	mg/kg		**R**	**D**
3-Nitrotoluene	99-08-1	0.100	0.251	0.100	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	1.00	2.51	1.00	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.18	2.51	1.00	mg/kg	J	**R**	**D**
HMX	2691-41-0	0.100	0.251	0.100	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	38.6	2.51	1.00	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	1.00	2.51	1.00	mg/kg	U	**R**	**D**
HMX	2691-41-0	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	1.00	2.51	1.00	mg/kg	U	**R**	**D**
RDX	121-82-4	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Tetryl	479-45-8	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.100	0.251	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.100	0.251	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.251	0.100	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.100	0.251	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.251	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	40.4	0.251	0.100	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.100	0.251	0.100	mg/kg	U	**U**	

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2-Amino-4,6-dinitrotoluene	35572-78-2	0.473	0.251	0.100	mg/kg			
3-Nitrotoluene	99-08-1	0.100	0.251	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.251	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	1.37	0.251	0.100	mg/kg			
HMX	2691-41-0	0.100	0.251	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.251	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	38.2	0.251	0.100	mg/kg	I	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.100	0.251	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.251	0.100	mg/kg	U	**R**	**D**
RDX	121-82-4	0.100	0.251	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.251	0.100	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.20	2.51	1.00	mg/kg	J	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.100	0.251	0.100	mg/kg	U	**R**	**D**
PETN	78-11-5	0.501	1.50	0.501	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	40.9	2.51	1.00	mg/kg			
Tetryl	479-45-8	0.100	0.251	0.100	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL3SS-258M-1196-SO **AnalysisType:** CF

Lab Sample Name: L08060886-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4-Nitrotoluene	99-99-0	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
PETN	78-11-5	0.495	1.48	0.495	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	4.99	0.247	0.0989	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.358	0.247	0.0989	mg/kg			
HMX	2691-41-0	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.03	0.247	0.0989	mg/kg			
Tetryl	479-45-8	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
RDX	121-82-4	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
Tetryl	479-45-8	0.0989	0.247	0.0989	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0989	0.247	0.0989	mg/kg	U	**R**	**D**
1,3,5-Trinitrobenzene	99-35-4	0.0989	0.247	0.0989	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	5.25	0.247	0.0989	mg/kg			
2,4-Dinitrotoluene	121-14-2	0.0989	0.247	0.0989	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0989	0.247	0.0989	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.333	0.247	0.0989	mg/kg		**R**	**D**
Nitrobenzene	98-95-3	0.0989	0.247	0.0989	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0989	0.247	0.0989	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.975	0.247	0.0989	mg/kg		**R**	**D**
HMX	2691-41-0	0.0989	0.247	0.0989	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0989	0.247	0.0989	mg/kg	U	**U**	
RDX	121-82-4	0.0989	0.247	0.0989	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL3SS-258M-1197-SO **AnalysisType:** CFDL

Lab Sample Name: L08060886-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene	99-35-4	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Tetryl	479-45-8	0.100	0.251	0.100	mg/kg	U	**R**	**D**
RDX	121-82-4	0.100	0.251	0.100	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	0.100	0.251	0.100	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.100	0.251	0.100	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	0.100	0.251	0.100	mg/kg	U	**R**	**D**
4-Nitrotoluene	99-99-0	0.100	0.251	0.100	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.100	0.251	0.100	mg/kg	U	**R**	**D**
1,3-Dinitrobenzene	99-65-0	1.00	2.51	1.00	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.69	2.51	1.00	mg/kg	J	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.64	0.251	0.100	mg/kg		**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	19.4	2.51	1.00	mg/kg		**R**	**D**
2,4-Dinitrotoluene	121-14-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2,6-Dinitrotoluene	606-20-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2-Nitrotoluene	88-72-2	1.00	2.51	1.00	mg/kg	U	**R**	**D**
2-Amino-4,6-dinitrotoluene	35572-78-2	0.722	0.251	0.100	mg/kg			
4-Nitrotoluene	99-99-0	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Nitroglycerin	55-63-0	0.100	0.251	0.100	mg/kg	U	**U**	
HMX	2691-41-0	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Nitrobenzene	98-95-3	1.00	2.51	1.00	mg/kg	U	**R**	**D**
RDX	121-82-4	1.00	2.51	1.00	mg/kg	U	**R**	**D**
Tetryl	479-45-8	1.00	2.51	1.00	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	1.00	2.51	1.00	mg/kg	U	**R**	**D**
4-Amino-2,6-dinitrotoluene	19406-51-0	1.74	0.251	0.100	mg/kg			
1,3,5-Trinitrobenzene	99-35-4	0.100	0.251	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.251	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	19.8	0.251	0.100	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.100	0.251	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.251	0.100	mg/kg	U	**U**	

Analysis Method 8330

2-Amino-4,6-dinitrotoluene	35572-78-2	0.719	0.251	0.100	mg/kg		**R**	**D**
2-Nitrotoluene	88-72-2	0.100	0.251	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	1.61	2.51	1.00	mg/kg	J	**R**	**D**
4-Nitrotoluene	99-99-0	0.100	0.251	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.251	0.100	mg/kg	U	**R**	**D**
HMX	2691-41-0	0.100	0.251	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.251	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.251	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.251	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	20.5	2.51	1.00	mg/kg			
PETN	78-11-5	0.502	1.50	0.502	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.132	0.251	0.100	mg/kg	J	**R**	**D**
1,3-Dinitrobenzene	99-65-0	0.100	0.251	0.100	mg/kg	U	**R**	**D**
2,4,6-Trinitrotoluene	118-96-7	19.0	0.251	0.100	mg/kg	I	**R**	**D**
2,4-Dinitrotoluene	121-14-2	0.100	0.251	0.100	mg/kg	U	**R**	**D**
3-Nitrotoluene	99-08-1	0.100	0.251	0.100	mg/kg	U	**U**	

Analysis Method SM3500Cr-D 7196A

Sample Name LL3SS-258M-1194-SO **AnalysisType:** RES

Lab Sample Name: L08060886-01 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0501	0.100	0.0501	mg/kg	U	**U**	

Sample Name LL3SS-258M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08060886-02 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0966	0.193	0.0966	mg/kg	U	**U**	

Sample Name LL3SS-258M-1197-SO **AnalysisType:** RES

Lab Sample Name: L08060886-03 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.256	0.512	0.256	mg/kg	U	**U**	

Validated Sample Result Forms: L08070074

Analysis Method 6010B

Sample Name LL4SS-209M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08070074-11 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Potassium	7440-09-7	1150	38.1	19.1	mg/kg		**J+**	**Q**
Zinc	7440-66-6	86.8	0.762	0.381	mg/kg		**J-**	**A**
Vanadium	7440-62-2	16.8	0.381	0.191	mg/kg			
Sodium	7440-23-5	71.9	19.1	3.81	mg/kg	B	**U**	**B**
Magnesium	7439-95-4	3820	19.1	9.14	mg/kg			
Iron	7439-89-6	22200	1.52	0.762	mg/kg		**J-**	**A**
Copper	7440-50-8	22.9	0.191	0.0914	mg/kg			
Chromium	7440-47-3	14.8	0.191	0.0914	mg/kg		**J-**	**A**
Silver	7440-22-4	0.589	0.381	0.191	mg/kg		**J+**	**C**
Manganese	7439-96-5	512	0.381	0.0762	mg/kg		**J-**	**A**
Aluminum	7429-90-5	11000	15.2	7.62	mg/kg			
Cobalt	7440-48-4	7.71	0.191	0.0914	mg/kg		**J-**	**A**
Barium	7440-39-3	73.2	0.381	0.0762	mg/kg			
Beryllium	7440-41-7	0.666	0.0191	0.00914	mg/kg			
Calcium	7440-70-2	9900	7.62	3.81	mg/kg			
Cadmium	7440-43-9	0.543	0.0762	0.0381	mg/kg		**J+**	**C**

Analysis Method 6010B

Sample Name LL4SS-209M-1198-SO **AnalysisType:** RES

Lab Sample Name: L08070074-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Copper	7440-50-8	19.2	0.182	0.0873	mg/kg			
Barium	7440-39-3	60.5	0.364	0.0727	mg/kg			
Vanadium	7440-62-2	13.1	0.364	0.182	mg/kg			
Sodium	7440-23-5	53.3	18.2	3.64	mg/kg	B	**U**	**B**
Manganese	7439-96-5	458	0.364	0.0727	mg/kg		**J-**	**A**
Magnesium	7439-95-4	3230	18.2	8.73	mg/kg			
Potassium	7440-09-7	838	36.4	18.2	mg/kg		**J+**	**Q**
Iron	7439-89-6	19500	1.45	0.727	mg/kg		**J-**	**A**
Zinc	7440-66-6	70.2	0.727	0.364	mg/kg		**J-**	**A**
Aluminum	7429-90-5	8630	14.5	7.27	mg/kg			
Cobalt	7440-48-4	7.39	0.182	0.0873	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.496	0.0727	0.0364	mg/kg		**J+**	**C**
Beryllium	7440-41-7	0.551	0.0182	0.00873	mg/kg			
Silver	7440-22-4	0.623	0.364	0.182	mg/kg		**J+**	**C**
Chromium	7440-47-3	13.2	0.182	0.0873	mg/kg		**J-**	**A**
Calcium	7440-70-2	8580	7.27	3.64	mg/kg			

Analysis Method 6010B

Sample Name LL4SS-209M-1199-SO **AnalysisType:** RES

Lab Sample Name: L08070074-13 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Iron	7439-89-6	20700	1.56	0.781	mg/kg		**J-**	**A**
Potassium	7440-09-7	1160	39.1	19.5	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	3960	19.5	9.37	mg/kg			
Manganese	7439-96-5	535	0.391	0.0781	mg/kg		**J-**	**A**
Sodium	7440-23-5	83.3	19.5	3.91	mg/kg	B	**U**	**B**
Zinc	7440-66-6	67.5	0.781	0.391	mg/kg		**J-**	**A**
Cadmium	7440-43-9	0.502	0.0781	0.0391	mg/kg		**J+**	**C**
Copper	7440-50-8	18.6	0.195	0.0937	mg/kg			
Vanadium	7440-62-2	16.4	0.391	0.195	mg/kg			
Cobalt	7440-48-4	7.53	0.195	0.0937	mg/kg		**J-**	**A**
Calcium	7440-70-2	12000	7.81	3.91	mg/kg			
Beryllium	7440-41-7	0.738	0.0195	0.00937	mg/kg			
Barium	7440-39-3	82.8	0.391	0.0781	mg/kg			
Silver	7440-22-4	0.429	0.391	0.195	mg/kg		**J+**	**C**
Aluminum	7429-90-5	11700	15.6	7.81	mg/kg			
Chromium	7440-47-3	13.5	0.195	0.0937	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL4SS-212M-1202-SO **AnalysisType:** RES

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cobalt	7440-48-4	7.16	0.186	0.0894	mg/kg		**J-**	**A**
Aluminum	7429-90-5	6610	14.9	7.45	mg/kg			
Silver	7440-22-4	0.512	0.373	0.186	mg/kg		**J+**	**C**
Barium	7440-39-3	37.0	0.373	0.0745	mg/kg			
Beryllium	7440-41-7	0.354	0.0186	0.00894	mg/kg			
Cadmium	7440-43-9	0.474	0.0745	0.0373	mg/kg		**J+**	**C**
Chromium	7440-47-3	10.3	0.186	0.0894	mg/kg		**J-**	**A**
Copper	7440-50-8	24.3	0.186	0.0894	mg/kg			
Potassium	7440-09-7	713	37.3	18.6	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	3530	18.6	8.94	mg/kg			
Manganese	7439-96-5	402	0.373	0.0745	mg/kg		**J-**	**A**
Sodium	7440-23-5	32.9	18.6	3.73	mg/kg	B	**U**	**B**
Vanadium	7440-62-2	11.5	0.373	0.186	mg/kg			
Zinc	7440-66-6	91.2	0.745	0.373	mg/kg		**J-**	**A**
Iron	7439-89-6	20600	1.49	0.745	mg/kg		**J-**	**A**
Calcium	7440-70-2	6280	7.45	3.73	mg/kg			

Analysis Method 6010B

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Silver	7440-22-4	0.227	0.373	0.187	mg/kg	J	**J+**	**C**
Beryllium	7440-41-7	0.350	0.0187	0.00896	mg/kg			
Cadmium	7440-43-9	0.446	0.0746	0.0373	mg/kg		**J+**	**C**
Chromium	7440-47-3	9.12	0.187	0.0896	mg/kg		**J-**	**A**
Copper	7440-50-8	24.2	0.187	0.0896	mg/kg			
Iron	7439-89-6	19500	1.49	0.746	mg/kg		**J-**	**A**
Potassium	7440-09-7	678	37.3	18.7	mg/kg		**J+**	**Q**
Magnesium	7439-95-4	3390	18.7	8.96	mg/kg			
Manganese	7439-96-5	376	0.373	0.0746	mg/kg		**J-**	**A**
Sodium	7440-23-5	31.7	18.7	3.73	mg/kg	B	**U**	**B**
Zinc	7440-66-6	84.7	0.746	0.373	mg/kg		**J-**	**A**
Calcium	7440-70-2	9990	7.46	3.73	mg/kg			
Aluminum	7429-90-5	6330	14.9	7.46	mg/kg			
Barium	7440-39-3	37.8	0.373	0.0746	mg/kg			
Vanadium	7440-62-2	10.9	0.373	0.187	mg/kg			
Cobalt	7440-48-4	6.96	0.187	0.0896	mg/kg		**J-**	**A**

Analysis Method 6010B

Sample Name LL4SS-212M-1205-SO **AnalysisType:** RES

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Beryllium	7440-41-7	0.396	0.0195	0.00935	mg/kg			
Cobalt	7440-48-4	7.95	0.195	0.0935	mg/kg		**J-**	**A**
Calcium	7440-70-2	6940	7.79	3.89	mg/kg			
Barium	7440-39-3	39.1	0.389	0.0779	mg/kg			
Silver	7440-22-4	0.348	0.389	0.195	mg/kg	J	**J+**	**C**
Aluminum	7429-90-5	7290	15.6	7.79	mg/kg			
Chromium	7440-47-3	11.5	0.195	0.0935	mg/kg		**J-**	**A**
Vanadium	7440-62-2	12.9	0.389	0.195	mg/kg			
Cadmium	7440-43-9	0.458	0.0779	0.0389	mg/kg		**J+**	**C**
Copper	7440-50-8	23.9	0.195	0.0935	mg/kg			
Magnesium	7439-95-4	3330	19.5	9.35	mg/kg			
Potassium	7440-09-7	766	38.9	19.5	mg/kg		**J+**	**Q**
Zinc	7440-66-6	91.6	0.779	0.389	mg/kg		**J-**	**A**
Iron	7439-89-6	21600	1.56	0.779	mg/kg		**J-**	**A**
Sodium	7440-23-5	36.9	19.5	3.89	mg/kg	B	**U**	**B**
Manganese	7439-96-5	449	0.389	0.0779	mg/kg		**J-**	**A**

Analysis Method 6020

Sample Name LL4SS-209M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08070074-11 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	10.7	0.296	0.0741	mg/kg		**J**	**Q,A**
Antimony	7440-36-0	0.0494	0.0988	0.0494	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.265	0.198	0.0988	mg/kg		**J-**	**Q**
Thallium	7440-28-0	0.139	0.0198	0.00988	mg/kg			
Nickel	7440-02-0	29.2	0.790	0.198	mg/kg		**J**	**A**
Lead	7439-92-1	17.6	0.198	0.0988	mg/kg			

Sample Name LL4SS-209M-1198-SO **AnalysisType:** RES

Lab Sample Name: L08070074-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Thallium	7440-28-0	0.136	0.0202	0.0101	mg/kg			
Selenium	7782-49-2	0.309	0.202	0.101	mg/kg		**J-**	**Q**
Antimony	7440-36-0	0.0505	0.101	0.0505	mg/kg	U	**R**	**Q**
Lead	7439-92-1	20.1	0.202	0.101	mg/kg			
Arsenic	7440-38-2	10.9	0.303	0.0758	mg/kg		**J**	**Q,A**
Nickel	7440-02-0	32.3	0.809	0.202	mg/kg		**J**	**A**

Sample Name LL4SS-209M-1199-SO **AnalysisType:** RES

Lab Sample Name: L08070074-13 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0508	0.102	0.0508	mg/kg	U	**R**	**Q**
Nickel	7440-02-0	24.4	0.812	0.203	mg/kg		**J**	**A**
Selenium	7782-49-2	0.284	0.203	0.102	mg/kg		**J-**	**Q**
Lead	7439-92-1	16.2	0.203	0.102	mg/kg			
Arsenic	7440-38-2	9.02	0.305	0.0761	mg/kg		**J**	**Q,A**
Thallium	7440-28-0	0.121	0.0203	0.0102	mg/kg			

Analysis Method 6020

Sample Name LL4SS-212M-1202-SO **AnalysisType:** RES

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0496	0.0992	0.0496	mg/kg	U	**R**	**Q**
Arsenic	7440-38-2	17.2	0.298	0.0744	mg/kg		**J**	**Q,A**
Lead	7439-92-1	24.2	0.198	0.0992	mg/kg			
Nickel	7440-02-0	26.0	0.794	0.198	mg/kg		**J**	**A**
Thallium	7440-28-0	0.164	0.0198	0.00992	mg/kg			
Selenium	7782-49-2	0.230	0.198	0.0992	mg/kg		**J-**	**Q**

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Thallium	7440-28-0	0.165	0.0194	0.00969	mg/kg			
Selenium	7782-49-2	0.261	0.194	0.0969	mg/kg		**J-**	**Q**
Antimony	7440-36-0	0.0484	0.0969	0.0484	mg/kg	U	**R**	**Q**
Nickel	7440-02-0	27.2	0.775	0.194	mg/kg		**J**	**A**
Arsenic	7440-38-2	14.5	0.291	0.0727	mg/kg		**J**	**Q,A**
Lead	7439-92-1	25.8	0.194	0.0969	mg/kg			

Sample Name LL4SS-212M-1205-SO **AnalysisType:** RES

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	15.0	0.304	0.0759	mg/kg		**J**	**Q,A**
Lead	7439-92-1	21.9	0.203	0.101	mg/kg			
Antimony	7440-36-0	0.0506	0.101	0.0506	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.236	0.203	0.101	mg/kg		**J-**	**Q**
Thallium	7440-28-0	0.149	0.0203	0.0101	mg/kg			
Nickel	7440-02-0	73.6	8.10	2.03	mg/kg		**J**	**A**

Analysis Method 7471A

Sample Name LL4SS-209M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08070074-11 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0217	0.0984	0.00984	mg/kg	J	**J**	**H**

Sample Name LL4SS-209M-1198-SO **AnalysisType:** RES

Lab Sample Name: L08070074-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0204	0.100	0.0100	mg/kg	J	**J**	**H**

Sample Name LL4SS-209M-1199-SO **AnalysisType:** RES

Lab Sample Name: L08070074-13 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0172	0.101	0.0101	mg/kg	J	**J**	**H**

Sample Name LL4SS-212M-1202-SO **AnalysisType:** RES

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0156	0.0990	0.00990	mg/kg	J	**J**	**H**

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0162	0.0994	0.00994	mg/kg	J	**J**	**H**

Sample Name LL4SS-212M-1205-SO **AnalysisType:** RES

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0126	0.0967	0.00967	mg/kg	J	**J**	**H**

Analysis Method 8081A

Sample Name LL4SS-209M-1196-SO **AnalysisType:** DL

Lab Sample Name: L08070074-11 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Heptachlor	76-44-8	1.64	8.21	1.64	ug/kg	U	**U**	
alpha Chlordane	5103-71-9	24.5	8.21	1.64	ug/kg	P	**R**	**D**
delta-BHC	319-86-8	1.64	8.21	1.64	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	16.1	8.21	1.64	ug/kg		**R**	**D**
alpha-BHC	319-84-6	1.64	8.21	1.64	ug/kg	U	**U**	
4,4'-DDT	50-29-3	2.54	8.21	1.64	ug/kg	J	**J**	
Heptachlor epoxide	1024-57-3	2.67	8.21	1.64	ug/kg	J	**R**	**D**
Toxaphene	8001-35-2	83.1	164	83.1	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	23.1	8.21	1.64	ug/kg			
alpha Chlordane	5103-71-9	43.8	8.21	1.64	ug/kg	P	**J**	***III**
Endrin aldehyde	7421-93-4	1.64	8.21	1.64	ug/kg	U	**U**	
Endrin ketone	53494-70-5	1.64	8.21	1.64	ug/kg	U	**U**	
Methoxychlor	72-43-5	1.64	8.21	1.64	ug/kg	U	**U**	
4,4'-DDT	50-29-3	1.83	8.21	1.64	ug/kg	J	**R**	**D**
gamma-BHC (Lindane)	58-89-9	1.64	8.21	1.64	ug/kg	U	**U**	
Endosulfan sulfate	1031-07-8	1.64	8.21	1.64	ug/kg	U	**U**	
beta-BHC	319-85-7	1.64	8.21	1.64	ug/kg	U	**U**	
Aldrin	309-00-2	1.64	8.21	1.64	ug/kg	U	**U**	
Heptachlor epoxide	1024-57-3	2.80	8.21	1.64	ug/kg	J	**J**	
Endosulfan I	959-98-8	1.64	8.21	1.64	ug/kg	U	**U**	
4,4'-DDE	72-55-9	1.64	8.21	1.64	ug/kg	U	**U**	
Endrin	72-20-8	1.64	8.21	1.64	ug/kg	U	**U**	
Endosulfan II	33213-65-9	1.64	8.21	1.64	ug/kg	U	**U**	
Dieldrin	60-57-1	1.64	8.21	1.64	ug/kg	U	**U**	
4,4'-DDD	72-54-8	1.64	8.21	1.64	ug/kg	U	**U**	

Analysis Method 8081A

Sample Name LL4SS-209M-1198-SO **AnalysisType:** DL

Lab Sample Name: L08070074-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Methoxychlor	72-43-5	1.64	8.22	1.64	ug/kg	U	**U**	
alpha Chlordane	5103-71-9	8.97	8.22	1.64	ug/kg	P	**J**	***III**
Toxaphene	8001-35-2	83.2	164	83.2	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	10.7	8.22	1.64	ug/kg	P	**R**	**D**
alpha Chlordane	5103-71-9	14.7	8.22	1.64	ug/kg	P	**R**	**D**
4,4'-DDT	50-29-3	1.64	8.22	1.64	ug/kg	U	**U**	
Endrin ketone	53494-70-5	1.64	8.22	1.64	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	6.35	8.22	1.64	ug/kg	J	**J**	***III**
Aldrin	309-00-2	1.64	8.22	1.64	ug/kg	U	**U**	
Endosulfan sulfate	1031-07-8	1.64	8.22	1.64	ug/kg	U	**U**	
Endrin aldehyde	7421-93-4	1.64	8.22	1.64	ug/kg	U	**U**	
Endosulfan II	33213-65-9	1.64	8.22	1.64	ug/kg	U	**U**	
Endrin	72-20-8	1.64	8.22	1.64	ug/kg	U	**U**	
4,4'-DDE	72-55-9	1.64	8.22	1.64	ug/kg	U	**U**	
Dieldrin	60-57-1	1.64	8.22	1.64	ug/kg	U	**U**	
alpha-BHC	319-84-6	1.64	8.22	1.64	ug/kg	U	**U**	
Heptachlor epoxide	1024-57-3	1.64	8.22	1.64	ug/kg	U	**U**	
Heptachlor	76-44-8	1.64	8.22	1.64	ug/kg	U	**U**	
gamma-BHC (Lindane)	58-89-9	1.64	8.22	1.64	ug/kg	U	**U**	
delta-BHC	319-86-8	1.64	8.22	1.64	ug/kg	U	**U**	
beta-BHC	319-85-7	1.64	8.22	1.64	ug/kg	U	**U**	
4,4'-DDD	72-54-8	1.64	8.22	1.64	ug/kg	U	**U**	
Endosulfan I	959-98-8	1.64	8.22	1.64	ug/kg	U	**U**	

Analysis Method 8081A

Sample Name LL4SS-209M-1199-SO **AnalysisType:** DL

Lab Sample Name: L08070074-13 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Endrin	72-20-8	1.64	8.20	1.64	ug/kg	U	**U**	
alpha-BHC	319-84-6	1.64	8.20	1.64	ug/kg	U	**U**	
beta-BHC	319-85-7	1.64	8.20	1.64	ug/kg	U	**U**	
delta-BHC	319-86-8	1.64	8.20	1.64	ug/kg	U	**U**	
gamma-BHC (Lindane)	58-89-9	1.64	8.20	1.64	ug/kg	U	**U**	
Heptachlor	76-44-8	1.64	8.20	1.64	ug/kg	U	**U**	
Aldrin	309-00-2	1.64	8.20	1.64	ug/kg	U	**U**	
Heptachlor epoxide	1024-57-3	1.64	8.20	1.64	ug/kg	U	**U**	
Endosulfan I	959-98-8	1.64	8.20	1.64	ug/kg	U	**U**	
Endrin ketone	53494-70-5	1.64	8.20	1.64	ug/kg	U	**U**	
4,4'-DDE	72-55-9	1.64	8.20	1.64	ug/kg	U	**U**	
gamma Chlordane	5103-74-2	8.60	8.20	1.64	ug/kg	P	**J**	***III**
Endosulfan II	33213-65-9	1.64	8.20	1.64	ug/kg	U	**U**	
4,4'-DDD	72-54-8	1.64	8.20	1.64	ug/kg	U	**U**	
Methoxychlor	72-43-5	1.64	8.20	1.64	ug/kg	U	**U**	
4,4'-DDT	50-29-3	1.64	8.20	1.64	ug/kg	U	**U**	
Endrin aldehyde	7421-93-4	1.64	8.20	1.64	ug/kg	U	**U**	
alpha Chlordane	5103-71-9	20.0	8.20	1.64	ug/kg	P	**R**	**D**
gamma Chlordane	5103-74-2	13.0	8.20	1.64	ug/kg	P	**R**	**D**
Toxaphene	8001-35-2	83.0	164	83.0	ug/kg	U	**U**	
alpha Chlordane	5103-71-9	13.1	8.20	1.64	ug/kg	P	**J**	***III**
Dieldrin	60-57-1	1.64	8.20	1.64	ug/kg	U	**U**	
Endosulfan sulfate	1031-07-8	1.64	8.20	1.64	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL4SS-212M-1202-SO **AnalysisType:** CF

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1248	12672-29-6	8.17	16.3	8.17	ug/kg	U	**U**	
Aroclor-1254	11097-69-1	45.3	16.3	8.17	ug/kg		**J**	***III**
Aroclor-1242	53469-21-9	8.17	16.3	8.17	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.17	16.3	8.17	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.17	16.3	8.17	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	8.17	16.3	8.17	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	44.0	16.3	8.17	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.17	16.3	8.17	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.17	16.3	8.17	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.17	16.3	8.17	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.17	16.3	8.17	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.17	16.3	8.17	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	40.1	16.3	8.17	ug/kg		**R**	**D**
Aroclor-1260	11096-82-5	51.7	16.3	8.17	ug/kg		**J**	***III**

Analysis Method 8082

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1221	11104-28-2	8.24	16.5	8.24	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	21.9	16.5	8.24	ug/kg		**J**	***III**
Aroclor-1248	12672-29-6	8.24	16.5	8.24	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.24	16.5	8.24	ug/kg	U	**U**	
Aroclor-1232	11141-16-5	8.24	16.5	8.24	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.24	16.5	8.24	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	29.4	16.5	8.24	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.24	16.5	8.24	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.24	16.5	8.24	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.24	16.5	8.24	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	26.7	16.5	8.24	ug/kg		**J**	***III**
Aroclor-1016	12674-11-2	8.24	16.5	8.24	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.24	16.5	8.24	ug/kg	U	**R**	**D**
Aroclor-1254	11097-69-1	16.5	16.5	8.24	ug/kg		**R**	**D**

Analysis Method 8082

Sample Name LL4SS-212M-1205-SO **AnalysisType:** CF

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1254	11097-69-1	26.9	16.5	8.25	ug/kg		**R**	**D**
Aroclor-1232	11141-16-5	8.25	16.5	8.25	ug/kg	U	**U**	
Aroclor-1260	11096-82-5	30.6	16.5	8.25	ug/kg		**R**	**D**
Aroclor-1248	12672-29-6	8.25	16.5	8.25	ug/kg	U	**R**	**D**
Aroclor-1242	53469-21-9	8.25	16.5	8.25	ug/kg	U	**R**	**D**
Aroclor-1232	11141-16-5	8.25	16.5	8.25	ug/kg	U	**R**	**D**
Aroclor-1221	11104-28-2	8.25	16.5	8.25	ug/kg	U	**R**	**D**
Aroclor-1260	11096-82-5	32.3	16.5	8.25	ug/kg		**J**	***III**
Aroclor-1254	11097-69-1	17.8	16.5	8.25	ug/kg		**J**	***III**
Aroclor-1248	12672-29-6	8.25	16.5	8.25	ug/kg	U	**U**	
Aroclor-1242	53469-21-9	8.25	16.5	8.25	ug/kg	U	**U**	
Aroclor-1221	11104-28-2	8.25	16.5	8.25	ug/kg	U	**U**	
Aroclor-1016	12674-11-2	8.25	16.5	8.25	ug/kg	U	**R**	**D**
Aroclor-1016	12674-11-2	8.25	16.5	8.25	ug/kg	U	**U**	

Analysis Method 8270C

Sample Name LL4SS-212M-1202-SO **AnalysisType:** RES

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
bis(2-Chloroisopropyl)ether	39638-32-9	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Diethylphthalate	84-66-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Dibenzofuran	132-64-9	82.6	165	82.6	ug/kg	U	**R**	**C**
Dibenzo(a,h)Anthracene	53-70-3	82.6	165	82.6	ug/kg	U	**R**	**C**
Di-n-octylphthalate	117-84-0	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Di-N-Butylphthalate	84-74-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Chrysene	218-01-9	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Carbazole	86-74-8	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Bis(2-Chloroethoxy)Methane	111-91-1	82.6	165	82.6	ug/kg	U	**UJ**	**S,C**
bis(2-Ethylhexyl)phthalate	117-81-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Bis(2-Chloroethyl)ether	111-44-4	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Dimethylphthalate	131-11-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**
N-Nitrosodiphenylamine	86-30-6	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Benzyl alcohol	100-51-6	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Benzoic acid	65-85-0	330	5010	330	ug/kg	U	**R**	**C**
Butylbenzylphthalate	85-68-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Isophorone	78-59-1	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Benzo(b)fluoranthene	205-99-2	86.7	165	82.6	ug/kg	J	**J**	**S**
Benzo(g,h,i)Perylene	191-24-2	82.6	165	82.6	ug/kg	U	**R**	**C**
Fluorene	86-73-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Hexachlorobenzene	118-74-1	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Hexachlorobutadiene	87-68-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Hexachlorocyclopentadiene	77-47-4	82.6	165	82.6	ug/kg	U	**R**	**C**
Naphthalene	91-20-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Indeno(1,2,3-cd)pyrene	193-39-5	82.6	165	82.6	ug/kg	U	**R**	**C**
Fluoranthene	206-44-0	82.7	165	82.6	ug/kg	J	**J**	**S**
N-NITROSODIPROPYLAMINE	621-64-7	82.6	165	82.6	ug/kg	U	**UJ**	**S,C**
Nitrobenzene	98-95-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Pentachlorophenol	87-86-5	412	826	412	ug/kg	U	**UJ**	**S,C**
Phenanthrene	85-01-8	82.6	165	82.6	ug/kg	U	**UJ**	**S**

Analysis Method 8270C

Phenol	108-95-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Pyrene	129-00-0	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Hexachloroethane	67-72-1	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2,4-Dichlorophenol	120-83-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2-Nitroaniline	88-74-4	412	826	412	ug/kg	U	**UJ**	**S**
2-Methylphenol	95-48-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2-Methylnaphthalene	91-57-6	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2-Chlorophenol	95-57-8	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2-Chloronaphthalene	91-58-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2,6-Dinitrotoluene	606-20-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2-Nitrophenol	88-75-5	82.6	165	82.6	ug/kg	U	**UJ**	**S,C**
2,4-Dinitrophenol	51-28-5	412	826	412	ug/kg	U	**R**	**C**
2,4-Dimethylphenol	105-67-9	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2,4,5-Trichlorophenol	95-95-4	82.6	165	82.6	ug/kg	U	**UJ**	**S**
1,4-Dichlorobenzene	106-46-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
1,3-Dichlorobenzene	541-73-1	82.6	165	82.6	ug/kg	U	**UJ**	**S**
1,2-Dichlorobenzene	95-50-1	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Benzo(k)fluoranthene	207-08-9	82.6	165	82.6	ug/kg	U	**UJ**	**S**
1,2,4-Trichlorobenzene	120-82-1	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2,4-Dinitrotoluene	121-14-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Acenaphthene	83-32-9	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Benzo(a)pyrene	50-32-8	82.6	165	82.6	ug/kg	U	**UJ**	**S**
2,4,6-Trichlorophenol	88-06-2	82.6	165	82.6	ug/kg	U	**UJ**	**S**
3,3'-Dichlorobenzidine	91-94-1	165	330	165	ug/kg	U	**UJ**	**S**
Benzo(a)anthracene	56-55-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**
Acenaphthylene	208-96-8	82.6	165	82.6	ug/kg	U	**UJ**	**S**
4-Nitrophenol	100-02-7	412	826	412	ug/kg	U	**UJ**	**S,C**
4-Nitroaniline	100-01-6	412	826	412	ug/kg	U	**UJ**	**S**
4,6-Dinitro-2-methylphenol	534-52-1	412	826	412	ug/kg	U	**R**	**C**
4-Chloroaniline	106-47-8	82.6	165	82.6	ug/kg	U	**UJ**	**S**
3-,4-Methylphenol	106-44-5	82.6	165	82.6	ug/kg	U	**UJ**	**S**
4-Chloro-3-methylphenol	59-50-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
4-Bromophenyl-phenylether	101-55-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**
4-Chlorophenyl-phenyl ether	7005-72-3	82.6	165	82.6	ug/kg	U	**UJ**	**S**

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Anthracene	120-12-7	82.6	165	82.6	ug/kg	U	**UJ**	**S**
3-Nitroaniline	99-09-2	412	826	412	ug/kg	U	**UJ**	**S**

Analysis Method 8270C

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Benzo(a)pyrene	50-32-8	163	165	82.5	ug/kg	J	**J**	**S**
Benzo(a)anthracene	56-55-3	153	165	82.5	ug/kg	J	**J**	**S**
Anthracene	120-12-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Acenaphthylene	208-96-8	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Chrysene	218-01-9	177	165	82.5	ug/kg		**J-**	**S**
Benzo(b)fluoranthene	205-99-2	178	165	82.5	ug/kg		**J-**	**S**
Butylbenzylphthalate	85-68-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
4-Chlorophenyl-phenyl ether	7005-72-3	82.5	165	82.5	ug/kg	U	**UJ**	**S**
4-Chloroaniline	106-47-8	82.5	165	82.5	ug/kg	U	**UJ**	**S**
4-Nitrophenol	100-02-7	412	825	412	ug/kg	U	**UJ**	**S**
Benzo(g,h,i)Perylene	191-24-2	82.5	165	82.5	ug/kg	U	**R**	**C**
Benzo(k)fluoranthene	207-08-9	182	165	82.5	ug/kg		**J-**	**S**
Benzoic acid	65-85-0	330	5000	330	ug/kg	U	**R**	**C**
Benzyl alcohol	100-51-6	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Bis(2-Chloroethoxy)Methane	111-91-1	82.5	165	82.5	ug/kg	U	**UJ**	**S,C**
Bis(2-Chloroethyl)ether	111-44-4	82.5	165	82.5	ug/kg	U	**UJ**	**S**
bis(2-Ethylhexyl)phthalate	117-81-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Carbazole	86-74-8	82.5	165	82.5	ug/kg	U	**UJ**	**S**
4-Chloro-3-methylphenol	59-50-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2,4,5-Trichlorophenol	95-95-4	82.5	165	82.5	ug/kg	U	**UJ**	**S**
bis(2-Chloroisopropyl)ether	39638-32-9	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2-Chloronaphthalene	91-58-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Di-N-Butylphthalate	84-74-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
1,2,4-Trichlorobenzene	120-82-1	82.5	165	82.5	ug/kg	U	**UJ**	**S**
1,2-Dichlorobenzene	95-50-1	82.5	165	82.5	ug/kg	U	**UJ**	**S**
1,3-Dichlorobenzene	541-73-1	82.5	165	82.5	ug/kg	U	**UJ**	**S**
1,4-Dichlorobenzene	106-46-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Acenaphthene	83-32-9	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2,4,6-Trichlorophenol	88-06-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2,4-Dimethylphenol	105-67-9	82.5	165	82.5	ug/kg	U	**UJ**	**S**

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2,4-Dinitrophenol	51-28-5	412	825	412	ug/kg	U	**R**	**C**
2,4-Dichlorophenol	120-83-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2,6-Dinitrotoluene	606-20-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
4-Bromophenyl-phenylether	101-55-3	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2-Chlorophenol	95-57-8	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2-Methylnaphthalene	91-57-6	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2-Methylphenol	95-48-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
2-Nitroaniline	88-74-4	412	825	412	ug/kg	U	**UJ**	**S**
2-Nitrophenol	88-75-5	82.5	165	82.5	ug/kg	U	**UJ**	**S,C**
3,3'-Dichlorobenzidine	91-94-1	165	330	165	ug/kg	U	**UJ**	**S**
3-,4-Methylphenol	106-44-5	82.5	165	82.5	ug/kg	U	**UJ**	**S**
3-Nitroaniline	99-09-2	412	825	412	ug/kg	U	**UJ**	**S**
4,6-Dinitro-2-methylphenol	534-52-1	412	825	412	ug/kg	U	**R**	**C**
2,4-Dinitrotoluene	121-14-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Pentachlorophenol	87-86-5	412	825	412	ug/kg	U	**UJ**	**S,C**
4-Nitroaniline	100-01-6	412	825	412	ug/kg	U	**UJ**	**S,C**
Di-n-octylphthalate	117-84-0	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Pyrene	129-00-0	308	165	82.5	ug/kg		**J-**	**S**
Phenol	108-95-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Phenanthrene	85-01-8	182	165	82.5	ug/kg		**J-**	**S**
Nitrobenzene	98-95-3	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Naphthalene	91-20-3	82.5	165	82.5	ug/kg	U	**UJ**	**S**
N-NITROSODIPROPYLAMINE	621-64-7	82.5	165	82.5	ug/kg	U	**UJ**	**S,C**
N-Nitrosodiphenylamine	86-30-6	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Isophorone	78-59-1	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Fluoranthene	206-44-0	387	165	82.5	ug/kg		**J-**	**S**
Dibenzofuran	132-64-9	82.5	165	82.5	ug/kg	U	**R**	**C**
Dibenzo(a,h)Anthracene	53-70-3	82.5	165	82.5	ug/kg	U	**R**	**C**
Indeno(1,2,3-cd)pyrene	193-39-5	82.5	165	82.5	ug/kg	U	**R**	**C**
Diethylphthalate	84-66-2	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Dimethylphthalate	131-11-3	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Fluorene	86-73-7	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Hexachlorobenzene	118-74-1	82.5	165	82.5	ug/kg	U	**UJ**	**S**
Hexachlorobutadiene	87-68-3	82.5	165	82.5	ug/kg	U	**UJ**	**S**

Analysis Method 8270C

Hexachlorocyclopentadiene	77-47-4	82.5	165	82.5	ug/kg	U	**R**	**C**
Hexachloroethane	67-72-1	82.5	165	82.5	ug/kg	U	**UJ**	**S**

Analysis Method 8270C

Sample Name LL4SS-212M-1205-SO **AnalysisType:** RES

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Di-n-octylphthalate	117-84-0	81.7	163	81.7	ug/kg	U	UJ	S
Benzoic acid	65-85-0	327	4950	327	ug/kg	U	R	C
Butylbenzylphthalate	85-68-7	81.7	163	81.7	ug/kg	U	UJ	S
Chrysene	218-01-9	81.7	163	81.7	ug/kg	U	UJ	S
Carbazole	86-74-8	81.7	163	81.7	ug/kg	U	UJ	S
Di-N-Butylphthalate	84-74-2	81.7	163	81.7	ug/kg	U	UJ	S
bis(2-Ethylhexyl)phthalate	117-81-7	81.7	163	81.7	ug/kg	U	UJ	S
bis(2-Chloroisopropyl)ether	39638-32-9	81.7	163	81.7	ug/kg	U	UJ	S
Bis(2-Chloroethyl)ether	111-44-4	81.7	163	81.7	ug/kg	U	UJ	S
Benzo(k)fluoranthene	207-08-9	81.7	163	81.7	ug/kg	U	UJ	S
Benzyl alcohol	100-51-6	81.7	163	81.7	ug/kg	U	UJ	S
Dibenzo(a,h)Anthracene	53-70-3	81.7	163	81.7	ug/kg	U	R	C
N-NITROSODIPROPYLAMINE	621-64-7	81.7	163	81.7	ug/kg	U	UJ	S,C
Bis(2-Chloroethoxy)Methane	111-91-1	81.7	163	81.7	ug/kg	U	UJ	S,C
Dibenzofuran	132-64-9	81.7	163	81.7	ug/kg	U	R	C
Diethylphthalate	84-66-2	81.7	163	81.7	ug/kg	U	UJ	S
Dimethylphthalate	131-11-3	81.7	163	81.7	ug/kg	U	UJ	S
Fluoranthene	206-44-0	154	163	81.7	ug/kg	J	J	S
Hexachlorobenzene	118-74-1	81.7	163	81.7	ug/kg	U	UJ	S
Hexachlorocyclopentadiene	77-47-4	81.7	163	81.7	ug/kg	U	R	C
Hexachloroethane	67-72-1	81.7	163	81.7	ug/kg	U	UJ	S
Indeno(1,2,3-cd)pyrene	193-39-5	81.7	163	81.7	ug/kg	U	R	C
Benzo(g,h,i)Perylene	191-24-2	81.7	163	81.7	ug/kg	U	R	C
N-Nitrosodiphenylamine	86-30-6	81.7	163	81.7	ug/kg	U	UJ	S
4-Bromophenyl-phenylether	101-55-3	81.7	163	81.7	ug/kg	U	UJ	S
Naphthalene	91-20-3	81.7	163	81.7	ug/kg	U	UJ	S
Nitrobenzene	98-95-3	81.7	163	81.7	ug/kg	U	UJ	S
Pentachlorophenol	87-86-5	408	817	408	ug/kg	U	UJ	S,C
Isophorone	78-59-1	81.7	163	81.7	ug/kg	U	UJ	S
2,4-Dinitrophenol	51-28-5	408	817	408	ug/kg	U	R	C

Analysis Method 8270C

4-Chloroaniline	106-47-8	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2-Methylphenol	95-48-7	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2-Methylnaphthalene	91-57-6	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2-Chlorophenol	95-57-8	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2-Chloronaphthalene	91-58-7	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2-Nitrophenol	88-75-5	81.7	163	81.7	ug/kg	U	**UJ**	**S,C**
2,4-Dinitrotoluene	121-14-2	81.7	163	81.7	ug/kg	U	**UJ**	**S**
3,3'-Dichlorobenzidine	91-94-1	163	327	163	ug/kg	U	**UJ**	**S**
2,4-Dimethylphenol	105-67-9	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2,4-Dichlorophenol	120-83-2	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2,4,6-Trichlorophenol	88-06-2	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2,4,5-Trichlorophenol	95-95-4	81.7	163	81.7	ug/kg	U	**UJ**	**S**
1,4-Dichlorobenzene	106-46-7	81.7	163	81.7	ug/kg	U	**UJ**	**S**
1,3-Dichlorobenzene	541-73-1	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2,6-Dinitrotoluene	606-20-2	81.7	163	81.7	ug/kg	U	**UJ**	**S**
4-Chlorophenyl-phenyl ether	7005-72-3	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Benzo(a)pyrene	50-32-8	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Benzo(a)anthracene	56-55-3	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Anthracene	120-12-7	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Acenaphthylene	208-96-8	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Acenaphthene	83-32-9	81.7	163	81.7	ug/kg	U	**UJ**	**S**
2-Nitroaniline	88-74-4	408	817	408	ug/kg	U	**UJ**	**S**
4-Nitroaniline	100-01-6	408	817	408	ug/kg	U	**UJ**	**S**
Benzo(b)fluoranthene	205-99-2	82.9	163	81.7	ug/kg	J	**J**	**S**
Phenanthrene	85-01-8	81.7	163	81.7	ug/kg	U	**UJ**	**S**
4-Chloro-3-methylphenol	59-50-7	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Hexachlorobutadiene	87-68-3	81.7	163	81.7	ug/kg	U	**UJ**	**S**
4,6-Dinitro-2-methylphenol	534-52-1	408	817	408	ug/kg	U	**R**	**C**
3-Nitroaniline	99-09-2	408	817	408	ug/kg	U	**UJ**	**S**
3-,4-Methylphenol	106-44-5	81.7	163	81.7	ug/kg	U	**UJ**	**S**
4-Nitrophenol	100-02-7	408	817	408	ug/kg	U	**UJ**	**S,C**
Fluorene	86-73-7	81.7	163	81.7	ug/kg	U	**UJ**	**S**
Phenol	108-95-2	81.7	163	81.7	ug/kg	U	**UJ**	**S**
1,2-Dichlorobenzene	95-50-1	81.7	163	81.7	ug/kg	U	**UJ**	**S**

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Pyrene	129-00-0	125	163	81.7	ug/kg	J	**J**	**S**
1,2,4-Trichlorobenzene	120-82-1	81.7	163	81.7	ug/kg	U	**UJ**	**S**

Analysis Method 8330

Sample Name LL4SS-209M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08070074-11 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3-Dinitrobenzene	99-65-0	0.100	0.251	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.100	0.251	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.251	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.251	0.100	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.100	0.251	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.100	0.251	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.251	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.251	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.100	0.251	0.100	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.100	0.251	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.251	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.251	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.251	0.100	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.100	0.251	0.100	mg/kg	U	**U**	
PETN	78-11-5	0.502	1.50	0.502	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.251	0.100	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-209M-1198-SO **AnalysisType:** RES

Lab Sample Name: L08070074-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
RDX	121-82-4	0.101	0.251	0.101	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.101	0.251	0.101	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.101	0.251	0.101	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.101	0.251	0.101	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.101	0.251	0.101	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.101	0.251	0.101	mg/kg	U	**U**	
PETN	78-11-5	0.503	1.51	0.503	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.101	0.251	0.101	mg/kg	U	**U**	
Tetryl	479-45-8	0.101	0.251	0.101	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.101	0.251	0.101	mg/kg	U	**U**	
HMX	2691-41-0	0.101	0.251	0.101	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.101	0.251	0.101	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.101	0.251	0.101	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.101	0.251	0.101	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.101	0.251	0.101	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.101	0.251	0.101	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-209M-1199-SO **AnalysisType:** RES

Lab Sample Name: L08070074-13 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene	99-35-4	0.0994	0.249	0.0994	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0994	0.249	0.0994	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0994	0.249	0.0994	mg/kg	U	**U**	
Tetryl	479-45-8	0.0994	0.249	0.0994	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
RDX	121-82-4	0.0994	0.249	0.0994	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0994	0.249	0.0994	mg/kg	U	**U**	
HMX	2691-41-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0994	0.249	0.0994	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0994	0.249	0.0994	mg/kg	U	**U**	
PETN	78-11-5	0.497	1.49	0.497	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-212M-1202-SO **AnalysisType:** RES

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitrobenzene	98-95-3	0.0993	0.248	0.0993	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
PETN	78-11-5	0.497	1.49	0.497	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
RDX	121-82-4	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
HMX	2691-41-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0993	0.248	0.0993	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0993	0.248	0.0993	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0993	0.248	0.0993	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0993	0.248	0.0993	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0993	0.248	0.0993	mg/kg	U	**U**	
Tetryl	479-45-8	0.0993	0.248	0.0993	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2-Nitrotoluene	88-72-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0991	0.248	0.0991	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0991	0.248	0.0991	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0991	0.248	0.0991	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0991	0.248	0.0991	mg/kg	U	**U**	
HMX	2691-41-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0991	0.248	0.0991	mg/kg	U	**U**	
RDX	121-82-4	0.0991	0.248	0.0991	mg/kg	U	**U**	
Tetryl	479-45-8	0.0991	0.248	0.0991	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0991	0.248	0.0991	mg/kg	U	**U**	
PETN	78-11-5	0.496	1.49	0.496	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0991	0.248	0.0991	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-212M-1205-SO **AnalysisType:** RES

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2-Amino-4,6-dinitrotoluene	35572-78-2	0.100	0.250	0.100	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.100	0.250	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.250	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.250	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.250	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.250	0.100	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.100	0.250	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.250	0.100	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.100	0.250	0.100	mg/kg	U	**U**	
PETN	78-11-5	0.501	1.50	0.501	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.250	0.100	mg/kg	U	**U**	

Analysis Method SM3500Cr-D 7196A

Sample Name LL4SS-209M-1196-SO **AnalysisType:** RES

Lab Sample Name: L08070074-11 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.253	0.506	0.253	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-209M-1198-SO **AnalysisType:** RES

Lab Sample Name: L08070074-12 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.0499	0.0999	0.0499	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-209M-1199-SO **AnalysisType:** RES

Lab Sample Name: L08070074-13 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.506	1.01	0.506	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-212M-1202-SO **AnalysisType:** RES

Lab Sample Name: L08070074-08 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.245	0.491	0.245	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-212M-1204-SO **AnalysisType:** RES

Lab Sample Name: L08070074-09 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.101	0.201	0.101	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-212M-1205-SO **AnalysisType:** RES

Lab Sample Name: L08070074-10 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.244	0.488	0.244	mg/kg	U	**UJ**	**Q**

Validated Sample Result Forms: L08070111

Analysis Method 6010B

Sample Name LL4SS-220M-1217-SO **AnalysisType:** RES

Lab Sample Name: L08070111-02 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Zinc	7440-66-6	48.7	0.772	0.386	mg/kg			
Magnesium	7439-95-4	1170	19.3	9.27	mg/kg			
Potassium	7440-09-7	427	38.6	19.3	mg/kg			
Iron	7439-89-6	12900	1.54	0.772	mg/kg			
Copper	7440-50-8	16.8	0.193	0.0927	mg/kg			
Chromium	7440-47-3	6.67	0.193	0.0927	mg/kg			
Cobalt	7440-48-4	3.23	0.193	0.0927	mg/kg			
Cadmium	7440-43-9	0.331	0.0772	0.0386	mg/kg			
Calcium	7440-70-2	1000	7.72	3.86	mg/kg			
Beryllium	7440-41-7	0.231	0.0193	0.00927	mg/kg			
Barium	7440-39-3	19.0	0.386	0.0772	mg/kg			
Silver	7440-22-4	0.193	0.386	0.193	mg/kg	U	**U**	
Aluminum	7429-90-5	5330	15.4	7.72	mg/kg			
Sodium	7440-23-5	23.1	19.3	3.86	mg/kg	B	**U**	**B**
Manganese	7439-96-5	131	0.386	0.0772	mg/kg			
Vanadium	7440-62-2	8.43	0.386	0.193	mg/kg			

Analysis Method 6010B

Sample Name LL4SS-220M-1221-SO **AnalysisType:** RES

Lab Sample Name: L08070111-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Copper	7440-50-8	17.5	0.187	0.0900	mg/kg			
Zinc	7440-66-6	49.7	0.750	0.375	mg/kg			
Vanadium	7440-62-2	8.40	0.375	0.187	mg/kg			
Sodium	7440-23-5	21.0	18.7	3.75	mg/kg	B	**U**	**B**
Manganese	7439-96-5	134	0.375	0.0750	mg/kg			
Magnesium	7439-95-4	1110	18.7	9.00	mg/kg			
Silver	7440-22-4	0.187	0.375	0.187	mg/kg	U	**U**	
Iron	7439-89-6	13400	1.50	0.750	mg/kg			
Chromium	7440-47-3	6.86	0.187	0.0900	mg/kg			
Cobalt	7440-48-4	3.39	0.187	0.0900	mg/kg			
Cadmium	7440-43-9	0.346	0.0750	0.0375	mg/kg			
Calcium	7440-70-2	820	7.50	3.75	mg/kg			
Beryllium	7440-41-7	0.232	0.0187	0.00900	mg/kg			
Aluminum	7429-90-5	5400	15.0	7.50	mg/kg			
Potassium	7440-09-7	370	37.5	18.7	mg/kg			
Barium	7440-39-3	19.4	0.375	0.0750	mg/kg			

Analysis Method 6010B

Sample Name LL4SS-220M-1222-SO **AnalysisType:** RES

Lab Sample Name: L08070111-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Copper	7440-50-8	17.6	0.198	0.0952	mg/kg			
Barium	7440-39-3	17.9	0.396	0.0793	mg/kg			
Beryllium	7440-41-7	0.226	0.0198	0.00952	mg/kg			
Calcium	7440-70-2	824	7.93	3.96	mg/kg			
Cadmium	7440-43-9	0.329	0.0793	0.0396	mg/kg			
Silver	7440-22-4	0.198	0.396	0.198	mg/kg	U	**U**	
Chromium	7440-47-3	6.61	0.198	0.0952	mg/kg			
Aluminum	7429-90-5	5270	15.9	7.93	mg/kg			
Iron	7439-89-6	12900	1.59	0.793	mg/kg			
Potassium	7440-09-7	326	39.6	19.8	mg/kg			
Magnesium	7439-95-4	1090	19.8	9.52	mg/kg			
Manganese	7439-96-5	122	0.396	0.0793	mg/kg			
Sodium	7440-23-5	19.8	19.8	3.96	mg/kg	U	**U**	
Vanadium	7440-62-2	7.84	0.396	0.198	mg/kg			
Cobalt	7440-48-4	3.20	0.198	0.0952	mg/kg			
Zinc	7440-66-6	47.6	0.793	0.396	mg/kg			

Analysis Method 6020

Sample Name LL4SS-220M-1217-SO **AnalysisType:** RES

Lab Sample Name: L08070111-02 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nickel	7440-02-0	12.4	0.795	0.199	mg/kg			
Lead	7439-92-1	11.6	0.199	0.0994	mg/kg		**J-**	**A**
Arsenic	7440-38-2	7.99	0.298	0.0745	mg/kg		**J-**	**A**
Antimony	7440-36-0	0.0497	0.0994	0.0497	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.138	0.199	0.0994	mg/kg	J	**J**	
Thallium	7440-28-0	0.0741	0.0199	0.00994	mg/kg			

Sample Name LL4SS-220M-1221-SO **AnalysisType:** RES

Lab Sample Name: L08070111-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Arsenic	7440-38-2	7.85	0.308	0.0771	mg/kg		**J-**	**A**
Lead	7439-92-1	12.0	0.205	0.103	mg/kg		**J-**	**A**
Antimony	7440-36-0	0.0514	0.103	0.0514	mg/kg	U	**R**	**Q**
Selenium	7782-49-2	0.166	0.205	0.103	mg/kg	J	**J**	
Thallium	7440-28-0	0.0777	0.0205	0.0103	mg/kg			
Nickel	7440-02-0	12.4	0.822	0.205	mg/kg			

Sample Name LL4SS-220M-1222-SO **AnalysisType:** RES

Lab Sample Name: L08070111-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony	7440-36-0	0.0518	0.104	0.0518	mg/kg	U	**R**	**Q**
Thallium	7440-28-0	0.0738	0.0207	0.0104	mg/kg			
Arsenic	7440-38-2	7.98	0.311	0.0777	mg/kg		**J-**	**A**
Lead	7439-92-1	12.4	0.207	0.104	mg/kg		**J-**	**A**
Selenium	7782-49-2	0.180	0.207	0.104	mg/kg	J	**J**	
Nickel	7440-02-0	19.0	0.829	0.207	mg/kg			

Analysis Method 7471A

Sample Name LL4SS-220M-1217-SO **AnalysisType:** RES

Lab Sample Name: L08070111-02 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0100	0.100	0.0100	mg/kg	U	**U**	

Sample Name LL4SS-220M-1221-SO **AnalysisType:** RES

Lab Sample Name: L08070111-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0125	0.102	0.0102	mg/kg	J	**J**	

Sample Name LL4SS-220M-1222-SO **AnalysisType:** RES

Lab Sample Name: L08070111-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Mercury	7439-97-6	0.0104	0.104	0.0104	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-220M-1217-SO **AnalysisType:** RES

Lab Sample Name: L08070111-02 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2-Nitrotoluene	88-72-2	0.100	0.250	0.100	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.100	0.250	0.100	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.100	0.250	0.100	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.100	0.250	0.100	mg/kg	U	**U**	
PETN	78-11-5	0.500	1.50	0.500	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.100	0.250	0.100	mg/kg	U	**U**	
RDX	121-82-4	0.100	0.250	0.100	mg/kg	U	**U**	
HMX	2691-41-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.100	0.250	0.100	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.100	0.250	0.100	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.100	0.250	0.100	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.100	0.250	0.100	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.100	0.250	0.100	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.100	0.250	0.100	mg/kg	U	**U**	
Tetryl	479-45-8	0.100	0.250	0.100	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-220M-1221-SO **AnalysisType:** RES

Lab Sample Name: L08070111-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
PETN	78-11-5	0.499	1.50	0.499	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
Tetryl	479-45-8	0.0998	0.250	0.0998	mg/kg	U	**U**	
RDX	121-82-4	0.0998	0.250	0.0998	mg/kg	U	**U**	
HMX	2691-41-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0998	0.250	0.0998	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0998	0.250	0.0998	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0998	0.250	0.0998	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0998	0.250	0.0998	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0998	0.250	0.0998	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0998	0.250	0.0998	mg/kg	U	**U**	

Analysis Method 8330

Sample Name LL4SS-220M-1222-SO **AnalysisType:** RES

Lab Sample Name: L08070111-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
HMX	2691-41-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
Nitrobenzene	98-95-3	0.0996	0.249	0.0996	mg/kg	U	**U**	
RDX	121-82-4	0.0996	0.249	0.0996	mg/kg	U	**U**	
Tetryl	479-45-8	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene	19406-51-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
PETN	78-11-5	0.498	1.49	0.498	mg/kg	U	**U**	
2,6-Dinitrotoluene	606-20-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
Nitroglycerin	55-63-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
4-Nitrotoluene	99-99-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
3-Nitrotoluene	99-08-1	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene	35572-78-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2,4-Dinitrotoluene	121-14-2	0.0996	0.249	0.0996	mg/kg	U	**U**	
2,4,6-Trinitrotoluene	118-96-7	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3-Dinitrobenzene	99-65-0	0.0996	0.249	0.0996	mg/kg	U	**U**	
1,3,5-Trinitrobenzene	99-35-4	0.0996	0.249	0.0996	mg/kg	U	**U**	
2-Nitrotoluene	88-72-2	0.0996	0.249	0.0996	mg/kg	U	**U**	

Analysis Method SM3500Cr-D 7196A

Sample Name LL4SS-220M-1217-SO **AnalysisType:** RES

Lab Sample Name: L08070111-02 **Validation Level:** IV

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.506	1.01	0.506	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-220M-1221-SO **AnalysisType:** RES

Lab Sample Name: L08070111-05 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.506	1.01	0.506	mg/kg	U	**UJ**	**Q**

Sample Name LL4SS-220M-1222-SO **AnalysisType:** RES

Lab Sample Name: L08070111-06 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chromium, Hexavalent, Leachable	7440-47-3	0.516	1.03	0.516	mg/kg	U	**UJ**	**Q**

APPENDIX B

Sample Qualification Summary

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060612	LL2SS-278M-1231-SO	3,3'-Dichlorobenzidine	163	ug/kg	UJ	C
L08060612	LL2SS-278M-1231-SO	4,4'-DDD	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	4,4'-DDE	32	ug/kg	J	H,-,$
L08060612	LL2SS-278M-1231-SO	4,4'-DDT	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Aldrin	3.41	ug/kg	UJ	L
L08060612	LL2SS-278M-1231-SO	alpha Chlordane	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	alpha-BHC	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Antimony	0.049	mg/kg	R	Q
L08060612	LL2SS-278M-1231-SO	Arsenic	12.1	mg/kg	J-	Q
L08060612	LL2SS-278M-1231-SO	Benzo(g,h,i)Perylene	81.7	ug/kg	UJ	C
L08060612	LL2SS-278M-1231-SO	Benzoic acid	327	ug/kg	R	C
L08060612	LL2SS-278M-1231-SO	beta-BHC	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	bis(2-Ethylhexyl)phthalate	81.7	ug/kg	UJ	C
L08060612	LL2SS-278M-1231-SO	Chromium	27.2	mg/kg	J-	A
L08060612	LL2SS-278M-1231-SO	Hexavalent Chromium	0.046	mg/kg	UJ	Q
L08060612	LL2SS-278M-1231-SO	Cobalt	7.41	mg/kg	J-	A
L08060612	LL2SS-278M-1231-SO	delta-BHC	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Dibenzo(a,h)Anthracene	81.7	ug/kg	UJ	C
L08060612	LL2SS-278M-1231-SO	Dieldrin	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Di-n-octylphthalate	81.7	ug/kg	UJ	L,C
L08060612	LL2SS-278M-1231-SO	Endosulfan I	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Endosulfan II	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Endosulfan sulfate	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Endrin	5.62	ug/kg	J	H,-,$,*III
L08060612	LL2SS-278M-1231-SO	Endrin aldehyde	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Endrin ketone	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	gamma Chlordane	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	gamma-BHC (Lindane)	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Heptachlor	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Heptachlor epoxide	2.04	ug/kg	J	H,-,$,*III
L08060612	LL2SS-278M-1231-SO	Hexachlorocyclopentadiene	81.7	ug/kg	R	C
L08060612	LL2SS-278M-1231-SO	Indeno(1,2,3-cd)pyrene	81.7	ug/kg	UJ	C
L08060612	LL2SS-278M-1231-SO	Iron	20200	mg/kg	J-	A
L08060612	LL2SS-278M-1231-SO	Manganese	324	mg/kg	J-	A
L08060612	LL2SS-278M-1231-SO	Methoxychlor	3.41	ug/kg	UJ	H
L08060612	LL2SS-278M-1231-SO	Nickel	28.2	mg/kg	J	E
L08060612	LL2SS-278M-1231-SO	N-Nitrosodiphenylamine	81.7	ug/kg	UJ	L
L08060612	LL2SS-278M-1231-SO	Potassium	934	mg/kg	J+	Q
L08060612	LL2SS-278M-1231-SO	Silver	0.179	mg/kg	UJ	C
L08060612	LL2SS-278M-1231-SO	Toxaphene	173	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	3,3'-Dichlorobenzidine	164	ug/kg	UJ	C
L08060612	LL2SS-278M-1233-SO	4,4'-DDD	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	4,4'-DDE	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	4,4'-DDT	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Aldrin	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	alpha Chlordane	3.33	ug/kg	UJ	H

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060612	LL2SS-278M-1233-SO	alpha-BHC	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Antimony	0.049	mg/kg	R	Q
L08060612	LL2SS-278M-1233-SO	Arsenic	12.4	mg/kg	J-	Q
L08060612	LL2SS-278M-1233-SO	Benzo(g,h,i)Perylene	82	ug/kg	UJ	C
L08060612	LL2SS-278M-1233-SO	Benzoic acid	328	ug/kg	R	C
L08060612	LL2SS-278M-1233-SO	beta-BHC	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	bis(2-Chloroisopropyl)ether	82	ug/kg	UJ	Q
L08060612	LL2SS-278M-1233-SO	bis(2-Ethylhexyl)phthalate	82	ug/kg	UJ	C
L08060612	LL2SS-278M-1233-SO	Chromium	23.5	mg/kg	J-	A
L08060612	LL2SS-278M-1233-SO	Hexavalent Chromium	0.077	mg/kg	J-	Q
L08060612	LL2SS-278M-1233-SO	Cobalt	8.12	mg/kg	J-	A
L08060612	LL2SS-278M-1233-SO	delta-BHC	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Dibenzo(a,h)Anthracene	82	ug/kg	UJ	C
L08060612	LL2SS-278M-1233-SO	Dieldrin	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Di-n-octylphthalate	82	ug/kg	UJ	L,C
L08060612	LL2SS-278M-1233-SO	Endosulfan I	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Endosulfan II	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Endosulfan sulfate	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Endrin	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Endrin aldehyde	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Endrin ketone	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	gamma Chlordane	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	gamma-BHC (Lindane)	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Heptachlor	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Heptachlor epoxide	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Hexachlorocyclopentadiene	82	ug/kg	R	C
L08060612	LL2SS-278M-1233-SO	Indeno(1,2,3-cd)pyrene	82	ug/kg	UJ	C
L08060612	LL2SS-278M-1233-SO	Iron	20600	mg/kg	J-	A
L08060612	LL2SS-278M-1233-SO	Manganese	368	mg/kg	J-	A
L08060612	LL2SS-278M-1233-SO	Methoxychlor	3.33	ug/kg	UJ	H
L08060612	LL2SS-278M-1233-SO	Nickel	180	mg/kg	J	E
L08060612	LL2SS-278M-1233-SO	N-Nitrosodiphenylamine	82	ug/kg	UJ	L
L08060612	LL2SS-278M-1233-SO	Potassium	878	mg/kg	J+	Q
L08060612	LL2SS-278M-1233-SO	Silver	0.236	mg/kg	J	C
L08060612	LL2SS-278M-1233-SO	Toxaphene	168	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	3,3'-Dichlorobenzidine	168	ug/kg	UJ	C
L08060612	LL2SS-278M-1234-SO	4,4'-DDD	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	4,4'-DDE	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	4,4'-DDT	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Aldrin	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	alpha Chlordane	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	alpha-BHC	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Antimony	0.049	mg/kg	R	Q
L08060612	LL2SS-278M-1234-SO	Arsenic	10.4	mg/kg	J-	Q
L08060612	LL2SS-278M-1234-SO	Benzo(g,h,i)Perylene	83.8	ug/kg	UJ	C
L08060612	LL2SS-278M-1234-SO	Benzoic acid	335	ug/kg	R	C

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060612	LL2SS-278M-1234-SO	beta-BHC	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	bis(2-Ethylhexyl)phthalate	83.8	ug/kg	UJ	C
L08060612	LL2SS-278M-1234-SO	Chromium	22.1	mg/kg	J-	A
L08060612	LL2SS-278M-1234-SO	Hexavalent Chromium	0.046	mg/kg	UJ	Q
L08060612	LL2SS-278M-1234-SO	Cobalt	8	mg/kg	J-	A
L08060612	LL2SS-278M-1234-SO	delta-BHC	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Dibenzo(a,h)Anthracene	83.8	ug/kg	UJ	C
L08060612	LL2SS-278M-1234-SO	Dieldrin	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Di-n-octylphthalate	83.8	ug/kg	UJ	L,C
L08060612	LL2SS-278M-1234-SO	Endosulfan I	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Endosulfan II	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Endosulfan sulfate	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Endrin	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Endrin aldehyde	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Endrin ketone	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	gamma Chlordane	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	gamma-BHC (Lindane)	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Heptachlor	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Heptachlor epoxide	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Hexachlorocyclopentadiene	83.8	ug/kg	R	C
L08060612	LL2SS-278M-1234-SO	Indeno(1,2,3-cd)pyrene	83.8	ug/kg	-J	C
L08060612	LL2SS-278M-1234-SO	Iron	21100	mg/kg	J-	A
L08060612	LL2SS-278M-1234-SO	Manganese	338	mg/kg	J-	A
L08060612	LL2SS-278M-1234-SO	Methoxychlor	3.29	ug/kg	UJ	H
L08060612	LL2SS-278M-1234-SO	Nickel	35.4	mg/kg	J	F
L08060612	LL2SS-278M-1234-SO	N-Nitrosodiphenylamine	83.8	ug/kg	UJ	L
L08060612	LL2SS-278M-1234-SO	Potassium	966	mg/kg	J+	Q
L08060612	LL2SS-278M-1234-SO	Silver	0.714	mg/kg	J-	C
L08060612	LL2SS-278M-1234-SO	Toxaphene	166	ug/kg	UJ	H
L08060612	LL2SS-280D-1237-SO	Acetone	6.13	ug/kg	R	C
L08060612	LL2SS-280D-1237-SO	Styrene	0.613	ug/kg	R	C
L08060612	LL2SS-280D-1239-SO	Acetone	7.63	ug/kg	R	C
L08060612	LL2SS-280D-1239-SO	Styrene	0.763	ug/kg	R	C
L08060612	LL2SS-288M-1251-SO	3,3'-Dichlorobenzidine	167	ug/kg	UJ	C
L08060612	LL2SS-288M-1251-SO	4,4'-DDD	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	4,4'-DDE	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	4,4'-DDT	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Aldrin	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	alpha Chlordane	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	alpha-BHC	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Antimony	0.056	mg/kg	J	Q
L08060612	LL2SS-288M-1251-SO	Aroclor-1254	308	ug/kg	J	*III
L08060612	LL2SS-288M-1251-SO	Aroclor-1260	130	ug/kg	J	*III
L08060612	LL2SS-288M-1251-SO	Arsenic	15	mg/kg	J-	Q
L08060612	LL2SS-288M-1251-SO	Benzo(g,h,i)Perylene	83.3	ug/kg	UJ	C
L08060612	LL2SS-288M-1251-SO	Benzoic acid	333	ug/kg	R	C,Q

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060612	LL2SS-288M-1251-SO	beta-BHC	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	bis(2-Chloroisopropyl)ether	83.3	ug/kg	UJ	Q
L08060612	LL2SS-288M-1251-SO	bis(2-Ethylhexyl)phthalate	83.3	ug/kg	UJ	C
L08060612	LL2SS-288M-1251-SO	Chromium	16.4	mg/kg	J-	A
L08060612	LL2SS-288M-1251-SO	Hexavalent Chromium	0.119	mg/kg	J	Q
L08060612	LL2SS-288M-1251-SO	Cobalt	8.74	mg/kg	J-	A
L08060612	LL2SS-288M-1251-SO	delta-BHC	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Dibenzo(a,h)Anthracene	83.3	ug/kg	UJ	C
L08060612	LL2SS-288M-1251-SO	Dieldrin	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Di-n-octylphthalate	83.3	ug/kg	UJ	L,C
L08060612	LL2SS-288M-1251-SO	Endosulfan I	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Endosulfan II	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Endosulfan sulfate	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Endrin	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Endrin aldehyde	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Endrin ketone	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	gamma Chlordane	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	gamma-BHC (Lindane)	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Heptachlor	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Heptachlor epoxide	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Hexachlorocyclopentadiene	83.3	ug/kg	R	C
L08060612	LL2SS-288M-1251-SO	Indeno(1,2,3-cd)pyrene	83.3	ug/kg	UJ	C
L08060612	LL2SS-288M-1251-SO	Iron	23800	mg/kg	J-	A
L08060612	LL2SS-288M-1251-SO	Manganese	349	mg/kg	J-	A
L08060612	LL2SS-288M-1251-SO	Methoxychlor	3.31	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	Nickel	71.6	mg/kg	J	E
L08060612	LL2SS-288M-1251-SO	Nitrocellulose	36.2	mg/kg	J	*III,Q,C
L08060612	LL2SS-288M-1251-SO	Nitroguanidine	127	ug/kg	UJ	H
L08060612	LL2SS-288M-1251-SO	N-Nitrosodiphenylamine	83.3	ug/kg	UJ	L
L08060612	LL2SS-288M-1251-SO	Potassium	1360	mg/kg	J+	Q
L08060612	LL2SS-288M-1251-SO	Silver	0.19	mg/kg	J	C
L08060612	LL2SS-288M-1251-SO	Toxaphene	168	ug/kg	UJ	H
L08060623	LL2SS-305M-1273-SO	Antimony	0.057	mg/kg	R	Q,B
L08060623	LL2SS-305M-1273-SO	Cobalt	5.88	mg/kg	J	Q,A
L08060623	LL2SS-305M-1273-SO	Copper	17.6	mg/kg	J	Q,A
L08060623	LL2SS-305M-1273-SO	Lead	22.9	mg/kg	J-	Q
L08060623	LL2SS-305M-1273-SO	Manganese	345	mg/kg	J-	A
L08060623	LL2SS-305M-1273-SO	Nickel	41.9	mg/kg	J+	Q
L08060623	LL2SS-305M-1273-SO	Potassium	664	mg/kg	J+	Q
L08060623	LL2SS-305M-1273-SO	Silver	0.202	mg/kg	UJ	C
L08060623	LL2SS-305M-1273-SO	Vanadium	12.7	mg/kg	J-	A
L08060623	LL2SS-305M-1273-SO	Zinc	59.5	mg/kg	J-	A
L08060623	LL2SS-305M-1275-SO	Antimony	0.053	mg/kg	R	Q
L08060623	LL2SS-305M-1275-SO	Cobalt	6.38	mg/kg	J	Q,A
L08060623	LL2SS-305M-1275-SO	Copper	17.8	mg/kg	J+	Q
L08060623	LL2SS-305M-1275-SO	Lead	19.5	mg/kg	J-	Q

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060623	LL2SS-305M-1275-SO	Manganese	327	mg/kg	J-	A
L08060623	LL2SS-305M-1275-SO	Nickel	37.8	mg/kg	J+	Q
L08060623	LL2SS-305M-1275-SO	Potassium	812	mg/kg	J+	Q
L08060623	LL2SS-305M-1275-SO	Silver	0.197	mg/kg	UJ	C
L08060623	LL2SS-305M-1275-SO	Vanadium	14.3	mg/kg	J-	A
L08060623	LL2SS-305M-1275-SO	Zinc	60.9	mg/kg	J-	A
L08060623	LL2SS-305M-1276-SO	Antimony	0.053	mg/kg	R	Q
L08060623	LL2SS-305M-1276-SO	Cobalt	5.96	mg/kg	J+	Q,A
L08060623	LL2SS-305M-1276-SO	Copper	17.9	mg/kg	J+	Q
L08060623	LL2SS-305M-1276-SO	Lead	17.9	mg/kg	J-	Q
L08060623	LL2SS-305M-1276-SO	Manganese	299	mg/kg	J	A
L08060623	LL2SS-305M-1276-SO	Nickel	84.9	mg/kg	J+	Q
L08060623	LL2SS-305M-1276-SO	Potassium	652	mg/kg	J+	Q
L08060623	LL2SS-305M-1276-SO	Silver	0.197	mg/kg	UJ	C
L08060623	LL2SS-305M-1276-SO	Vanadium	12.4	mg/kg	J	A
L08060623	LL2SS-305M-1276-SO	Zinc	60.4	mg/kg	J	A
L08060652	LL2SS-285M-1244-SO	2,4,5-Trichlorophenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2,4,6-Trichlorophenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2,4-Dichlorophenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2,4-Dimethylphenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2,4-Dinitrophenol	445	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2-Chlorophenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2-Methylphenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	2-Nitrophenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	3-,4-Methylphenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	4,6-Dinitro-2-methylphenol	445	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	4-Chloro-3-methylphenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	4-Nitrophenol	445	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	Antimony	0.055	mg/kg	R	Q
L08060652	LL2SS-285M-1244-SO	Aroclor-1016	44.4	ug/kg	UJ	L
L08060652	LL2SS-285M-1244-SO	Aroclor-1221	44.4	ug/kg	UJ	H
L08060652	LL2SS-285M-1244-SO	Aroclor-1232	44.4	ug/kg	UJ	H
L08060652	LL2SS-285M-1244-SO	Aroclor-1242	44.4	ug/kg	UJ	H
L08060652	LL2SS-285M-1244-SO	Aroclor-1248	44.4	ug/kg	UJ	H
L08060652	LL2SS-285M-1244-SO	Aroclor-1254	437	ug/kg	J+	H,*III
L08060652	LL2SS-285M-1244-SO	Aroclor-1260	191	ug/kg	J+	H,*III
L08060652	LL2SS-285M-1244-SO	Arsenic	9.75	mg/kg	J-	Q,A
L08060652	LL2SS-285M-1244-SO	Benzo(g,h,i)Perylene	237	ug/kg	J	C
L08060652	LL2SS-285M-1244-SO	Benzoic acid	356	ug/kg	R	C
L08060652	LL2SS-285M-1244-SO	Chromium	14	mg/kg	J-	A
L08060652	LL2SS-285M-1244-SO	Cobalt	7.25	mg/kg	J-	A
L08060652	LL2SS-285M-1244-SO	Dibenzo(a,h)Anthracene	89	ug/kg	UJ	C
L08060652	LL2SS-285M-1244-SO	Hexachlorocyclopentadiene	89	ug/kg	R	C
L08060652	LL2SS-285M-1244-SO	Indeno(1,2,3-cd)pyrene	201	ug/kg	J	C
L08060652	LL2SS-285M-1244-SO	Iron	21200	mg/kg	J-	A
L08060652	LL2SS-285M-1244-SO	Manganese	405	mg/kg	J-	A

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060652	LL2SS-285M-1244-SO	Nickel	22	mg/kg	J-	Q,E
L08060652	LL2SS-285M-1244-SO	Pentachlorophenol	445	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	Phenol	89	ug/kg	UJ	S
L08060652	LL2SS-285M-1244-SO	Selenium	0.174	mg/kg	J-	Q
L08060652	LL2SS-285M-1244-SO	Vanadium	13.4	mg/kg	J-	A
L08060652	LL2SS-285M-1244-SO	Zinc	93	mg/kg	J-	A
L08060652	LL2SS-285M-1246-SO	Antimony	0.055	mg/kg	R	Q
L08060652	LL2SS-285M-1246-SO	Aroclor-1016	45.3	ug/kg	UJ	H
L08060652	LL2SS-285M-1246-SO	Aroclor-1221	45.3	ug/kg	UJ	H
L08060652	LL2SS-285M-1246-SO	Aroclor-1232	45.3	ug/kg	UJ	H
L08060652	LL2SS-285M-1246-SO	Aroclor-1242	45.3	ug/kg	UJ	H
L08060652	LL2SS-285M-1246-SO	Aroclor-1248	45.3	ug/kg	UJ	H
L08060652	LL2SS-285M-1246-SO	Aroclor-1254	250	ug/kg	J+	H,*III
L08060652	LL2SS-285M-1246-SO	Aroclor-1260	110	ug/kg	J+	H,*III
L08060652	LL2SS-285M-1246-SO	Arsenic	9.95	mg/kg	J-	Q,A
L08060652	LL2SS-285M-1246-SO	Benzo(g,h,i)Perylene	100	ug/kg	J	C
L08060652	LL2SS-285M-1246-SO	Benzoic acid	364	ug/kg	R	C
L08060652	LL2SS-285M-1246-SO	Chromium	12.2	mg/kg	J-	A
L08060652	LL2SS-285M-1246-SO	Cobalt	7.49	mg/kg	J-	A
L08060652	LL2SS-285M-1246-SO	Dibenzo(a,h)Anthracene	91	ug/kg	UJ	C
L08060652	LL2SS-285M-1246-SO	Hexachlorocyclopentadiene	91	ug/kg	R	C
L08060652	LL2SS-285M-1246-SO	Indeno(1,2,3-cd)pyrene	91	ug/kg	UJ	C
L08060652	LL2SS-285M-1246-SO	Iron	21300	mg/kg	J-	A
L08060652	LL2SS-285M-1246-SO	Manganese	374	mg/kg	J-	A
L08060652	LL2SS-285M-1246-SO	Nickel	21.9	mg/kg	J-	Q,E
L08060652	LL2SS-285M-1246-SO	PETN	0.495	mg/kg	R	L
L08060652	LL2SS-285M-1246-SO	Selenium	0.209	mg/kg	J-	Q
L08060652	LL2SS-285M-1246-SO	Vanadium	13.6	mg/kg	J-	A
L08060652	LL2SS-285M-1246-SO	Zinc	102	mg/kg	J-	A
L08060652	LL2SS-285M-1247-SO	Antimony	0.056	mg/kg	R	Q
L08060652	LL2SS-285M-1247-SO	Aroclor-1016	9.08	ug/kg	UJ	H
L08060652	LL2SS-285M-1247-SO	Aroclor-1221	9.08	ug/kg	UJ	H
L08060652	LL2SS-285M-1247-SO	Aroclor-1232	9.08	ug/kg	UJ	H
L08060652	LL2SS-285M-1247-SO	Aroclor-1242	9.08	ug/kg	UJ	H
L08060652	LL2SS-285M-1247-SO	Aroclor-1248	9.08	ug/kg	UJ	H
L08060652	LL2SS-285M-1247-SO	Aroclor-1254	240	ug/kg	J+	H,*III
L08060652	LL2SS-285M-1247-SO	Aroclor-1260	164	ug/kg	J+	H,*III
L08060652	LL2SS-285M-1247-SO	Arsenic	10	mg/kg	J-	Q,A
L08060652	LL2SS-285M-1247-SO	Benzo(g,h,i)Perylene	87.6	ug/kg	UJ	C
L08060652	LL2SS-285M-1247-SO	Benzoic acid	350	ug/kg	R	C
L08060652	LL2SS-285M-1247-SO	Chromium	13.7	mg/kg	J-	A
L08060652	LL2SS-285M-1247-SO	Cobalt	8.25	mg/kg	J-	A
L08060652	LL2SS-285M-1247-SO	Dibenzo(a,h)Anthracene	87.6	ug/kg	UJ	C
L08060652	LL2SS-285M-1247-SO	Hexachlorocyclopentadiene	87.6	ug/kg	R	C
L08060652	LL2SS-285M-1247-SO	Indeno(1,2,3-cd)pyrene	87.6	ug/kg	UJ	C
L08060652	LL2SS-285M-1247-SO	Iron	22900	mg/kg	J-	A

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060652	LL2SS-285M-1247-SO	Manganese	384	mg/kg	J-	A
L08060652	LL2SS-285M-1247-SO	Nickel	27.5	mg/kg	J-	Q,E
L08060652	LL2SS-285M-1247-SO	PETN	0.496	mg/kg	R	L
L08060652	LL2SS-285M-1247-SO	Selenium	0.238	mg/kg	J-	Q
L08060652	LL2SS-285M-1247-SO	Vanadium	15	mg/kg	J-	A
L08060652	LL2SS-285M-1247-SO	Zinc	92.6	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Antimony	0.053	mg/kg	R	Q
L08060761	LL2SS-297M-1261-SO	Arsenic	17	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Calcium	3700	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Chromium	9.8	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Cobalt	6.44	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Iron	21400	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Manganese	428	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Mercury	0.011	mg/kg	UJ	B
L08060761	LL2SS-297M-1261-SO	Nickel	20.3	mg/kg	J-	A
L08060761	LL2SS-297M-1261-SO	Nitrocellulose	2	mg/kg	UJ	Q,C
L08060761	LL2SS-297M-1261-SO	Nitroguanidine	131	ug/kg	UJ	H
L08060761	LL2SS-297M-1261-SO	Selenium	0.312	mg/kg	J-	Q
L08060761	LL2SS-297M-1261-SO	Zinc	80.9	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Antimony	0.054	mg/kg	R	Q
L08060761	LL2SS-297M-1263-SO	Arsenic	11.3	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Calcium	6740	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Chromium	9.58	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Cobalt	6.08	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Iron	19300	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Manganese	457	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Mercury	0.011	mg/kg	UJ	B
L08060761	LL2SS-297M-1263-SO	Nickel	17.6	mg/kg	J-	A
L08060761	LL2SS-297M-1263-SO	Nitrocellulose	1.99	mg/kg	UJ	Q,C
L08060761	LL2SS-297M-1263-SO	Nitroguanidine	132	ug/kg	UJ	H
L08060761	LL2SS-297M-1263-SO	Selenium	0.308	mg/kg	J-	Q
L08060761	LL2SS-297M-1263-SO	Zinc	86.8	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Antimony	0.053	mg/kg	R	Q
L08060761	LL2SS-297M-1264-SO	Arsenic	11.6	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Calcium	4270	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Chromium	11.5	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Cobalt	6.79	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Iron	21500	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Manganese	447	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Mercury	0.012	mg/kg	J	B
L08060761	LL2SS-297M-1264-SO	Nickel	27.8	mg/kg	J-	A
L08060761	LL2SS-297M-1264-SO	Nitrocellulose	1.99	mg/kg	UJ	Q,C
L08060761	LL2SS-297M-1264-SO	Nitroguanidine	133	ug/kg	UJ	H
L08060761	LL2SS-297M-1264-SO	Selenium	0.357	mg/kg	J-	Q
L08060761	LL2SS-297M-1264-SO	Zinc	88.2	mg/kg	J-	A
L08060761	LL3SS-249D-1179-SO	4-Methyl-2-pentanone	2.12	ug/kg	UJ	C

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060761	LL3SS-249D-1179-SO	Acetone	4.24	ug/kg	R	C
L08060761	LL3SS-249D-1179-SO	Styrene	0.424	ug/kg	R	C
L08060761	LL3SS-249D-1181-SO	4-Methyl-2-pentanone	2.3	ug/kg	UJ	C
L08060761	LL3SS-249D-1181-SO	Acetone	4.61	ug/kg	R	C
L08060761	LL3SS-249D-1181-SO	Styrene	0.461	ug/kg	R	C
L08060852	LL3SS-268M-1208-SO	Antimony	0.052	mg/kg	R	Q
L08060852	LL3SS-268M-1208-SO	Arsenic	9.42	mg/kg	J-	A,Q
L08060852	LL3SS-268M-1208-SO	Lead	22.4	mg/kg	J-	A
L08060852	LL3SS-268M-1208-SO	Manganese	455	mg/kg	J-	A
L08060852	LL3SS-268M-1208-SO	Nickel	31.2	mg/kg	J-	A,Q,E
L08060852	LL3SS-268M-1208-SO	Potassium	934	mg/kg	J+	Q
L08060852	LL3SS-268M-1208-SO	Selenium	0.384	mg/kg	J+	C
L08060852	LL3SS-268M-1208-SO	Tetryl	0.1	mg/kg	R	C
L08060852	LL3SS-268M-1210-SO	Antimony	0.052	mg/kg	R	Q
L08060852	LL3SS-268M-1210-SO	Arsenic	10.3	mg/kg	J-	A,Q
L08060852	LL3SS-268M-1210-SO	Lead	23.7	mg/kg	J-	A
L08060852	LL3SS-268M-1210-SO	Manganese	428	mg/kg	J-	A
L08060852	LL3SS-268M-1210-SO	Nickel	28.3	mg/kg	J-	A,Q,E
L08060852	LL3SS-268M-1210-SO	Potassium	1090	mg/kg	J+	Q
L08060852	LL3SS-268M-1210-SO	Selenium	0.334	mg/kg	J+	C
L08060852	LL3SS-268M-1210-SO	Tetryl	0.101	mg/kg	R	C
L08060852	LL3SS-268M-1211-SO	Antimony	0.051	mg/kg	R	Q
L08060852	LL3SS-268M-1211-SO	Arsenic	9.22	mg/kg	J-	A,Q
L08060852	LL3SS-268M-1211-SO	Lead	26.9	mg/kg	J-	A
L08060852	LL3SS-268M-1211-SO	Manganese	429	mg/kg	J-	A
L08060852	LL3SS-268M-1211-SO	Nickel	28.2	mg/kg	J-	A,Q,E
L08060852	LL3SS-268M-1211-SO	Potassium	1030	mg/kg	J+	Q
L08060852	LL3SS-268M-1211-SO	Selenium	0.331	mg/kg	J+	C
L08060852	LL3SS-268M-1211-SO	Tetryl	0.1	mg/kg	R	C
L08060852	LL3SS-256M-1188-SO	Antimony	0.051	mg/kg	R	Q
L08060852	LL3SS-256M-1188-SO	Arsenic	9.26	mg/kg	J-	A,Q
L08060852	LL3SS-256M-1188-SO	Dieldrin	51.4	ug/kg	J	*III,-,$
L08060852	LL3SS-256M-1188-SO	Endrin	17.3	ug/kg		-,$
L08060852	LL3SS-256M-1188-SO	Endrin aldehyde	10.1	ug/kg		-,$
L08060852	LL3SS-256M-1188-SO	gamma Chlordane	8.54	ug/kg	NJ	*III,-,$
L08060852	LL3SS-256M-1188-SO	Heptachlor epoxide	16.9	ug/kg	NJ	*III,-,$
L08060852	LL3SS-256M-1188-SO	Lead	33.7	mg/kg	J-	A
L08060852	LL3SS-256M-1188-SO	Manganese	357	mg/kg	J-	A
L08060852	LL3SS-256M-1188-SO	Nickel	18.8	mg/kg	J-	A,Q,E
L08060852	LL3SS-256M-1188-SO	Nitroguanidine	127	ug/kg	UJ	H
L08060852	LL3SS-256M-1188-SO	Potassium	1040	mg/kg	J+	Q
L08060852	LL3SS-256M-1188-SO	Selenium	0.332	mg/kg	J+	C
L08060852	LL3SS-256M-1188-SO	Tetryl	0.1	mg/kg	UJ	C
L08060852	LL3SS-256M-1190-SO	2,4-Dinitrotoluene	0.1	mg/kg	U	$
L08060852	LL3SS-256M-1190-SO	2-Amino-4,6-dinitrotoluene	0.1	mg/kg	U	$
L08060852	LL3SS-256M-1190-SO	Antimony	0.051	mg/kg	R	Q

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060852	LL3SS-256M-1190-SO	Arsenic	9.38	mg/kg	J-	A,Q
L08060852	LL3SS-256M-1190-SO	Manganese	380	mg/kg	J-	A
L08060852	LL3SS-256M-1190-SO	Nickel	18	mg/kg	J-	A,Q,E
L08060852	LL3SS-256M-1190-SO	Nitroguanidine	129	ug/kg	UJ	H
L08060852	LL3SS-256M-1190-SO	Potassium	1210	mg/kg	J+	Q
L08060852	LL3SS-256M-1190-SO	Selenium	0.325	mg/kg	J+	C
L08060852	LL3SS-256M-1190-SO	Tetryl	0.1	mg/kg	UJ	C
L08060852	LL3SS-256M-1191-SO	Antimony	0.053	mg/kg	R	Q
L08060852	LL3SS-256M-1191-SO	Arsenic	10.1	mg/kg	J-	A,Q
L08060852	LL3SS-256M-1191-SO	Lead	30.2	mg/kg	J-	A
L08060852	LL3SS-256M-1191-SO	Manganese	445	mg/kg	J-	A
L08060852	LL3SS-256M-1191-SO	Nickel	21.8	mg/kg	J-	A,Q,E
L08060852	LL3SS-256M-1191-SO	Nitrocellulose	19.1	mg/kg	J	C
L08060852	LL3SS-256M-1191-SO	Nitroguanidine	130	ug/kg	UJ	H
L08060852	LL3SS-256M-1191-SO	Potassium	1340	mg/kg	J+	Q
L08060852	LL3SS-256M-1191-SO	Selenium	0.365	mg/kg	J+	C
L08060852	LL3SS-256M-1191-SO	Tetryl	0.099	mg/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	1,2,4-Trichlorobenzene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	1,2-Dichlorobenzene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	1,3-Dichlorobenzene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	1,4-Dichlorobenzene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	2,4,5-Trichlorophenol	81	ug/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	2,4,6-Trichlorophenol	81	ug/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	2,4-Dichlorophenol	81	ug/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	2,4-Dinitrotoluene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	2,6-Dinitrotoluene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	2-Chloronaphthalene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	2-Methylnaphthalene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	2-Nitroaniline	404	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	2-Nitrophenol	81	ug/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	3,3'-Dichlorobenzidine	162	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	3-Nitroaniline	404	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	4,6-Dinitro-2-methylphenol	404	ug/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	4-Bromophenyl-phenylether	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	4-Chloro-3-methylphenol	81	ug/kg	UJ	C
L08060886	LL3SS-258M-1194-SO	4-Chloroaniline	81	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1194-SO	4-Chlorophenyl-phenyl ether	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	4-Nitroaniline	404	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Acenaphthene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Acenaphthylene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Anthracene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Antimony	0.05	mg/kg	R	Q
L08060886	LL3SS-258M-1194-SO	Arsenic	9.77	mg/kg	J-	Q,A
L08060886	LL3SS-258M-1194-SO	Benzo(a)anthracene	81	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060886	LL3SS-258M-1194-SO	Benzo(a)pyrene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Benzo(b)fluoranthene	81	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1194-SO	Benzo(g,h,i)Perylene	81	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1194-SO	Benzo(k)fluoranthene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Benzoic acid	324	ug/kg	R	C
L08060886	LL3SS-258M-1194-SO	Benzyl alcohol	81	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1194-SO	Bis(2-Chloroethoxy)Methane	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Bis(2-Chloroethyl)ether	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	bis(2-Chloroisopropyl)ether	81	ug/kg	R	C
L08060886	LL3SS-258M-1194-SO	bis(2-Ethylhexyl)phthalate	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Butylbenzylphthalate	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Calcium	4790	mg/kg	J	E
L08060886	LL3SS-258M-1194-SO	Carbazole	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Chromium	12.8	mg/kg	J-	A
L08060886	LL3SS-258M-1194-SO	Chrysene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Cobalt	6.56	mg/kg	J-	A
L08060886	LL3SS-258M-1194-SO	Dibenzo(a,h)Anthracene	81	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1194-SO	Dibenzofuran	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Diethylphthalate	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Dimethylphthalate	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Di-N-Butylphthalate	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Di-n-octylphthalate	81	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1194-SO	Fluoranthene	135	ug/kg	J	L,S
L08060886	LL3SS-258M-1194-SO	Fluorene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Hexachlorobenzene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Hexachlorobutadiene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Hexachlorocyclopentadiene	81	ug/kg	R	C
L08060886	LL3SS-258M-1194-SO	Hexachloroethane	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Indeno(1,2,3-cd)pyrene	81	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1194-SO	Iron	19500	mg/kg	J-	A
L08060886	LL3SS-258M-1194-SO	Isophorone	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Manganese	304	mg/kg	J-	A
L08060886	LL3SS-258M-1194-SO	Naphthalene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Nickel	21.2	mg/kg	J-	Q,A
L08060886	LL3SS-258M-1194-SO	Nitrobenzene	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	N-Nitrosodiphenylamine	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	N-Nitrosodipropylamine	81	ug/kg	UJ	S
L08060886	LL3SS-258M-1194-SO	Phenanthrene	83.5	ug/kg	J	S
L08060886	LL3SS-258M-1194-SO	Potassium	889	mg/kg	J+	Q
L08060886	LL3SS-258M-1194-SO	Pyrene	111	ug/kg	J	S
L08060886	LL3SS-258M-1194-SO	Selenium	0.173	mg/kg	J-	Q
L08060886	LL3SS-258M-1194-SO	Zinc	74.1	mg/kg	J-	A
L08060886	LL3SS-258M-1196-SO	1,2,4-Trichlorobenzene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	1,2-Dichlorobenzene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	1,3-Dichlorobenzene	79.5	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060886	LL3SS-258M-1196-SO	1,4-Dichlorobenzene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2,4,5-Trichlorophenol	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	2,4,6-Trichlorophenol	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	2,4-Dichlorophenol	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	2,4-Dimethylphenol	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2,4-Dinitrophenol	397	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2,4-Dinitrotoluene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2,6-Dinitrotoluene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2-Chloronaphthalene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2-Chlorophenol	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2-Methylnaphthalene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2-Methylphenol	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2-Nitroaniline	397	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	2-Nitrophenol	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	3,3'-Dichlorobenzidine	159	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	3-,4-Methylphenol	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	3-Nitroaniline	397	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	4,6-Dinitro-2-methylphenol	397	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	4-Bromophenyl-phenylether	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	4-Chloro-3-methylphenol	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	4-Chloroaniline	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	4-Chlorophenyl-phenyl ether	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	4-Nitroaniline	397	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	4-Nitrophenol	397	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Acenaphthene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Acenaphthylene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Anthracene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Antimony	0.05	mg/kg	R	Q
L08060886	LL3SS-258M-1196-SO	Arsenic	9.79	mg/kg	J-	Q,A
L08060886	LL3SS-258M-1196-SO	Benzo(a)anthracene	100	ug/kg	J	J
L08060886	LL3SS-258M-1196-SO	Benzo(a)pyrene	97.7	ug/kg	J	J
L08060886	LL3SS-258M-1196-SO	Benzo(b)fluoranthene	79.8	ug/kg	J	C,S
L08060886	LL3SS-258M-1196-SO	Benzo(g,h,i)Perylene	79.5	ug/kg	U	C,S
L08060886	LL3SS-258M-1196-SO	Benzo(k)fluoranthene	81.2	ug/kg	J	S
L08060886	LL3SS-258M-1196-SO	Benzoic acid	318	ug/kg	R	C
L08060886	LL3SS-258M-1196-SO	Benzyl alcohol	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	Bis(2-Chloroethoxy)Methane	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Bis(2-Chloroethyl)ether	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	bis(2-Chloroisopropyl)ether	79.5	ug/kg	R	C
L08060886	LL3SS-258M-1196-SO	bis(2-Ethylhexyl)phthalate	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Butylbenzylphthalate	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Calcium	3340	mg/kg	J	E
L08060886	LL3SS-258M-1196-SO	Carbazole	79.5	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060886	LL3SS-258M-1196-SO	Chromium	10.4	mg/kg	J-	A
L08060886	LL3SS-258M-1196-SO	Chrysene	101	ug/kg	J	S
L08060886	LL3SS-258M-1196-SO	Cobalt	5.65	mg/kg	J-	A
L08060886	LL3SS-258M-1196-SO	Dibenzo(a,h)Anthracene	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	Dibenzofuran	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Diethylphthalate	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Dimethylphthalate	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Di-N-Butylphthalate	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Di-n-octylphthalate	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	Fluoranthene	231	ug/kg	J	L,S
L08060886	LL3SS-258M-1196-SO	Fluorene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Hexachlorobenzene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Hexachlorobutadiene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Hexachlorocyclopentadiene	79.5	ug/kg	R	C
L08060886	LL3SS-258M-1196-SO	Hexachloroethane	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Indeno(1,2,3-cd)pyrene	79.5	ug/kg	UJ	C,S
L08060886	LL3SS-258M-1196-SO	Iron	17800	mg/kg	J-	A
L08060886	LL3SS-258M-1196-SO	Isophorone	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Manganese	285	mg/kg	J-	A
L08060886	LL3SS-258M-1196-SO	Naphthalene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Nickel	19.7	mg/kg	J-	Q,A
L08060886	LL3SS-258M-1196-SO	Nitrobenzene	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	N-Nitrosodiphenylamine	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	N-Nitrosodipropylamine	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Pentachlorophenol	397	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Phenanthrene	192	ug/kg	J-	S
L08060886	LL3SS-258M-1196-SO	Phenol	79.5	ug/kg	UJ	S
L08060886	LL3SS-258M-1196-SO	Potassium	632	mg/kg	J+	Q
L08060886	LL3SS-258M-1196-SO	Pyrene	191	ug/kg	J-	S
L08060886	LL3SS-258M-1196-SO	Selenium	0.177	mg/kg	J-	Q
L08060886	LL3SS-258M-1196-SO	Zinc	70	mg/kg	J-	A
L08060886	LL3SS-258M-1197-SO	1,2,4-Trichlorobenzene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	1,2-Dichlorobenzene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	1,3-Dichlorobenzene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	1,4-Dichlorobenzene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2,4,5-Trichlorophenol	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	2,4,6-Trichlorophenol	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	2,4-Dichlorophenol	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	2,4-Dimethylphenol	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2,4-Dinitrophenol	426	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2,4-Dinitrotoluene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2,6-Dinitrotoluene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2-Chloronaphthalene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2-Chlorophenol	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2-Methylnaphthalene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2-Methylphenol	85.3	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060886	LL3SS-258M-1197-SO	2-Nitroaniline	426	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	2-Nitrophenol	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	3,3'-Dichlorobenzidine	171	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	3-,4-Methylphenol	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	3-Nitroaniline	426	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	4,6-Dinitro-2-methylphenol	426	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	4-Bromophenyl-phenylether	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	4-Chloro-3-methylphenol	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	4-Chloroaniline	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	4-Chlorophenyl-phenyl ether	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	4-Nitroaniline	426	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	4-Nitrophenol	426	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Acenaphthene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Acenaphthylene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Anthracene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Antimony	0.066	mg/kg	J	Q
L08060886	LL3SS-258M-1197-SO	Arsenic	10.5	mg/kg	J-	Q,A
L08060886	LL3SS-258M-1197-SO	Benzo(a)anthracene	94.7	ug/kg	J	S
L08060886	LL3SS-258M-1197-SO	Benzo(a)pyrene	92.4	ug/kg	J	S
L08060886	LL3SS-258M-1197-SO	Benzo(b)fluoranthene	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	Benzo(g,h,i)Perylene	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	Benzo(k)fluoranthene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Benzoic acid	341	ug/kg	R	C
L08060886	LL3SS-258M-1197-SO	Benzyl alcohol	85.3	ug/kg	UJ	S,C
L08060886	LL3SS-258M-1197-SO	Bis(2-Chloroethoxy)Methane	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Bis(2-Chloroethyl)ether	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	bis(2-Chloroisopropyl)ether	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	bis(2-Ethylhexyl)phthalate	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Butylbenzylphthalate	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Calcium	5930	mg/kg	J	E
L08060886	LL3SS-258M-1197-SO	Carbazole	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Chromium	14.8	mg/kg	J-	A
L08060886	LL3SS-258M-1197-SO	Chrysene	92.9	ug/kg	J	S
L08060886	LL3SS-258M-1197-SO	Cobalt	6.68	mg/kg	J-	A
L08060886	LL3SS-258M-1197-SO	Dibenzo(a,h)Anthracene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Dibenzofuran	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Diethylphthalate	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Dimethylphthalate	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Di-N-Butylphthalate	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Di-n-octylphthalate	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Fluoranthene	204	ug/kg	J	S
L08060886	LL3SS-258M-1197-SO	Fluorene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Hexachlorobenzene	85.3	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08060886	LL3SS-258M-1197-SO	Hexachlorobutadiene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Hexachlorocyclopentadiene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Hexachloroethane	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Indeno(1,2,3-cd)pyrene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Isophorone	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Manganese	305	mg/kg	J-	A
L08060886	LL3SS-258M-1197-SO	Naphthalene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Nickel	20.8	mg/kg	J-	Q,A
L08060886	LL3SS-258M-1197-SO	Nitrobenzene	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	N-Nitrosodiphenylamine	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	N-Nitrosodipropylamine	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Pentachlorophenol	426	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Phenanthrene	129	ug/kg	J	S
L08060886	LL3SS-258M-1197-SO	Phenol	85.3	ug/kg	UJ	S
L08060886	LL3SS-258M-1197-SO	Potassium	1090	mg/kg	J+	Q
L08060886	LL3SS-258M-1197-SO	Pyrene	160	ug/kg	J	S
L08060886	LL3SS-258M-1197-SO	Selenium	0.218	mg/kg	J-	Q
L08060886	LL3SS-258M-1197-SO	Zinc	88.2	mg/kg	J-	A
L08060886	LL4SS-201D-1185-SO	2-Butanone	2.99	ug/kg	UJ	C
L08060886	LL4SS-201D-1185-SO	4-Methyl-2-pentanone	2.99	ug/kg	UJ	C
L08060886	LL4SS-201D-1185-SO	Acetone	5.99	ug/kg	R	C
L08060886	LL4SS-201D-1185-SO	Carbon disulfide	0.599	ug/kg	R	C
L08060886	LL4SS-201D-1185-SO	Styrene	0.599	ug/kg	R	C
L08060886	LL4SS-201D-1187-SO	2-Butanone	2.19	ug/kg	UJ	C
L08060886	LL4SS-201D-1187-SO	4-Methyl-2-pentanone	2.19	ug/kg	UJ	C
L08060886	LL4SS-201D-1187-SO	Acetone	4.38	ug/kg	R	C
L08060886	LL4SS-201D-1187-SO	Carbon disulfide	0.438	ug/kg	R	C
L08060886	LL4SS-201D-1187-SO	Styrene	0.438	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	1,2,4-Trichlorobenzene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	1,2-Dichlorobenzene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	1,3-Dichlorobenzene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	1,4-Dichlorobenzene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2,4,5-Trichlorophenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2,4,6-Trichlorophenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2,4-Dichlorophenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2,4-Dimethylphenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2,4-Dinitrophenol	412	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	2,4-Dinitrotoluene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2,6-Dinitrotoluene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2-Chloronaphthalene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2-Chlorophenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2-Methylnaphthalene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2-Methylphenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2-Nitroaniline	412	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	2-Nitrophenol	82.6	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1202-SO	3,3'-Dichlorobenzidine	165	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-212M-1202-SO	3-,4-Methylphenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	3-Nitroaniline	412	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	4,6-Dinitro-2-methylphenol	412	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	4-Bromophenyl-phenylether	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	4-Chloro-3-methylphenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	4-Chloroaniline	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	4-Chlorophenyl-phenyl ether	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	4-Nitroaniline	412	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	4-Nitrophenol	412	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1202-SO	Acenaphthene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Acenaphthylene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Anthracene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Antimony	0.05	mg/kg	R	Q
L08070074	LL4SS-212M-1202-SO	Aroclor-1254	45.3	ug/kg	J	*III
L08070074	LL4SS-212M-1202-SO	Aroclor-1260	51.7	ug/kg	J	*III
L08070074	LL4SS-212M-1202-SO	Arsenic	17.2	mg/kg	J	Q,A
L08070074	LL4SS-212M-1202-SO	Benzo(a)anthracene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Benzo(a)pyrene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Benzo(b)fluoranthene	86.7	ug/kg	J	S
L08070074	LL4SS-212M-1202-SO	Benzo(g,h,i)Perylene	82.6	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	Benzo(k)fluoranthene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Benzoic acid	330	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	Benzyl alcohol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Bis(2-Chloroethoxy)Methane	82.6	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1202-SO	Bis(2-Chloroethyl)ether	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	bis(2-Chloroisopropyl)ether	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	bis(2-Ethylhexyl)phthalate	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Butylbenzylphthalate	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Cadmium	0.474	mg/kg	J+	C
L08070074	LL4SS-212M-1202-SO	Carbazole	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Chromium	10.3	mg/kg	J-	A
L08070074	LL4SS-212M-1202-SO	Hexavalent Chromium	0.245	mg/kg	UJ	Q
L08070074	LL4SS-212M-1202-SO	Chrysene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Cobalt	7.16	mg/kg	J-	A
L08070074	LL4SS-212M-1202-SO	Dibenzo(a,h)Anthracene	82.6	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	Dibenzofuran	82.6	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	Diethylphthalate	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Dimethylphthalate	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Di-N-Butylphthalate	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Di-n-octylphthalate	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Fluoranthene	82.7	ug/kg	J	S
L08070074	LL4SS-212M-1202-SO	Fluorene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Hexachlorobenzene	82.6	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-212M-1202-SO	Hexachlorobutadiene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Hexachlorocyclopentadiene	82.6	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	Hexachloroethane	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Indeno(1,2,3-cd)pyrene	82.6	ug/kg	R	C
L08070074	LL4SS-212M-1202-SO	Iron	20600	mg/kg	J-	A
L08070074	LL4SS-212M-1202-SO	Isophorone	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Manganese	402	mg/kg	J-	A
L08070074	LL4SS-212M-1202-SO	Mercury	0.016	mg/kg	J	H
L08070074	LL4SS-212M-1202-SO	Naphthalene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Nickel	26	mg/kg	J	A
L08070074	LL4SS-212M-1202-SO	Nitrobenzene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	N-Nitrosodiphenylamine	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	N-NITROSODIPROPYLAMINE	82.6	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1202-SO	Pentachlorophenol	412	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1202-SO	Phenanthrene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Phenol	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Potassium	713	mg/kg	J+	Q
L08070074	LL4SS-212M-1202-SO	Pyrene	82.6	ug/kg	UJ	S
L08070074	LL4SS-212M-1202-SO	Selenium	0.23	mg/kg	J-	Q
L08070074	LL4SS-212M-1202-SO	Silver	0.512	mg/kg	J+	C
L08070074	LL4SS-212M-1202-SO	Sodium	32.9	mg/kg	U	B
L08070074	LL4SS-212M-1202-SO	Zinc	91.2	mg/kg	J-	A
L08070074	LL4SS-212M-1204-SO	1,2,4-Trichlorobenzene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	1,2-Dichlorobenzene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	1,3-Dichlorobenzene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	1,4-Dichlorobenzene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2,4,5-Trichlorophenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2,4,6-Trichlorophenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2,4-Dichlorophenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2,4-Dimethylphenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2,4-Dinitrophenol	412	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	2,4-Dinitrotoluene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2,6-Dinitrotoluene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2-Chloronaphthalene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2-Chlorophenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2-Methylnaphthalene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2-Methylphenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2-Nitroaniline	412	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	2-Nitrophenol	82.5	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1204-SO	3,3'-Dichlorobenzidine	165	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	3-,4-Methylphenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	3-Nitroaniline	412	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	4,6-Dinitro-2-methylphenol	412	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	4-Bromophenyl-phenylether	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	4-Chloro-3-methylphenol	82.5	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-212M-1204-SO	4-Chloroaniline	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	4-Chlorophenyl-phenyl ether	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	4-Nitroaniline	412	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1204-SO	4-Nitrophenol	412	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Acenaphthene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Acenaphthylene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Anthracene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Antimony	0.048	mg/kg	R	Q
L08070074	LL4SS-212M-1204-SO	Aroclor-1254	21.9	ug/kg	J	*III
L08070074	LL4SS-212M-1204-SO	Aroclor-1260	26.7	ug/kg	J	*III
L08070074	LL4SS-212M-1204-SO	Arsenic	14.5	mg/kg	J	Q,A
L08070074	LL4SS-212M-1204-SO	Benzo(a)anthracene	153	ug/kg	J	S
L08070074	LL4SS-212M-1204-SO	Benzo(a)pyrene	163	ug/kg	J	S
L08070074	LL4SS-212M-1204-SO	Benzo(b)fluoranthene	178	ug/kg	J-	S
L08070074	LL4SS-212M-1204-SO	Benzo(g,h,i)Perylene	82.5	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	Benzo(k)fluoranthene	182	ug/kg	J-	S
L08070074	LL4SS-212M-1204-SO	Benzoic acid	330	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	Benzyl alcohol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Bis(2-Chloroethoxy)Methane	82.5	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1204-SO	Bis(2-Chloroethyl)ether	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	bis(2-Chloroisopropyl)ether	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	bis(2-Ethylhexyl)phthalate	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Butylbenzylphthalate	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Cadmium	0.446	mg/kg	J+	C
L08070074	LL4SS-212M-1204-SO	Carbazole	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Chromium	9.12	mg/kg	J-	A
L08070074	LL4SS-212M-1204-SO	Hexavalent Chromium	0.101	mg/kg	UJ	Q
L08070074	LL4SS-212M-1204-SO	Chrysene	177	ug/kg	J-	S
L08070074	LL4SS-212M-1204-SO	Cobalt	6.96	mg/kg	J-	A
L08070074	LL4SS-212M-1204-SO	Dibenzo(a,h)Anthracene	82.5	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	Dibenzofuran	82.5	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	Diethylphthalate	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Dimethylphthalate	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Di-N-Butylphthalate	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Di-n-octylphthalate	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Fluoranthene	387	ug/kg	J-	S
L08070074	LL4SS-212M-1204-SO	Fluorene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Hexachlorobenzene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Hexachlorobutadiene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Hexachlorocyclopentadiene	82.5	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	Hexachloroethane	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Indeno(1,2,3-cd)pyrene	82.5	ug/kg	R	C
L08070074	LL4SS-212M-1204-SO	Iron	19500	mg/kg	J-	A
L08070074	LL4SS-212M-1204-SO	Isophorone	82.5	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-212M-1204-SO	Manganese	376	mg/kg	J-	A
L08070074	LL4SS-212M-1204-SO	Mercury	0.016	mg/kg	J	H
L08070074	LL4SS-212M-1204-SO	Naphthalene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Nickel	27.2	mg/kg	J	A
L08070074	LL4SS-212M-1204-SO	Nitrobenzene	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	N-Nitrosodiphenylamine	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	N-NITROSODIPROPYLAMINE	82.5	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1204-SO	Pentachlorophenol	412	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1204-SO	Phenanthrene	182	ug/kg	J-	S
L08070074	LL4SS-212M-1204-SO	Phenol	82.5	ug/kg	UJ	S
L08070074	LL4SS-212M-1204-SO	Potassium	678	mg/kg	J+	Q
L08070074	LL4SS-212M-1204-SO	Pyrene	308	ug/kg	J-	S
L08070074	LL4SS-212M-1204-SO	Selenium	0.261	mg/kg	J-	Q
L08070074	LL4SS-212M-1204-SO	Silver	0.227	mg/kg	J+	C
L08070074	LL4SS-212M-1204-SO	Sodium	31.7	mg/kg	U	B
L08070074	LL4SS-212M-1204-SO	Zinc	84.7	mg/kg	J-	A
L08070074	LL4SS-212M-1205-SO	1,2,4-Trichlorobenzene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	1,2-Dichlorobenzene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	1,3-Dichlorobenzene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	1,4-Dichlorobenzene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2,4,5-Trichlorophenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2,4,6-Trichlorophenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2,4-Dichlorophenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2,4-Dimethylphenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2,4-Dinitrophenol	408	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	2,4-Dinitrotoluene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2,6-Dinitrotoluene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2-Chloronaphthalene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2-Chlorophenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2-Methylnaphthalene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2-Methylphenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2-Nitroaniline	408	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	2-Nitrophenol	81.7	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1205-SO	3,3'-Dichlorobenzidine	163	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	3-,4-Methylphenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	3-Nitroaniline	408	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	4,6-Dinitro-2-methylphenol	408	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	4-Bromophenyl-phenylether	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	4-Chloro-3-methylphenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	4-Chloroaniline	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	4-Chlorophenyl-phenyl ether	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	4-Nitroaniline	408	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	4-Nitrophenol	408	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1205-SO	Acenaphthene	81.7	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-212M-1205-SO	Acenaphthylene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Anthracene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Antimony	0.051	mg/kg	R	Q
L08070074	LL4SS-212M-1205-SO	Aroclor-1254	17.8	ug/kg	J	*III
L08070074	LL4SS-212M-1205-SO	Aroclor-1260	32.3	ug/kg	J	*III
L08070074	LL4SS-212M-1205-SO	Arsenic	15	mg/kg	J	Q,A
L08070074	LL4SS-212M-1205-SO	Benzo(a)anthracene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Benzo(a)pyrene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Benzo(b)fluoranthene	82.9	ug/kg	J	S
L08070074	LL4SS-212M-1205-SO	Benzo(g,h,i)Perylene	81.7	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	Benzo(k)fluoranthene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Benzoic acid	327	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	Benzyl alcohol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Bis(2-Chloroethoxy)Methane	81.7	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1205-SO	Bis(2-Chloroethyl)ether	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	bis(2-Chloroisopropyl)ether	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	bis(2-Ethylhexyl)phthalate	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Butylbenzylphthalate	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Cadmium	0.458	mg/kg	J+	C
L08070074	LL4SS-212M-1205-SO	Carbazole	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Chromium	11.5	mg/kg	J-	A
L08070074	LL4SS-212M-1205-SO	Hexavalent Chromium	0.244	mg/kg	UJ	Q
L08070074	LL4SS-212M-1205-SO	Chrysene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Cobalt	7.95	mg/kg	J-	A
L08070074	LL4SS-212M-1205-SO	Dibenzo(a,h)Anthracene	81.7	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	Dibenzofuran	81.7	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	Diethylphthalate	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Dimethylphthalate	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Di-N-Butylphthalate	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Di-n-octylphthalate	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Fluoranthene	154	ug/kg	J	S
L08070074	LL4SS-212M-1205-SO	Fluorene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Hexachlorobenzene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Hexachlorobutadiene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Hexachlorocyclopentadiene	81.7	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	Hexachloroethane	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Indeno(1,2,3-cd)pyrene	81.7	ug/kg	R	C
L08070074	LL4SS-212M-1205-SO	Iron	21600	mg/kg	J-	A
L08070074	LL4SS-212M-1205-SO	Isophorone	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Manganese	449	mg/kg	J-	A
L08070074	LL4SS-212M-1205-SO	Mercury	0.013	mg/kg	J	H
L08070074	LL4SS-212M-1205-SO	Naphthalene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Nickel	73.6	mg/kg	J	A
L08070074	LL4SS-212M-1205-SO	Nitrobenzene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	N-Nitrosodiphenylamine	81.7	ug/kg	UJ	S

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-212M-1205-SO	N-NITROSODIPROPYLAMINE	81.7	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1205-SO	Pentachlorophenol	408	ug/kg	UJ	S,C
L08070074	LL4SS-212M-1205-SO	Phenanthrene	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Phenol	81.7	ug/kg	UJ	S
L08070074	LL4SS-212M-1205-SO	Potassium	766	mg/kg	J+	Q
L08070074	LL4SS-212M-1205-SO	Pyrene	125	ug/kg	J	S
L08070074	LL4SS-212M-1205-SO	Selenium	0.236	mg/kg	J-	Q
L08070074	LL4SS-212M-1205-SO	Silver	0.348	mg/kg	J+	C
L08070074	LL4SS-212M-1205-SO	Sodium	36.9	mg/kg	U	B
L08070074	LL4SS-212M-1205-SO	Zinc	91.6	mg/kg	J-	A
L08070074	LL4SS-209M-1196-SO	alpha Chlordane	43.8	ug/kg	J	*III
L08070074	LL4SS-209M-1196-SO	Antimony	0.049	mg/kg	R	Q
L08070074	LL4SS-209M-1196-SO	Arsenic	10.7	mg/kg	J	Q,A
L08070074	LL4SS-209M-1196-SO	Cadmium	0.543	mg/kg	J+	C
L08070074	LL4SS-209M-1196-SO	Chromium	14.8	mg/kg	J-	A
L08070074	LL4SS-209M-1196-SO	Hexavalent Chromium	0.253	mg/kg	UJ	Q
L08070074	LL4SS-209M-1196-SO	Cobalt	7.71	mg/kg	J-	A
L08070074	LL4SS-209M-1196-SO	Iron	22200	mg/kg	J-	A
L08070074	LL4SS-209M-1196-SO	Manganese	512	mg/kg	J-	A
L08070074	LL4SS-209M-1196-SO	Mercury	0.022	mg/kg	J	H
L08070074	LL4SS-209M-1196-SO	Nickel	29.2	mg/kg	J	A
L08070074	LL4SS-209M-1196-SO	Potassium	1150	mg/kg	J+	Q
L08070074	LL4SS-209M-1196-SO	Selenium	0.265	mg/kg	J-	Q
L08070074	LL4SS-209M-1196-SO	Silver	0.589	mg/kg	J+	C
L08070074	LL4SS-209M-1196-SO	Sodium	71.9	mg/kg	U	B
L08070074	LL4SS-209M-1196-SO	Zinc	86.8	mg/kg	J-	A
L08070074	LL4SS-209M-1198-SO	alpha Chlordane	8.97	ug/kg	J	*III
L08070074	LL4SS-209M-1198-SO	Antimony	0.051	mg/kg	R	Q
L08070074	LL4SS-209M-1198-SO	Arsenic	10.9	mg/kg	J	Q,A
L08070074	LL4SS-209M-1198-SO	Cadmium	0.496	mg/kg	J+	C
L08070074	LL4SS-209M-1198-SO	Chromium	13.2	mg/kg	J-	A
L08070074	LL4SS-209M-1198-SO	Hexavalent Chromium	0.05	mg/kg	UJ	Q
L08070074	LL4SS-209M-1198-SO	Cobalt	7.39	mg/kg	J-	A
L08070074	LL4SS-209M-1198-SO	gamma Chlordane	6.35	ug/kg	J	*III
L08070074	LL4SS-209M-1198-SO	Iron	19500	mg/kg	J-	A
L08070074	LL4SS-209M-1198-SO	Manganese	458	mg/kg	J-	A
L08070074	LL4SS-209M-1198-SO	Mercury	0.02	mg/kg	J	H
L08070074	LL4SS-209M-1198-SO	Nickel	32.3	mg/kg	J	A
L08070074	LL4SS-209M-1198-SO	Potassium	838	mg/kg	J+	Q
L08070074	LL4SS-209M-1198-SO	Selenium	0.309	mg/kg	J-	Q
L08070074	LL4SS-209M-1198-SO	Silver	0.623	mg/kg	J+	C
L08070074	LL4SS-209M-1198-SO	Sodium	53.3	mg/kg	U	B
L08070074	LL4SS-209M-1198-SO	Zinc	70.2	mg/kg	J-	A
L08070074	LL4SS-209M-1199-SO	alpha Chlordane	13.1	ug/kg	J	*III
L08070074	LL4SS-209M-1199-SO	Antimony	0.051	mg/kg	R	Q
L08070074	LL4SS-209M-1199-SO	Arsenic	9.02	mg/kg	J	Q,A

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier Code
L08070074	LL4SS-209M-1199-SO	Cadmium	0.502	mg/kg	J+	C
L08070074	LL4SS-209M-1199-SO	Chromium	13.5	mg/kg	J-	A
L08070074	LL4SS-209M-1199-SO	Hexavalent Chromium	0.506	mg/kg	UJ	Q
L08070074	LL4SS-209M-1199-SO	Cobalt	7.53	mg/kg	J-	A
L08070074	LL4SS-209M-1199-SO	gamma Chlordane	8.6	ug/kg	J	*III
L08070074	LL4SS-209M-1199-SO	Iron	20700	mg/kg	J-	A
L08070074	LL4SS-209M-1199-SO	Manganese	535	mg/kg	J-	A
L08070074	LL4SS-209M-1199-SO	Mercury	0.017	mg/kg	J	H
L08070074	LL4SS-209M-1199-SO	Nickel	24.4	mg/kg	J	A
L08070074	LL4SS-209M-1199-SO	Potassium	1160	mg/kg	J+	Q
L08070074	LL4SS-209M-1199-SO	Selenium	0.284	mg/kg	J-	Q
L08070074	LL4SS-209M-1199-SO	Silver	0.429	mg/kg	J+	C
L08070074	LL4SS-209M-1199-SO	Sodium	83.3	mg/kg	U	B
L08070074	LL4SS-209M-1199-SO	Zinc	67.5	mg/kg	J-	A
L08070111	LL4SS-220M-1217-SO	Antimony	0.05	mg/kg	R	Q
L08070111	LL4SS-220M-1217-SO	Arsenic	7.99	mg/kg	J-	A
L08070111	LL4SS-220M-1217-SO	Hexavalent Chromium	0.506	mg/kg	UJ	Q
L08070111	LL4SS-220M-1217-SO	Lead	11.6	mg/kg	J-	A
L08070111	LL4SS-220M-1217-SO	Sodium	23.1	mg/kg	U	B
L08070111	LL4SS-220M-1221-SO	Antimony	0.051	mg/kg	R	Q
L08070111	LL4SS-220M-1221-SO	Arsenic	7.85	mg/kg	J-	A
L08070111	LL4SS-220M-1221-SO	Hexavalent Chromium	0.506	mg/kg	UJ	Q
L08070111	LL4SS-220M-1221-SO	Lead	12	mg/kg	J-	A
L08070111	LL4SS-220M-1221-SO	Sodium	21	mg/kg	U	B
L08070111	LL4SS-220M-1222-SO	Antimony	0.052	mg/kg	R	Q
L08070111	LL4SS-220M-1222-SO	Arsenic	7.98	mg/kg	J-	A
L08070111	LL4SS-220M-1222-SO	Hexavalent Chromium	0.516	mg/kg	UJ	Q
L08070111	LL4SS-220M-1222-SO	Lead	12.4	mg/kg	J-	A

APPENDIX C

Primary/Field Duplicate Sample Comparisons

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	Aroclor-1016	8.35	U	LL2SS-278M-1234-SO	Blind	8.36	ug/kg	U	0.1
LL2SS-278M-1231-SO	Aroclor-1221	8.35	U	LL2SS-278M-1234-SO	Blind	8.36	ug/kg	U	0.1
LL2SS-278M-1231-SO	Aroclor-1232	8.35	U	LL2SS-278M-1234-SO	Blind	8.36	ug/kg	U	0.1
LL2SS-278M-1231-SO	Aroclor-1242	8.35	U	LL2SS-278M-1234-SO	Blind	8.36	ug/kg	U	0.1
LL2SS-278M-1231-SO	Aroclor-1248	8.35	U	LL2SS-278M-1234-SO	Blind	8.36	ug/kg	U	0.1
LL2SS-278M-1231-SO	Aroclor-1254	106		LL2SS-278M-1234-SO	Blind	99.8	ug/kg		-6.0
LL2SS-278M-1231-SO	Aroclor-1260	8.35	U	LL2SS-278M-1234-SO	Blind	8.36	ug/kg	U	0.1
LL2SS-278M-1231-SO	Aroclor-1016	8.35	U	LL2SS-278M-1233-SO	Field	8.38	ug/kg	U	0.4
LL2SS-278M-1231-SO	Aroclor-1221	8.35	U	LL2SS-278M-1233-SO	Field	8.38	ug/kg	U	0.4
LL2SS-278M-1231-SO	Aroclor-1232	8.35	U	LL2SS-278M-1233-SO	Field	8.38	ug/kg	U	0.4
LL2SS-278M-1231-SO	Aroclor-1242	8.35	U	LL2SS-278M-1233-SO	Field	8.38	ug/kg	U	0.4
LL2SS-278M-1231-SO	Aroclor-1248	8.35	U	LL2SS-278M-1233-SO	Field	8.38	ug/kg	U	0.4
LL2SS-278M-1231-SO	Aroclor-1254	106		LL2SS-278M-1233-SO	Field	121	ug/kg		13.2
LL2SS-278M-1231-SO	Aroclor-1260	8.35	U	LL2SS-278M-1233-SO	Field	8.38	ug/kg	U	0.4
LL2SS-278M-1231-SO	1,3,5-Trinitrobenzene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	1,3-Dinitrobenzene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	2,4,6-Trinitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	2,4-Dinitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	2,6-Dinitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	2-Nitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	3-Nitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	4-Nitrotoluene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	HMX	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	Nitrobenzene	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	Nitroglycerin	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	PETN	0.501	U	LL2SS-278M-1234-SO	Blind	0.5	mg/kg	U	-0.2
LL2SS-278M-1231-SO	RDX	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	Tetryl	0.1	U	LL2SS-278M-1234-SO	Blind	0.1	mg/kg	U	0.0
LL2SS-278M-1231-SO	1,3,5-Trinitrobenzene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	1,3-Dinitrobenzene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	2,4,6-Trinitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	2,4-Dinitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	2,6-Dinitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	2-Nitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	3-Nitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	4-Nitrotoluene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	HMX	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	Nitrobenzene	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	Nitroglycerin	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	PETN	0.501	U	LL2SS-278M-1233-SO	Field	0.496	mg/kg	U	-1.0
LL2SS-278M-1231-SO	RDX	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	Tetryl	0.1	U	LL2SS-278M-1233-SO	Field	0.099	mg/kg	U	-0.9
LL2SS-278M-1231-SO	4,4'-DDD	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	4,4'-DDE	32	J	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-162.7
LL2SS-278M-1231-SO	4,4'-DDT	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Aldrin	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	alpha Chlordane	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	alpha-BHC	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	beta-BHC	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	delta-BHC	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Dieldrin	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Endosulfan I	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Endosulfan II	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Endosulfan sulfate	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Endrin	5.62	J	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-52.3
LL2SS-278M-1231-SO	Endrin aldehyde	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Endrin ketone	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	gamma Chlordane	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	gamma-BHC (Lindane)	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Heptachlor	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Heptachlor epoxide	2.04	J	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	46.9
LL2SS-278M-1231-SO	Methoxychlor	3.41	UJ	LL2SS-278M-1234-SO	Blind	3.29	ug/kg	UJ	-3.6
LL2SS-278M-1231-SO	Toxaphene	173	UJ	LL2SS-278M-1234-SO	Blind	166	ug/kg	UJ	-4.1
LL2SS-278M-1231-SO	4,4'-DDD	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	4,4'-DDE	32	J	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-162.3
LL2SS-278M-1231-SO	4,4'-DDT	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Aldrin	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	alpha Chlordane	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	alpha-BHC	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	beta-BHC	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	delta-BHC	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Dieldrin	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Endosulfan I	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Endosulfan II	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	Endosulfan sulfate	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Endrin	5.62	J	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-51.2
LL2SS-278M-1231-SO	Endrin aldehyde	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Endrin ketone	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	gamma Chlordane	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	gamma-BHC (Lindane)	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Heptachlor	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Heptachlor epoxide	2.04	J	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	48.0
LL2SS-278M-1231-SO	Methoxychlor	3.41	UJ	LL2SS-278M-1233-SO	Field	3.33	ug/kg	UJ	-2.4
LL2SS-278M-1231-SO	Toxaphene	173	UJ	LL2SS-278M-1233-SO	Field	168	ug/kg	UJ	-2.9
LL2SS-278M-1231-SO	1,2,4-Trichlorobenzene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	1,2-Dichlorobenzene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	1,3-Dichlorobenzene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	1,4-Dichlorobenzene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2,4,5-Trichlorophenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2,4,6-Trichlorophenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2,4-Dichlorophenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2,4-Dimethylphenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2,4-Dinitrophenol	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	2,4-Dinitrotoluene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2,6-Dinitrotoluene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2-Chloronaphthalene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2-Chlorophenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2-Methylnaphthalene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2-Methylphenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	2-Nitroaniline	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	2-Nitrophenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	3,3'-Dichlorobenzidine	163	UJ	LL2SS-278M-1234-SO	Blind	168	ug/kg	UJ	3.0
LL2SS-278M-1231-SO	3-,4-Methylphenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	3-Nitroaniline	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	4,6-Dinitro-2-methylphenol	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	4-Bromophenyl-phenylether	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	4-Chloro-3-methylphenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	4-Chloroaniline	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	4-Chlorophenyl-phenyl ether	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	4-Nitroaniline	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	4-Nitrophenol	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	Acenaphthene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Acenaphthylene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	Anthracene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Benzo(a)anthracene	118	J	LL2SS-278M-1234-SO	Blind	178	ug/kg		40.5
LL2SS-278M-1231-SO	Benzo(a)pyrene	104	J	LL2SS-278M-1234-SO	Blind	175	ug/kg		50.9
LL2SS-278M-1231-SO	Benzo(b)fluoranthene	81.7	U	LL2SS-278M-1234-SO	Blind	127	ug/kg	J	43.4
LL2SS-278M-1231-SO	Benzo(g,h,i)Perylene	81.7	UJ	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	UJ	2.5
LL2SS-278M-1231-SO	Benzo(k)fluoranthene	144	J	LL2SS-278M-1234-SO	Blind	202	ug/kg		33.5
LL2SS-278M-1231-SO	Benzoic acid	327	R	LL2SS-278M-1234-SO	Blind	335	ug/kg	R	2.4
LL2SS-278M-1231-SO	Benzyl alcohol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Bis(2-Chloroethoxy)Methane	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Bis(2-Chloroethyl)ether	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	bis(2-Chloroisopropyl)ether	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	bis(2-Ethylhexyl)phthalate	81.7	UJ	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	UJ	2.5
LL2SS-278M-1231-SO	Butylbenzylphthalate	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Carbazole	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Chrysene	112	J	LL2SS-278M-1234-SO	Blind	165	ug/kg	J	38.3
LL2SS-278M-1231-SO	Dibenzo(a,h)Anthracene	81.7	UJ	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	UJ	2.5
LL2SS-278M-1231-SO	Dibenzofuran	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Diethylphthalate	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Dimethylphthalate	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Di-N-Butylphthalate	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Di-n-octylphthalate	81.7	UJ	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	UJ	2.5
LL2SS-278M-1231-SO	Fluoranthene	236		LL2SS-278M-1234-SO	Blind	320	ug/kg		30.2
LL2SS-278M-1231-SO	Fluorene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Hexachlorobenzene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Hexachlorobutadiene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Hexachlorocyclopentadiene	81.7	R	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	R	2.5
LL2SS-278M-1231-SO	Hexachloroethane	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Indeno(1,2,3-cd)pyrene	81.7	UJ	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	-J	2.5
LL2SS-278M-1231-SO	Isophorone	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Naphthalene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Nitrobenzene	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	N-Nitrosodiphenylamine	81.7	UJ	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	UJ	2.5
LL2SS-278M-1231-SO	N-Nitrosodipropylamine	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Pentachlorophenol	408	U	LL2SS-278M-1234-SO	Blind	418	ug/kg	U	2.4
LL2SS-278M-1231-SO	Phenanthrene	96.2	J	LL2SS-278M-1234-SO	Blind	95.9	ug/kg	J	-0.3
LL2SS-278M-1231-SO	Phenol	81.7	U	LL2SS-278M-1234-SO	Blind	83.8	ug/kg	U	2.5
LL2SS-278M-1231-SO	Pyrene	185		LL2SS-278M-1234-SO	Blind	252	ug/kg		30.7
LL2SS-278M-1231-SO	1,2,4-Trichlorobenzene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	1,2-Dichlorobenzene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	1,3-Dichlorobenzene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	1,4-Dichlorobenzene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2,4,5-Trichlorophenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2,4,6-Trichlorophenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2,4-Dichlorophenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2,4-Dimethylphenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2,4-Dinitrophenol	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	2,4-Dinitrotoluene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2,6-Dinitrotoluene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2-Chloronaphthalene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2-Chlorophenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2-Methylnaphthalene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2-Methylphenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	2-Nitroaniline	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	2-Nitrophenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	3,3'-Dichlorobenzidine	163	UJ	LL2SS-278M-1233-SO	Field	164	ug/kg	UJ	0.6
LL2SS-278M-1231-SO	3-,4-Methylphenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	3-Nitroaniline	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	4,6-Dinitro-2-methylphenol	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	4-Bromophenyl-phenylether	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	4-Chloro-3-methylphenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	4-Chloroaniline	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	4-Chlorophenyl-phenyl ether	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	4-Nitroaniline	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	4-Nitrophenol	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	Acenaphthene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Acenaphthylene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Anthracene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Benzo(a)anthracene	118	J	LL2SS-278M-1233-SO	Field	160	ug/kg	J	30.2
LL2SS-278M-1231-SO	Benzo(a)pyrene	104	J	LL2SS-278M-1233-SO	Field	148	ug/kg	J	34.9
LL2SS-278M-1231-SO	Benzo(b)fluoranthene	81.7	U	LL2SS-278M-1233-SO	Field	109	ug/kg	J	28.6
LL2SS-278M-1231-SO	Benzo(g,h,i)Perylene	81.7	UJ	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4
LL2SS-278M-1231-SO	Benzo(k)fluoranthene	144	J	LL2SS-278M-1233-SO	Field	175	ug/kg		19.4
LL2SS-278M-1231-SO	Benzoic acid	327	R	LL2SS-278M-1233-SO	Field	328	ug/kg	R	0.3
LL2SS-278M-1231-SO	Benzyl alcohol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Bis(2-Chloroethoxy)Methane	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Bis(2-Chloroethyl)ether	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	bis(2-Chloroisopropyl)ether	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4
LL2SS-278M-1231-SO	bis(2-Ethylhexyl)phthalate	81.7	UJ	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	Butylbenzylphthalate	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Carbazole	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Chrysene	112	J	LL2SS-278M-1233-SO	Field	145	ug/kg	J	25.7
LL2SS-278M-1231-SO	Dibenzo(a,h)Anthracene	81.7	UJ	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4
LL2SS-278M-1231-SO	Dibenzofuran	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Diethylphthalate	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Dimethylphthalate	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Di-N-Butylphthalate	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Di-n-octylphthalate	81.7	UJ	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4
LL2SS-278M-1231-SO	Fluoranthene	236		LL2SS-278M-1233-SO	Field	294	ug/kg		21.9
LL2SS-278M-1231-SO	Fluorene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Hexachlorobenzene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Hexachlorobutadiene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Hexachlorocyclopentadiene	81.7	R	LL2SS-278M-1233-SO	Field	82	ug/kg	R	0.4
LL2SS-278M-1231-SO	Hexachloroethane	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Indeno(1,2,3-cd)pyrene	81.7	UJ	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4
LL2SS-278M-1231-SO	Isophorone	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Naphthalene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Nitrobenzene	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	N-Nitrosodiphenylamine	81.7	UJ	LL2SS-278M-1233-SO	Field	82	ug/kg	UJ	0.4
LL2SS-278M-1231-SO	N-Nitrosodipropylamine	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Pentachlorophenol	408	U	LL2SS-278M-1233-SO	Field	410	ug/kg	U	0.5
LL2SS-278M-1231-SO	Phenanthrene	96.2	J	LL2SS-278M-1233-SO	Field	106	ug/kg	J	9.7
LL2SS-278M-1231-SO	Phenol	81.7	U	LL2SS-278M-1233-SO	Field	82	ug/kg	U	0.4
LL2SS-278M-1231-SO	Pyrene	185		LL2SS-278M-1233-SO	Field	230	ug/kg		21.7
LL2SS-278M-1231-SO	Aluminum	8190		LL2SS-278M-1234-SO	Blind	8550	mg/kg		4.3
LL2SS-278M-1231-SO	Antimony	0.049	R	LL2SS-278M-1234-SO	Blind	0.049	mg/kg	R	0.2
LL2SS-278M-1231-SO	Arsenic	12.1	J-	LL2SS-278M-1234-SO	Blind	10.4	mg/kg	J-	-15.1
LL2SS-278M-1231-SO	Barium	44.9		LL2SS-278M-1234-SO	Blind	51.5	mg/kg		13.7
LL2SS-278M-1231-SO	Beryllium	0.491		LL2SS-278M-1234-SO	Blind	0.542	mg/kg		9.9
LL2SS-278M-1231-SO	Cadmium	0.386		LL2SS-278M-1234-SO	Blind	0.472	mg/kg		20.0
LL2SS-278M-1231-SO	Calcium	5020		LL2SS-278M-1234-SO	Blind	3310	mg/kg		-41.1
LL2SS-278M-1231-SO	Chromium	27.2	J-	LL2SS-278M-1234-SO	Blind	22.1	mg/kg	J-	-20.7
LL2SS-278M-1231-SO	Cobalt	7.41	J-	LL2SS-278M-1234-SO	Blind	8	mg/kg	J-	7.7
LL2SS-278M-1231-SO	Copper	21		LL2SS-278M-1234-SO	Blind	22.5	mg/kg		6.9
LL2SS-278M-1231-SO	Iron	20200	J-	LL2SS-278M-1234-SO	Blind	21100	mg/kg	J-	4.4
LL2SS-278M-1231-SO	Lead	23.8		LL2SS-278M-1234-SO	Blind	22.4	mg/kg		-6.1
LL2SS-278M-1231-SO	Magnesium	2980		LL2SS-278M-1234-SO	Blind	2590	mg/kg		-14.0
LL2SS-278M-1231-SO	Manganese	324	J-	LL2SS-278M-1234-SO	Blind	338	mg/kg	J-	4.2

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-278M-1231-SO	Mercury	0.015	J	LL2SS-278M-1234-SO	Blind	0.014	mg/kg	J	-5.5
LL2SS-278M-1231-SO	Nickel	28.2	J	LL2SS-278M-1234-SO	Blind	35.4	mg/kg	J	22.6
LL2SS-278M-1231-SO	Potassium	934	J+	LL2SS-278M-1234-SO	Blind	966	mg/kg	J+	3.4
LL2SS-278M-1231-SO	Selenium	0.191	J	LL2SS-278M-1234-SO	Blind	0.2	mg/kg		4.6
LL2SS-278M-1231-SO	Silver	0.179	UJ	LL2SS-278M-1234-SO	Blind	0.714	mg/kg	J-	119.8
LL2SS-278M-1231-SO	Sodium	58.6		LL2SS-278M-1234-SO	Blind	62.7	mg/kg		6.8
LL2SS-278M-1231-SO	Thallium	0.129		LL2SS-278M-1234-SO	Blind	0.143	mg/kg		10.3
LL2SS-278M-1231-SO	Vanadium	12.3		LL2SS-278M-1234-SO	Blind	13.5	mg/kg		9.3
LL2SS-278M-1231-SO	Zinc	62.4		LL2SS-278M-1234-SO	Blind	61.3	mg/kg		-1.8
LL2SS-278M-1231-SO	Aluminum	8190		LL2SS-278M-1233-SO	Field	7940	mg/kg		-3.1
LL2SS-278M-1231-SO	Antimony	0.049	R	LL2SS-278M-1233-SO	Field	0.049	mg/kg	R	0.2
LL2SS-278M-1231-SO	Arsenic	12.1	J-	LL2SS-278M-1233-SO	Field	12.4	mg/kg	J-	2.4
LL2SS-278M-1231-SO	Barium	44.9		LL2SS-278M-1233-SO	Field	46.2	mg/kg		2.9
LL2SS-278M-1231-SO	Beryllium	0.491		LL2SS-278M-1233-SO	Field	0.513	mg/kg		4.4
LL2SS-278M-1231-SO	Cadmium	0.386		LL2SS-278M-1233-SO	Field	0.407	mg/kg		5.3
LL2SS-278M-1231-SO	Calcium	5020		LL2SS-278M-1233-SO	Field	6490	mg/kg		25.5
LL2SS-278M-1231-SO	Chromium	27.2	J-	LL2SS-278M-1233-SO	Field	23.5	mg/kg	J-	-14.6
LL2SS-278M-1231-SO	Cobalt	7.41	J-	LL2SS-278M-1233-SO	Field	8.12	mg/kg	J-	9.1
LL2SS-278M-1231-SO	Copper	21		LL2SS-278M-1233-SO	Field	22.6	mg/kg		7.3
LL2SS-278M-1231-SO	Iron	20200	J-	LL2SS-278M-1233-SO	Field	20600	mg/kg	J-	2.0
LL2SS-278M-1231-SO	Lead	23.8		LL2SS-278M-1233-SO	Field	22.7	mg/kg		-4.7
LL2SS-278M-1231-SO	Magnesium	2980		LL2SS-278M-1233-SO	Field	3050	mg/kg		2.3
LL2SS-278M-1231-SO	Manganese	324	J-	LL2SS-278M-1233-SO	Field	368	mg/kg	J-	12.7
LL2SS-278M-1231-SO	Mercury	0.015	J	LL2SS-278M-1233-SO	Field	0.012	mg/kg	J	-22.2
LL2SS-278M-1231-SO	Nickel	28.2	J	LL2SS-278M-1233-SO	Field	180	mg/kg	J	145.8
LL2SS-278M-1231-SO	Potassium	934	J+	LL2SS-278M-1233-SO	Field	878	mg/kg	J+	-6.2
LL2SS-278M-1231-SO	Selenium	0.191	J	LL2SS-278M-1233-SO	Field	0.316	mg/kg		49.3
LL2SS-278M-1231-SO	Silver	0.179	UJ	LL2SS-278M-1233-SO	Field	0.236	mg/kg	J	27.5
LL2SS-278M-1231-SO	Sodium	58.6		LL2SS-278M-1233-SO	Field	63.3	mg/kg		7.7
LL2SS-278M-1231-SO	Thallium	0.129		LL2SS-278M-1233-SO	Field	0.136	mg/kg		5.3
LL2SS-278M-1231-SO	Vanadium	12.3		LL2SS-278M-1233-SO	Field	12.3	mg/kg		0.0
LL2SS-278M-1231-SO	Zinc	62.4		LL2SS-278M-1233-SO	Field	66.4	mg/kg		6.2
LL2SS-278M-1231-SO	Hexavalent Chromium	0.046	UJ	LL2SS-278M-1234-SO	Blind	0.046	mg/kg	UJ	-1.5
LL2SS-278M-1231-SO	Hexavalent Chromium	0.046	UJ	LL2SS-278M-1233-SO	Field	0.077	mg/kg	J-	50.0
LL2SS-280D-1237-SO	1,1,1-Trichloroethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	1,1,2,2-Tetrachloroethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	1,1,2-Trichloroethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	1,1-Dichloroethane	1.23	U	LL2SS-280D-1239-SO	VOC Blind	1.53	ug/kg	U	21.7
LL2SS-280D-1237-SO	1,1-Dichloroethene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-280D-1237-SO	1,2-Dibromoethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	1,2-Dichloroethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	1,2-Dichloroethene (total)	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	1,2-Dichloropropane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	2-Butanone	3.06	U	LL2SS-280D-1239-SO	VOC Blind	3.81	ug/kg	U	21.8
LL2SS-280D-1237-SO	2-Hexanone	3.06	U	LL2SS-280D-1239-SO	VOC Blind	3.81	ug/kg	U	21.8
LL2SS-280D-1237-SO	4-Methyl-2-pentanone	3.06	U	LL2SS-280D-1239-SO	VOC Blind	3.81	ug/kg	U	21.8
LL2SS-280D-1237-SO	Acetone	6.13	R	LL2SS-280D-1239-SO	VOC Blind	7.63	ug/kg	R	21.8
LL2SS-280D-1237-SO	Benzene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Bromochloromethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Bromodichloromethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Bromoform	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Bromomethane	1.23	U	LL2SS-280D-1239-SO	VOC Blind	1.53	ug/kg	U	21.7
LL2SS-280D-1237-SO	Carbon disulfide	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Carbon tetrachloride	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Chlorobenzene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Chloroethane	1.23	U	LL2SS-280D-1239-SO	VOC Blind	1.53	ug/kg	U	21.7
LL2SS-280D-1237-SO	Chloroform	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Chloromethane	2.45	U	LL2SS-280D-1239-SO	VOC Blind	3.05	ug/kg	U	21.8
LL2SS-280D-1237-SO	cis-1,3-Dichloropropene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Dibromochloromethane	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Ethyl benzene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Methylene chloride	1.23	U	LL2SS-280D-1239-SO	VOC Blind	1.53	ug/kg	U	21.7
LL2SS-280D-1237-SO	Styrene	0.613	R	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	R	21.8
LL2SS-280D-1237-SO	Tetrachloroethene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Toluene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	trans-1,3-Dichloropropene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Trichloroethene	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-280D-1237-SO	Vinyl chloride	1.23	U	LL2SS-280D-1239-SO	VOC Blind	1.53	ug/kg	U	21.7
LL2SS-280D-1237-SO	Xylenes, Total	0.613	U	LL2SS-280D-1239-SO	VOC Blind	0.763	ug/kg	U	21.8
LL2SS-285M-1244-SO	Aroclor-1016	44.4	UJ	LL2SS-285M-1247-SO	Blind	9.08	ug/kg	UJ	-132.1
LL2SS-285M-1244-SO	Aroclor-1221	44.4	UJ	LL2SS-285M-1247-SO	Blind	9.08	ug/kg	UJ	-132.1
LL2SS-285M-1244-SO	Aroclor-1232	44.4	UJ	LL2SS-285M-1247-SO	Blind	9.08	ug/kg	UJ	-132.1
LL2SS-285M-1244-SO	Aroclor-1242	44.4	UJ	LL2SS-285M-1247-SO	Blind	9.08	ug/kg	UJ	-132.1
LL2SS-285M-1244-SO	Aroclor-1248	44.4	UJ	LL2SS-285M-1247-SO	Blind	9.08	ug/kg	UJ	-132.1
LL2SS-285M-1244-SO	Aroclor-1254	437	J+	LL2SS-285M-1247-SO	Blind	240	ug/kg	J+	-58.2
LL2SS-285M-1244-SO	Aroclor-1260	191	J+	LL2SS-285M-1247-SO	Blind	164	ug/kg	J+	-15.2
LL2SS-285M-1244-SO	Aroclor-1016	44.4	UJ	LL2SS-285M-1246-SO	Field	45.3	ug/kg	UJ	2.0
LL2SS-285M-1244-SO	Aroclor-1221	44.4	UJ	LL2SS-285M-1246-SO	Field	45.3	ug/kg	UJ	2.0

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-285M-1244-SO	Aroclor-1232	44.4	UJ	LL2SS-285M-1246-SO	Field	45.3	ug/kg	UJ	2.0
LL2SS-285M-1244-SO	Aroclor-1242	44.4	UJ	LL2SS-285M-1246-SO	Field	45.3	ug/kg	UJ	2.0
LL2SS-285M-1244-SO	Aroclor-1248	44.4	UJ	LL2SS-285M-1246-SO	Field	45.3	ug/kg	UJ	2.0
LL2SS-285M-1244-SO	Aroclor-1254	437	J+	LL2SS-285M-1246-SO	Field	250	ug/kg	J+	-54.4
LL2SS-285M-1244-SO	Aroclor-1260	191	J+	LL2SS-285M-1246-SO	Field	110	ug/kg	J+	-53.8
LL2SS-285M-1244-SO	1,3,5-Trinitrobenzene	0.821		LL2SS-285M-1247-SO	Blind	0.855	mg/kg		4.1
LL2SS-285M-1244-SO	1,3-Dinitrobenzene	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	2,4,6-Trinitrotoluene	125		LL2SS-285M-1247-SO	Blind	339	mg/kg		92.2
LL2SS-285M-1244-SO	2,4-Dinitrotoluene	0.1	U	LL2SS-285M-1247-SO	Blind	0.211	mg/kg	J	71.7
LL2SS-285M-1244-SO	2,6-Dinitrotoluene	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	2-Amino-4,6-dinitrotoluene	1.75		LL2SS-285M-1247-SO	Blind	3.39	mg/kg		63.8
LL2SS-285M-1244-SO	2-Nitrotoluene	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	3-Nitrotoluene	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	4-Amino-2,6-dinitrotoluene	3.07		LL2SS-285M-1247-SO	Blind	4.84	mg/kg		44.8
LL2SS-285M-1244-SO	4-Nitrotoluene	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	HMX	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	Nitrobenzene	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	Nitroglycerin	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	PETN	0.498	U	LL2SS-285M-1247-SO	Blind	0.496	mg/kg	R	-0.4
LL2SS-285M-1244-SO	RDX	0.186	J	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-61.0
LL2SS-285M-1244-SO	Tetryl	0.1	U	LL2SS-285M-1247-SO	Blind	0.099	mg/kg	U	-0.5
LL2SS-285M-1244-SO	1,3,5-Trinitrobenzene	0.821		LL2SS-285M-1246-SO	Field	0.383	mg/kg		-72.8
LL2SS-285M-1244-SO	1,3-Dinitrobenzene	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	2,4,6-Trinitrotoluene	125		LL2SS-285M-1246-SO	Field	215	mg/kg		52.9
LL2SS-285M-1244-SO	2,4-Dinitrotoluene	0.1	U	LL2SS-285M-1246-SO	Field	0.182	mg/kg	J	58.5
LL2SS-285M-1244-SO	2,6-Dinitrotoluene	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	2-Amino-4,6-dinitrotoluene	1.75		LL2SS-285M-1246-SO	Field	2.05	mg/kg		15.8
LL2SS-285M-1244-SO	2-Nitrotoluene	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	3-Nitrotoluene	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	4-Amino-2,6-dinitrotoluene	3.07		LL2SS-285M-1246-SO	Field	3.73	mg/kg		19.4
LL2SS-285M-1244-SO	4-Nitrotoluene	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	HMX	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	Nitrobenzene	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	Nitroglycerin	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	PETN	0.498	U	LL2SS-285M-1246-SO	Field	0.495	mg/kg	R	-0.6
LL2SS-285M-1244-SO	RDX	0.186	J	LL2SS-285M-1246-SO	Field	0.123	mg/kg	J	-40.8
LL2SS-285M-1244-SO	Tetryl	0.1	U	LL2SS-285M-1246-SO	Field	0.099	mg/kg	U	-0.7
LL2SS-285M-1244-SO	1,2,4-Trichlorobenzene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	1,2-Dichlorobenzene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-285M-1244-SO	1,3-Dichlorobenzene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	1,4-Dichlorobenzene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2,4,5-Trichlorophenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2,4,6-Trichlorophenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2,4-Dichlorophenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2,4-Dimethylphenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2,4-Dinitrophenol	445	UJ	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	2,4-Dinitrotoluene	89	U	LL2SS-285M-1247-SO	Blind	231	ug/kg		88.8
LL2SS-285M-1244-SO	2,6-Dinitrotoluene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2-Chloronaphthalene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2-Chlorophenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2-Methylnaphthalene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2-Methylphenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	2-Nitroaniline	445	U	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	2-Nitrophenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	3,3'-Dichlorobenzidine	178	U	LL2SS-285M-1247-SO	Blind	175	ug/kg	U	-1.7
LL2SS-285M-1244-SO	3-,4-Methylphenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	3-Nitroaniline	445	U	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	4,6-Dinitro-2-methylphenol	445	UJ	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	4-Bromophenyl-phenylether	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	4-Chloro-3-methylphenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	4-Chloroaniline	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	4-Chlorophenyl-phenyl ether	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	4-Nitroaniline	445	U	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	4-Nitrophenol	445	UJ	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	Acenaphthene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Acenaphthylene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Anthracene	175	J	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-66.6
LL2SS-285M-1244-SO	Benzo(a)anthracene	427		LL2SS-285M-1247-SO	Blind	141	ug/kg	J	-100.7
LL2SS-285M-1244-SO	Benzo(a)pyrene	379		LL2SS-285M-1247-SO	Blind	124	ug/kg	J	-101.4
LL2SS-285M-1244-SO	Benzo(b)fluoranthene	301		LL2SS-285M-1247-SO	Blind	103	ug/kg	J	-98.0
LL2SS-285M-1244-SO	Benzo(g,h,i)Perylene	237	J	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	UJ	-92.1
LL2SS-285M-1244-SO	Benzo(k)fluoranthene	382		LL2SS-285M-1247-SO	Blind	113	ug/kg	J	-108.7
LL2SS-285M-1244-SO	Benzoic acid	356	R	LL2SS-285M-1247-SO	Blind	350	ug/kg	R	-1.7
LL2SS-285M-1244-SO	Benzyl alcohol	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Bis(2-Chloroethoxy)Methane	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Bis(2-Chloroethyl)ether	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	bis(2-Chloroisopropyl)ether	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	bis(2-Ethylhexyl)phthalate	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-285M-1244-SO	Butylbenzylphthalate	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Carbazole	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Chrysene	477		LL2SS-285M-1247-SO	Blind	157	ug/kg	J	-100.9
LL2SS-285M-1244-SO	Dibenzo(a,h)Anthracene	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	UJ	-1.6
LL2SS-285M-1244-SO	Dibenzofuran	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Diethylphthalate	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Dimethylphthalate	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Di-N-Butylphthalate	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Di-n-octylphthalate	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Fluoranthene	1090		LL2SS-285M-1247-SO	Blind	377	ug/kg		-97.2
LL2SS-285M-1244-SO	Fluorene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Hexachlorobenzene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Hexachlorobutadiene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Hexachlorocyclopentadiene	89	R	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	R	-1.6
LL2SS-285M-1244-SO	Hexachloroethane	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Indeno(1,2,3-cd)pyrene	201	J	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	UJ	-78.6
LL2SS-285M-1244-SO	Isophorone	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Naphthalene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Nitrobenzene	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	N-Nitrosodiphenylamine	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	N-Nitrosodipropylamine	89	U	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Pentachlorophenol	445	UJ	LL2SS-285M-1247-SO	Blind	437	ug/kg	U	-1.8
LL2SS-285M-1244-SO	Phenanthrene	885		LL2SS-285M-1247-SO	Blind	365	ug/kg		-83.2
LL2SS-285M-1244-SO	Phenol	89	UJ	LL2SS-285M-1247-SO	Blind	87.6	ug/kg	U	-1.6
LL2SS-285M-1244-SO	Pyrene	978		LL2SS-285M-1247-SO	Blind	337	ug/kg		-97.5
LL2SS-285M-1244-SO	1,2,4-Trichlorobenzene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	1,2-Dichlorobenzene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	1,3-Dichlorobenzene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	1,4-Dichlorobenzene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,4,5-Trichlorophenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,4,6-Trichlorophenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,4-Dichlorophenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,4-Dimethylphenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,4-Dinitrophenol	445	UJ	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,4-Dinitrotoluene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2,6-Dinitrotoluene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2-Chloronaphthalene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2-Chlorophenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2-Methylnaphthalene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-285M-1244-SO	2-Methylphenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	2-Nitroaniline	445	U	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	2-Nitrophenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	3,3'-Dichlorobenzidine	178	U	LL2SS-285M-1246-SO	Field	182	ug/kg	U	2.2
LL2SS-285M-1244-SO	3-,4-Methylphenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	3-Nitroaniline	445	U	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	4,6-Dinitro-2-methylphenol	445	UJ	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	4-Bromophenyl-phenylether	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	4-Chloro-3-methylphenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	4-Chloroaniline	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	4-Chlorophenyl-phenyl ether	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	4-Nitroaniline	445	U	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	4-Nitrophenol	445	UJ	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	Acenaphthene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Acenaphthylene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Anthracene	175	J	LL2SS-285M-1246-SO	Field	147	ug/kg	J	-17.4
LL2SS-285M-1244-SO	Benzo(a)anthracene	427		LL2SS-285M-1246-SO	Field	238	ug/kg		-56.8
LL2SS-285M-1244-SO	Benzo(a)pyrene	379		LL2SS-285M-1246-SO	Field	219	ug/kg		-53.5
LL2SS-285M-1244-SO	Benzo(b)fluoranthene	301		LL2SS-285M-1246-SO	Field	150	ug/kg	J	-67.0
LL2SS-285M-1244-SO	Benzo(g,h,i)Perylene	237	J	LL2SS-285M-1246-SO	Field	100	ug/kg	J	-81.3
LL2SS-285M-1244-SO	Benzo(k)fluoranthene	382		LL2SS-285M-1246-SO	Field	183	ug/kg		-70.4
LL2SS-285M-1244-SO	Benzoic acid	356	R	LL2SS-285M-1246-SO	Field	364	ug/kg	R	2.2
LL2SS-285M-1244-SO	Benzyl alcohol	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Bis(2-Chloroethoxy)Methane	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Bis(2-Chloroethyl)ether	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	bis(2-Chloroisopropyl)ether	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	bis(2-Ethylhexyl)phthalate	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Butylbenzylphthalate	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Carbazole	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Chrysene	477		LL2SS-285M-1246-SO	Field	251	ug/kg		-62.1
LL2SS-285M-1244-SO	Dibenzo(a,h)Anthracene	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	UJ	2.2
LL2SS-285M-1244-SO	Dibenzofuran	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Diethylphthalate	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Dimethylphthalate	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Di-N-Butylphthalate	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Di-n-octylphthalate	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Fluoranthene	1090		LL2SS-285M-1246-SO	Field	638	ug/kg		-52.3
LL2SS-285M-1244-SO	Fluorene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Hexachlorobenzene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-285M-1244-SO	Hexachlorobutadiene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Hexachlorocyclopentadiene	89	R	LL2SS-285M-1246-SO	Field	91	ug/kg	R	2.2
LL2SS-285M-1244-SO	Hexachloroethane	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Indeno(1,2,3-cd)pyrene	201	J	LL2SS-285M-1246-SO	Field	91	ug/kg	UJ	-75.3
LL2SS-285M-1244-SO	Isophorone	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Naphthalene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Nitrobenzene	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	N-Nitrosodiphenylamine	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	N-Nitrosodipropylamine	89	U	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Pentachlorophenol	445	UJ	LL2SS-285M-1246-SO	Field	455	ug/kg	U	2.2
LL2SS-285M-1244-SO	Phenanthrene	885		LL2SS-285M-1246-SO	Field	633	ug/kg		-33.2
LL2SS-285M-1244-SO	Phenol	89	UJ	LL2SS-285M-1246-SO	Field	91	ug/kg	U	2.2
LL2SS-285M-1244-SO	Pyrene	978		LL2SS-285M-1246-SO	Field	555	ug/kg		-55.2
LL2SS-285M-1244-SO	Aluminum	7840		LL2SS-285M-1247-SO	Blind	8600	mg/kg		9.2
LL2SS-285M-1244-SO	Antimony	0.055	R	LL2SS-285M-1247-SO	Blind	0.056	mg/kg	R	2.2
LL2SS-285M-1244-SO	Arsenic	9.75	J-	LL2SS-285M-1247-SO	Blind	10	mg/kg	J-	2.5
LL2SS-285M-1244-SO	Barium	57.8		LL2SS-285M-1247-SO	Blind	68.1	mg/kg		16.4
LL2SS-285M-1244-SO	Beryllium	0.476		LL2SS-285M-1247-SO	Blind	0.529	mg/kg		10.5
LL2SS-285M-1244-SO	Cadmium	0.865		LL2SS-285M-1247-SO	Blind	0.735	mg/kg		-16.3
LL2SS-285M-1244-SO	Calcium	5350		LL2SS-285M-1247-SO	Blind	3930	mg/kg		-30.6
LL2SS-285M-1244-SO	Chromium	14	J-	LL2SS-285M-1247-SO	Blind	13.7	mg/kg	J-	-2.2
LL2SS-285M-1244-SO	Cobalt	7.25	J-	LL2SS-285M-1247-SO	Blind	8.25	mg/kg	J-	12.9
LL2SS-285M-1244-SO	Copper	20.5		LL2SS-285M-1247-SO	Blind	18.7	mg/kg		-9.2
LL2SS-285M-1244-SO	Iron	21200	J-	LL2SS-285M-1247-SO	Blind	22900	mg/kg	J-	7.7
LL2SS-285M-1244-SO	Lead	38.7		LL2SS-285M-1247-SO	Blind	29.8	mg/kg		-26.0
LL2SS-285M-1244-SO	Magnesium	2170		LL2SS-285M-1247-SO	Blind	2200	mg/kg		1.4
LL2SS-285M-1244-SO	Manganese	405	J-	LL2SS-285M-1247-SO	Blind	384	mg/kg	J-	-5.3
LL2SS-285M-1244-SO	Mercury	0.035	J	LL2SS-285M-1247-SO	Blind	0.053	mg/kg	J	41.5
LL2SS-285M-1244-SO	Nickel	22	J-	LL2SS-285M-1247-SO	Blind	27.5	mg/kg	J-	22.2
LL2SS-285M-1244-SO	Potassium	540		LL2SS-285M-1247-SO	Blind	605	mg/kg		11.4
LL2SS-285M-1244-SO	Selenium	0.174	J-	LL2SS-285M-1247-SO	Blind	0.238	mg/kg	J-	31.1
LL2SS-285M-1244-SO	Silver	0.216	J	LL2SS-285M-1247-SO	Blind	0.23	mg/kg	J	6.3
LL2SS-285M-1244-SO	Sodium	43		LL2SS-285M-1247-SO	Blind	35.4	mg/kg		-19.4
LL2SS-285M-1244-SO	Thallium	0.111		LL2SS-285M-1247-SO	Blind	0.117	mg/kg		5.3
LL2SS-285M-1244-SO	Vanadium	13.4	J-	LL2SS-285M-1247-SO	Blind	15	mg/kg	J-	11.3
LL2SS-285M-1244-SO	Zinc	93	J-	LL2SS-285M-1247-SO	Blind	92.6	mg/kg	J-	-0.4
LL2SS-285M-1244-SO	Aluminum	7840		LL2SS-285M-1246-SO	Field	7640	mg/kg		-2.6
LL2SS-285M-1244-SO	Antimony	0.055	R	LL2SS-285M-1246-SO	Field	0.055	mg/kg	R	1.6
LL2SS-285M-1244-SO	Arsenic	9.75	J-	LL2SS-285M-1246-SO	Field	9.95	mg/kg	J-	2.0

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-285M-1244-SO	Barium	57.8		LL2SS-285M-1246-SO	Field	56.3	mg/kg		-2.6
LL2SS-285M-1244-SO	Beryllium	0.476		LL2SS-285M-1246-SO	Field	0.449	mg/kg		-5.8
LL2SS-285M-1244-SO	Cadmium	0.865		LL2SS-285M-1246-SO	Field	0.647	mg/kg		-28.8
LL2SS-285M-1244-SO	Calcium	5350		LL2SS-285M-1246-SO	Field	4730	mg/kg		-12.3
LL2SS-285M-1244-SO	Chromium	14	J-	LL2SS-285M-1246-SO	Field	12.2	mg/kg	J-	-13.7
LL2SS-285M-1244-SO	Cobalt	7.25	J-	LL2SS-285M-1246-SO	Field	7.49	mg/kg	J-	3.3
LL2SS-285M-1244-SO	Copper	20.5		LL2SS-285M-1246-SO	Field	18.4	mg/kg		-10.8
LL2SS-285M-1244-SO	Iron	21200	J-	LL2SS-285M-1246-SO	Field	21300	mg/kg	J-	0.5
LL2SS-285M-1244-SO	Lead	38.7		LL2SS-285M-1246-SO	Field	1170	mg/kg		187.2
LL2SS-285M-1244-SO	Magnesium	2170		LL2SS-285M-1246-SO	Field	1970	mg/kg		-9.7
LL2SS-285M-1244-SO	Manganese	405	J-	LL2SS-285M-1246-SO	Field	374	mg/kg	J-	-8.0
LL2SS-285M-1244-SO	Mercury	0.035	J	LL2SS-285M-1246-SO	Field	0.035	mg/kg	J	1.1
LL2SS-285M-1244-SO	Nickel	22	J-	LL2SS-285M-1246-SO	Field	21.9	mg/kg	J-	-0.5
LL2SS-285M-1244-SO	Potassium	540		LL2SS-285M-1246-SO	Field	494	mg/kg		-8.9
LL2SS-285M-1244-SO	Selenium	0.174	J-	LL2SS-285M-1246-SO	Field	0.209	mg/kg	J-	18.3
LL2SS-285M-1244-SO	Silver	0.216	J	LL2SS-285M-1246-SO	Field	0.229	mg/kg	J	5.8
LL2SS-285M-1244-SO	Sodium	43		LL2SS-285M-1246-SO	Field	35	mg/kg		-20.5
LL2SS-285M-1244-SO	Thallium	0.111		LL2SS-285M-1246-SO	Field	0.097	mg/kg		-13.2
LL2SS-285M-1244-SO	Vanadium	13.4	J-	LL2SS-285M-1246-SO	Field	13.6	mg/kg	J-	1.5
LL2SS-285M-1244-SO	Zinc	93	J-	LL2SS-285M-1246-SO	Field	102	mg/kg	J-	9.2
LL2SS-285M-1244-SO	Hexavalent Chromium	0.262	U	LL2SS-285M-1247-SO	Blind	0.278	mg/kg	U	5.9
LL2SS-285M-1244-SO	Hexavalent Chromium	0.262	U	LL2SS-285M-1246-SO	Field	0.275	mg/kg	U	4.8
LL2SS-297M-1261-SO	1,3,5-Trinitrobenzene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	1,3-Dinitrobenzene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	2,4,6-Trinitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.438	mg/kg		125.8
LL2SS-297M-1261-SO	2,4-Dinitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	2,6-Dinitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	2-Nitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	3-Nitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	4-Nitrotoluene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	HMX	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	Nitrobenzene	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	Nitroglycerin	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1
LL2SS-297M-1261-SO	Nitroguanidine	131	UJ	LL2SS-297M-1264-SO	Blind	133	ug/kg	UJ	1.5
LL2SS-297M-1261-SO	PETN	0.499	U	LL2SS-297M-1264-SO	Blind	0.498	mg/kg	U	-0.2
LL2SS-297M-1261-SO	RDX	0.1	U	LL2SS-297M-1264-SO	Blind	0.212	mg/kg	J	72.1
LL2SS-297M-1261-SO	Tetryl	0.1	U	LL2SS-297M-1264-SO	Blind	0.1	mg/kg	U	-0.1

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-297M-1261-SO	1,3,5-Trinitrobenzene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	1,3-Dinitrobenzene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	2,4,6-Trinitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	2,4-Dinitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	2,6-Dinitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	2-Nitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	3-Nitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	4-Nitrotoluene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	HMX	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	Nitrobenzene	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	Nitroglycerin	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	Nitroguanidine	131	UJ	LL2SS-297M-1263-SO	Field	132	ug/kg	UJ	0.8
LL2SS-297M-1261-SO	PETN	0.499	U	LL2SS-297M-1263-SO	Field	0.497	mg/kg	U	-0.4
LL2SS-297M-1261-SO	RDX	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	Tetryl	0.1	U	LL2SS-297M-1263-SO	Field	0.099	mg/kg	U	-0.3
LL2SS-297M-1261-SO	Aluminum	7360		LL2SS-297M-1264-SO	Blind	7250	mg/kg		-1.5
LL2SS-297M-1261-SO	Antimony	0.053	R	LL2SS-297M-1264-SO	Blind	0.053	mg/kg	R	1.1
LL2SS-297M-1261-SO	Arsenic	17	J-	LL2SS-297M-1264-SO	Blind	11.6	mg/kg	J-	-37.8
LL2SS-297M-1261-SO	Barium	44.7		LL2SS-297M-1264-SO	Blind	45.9	mg/kg		2.6
LL2SS-297M-1261-SO	Beryllium	0.382		LL2SS-297M-1264-SO	Blind	0.403	mg/kg		5.4
LL2SS-297M-1261-SO	Cadmium	0.453		LL2SS-297M-1264-SO	Blind	0.508	mg/kg		11.4
LL2SS-297M-1261-SO	Calcium	3700	J-	LL2SS-297M-1264-SO	Blind	4270	mg/kg	J-	14.3
LL2SS-297M-1261-SO	Chromium	9.8	J-	LL2SS-297M-1264-SO	Blind	11.5	mg/kg	J-	16.0
LL2SS-297M-1261-SO	Cobalt	6.44	J-	LL2SS-297M-1264-SO	Blind	6.79	mg/kg	J-	5.3
LL2SS-297M-1261-SO	Copper	22.6		LL2SS-297M-1264-SO	Blind	24.8	mg/kg		9.3
LL2SS-297M-1261-SO	Iron	21400	J-	LL2SS-297M-1264-SO	Blind	21500	mg/kg	J-	0.5
LL2SS-297M-1261-SO	Lead	23.5		LL2SS-297M-1264-SO	Blind	27	mg/kg		13.9
LL2SS-297M-1261-SO	Magnesium	2130		LL2SS-297M-1264-SO	Blind	2150	mg/kg		0.9
LL2SS-297M-1261-SO	Manganese	428	J-	LL2SS-297M-1264-SO	Blind	447	mg/kg	J-	4.3
LL2SS-297M-1261-SO	Mercury	0.011	UJ	LL2SS-297M-1264-SO	Blind	0.012	mg/kg	J	10.7
LL2SS-297M-1261-SO	Nickel	20.3	J-	LL2SS-297M-1264-SO	Blind	27.8	mg/kg	J-	31.2
LL2SS-297M-1261-SO	Potassium	711		LL2SS-297M-1264-SO	Blind	627	mg/kg		-12.6
LL2SS-297M-1261-SO	Selenium	0.312	J-	LL2SS-297M-1264-SO	Blind	0.357	mg/kg	J-	13.5
LL2SS-297M-1261-SO	Silver	0.192	U	LL2SS-297M-1264-SO	Blind	0.504	mg/kg		89.7
LL2SS-297M-1261-SO	Sodium	48.1		LL2SS-297M-1264-SO	Blind	44.4	mg/kg		-8.0
LL2SS-297M-1261-SO	Thallium	0.125		LL2SS-297M-1264-SO	Blind	0.157	mg/kg		22.7
LL2SS-297M-1261-SO	Vanadium	12.6		LL2SS-297M-1264-SO	Blind	12.4	mg/kg		-1.6

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-297M-1261-SO	Zinc	80.9	J-	LL2SS-297M-1264-SO	Blind	88.2	mg/kg	J-	8.6
LL2SS-297M-1261-SO	Aluminum	7360		LL2SS-297M-1263-SO	Field	7320	mg/kg		-0.5
LL2SS-297M-1261-SO	Antimony	0.053	R	LL2SS-297M-1263-SO	Field	0.054	mg/kg	R	3.4
LL2SS-297M-1261-SO	Arsenic	17	J-	LL2SS-297M-1263-SO	Field	11.3	mg/kg	J-	-40.3
LL2SS-297M-1261-SO	Barium	44.7		LL2SS-297M-1263-SO	Field	50.1	mg/kg		11.4
LL2SS-297M-1261-SO	Beryllium	0.382		LL2SS-297M-1263-SO	Field	0.428	mg/kg		11.4
LL2SS-297M-1261-SO	Cadmium	0.453		LL2SS-297M-1263-SO	Field	0.454	mg/kg		0.2
LL2SS-297M-1261-SO	Calcium	3700	J-	LL2SS-297M-1263-SO	Field	6740	mg/kg	J-	58.2
LL2SS-297M-1261-SO	Chromium	9.8	J-	LL2SS-297M-1263-SO	Field	9.58	mg/kg	J-	-2.3
LL2SS-297M-1261-SO	Cobalt	6.44	J-	LL2SS-297M-1263-SO	Field	6.08	mg/kg	J-	-5.8
LL2SS-297M-1261-SO	Copper	22.6		LL2SS-297M-1263-SO	Field	22.7	mg/kg		0.4
LL2SS-297M-1261-SO	Iron	21400	J-	LL2SS-297M-1263-SO	Field	19300	mg/kg	J-	-10.3
LL2SS-297M-1261-SO	Lead	23.5		LL2SS-297M-1263-SO	Field	28.9	mg/kg		20.6
LL2SS-297M-1261-SO	Magnesium	2130		LL2SS-297M-1263-SO	Field	2260	mg/kg		5.9
LL2SS-297M-1261-SO	Manganese	428	J-	LL2SS-297M-1263-SO	Field	457	mg/kg	J-	6.6
LL2SS-297M-1261-SO	Mercury	0.011	UJ	LL2SS-297M-1263-SO	Field	0.011	mg/kg	UJ	0.0
LL2SS-297M-1261-SO	Nickel	20.3	J-	LL2SS-297M-1263-SO	Field	17.6	mg/kg	J-	-14.2
LL2SS-297M-1261-SO	Potassium	711		LL2SS-297M-1263-SO	Field	679	mg/kg		-4.6
LL2SS-297M-1261-SO	Selenium	0.312	J-	LL2SS-297M-1263-SO	Field	0.308	mg/kg	J-	-1.3
LL2SS-297M-1261-SO	Silver	0.192	U	LL2SS-297M-1263-SO	Field	0.2	mg/kg	U	4.1
LL2SS-297M-1261-SO	Sodium	48.1		LL2SS-297M-1263-SO	Field	58.3	mg/kg		19.2
LL2SS-297M-1261-SO	Thallium	0.125		LL2SS-297M-1263-SO	Field	0.126	mg/kg		0.8
LL2SS-297M-1261-SO	Vanadium	12.6		LL2SS-297M-1263-SO	Field	11.9	mg/kg		-5.7
LL2SS-297M-1261-SO	Zinc	80.9	J-	LL2SS-297M-1263-SO	Field	86.8	mg/kg	J-	7.0
LL2SS-297M-1261-SO	Hexavalent Chromium	0.542	U	LL2SS-297M-1264-SO	Blind	0.514	mg/kg	U	-5.3
LL2SS-297M-1261-SO	Hexavalent Chromium	0.542	U	LL2SS-297M-1263-SO	Field	0.54	mg/kg	U	-0.4
LL2SS-297M-1261-SO	Nitrocellulose	2	UJ	LL2SS-297M-1264-SO	Blind	1.99	mg/kg	UJ	-0.5
LL2SS-297M-1261-SO	Nitrocellulose	2	UJ	LL2SS-297M-1263-SO	Field	1.99	mg/kg	UJ	-0.5
LL2SS-305M-1273-SO	1,3,5-Trinitrobenzene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	1,3-Dinitrobenzene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	2,4,6-Trinitrotoluene	5.81		LL2SS-305M-1276-SO	Blind	11.8	mg/kg		68.0
LL2SS-305M-1273-SO	2,4-Dinitrotoluene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	2,6-Dinitrotoluene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	2-Amino-4,6-dinitrotoluene	0.327		LL2SS-305M-1276-SO	Blind	0.379	mg/kg		14.7
LL2SS-305M-1273-SO	2-Nitrotoluene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	3-Nitrotoluene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	4-Amino-2,6-dinitrotoluene	0.607		LL2SS-305M-1276-SO	Blind	0.656	mg/kg		7.8
LL2SS-305M-1273-SO	4-Nitrotoluene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	HMX	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-305M-1273-SO	Nitrobenzene	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	Nitroglycerin	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	PETN	0.497	U	LL2SS-305M-1276-SO	Blind	0.498	mg/kg	U	0.2
LL2SS-305M-1273-SO	RDX	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	Tetryl	0.099	U	LL2SS-305M-1276-SO	Blind	0.1	mg/kg	U	0.2
LL2SS-305M-1273-SO	1,3,5-Trinitrobenzene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	1,3-Dinitrobenzene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	2,4,6-Trinitrotoluene	5.81		LL2SS-305M-1275-SO	Field	8.22	mg/kg		34.4
LL2SS-305M-1273-SO	2,4-Dinitrotoluene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	2,6-Dinitrotoluene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	2-Amino-4,6-dinitrotoluene	0.327		LL2SS-305M-1275-SO	Field	0.345	mg/kg		5.4
LL2SS-305M-1273-SO	2-Nitrotoluene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	3-Nitrotoluene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	4-Amino-2,6-dinitrotoluene	0.607		LL2SS-305M-1275-SO	Field	0.667	mg/kg		9.4
LL2SS-305M-1273-SO	4-Nitrotoluene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	HMX	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	Nitrobenzene	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	Nitroglycerin	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	PETN	0.497	U	LL2SS-305M-1275-SO	Field	0.497	mg/kg	U	0.0
LL2SS-305M-1273-SO	RDX	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	Tetryl	0.099	U	LL2SS-305M-1275-SO	Field	0.099	mg/kg	U	-0.1
LL2SS-305M-1273-SO	Aluminum	8280		LL2SS-305M-1276-SO	Blind	7980	mg/kg		-3.7
LL2SS-305M-1273-SO	Antimony	0.057	R	LL2SS-305M-1276-SO	Blind	0.053	mg/kg	R	-6.5
LL2SS-305M-1273-SO	Arsenic	11.5		LL2SS-305M-1276-SO	Blind	10.8	mg/kg		-6.3
LL2SS-305M-1273-SO	Barium	51.5		LL2SS-305M-1276-SO	Blind	43.7	mg/kg		-16.4
LL2SS-305M-1273-SO	Beryllium	0.417		LL2SS-305M-1276-SO	Blind	0.386	mg/kg		-7.7
LL2SS-305M-1273-SO	Cadmium	0.432		LL2SS-305M-1276-SO	Blind	0.459	mg/kg		6.1
LL2SS-305M-1273-SO	Calcium	4180		LL2SS-305M-1276-SO	Blind	3580	mg/kg		-15.5
LL2SS-305M-1273-SO	Chromium	17.5		LL2SS-305M-1276-SO	Blind	17.9	mg/kg		2.3
LL2SS-305M-1273-SO	Cobalt	5.88	J	LL2SS-305M-1276-SO	Blind	5.96	mg/kg	J+	1.4
LL2SS-305M-1273-SO	Copper	17.6	J	LL2SS-305M-1276-SO	Blind	17.9	mg/kg	J+	1.7
LL2SS-305M-1273-SO	Iron	18900		LL2SS-305M-1276-SO	Blind	19600	mg/kg		3.6
LL2SS-305M-1273-SO	Lead	22.9	J-	LL2SS-305M-1276-SO	Blind	17.9	mg/kg	J-	-24.5
LL2SS-305M-1273-SO	Magnesium	2280		LL2SS-305M-1276-SO	Blind	2110	mg/kg		-7.7
LL2SS-305M-1273-SO	Manganese	345	J-	LL2SS-305M-1276-SO	Blind	299	mg/kg	J	-14.3
LL2SS-305M-1273-SO	Mercury	0.014	J	LL2SS-305M-1276-SO	Blind	0.011	mg/kg	U	-28.3
LL2SS-305M-1273-SO	Nickel	41.9	J+	LL2SS-305M-1276-SO	Blind	84.9	mg/kg	J+	67.8
LL2SS-305M-1273-SO	Potassium	664	J+	LL2SS-305M-1276-SO	Blind	652	mg/kg	J+	-1.8
LL2SS-305M-1273-SO	Selenium	0.206	J	LL2SS-305M-1276-SO	Blind	0.253	mg/kg		20.5

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL2SS-305M-1273-SO	Silver	0.202	UJ	LL2SS-305M-1276-SO	Blind	0.197	mg/kg	UJ	-2.5
LL2SS-305M-1273-SO	Sodium	40.8		LL2SS-305M-1276-SO	Blind	36.8	mg/kg		-10.3
LL2SS-305M-1273-SO	Thallium	0.13		LL2SS-305M-1276-SO	Blind	0.124	mg/kg		-4.7
LL2SS-305M-1273-SO	Vanadium	12.7	J-	LL2SS-305M-1276-SO	Blind	12.4	mg/kg	J	-2.4
LL2SS-305M-1273-SO	Zinc	59.5	J-	LL2SS-305M-1276-SO	Blind	60.4	mg/kg	J	1.5
LL2SS-305M-1273-SO	Aluminum	8280		LL2SS-305M-1275-SO	Field	9180	mg/kg		10.3
LL2SS-305M-1273-SO	Antimony	0.057	R	LL2SS-305M-1275-SO	Field	0.053	mg/kg	R	-7.1
LL2SS-305M-1273-SO	Arsenic	11.5		LL2SS-305M-1275-SO	Field	10.4	mg/kg		-10.0
LL2SS-305M-1273-SO	Barium	51.5		LL2SS-305M-1275-SO	Field	50	mg/kg		-3.0
LL2SS-305M-1273-SO	Beryllium	0.417		LL2SS-305M-1275-SO	Field	0.424	mg/kg		1.7
LL2SS-305M-1273-SO	Cadmium	0.432		LL2SS-305M-1275-SO	Field	0.475	mg/kg		9.5
LL2SS-305M-1273-SO	Calcium	4180		LL2SS-305M-1275-SO	Field	4230	mg/kg		1.2
LL2SS-305M-1273-SO	Chromium	17.5		LL2SS-305M-1275-SO	Field	21.2	mg/kg		19.1
LL2SS-305M-1273-SO	Cobalt	5.88	J	LL2SS-305M-1275-SO	Field	6.38	mg/kg	J	8.2
LL2SS-305M-1273-SO	Copper	17.6	J	LL2SS-305M-1275-SO	Field	17.8	mg/kg	J+	1.1
LL2SS-305M-1273-SO	Iron	18900		LL2SS-305M-1275-SO	Field	22800	mg/kg		18.7
LL2SS-305M-1273-SO	Lead	22.9	J-	LL2SS-305M-1275-SO	Field	19.5	mg/kg	J-	-16.0
LL2SS-305M-1273-SO	Magnesium	2280		LL2SS-305M-1275-SO	Field	2330	mg/kg		2.2
LL2SS-305M-1273-SO	Manganese	345	J-	LL2SS-305M-1275-SO	Field	327	mg/kg	J-	-5.4
LL2SS-305M-1273-SO	Mercury	0.014	J	LL2SS-305M-1275-SO	Field	0.014	mg/kg	J	-1.4
LL2SS-305M-1273-SO	Nickel	41.9	J+	LL2SS-305M-1275-SO	Field	37.8	mg/kg	J+	-10.3
LL2SS-305M-1273-SO	Potassium	664	J+	LL2SS-305M-1275-SO	Field	812	mg/kg	J+	20.1
LL2SS-305M-1273-SO	Selenium	0.206	J	LL2SS-305M-1275-SO	Field	0.238	mg/kg		14.4
LL2SS-305M-1273-SO	Silver	0.202	UJ	LL2SS-305M-1275-SO	Field	0.197	mg/kg	UJ	-2.5
LL2SS-305M-1273-SO	Sodium	40.8		LL2SS-305M-1275-SO	Field	44.2	mg/kg		8.0
LL2SS-305M-1273-SO	Thallium	0.13		LL2SS-305M-1275-SO	Field	0.119	mg/kg		-8.8
LL2SS-305M-1273-SO	Vanadium	12.7	J-	LL2SS-305M-1275-SO	Field	14.3	mg/kg	J-	11.9
LL2SS-305M-1273-SO	Zinc	59.5	J-	LL2SS-305M-1275-SO	Field	60.9	mg/kg	J-	2.3
LL2SS-305M-1273-SO	Hexavalent Chromium	0.097	U	LL2SS-305M-1276-SO	Blind	0.102	mg/kg	U	4.8
LL2SS-305M-1273-SO	Hexavalent Chromium	0.097	U	LL2SS-305M-1275-SO	Field	0.103	mg/kg	U	5.8
LL3SS-249D-1179-SO	1,1,1-Trichloroethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,1,2,2-Tetrachloroethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,1,2-Trichloroethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,1-Dichloroethane	0.848	U	LL3SS-249D-1181-SO	VOC Blind	0.921	ug/kg	U	8.3
LL3SS-249D-1179-SO	1,1-Dichloroethene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,2-Dibromoethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,2-Dichloroethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,2-Dichloroethene (total)	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	1,2-Dichloropropane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-249D-1179-SO	2-Butanone	2.12	U	LL3SS-249D-1181-SO	VOC Blind	2.3	ug/kg	U	8.1
LL3SS-249D-1179-SO	2-Hexanone	2.12	U	LL3SS-249D-1181-SO	VOC Blind	2.3	ug/kg	U	8.1
LL3SS-249D-1179-SO	4-Methyl-2-pentanone	2.12	UJ	LL3SS-249D-1181-SO	VOC Blind	2.3	ug/kg	UJ	8.1
LL3SS-249D-1179-SO	Acetone	4.24	R	LL3SS-249D-1181-SO	VOC Blind	4.61	ug/kg	R	8.4
LL3SS-249D-1179-SO	Benzene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Bromochloromethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Bromodichloromethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Bromoform	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Bromomethane	0.848	U	LL3SS-249D-1181-SO	VOC Blind	0.921	ug/kg	U	8.3
LL3SS-249D-1179-SO	Carbon disulfide	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Carbon tetrachloride	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Chlorobenzene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Chloroethane	0.848	U	LL3SS-249D-1181-SO	VOC Blind	0.921	ug/kg	U	8.3
LL3SS-249D-1179-SO	Chloroform	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Chloromethane	1.7	U	LL3SS-249D-1181-SO	VOC Blind	1.84	ug/kg	U	7.9
LL3SS-249D-1179-SO	cis-1,3-Dichloropropene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Dibromochloromethane	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Ethyl benzene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Methylene chloride	0.848	U	LL3SS-249D-1181-SO	VOC Blind	0.921	ug/kg	U	8.3
LL3SS-249D-1179-SO	Styrene	0.424	R	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	R	8.4
LL3SS-249D-1179-SO	Tetrachloroethene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Toluene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	trans-1,3-Dichloropropene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Trichloroethene	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-249D-1179-SO	Vinyl chloride	0.848	U	LL3SS-249D-1181-SO	VOC Blind	0.921	ug/kg	U	8.3
LL3SS-249D-1179-SO	Xylenes, Total	0.424	U	LL3SS-249D-1181-SO	VOC Blind	0.461	ug/kg	U	8.4
LL3SS-256M-1188-SO	Aroclor-1016	84.3	U	LL3SS-256M-1191-SO	Blind	85.4	ug/kg	U	1.3
LL3SS-256M-1188-SO	Aroclor-1221	84.3	U	LL3SS-256M-1191-SO	Blind	85.4	ug/kg	U	1.3
LL3SS-256M-1188-SO	Aroclor-1232	84.3	U	LL3SS-256M-1191-SO	Blind	85.4	ug/kg	U	1.3
LL3SS-256M-1188-SO	Aroclor-1242	84.3	U	LL3SS-256M-1191-SO	Blind	85.4	ug/kg	U	1.3
LL3SS-256M-1188-SO	Aroclor-1248	84.3	U	LL3SS-256M-1191-SO	Blind	85.4	ug/kg	U	1.3
LL3SS-256M-1188-SO	Aroclor-1254	1380		LL3SS-256M-1191-SO	Blind	1290	ug/kg		-6.7
LL3SS-256M-1188-SO	Aroclor-1260	84.3	U	LL3SS-256M-1191-SO	Blind	85.4	ug/kg	U	1.3
LL3SS-256M-1188-SO	Aroclor-1016	84.3	U	LL3SS-256M-1190-SO	Field	85.7	ug/kg	U	1.6
LL3SS-256M-1188-SO	Aroclor-1221	84.3	U	LL3SS-256M-1190-SO	Field	85.7	ug/kg	U	1.6
LL3SS-256M-1188-SO	Aroclor-1232	84.3	U	LL3SS-256M-1190-SO	Field	85.7	ug/kg	U	1.6
LL3SS-256M-1188-SO	Aroclor-1242	84.3	U	LL3SS-256M-1190-SO	Field	85.7	ug/kg	U	1.6
LL3SS-256M-1188-SO	Aroclor-1248	84.3	U	LL3SS-256M-1190-SO	Field	85.7	ug/kg	U	1.6
LL3SS-256M-1188-SO	Aroclor-1254	1380		LL3SS-256M-1190-SO	Field	1390	ug/kg		0.7

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-256M-1188-SO	Aroclor-1260	84.3	U	LL3SS-256M-1190-SO	Field	85.7	ug/kg	U	1.6
LL3SS-256M-1188-SO	1,3,5-Trinitrobenzene	0.863		LL3SS-256M-1191-SO	Blind	0.287	mg/kg		-100.2
LL3SS-256M-1188-SO	1,3-Dinitrobenzene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	2,4,6-Trinitrotoluene	51		LL3SS-256M-1191-SO	Blind	28.7	mg/kg		-56.0
LL3SS-256M-1188-SO	2,4-Dinitrotoluene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	2,6-Dinitrotoluene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	2-Amino-4,6-dinitrotoluene	1		LL3SS-256M-1191-SO	Blind	1.21	mg/kg		19.0
LL3SS-256M-1188-SO	2-Nitrotoluene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	3-Nitrotoluene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	4-Amino-2,6-dinitrotoluene	2.21		LL3SS-256M-1191-SO	Blind	2.24	mg/kg		1.3
LL3SS-256M-1188-SO	4-Nitrotoluene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	HMX	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	Nitrobenzene	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	Nitroguanidine	127	UJ	LL3SS-256M-1191-SO	Blind	130	ug/kg	UJ	2.3
LL3SS-256M-1188-SO	PETN	0.5	U	LL3SS-256M-1191-SO	Blind	0.497	mg/kg	U	-0.6
LL3SS-256M-1188-SO	RDX	0.1	U	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	U	-0.7
LL3SS-256M-1188-SO	Tetryl	0.1	UJ	LL3SS-256M-1191-SO	Blind	0.099	mg/kg	UJ	-0.7
LL3SS-256M-1188-SO	1,3,5-Trinitrobenzene	0.863		LL3SS-256M-1190-SO	Field	0.612	mg/kg		-34.0
LL3SS-256M-1188-SO	1,3-Dinitrobenzene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	2,4,6-Trinitrotoluene	51		LL3SS-256M-1190-SO	Field	295	mg/kg		141.0
LL3SS-256M-1188-SO	2,4-Dinitrotoluene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	2,6-Dinitrotoluene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	2-Amino-4,6-dinitrotoluene	1		LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	-163.6
LL3SS-256M-1188-SO	2-Nitrotoluene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	3-Nitrotoluene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	4-Amino-2,6-dinitrotoluene	2.21		LL3SS-256M-1190-SO	Field	2.16	mg/kg		-2.3
LL3SS-256M-1188-SO	4-Nitrotoluene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	HMX	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	Nitrobenzene	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	Nitroguanidine	127	UJ	LL3SS-256M-1190-SO	Field	129	ug/kg	UJ	1.6
LL3SS-256M-1188-SO	PETN	0.5	U	LL3SS-256M-1190-SO	Field	0.502	mg/kg	U	0.4
LL3SS-256M-1188-SO	RDX	0.1	U	LL3SS-256M-1190-SO	Field	0.1	mg/kg	U	0.0
LL3SS-256M-1188-SO	Tetryl	0.1	UJ	LL3SS-256M-1190-SO	Field	0.1	mg/kg	UJ	0.0
LL3SS-256M-1188-SO	4,4'-DDD	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	4,4'-DDE	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	4,4'-DDT	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Aldrin	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	alpha Chlordane	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	alpha-BHC	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-256M-1188-SO	beta-BHC	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	delta-BHC	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Dieldrin	51.4	J	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	-174.6
LL3SS-256M-1188-SO	Endosulfan I	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Endosulfan II	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Endosulfan sulfate	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Endrin	17.3		LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	-133.0
LL3SS-256M-1188-SO	Endrin aldehyde	10.1		LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	-97.5
LL3SS-256M-1188-SO	Endrin ketone	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	gamma Chlordane	8.54	NJ	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	-84.2
LL3SS-256M-1188-SO	gamma-BHC (Lindane)	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Heptachlor	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Heptachlor epoxide	16.9	NJ	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	-131.7
LL3SS-256M-1188-SO	Methoxychlor	3.4	U	LL3SS-256M-1191-SO	Blind	3.48	ug/kg	U	2.3
LL3SS-256M-1188-SO	Toxaphene	172	U	LL3SS-256M-1191-SO	Blind	176	ug/kg	U	2.3
LL3SS-256M-1188-SO	4,4'-DDD	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	4,4'-DDE	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	4,4'-DDT	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Aldrin	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	alpha Chlordane	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	alpha-BHC	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	beta-BHC	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	delta-BHC	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Dieldrin	51.4	J	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	-175.0
LL3SS-256M-1188-SO	Endosulfan I	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Endosulfan II	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Endosulfan sulfate	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Endrin	17.3		LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	-134.0
LL3SS-256M-1188-SO	Endrin aldehyde	10.1		LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	-98.8
LL3SS-256M-1188-SO	Endrin ketone	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	gamma Chlordane	8.54	NJ	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	-85.6
LL3SS-256M-1188-SO	gamma-BHC (Lindane)	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Heptachlor	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Heptachlor epoxide	16.9	NJ	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	-132.7
LL3SS-256M-1188-SO	Methoxychlor	3.4	U	LL3SS-256M-1190-SO	Field	3.42	ug/kg	U	0.6
LL3SS-256M-1188-SO	Toxaphene	172	U	LL3SS-256M-1190-SO	Field	173	ug/kg	U	0.6
LL3SS-256M-1188-SO	Aluminum	9700		LL3SS-256M-1191-SO	Blind	12100	mg/kg		22.0
LL3SS-256M-1188-SO	Antimony	0.051	R	LL3SS-256M-1191-SO	Blind	0.053	mg/kg	R	3.1
LL3SS-256M-1188-SO	Arsenic	9.26	J-	LL3SS-256M-1191-SO	Blind	10.1	mg/kg	J-	8.7

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-256M-1188-SO	Barium	65.6		LL3SS-256M-1191-SO	Blind	79.9	mg/kg		19.7
LL3SS-256M-1188-SO	Beryllium	0.581		LL3SS-256M-1191-SO	Blind	0.772	mg/kg		28.2
LL3SS-256M-1188-SO	Cadmium	0.837		LL3SS-256M-1191-SO	Blind	0.968	mg/kg		14.5
LL3SS-256M-1188-SO	Calcium	10400		LL3SS-256M-1191-SO	Blind	17400	mg/kg		50.4
LL3SS-256M-1188-SO	Chromium	13.4		LL3SS-256M-1191-SO	Blind	16.1	mg/kg		18.3
LL3SS-256M-1188-SO	Cobalt	6.57		LL3SS-256M-1191-SO	Blind	8.3	mg/kg		23.3
LL3SS-256M-1188-SO	Copper	24		LL3SS-256M-1191-SO	Blind	24.9	mg/kg		3.7
LL3SS-256M-1188-SO	Iron	19600		LL3SS-256M-1191-SO	Blind	22100	mg/kg		12.0
LL3SS-256M-1188-SO	Lead	33.7	J-	LL3SS-256M-1191-SO	Blind	30.2	mg/kg	J-	-11.0
LL3SS-256M-1188-SO	Magnesium	2980		LL3SS-256M-1191-SO	Blind	4370	mg/kg		37.8
LL3SS-256M-1188-SO	Manganese	357	J-	LL3SS-256M-1191-SO	Blind	445	mg/kg	J-	21.9
LL3SS-256M-1188-SO	Mercury	0.019	J	LL3SS-256M-1191-SO	Blind	0.025	mg/kg	J	25.2
LL3SS-256M-1188-SO	Nickel	18.8	J-	LL3SS-256M-1191-SO	Blind	21.8	mg/kg	J-	14.8
LL3SS-256M-1188-SO	Potassium	1040	J+	LL3SS-256M-1191-SO	Blind	1340	mg/kg	J+	25.2
LL3SS-256M-1188-SO	Selenium	0.332	J+	LL3SS-256M-1191-SO	Blind	0.365	mg/kg	J+	9.5
LL3SS-256M-1188-SO	Silver	0.259	J	LL3SS-256M-1191-SO	Blind	0.315	mg/kg	J	19.5
LL3SS-256M-1188-SO	Sodium	114		LL3SS-256M-1191-SO	Blind	168	mg/kg		38.3
LL3SS-256M-1188-SO	Thallium	0.106		LL3SS-256M-1191-SO	Blind	0.108	mg/kg		1.9
LL3SS-256M-1188-SO	Vanadium	14.5		LL3SS-256M-1191-SO	Blind	16.8	mg/kg		14.7
LL3SS-256M-1188-SO	Zinc	104		LL3SS-256M-1191-SO	Blind	89.9	mg/kg		-14.5
LL3SS-256M-1188-SO	Aluminum	9700		LL3SS-256M-1190-SO	Field	10800	mg/kg		10.7
LL3SS-256M-1188-SO	Antimony	0.051	R	LL3SS-256M-1190-SO	Field	0.051	mg/kg	R	-1.0
LL3SS-256M-1188-SO	Arsenic	9.26	J-	LL3SS-256M-1190-SO	Field	9.38	mg/kg	J-	1.3
LL3SS-256M-1188-SO	Barium	65.6		LL3SS-256M-1190-SO	Field	71.9	mg/kg		9.2
LL3SS-256M-1188-SO	Beryllium	0.581		LL3SS-256M-1190-SO	Field	0.647	mg/kg		10.7
LL3SS-256M-1188-SO	Cadmium	0.837		LL3SS-256M-1190-SO	Field	0.887	mg/kg		5.8
LL3SS-256M-1188-SO	Calcium	10400		LL3SS-256M-1190-SO	Field	12100	mg/kg		15.1
LL3SS-256M-1188-SO	Chromium	13.4		LL3SS-256M-1190-SO	Field	15.7	mg/kg		15.8
LL3SS-256M-1188-SO	Cobalt	6.57		LL3SS-256M-1190-SO	Field	6.63	mg/kg		0.9
LL3SS-256M-1188-SO	Copper	24		LL3SS-256M-1190-SO	Field	22.3	mg/kg		-7.3
LL3SS-256M-1188-SO	Iron	19600		LL3SS-256M-1190-SO	Field	19800	mg/kg		1.0
LL3SS-256M-1188-SO	Lead	33.7	J-	LL3SS-256M-1190-SO	Field	76.2	mg/kg		77.3
LL3SS-256M-1188-SO	Magnesium	2980		LL3SS-256M-1190-SO	Field	3310	mg/kg		10.5
LL3SS-256M-1188-SO	Manganese	357	J-	LL3SS-256M-1190-SO	Field	380	mg/kg	J-	6.2
LL3SS-256M-1188-SO	Mercury	0.019	J	LL3SS-256M-1190-SO	Field	0.031	mg/kg	J	45.1
LL3SS-256M-1188-SO	Nickel	18.8	J-	LL3SS-256M-1190-SO	Field	18	mg/kg	J-	-4.3
LL3SS-256M-1188-SO	Potassium	1040	J+	LL3SS-256M-1190-SO	Field	1210	mg/kg	J+	15.1
LL3SS-256M-1188-SO	Selenium	0.332	J+	LL3SS-256M-1190-SO	Field	0.325	mg/kg	J+	-2.1
LL3SS-256M-1188-SO	Silver	0.259	J	LL3SS-256M-1190-SO	Field	0.308	mg/kg	J	17.3

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-256M-1188-SO	Sodium	114		LL3SS-256M-1190-SO	Field	131	mg/kg		13.9
LL3SS-256M-1188-SO	Thallium	0.106		LL3SS-256M-1190-SO	Field	0.094	mg/kg		-12.5
LL3SS-256M-1188-SO	Vanadium	14.5		LL3SS-256M-1190-SO	Field	15.7	mg/kg		7.9
LL3SS-256M-1188-SO	Zinc	104		LL3SS-256M-1190-SO	Field	86.8	mg/kg		-18.0
LL3SS-256M-1188-SO	Hexavalent Chromium	0.519	U	LL3SS-256M-1191-SO	Blind	0.531	mg/kg	U	2.3
LL3SS-256M-1188-SO	Hexavalent Chromium	0.519	U	LL3SS-256M-1190-SO	Field	0.052	mg/kg	U	-163.4
LL3SS-256M-1188-SO	Nitrocellulose	16		LL3SS-256M-1191-SO	Blind	19.1	mg/kg	J	17.7
LL3SS-256M-1188-SO	Nitrocellulose	16		LL3SS-256M-1190-SO	Field	65.2	mg/kg		121.2
LL3SS-258M-1194-SO	1,3,5-Trinitrobenzene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	1,3-Dinitrobenzene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	2,4,6-Trinitrotoluene	40.9		LL3SS-258M-1197-SO	Blind	20.5	mg/kg		-66.4
LL3SS-258M-1194-SO	2,4-Dinitrotoluene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	2,6-Dinitrotoluene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	2-Amino-4,6-dinitrotoluene	0.473		LL3SS-258M-1197-SO	Blind	0.722	mg/kg		41.7
LL3SS-258M-1194-SO	2-Nitrotoluene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	3-Nitrotoluene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	4-Amino-2,6-dinitrotoluene	1.37		LL3SS-258M-1197-SO	Blind	1.74	mg/kg		23.8
LL3SS-258M-1194-SO	4-Nitrotoluene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	HMX	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	Nitrobenzene	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	Nitroglycerin	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	PETN	0.501	U	LL3SS-258M-1197-SO	Blind	0.502	mg/kg	U	0.2
LL3SS-258M-1194-SO	RDX	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	Tetryl	0.1	U	LL3SS-258M-1197-SO	Blind	0.1	mg/kg	U	0.0
LL3SS-258M-1194-SO	1,3,5-Trinitrobenzene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	1,3-Dinitrobenzene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	2,4,6-Trinitrotoluene	40.9		LL3SS-258M-1196-SO	Field	5.25	mg/kg		-154.5
LL3SS-258M-1194-SO	2,4-Dinitrotoluene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	2,6-Dinitrotoluene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	2-Amino-4,6-dinitrotoluene	0.473		LL3SS-258M-1196-SO	Field	0.358	mg/kg		-27.7
LL3SS-258M-1194-SO	2-Nitrotoluene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	3-Nitrotoluene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	4-Amino-2,6-dinitrotoluene	1.37		LL3SS-258M-1196-SO	Field	1.03	mg/kg		-28.3
LL3SS-258M-1194-SO	4-Nitrotoluene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	HMX	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	Nitrobenzene	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	Nitroglycerin	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	PETN	0.501	U	LL3SS-258M-1196-SO	Field	0.495	mg/kg	U	-1.2
LL3SS-258M-1194-SO	RDX	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-258M-1194-SO	Tetryl	0.1	U	LL3SS-258M-1196-SO	Field	0.099	mg/kg	U	-1.1
LL3SS-258M-1194-SO	1,2,4-Trichlorobenzene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	1,2-Dichlorobenzene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	1,3-Dichlorobenzene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	1,4-Dichlorobenzene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2,4,5-Trichlorophenol	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2,4,6-Trichlorophenol	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2,4-Dichlorophenol	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2,4-Dimethylphenol	81	U	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2,4-Dinitrophenol	404	U	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	2,4-Dinitrotoluene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2,6-Dinitrotoluene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2-Chloronaphthalene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2-Chlorophenol	81	U	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2-Methylnaphthalene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2-Methylphenol	81	U	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	2-Nitroaniline	404	UJ	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	2-Nitrophenol	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	3,3'-Dichlorobenzidine	162	UJ	LL3SS-258M-1197-SO	Blind	171	ug/kg	UJ	5.4
LL3SS-258M-1194-SO	3-,4-Methylphenol	81	U	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	3-Nitroaniline	404	UJ	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	4,6-Dinitro-2-methylphenol	404	UJ	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	4-Bromophenyl-phenylether	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	4-Chloro-3-methylphenol	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	4-Chloroaniline	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	4-Chlorophenyl-phenyl ether	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	4-Nitroaniline	404	UJ	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	4-Nitrophenol	404	U	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	Acenaphthene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Acenaphthylene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Anthracene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Benzo(a)anthracene	81	UJ	LL3SS-258M-1197-SO	Blind	94.7	ug/kg	J	15.6
LL3SS-258M-1194-SO	Benzo(a)pyrene	81	UJ	LL3SS-258M-1197-SO	Blind	92.4	ug/kg	J	13.1
LL3SS-258M-1194-SO	Benzo(b)fluoranthene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Benzo(g,h,i)Perylene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Benzo(k)fluoranthene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Benzoic acid	324	R	LL3SS-258M-1197-SO	Blind	341	ug/kg	R	5.1
LL3SS-258M-1194-SO	Benzyl alcohol	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Bis(2-Chloroethoxy)Methane	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-258M-1194-SO	Bis(2-Chloroethyl)ether	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	bis(2-Chloroisopropyl)ether	81	R	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	bis(2-Ethylhexyl)phthalate	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Butylbenzylphthalate	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Carbazole	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Chrysene	81	UJ	LL3SS-258M-1197-SO	Blind	92.9	ug/kg	J	13.7
LL3SS-258M-1194-SO	Dibenzo(a,h)Anthracene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Dibenzofuran	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Diethylphthalate	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Dimethylphthalate	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Di-N-Butylphthalate	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Di-n-octylphthalate	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Fluoranthene	135	J	LL3SS-258M-1197-SO	Blind	204	ug/kg	J	40.7
LL3SS-258M-1194-SO	Fluorene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Hexachlorobenzene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Hexachlorobutadiene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Hexachlorocyclopentadiene	81	R	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Hexachloroethane	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Indeno(1,2,3-cd)pyrene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Isophorone	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Naphthalene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Nitrobenzene	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	N-Nitrosodiphenylamine	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	N-Nitrosodipropylamine	81	UJ	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Pentachlorophenol	404	U	LL3SS-258M-1197-SO	Blind	426	ug/kg	UJ	5.3
LL3SS-258M-1194-SO	Phenanthrene	83.5	J	LL3SS-258M-1197-SO	Blind	129	ug/kg	J	42.8
LL3SS-258M-1194-SO	Phenol	81	U	LL3SS-258M-1197-SO	Blind	85.3	ug/kg	UJ	5.2
LL3SS-258M-1194-SO	Pyrene	111	J	LL3SS-258M-1197-SO	Blind	160	ug/kg	J	36.2
LL3SS-258M-1194-SO	1,2,4-Trichlorobenzene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	1,2-Dichlorobenzene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	1,3-Dichlorobenzene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	1,4-Dichlorobenzene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2,4,5-Trichlorophenol	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2,4,6-Trichlorophenol	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2,4-Dichlorophenol	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2,4-Dimethylphenol	81	U	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2,4-Dinitrophenol	404	U	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	2,4-Dinitrotoluene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2,6-Dinitrotoluene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-258M-1194-SO	2-Chloronaphthalene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2-Chlorophenol	81	U	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2-Methylnaphthalene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2-Methylphenol	81	U	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	2-Nitroaniline	404	UJ	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	2-Nitrophenol	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	3,3'-Dichlorobenzidine	162	UJ	LL3SS-258M-1196-SO	Field	159	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	3-,4-Methylphenol	81	U	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	3-Nitroaniline	404	UJ	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	4,6-Dinitro-2-methylphenol	404	UJ	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	4-Bromophenyl-phenylether	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	4-Chloro-3-methylphenol	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	4-Chloroaniline	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	4-Chlorophenyl-phenyl ether	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	4-Nitroaniline	404	UJ	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	4-Nitrophenol	404	U	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	Acenaphthene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Acenaphthylene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Anthracene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Benzo(a)anthracene	81	UJ	LL3SS-258M-1196-SO	Field	100	ug/kg	J	21.0
LL3SS-258M-1194-SO	Benzo(a)pyrene	81	UJ	LL3SS-258M-1196-SO	Field	97.7	ug/kg	J	18.7
LL3SS-258M-1194-SO	Benzo(b)fluoranthene	81	UJ	LL3SS-258M-1196-SO	Field	79.8	ug/kg	J	-1.5
LL3SS-258M-1194-SO	Benzo(g,h,i)Perylene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	U	-1.9
LL3SS-258M-1194-SO	Benzo(k)fluoranthene	81	UJ	LL3SS-258M-1196-SO	Field	81.2	ug/kg	J	0.2
LL3SS-258M-1194-SO	Benzoic acid	324	R	LL3SS-258M-1196-SO	Field	318	ug/kg	R	-1.9
LL3SS-258M-1194-SO	Benzyl alcohol	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Bis(2-Chloroethoxy)Methane	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Bis(2-Chloroethyl)ether	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	bis(2-Chloroisopropyl)ether	81	R	LL3SS-258M-1196-SO	Field	79.5	ug/kg	R	-1.9
LL3SS-258M-1194-SO	bis(2-Ethylhexyl)phthalate	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Butylbenzylphthalate	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Carbazole	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Chrysene	81	UJ	LL3SS-258M-1196-SO	Field	101	ug/kg	J	22.0
LL3SS-258M-1194-SO	Dibenzo(a,h)Anthracene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Dibenzofuran	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Diethylphthalate	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Dimethylphthalate	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Di-N-Butylphthalate	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Di-n-octylphthalate	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-258M-1194-SO	Fluoranthene	135	J	LL3SS-258M-1196-SO	Field	231	ug/kg	J	52.5
LL3SS-258M-1194-SO	Fluorene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Hexachlorobenzene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Hexachlorobutadiene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Hexachlorocyclopentadiene	81	R	LL3SS-258M-1196-SO	Field	79.5	ug/kg	R	-1.9
LL3SS-258M-1194-SO	Hexachloroethane	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Indeno(1,2,3-cd)pyrene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Isophorone	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Naphthalene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Nitrobenzene	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	N-Nitrosodiphenylamine	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	N-Nitrosodipropylamine	81	UJ	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Pentachlorophenol	404	U	LL3SS-258M-1196-SO	Field	397	ug/kg	UJ	-1.7
LL3SS-258M-1194-SO	Phenanthrene	83.5	J	LL3SS-258M-1196-SO	Field	192	ug/kg	J-	78.8
LL3SS-258M-1194-SO	Phenol	81	U	LL3SS-258M-1196-SO	Field	79.5	ug/kg	UJ	-1.9
LL3SS-258M-1194-SO	Pyrene	111	J	LL3SS-258M-1196-SO	Field	191	ug/kg	J-	53.0
LL3SS-258M-1194-SO	Aluminum	9340		LL3SS-258M-1197-SO	Blind	10200	mg/kg		8.8
LL3SS-258M-1194-SO	Antimony	0.05	R	LL3SS-258M-1197-SO	Blind	0.066	mg/kg	J	27.5
LL3SS-258M-1194-SO	Arsenic	9.77	J-	LL3SS-258M-1197-SO	Blind	10.5	mg/kg	J-	7.2
LL3SS-258M-1194-SO	Barium	46.8		LL3SS-258M-1197-SO	Blind	50.2	mg/kg		7.0
LL3SS-258M-1194-SO	Beryllium	0.534		LL3SS-258M-1197-SO	Blind	0.538	mg/kg		0.7
LL3SS-258M-1194-SO	Cadmium	0.678		LL3SS-258M-1197-SO	Blind	0.78	mg/kg		14.0
LL3SS-258M-1194-SO	Calcium	4790	J	LL3SS-258M-1197-SO	Blind	5930	mg/kg	J	21.3
LL3SS-258M-1194-SO	Chromium	12.8	J-	LL3SS-258M-1197-SO	Blind	14.8	mg/kg	J-	14.5
LL3SS-258M-1194-SO	Cobalt	6.56	J-	LL3SS-258M-1197-SO	Blind	6.68	mg/kg	J-	1.8
LL3SS-258M-1194-SO	Copper	19.5		LL3SS-258M-1197-SO	Blind	21.1	mg/kg		7.9
LL3SS-258M-1194-SO	Iron	19500	J-	LL3SS-258M-1197-SO	Blind	25000	mg/kg		24.7
LL3SS-258M-1194-SO	Lead	28.3		LL3SS-258M-1197-SO	Blind	33.4	mg/kg		16.5
LL3SS-258M-1194-SO	Magnesium	2530		LL3SS-258M-1197-SO	Blind	2810	mg/kg		10.5
LL3SS-258M-1194-SO	Manganese	304	J-	LL3SS-258M-1197-SO	Blind	305	mg/kg	J-	0.3
LL3SS-258M-1194-SO	Mercury	0.017	J	LL3SS-258M-1197-SO	Blind	0.026	mg/kg	J	40.4
LL3SS-258M-1194-SO	Nickel	21.2	J-	LL3SS-258M-1197-SO	Blind	20.8	mg/kg	J-	-1.9
LL3SS-258M-1194-SO	Potassium	889	J+	LL3SS-258M-1197-SO	Blind	1090	mg/kg	J+	20.3
LL3SS-258M-1194-SO	Selenium	0.173	J-	LL3SS-258M-1197-SO	Blind	0.218	mg/kg	J-	23.0
LL3SS-258M-1194-SO	Silver	0.352	J	LL3SS-258M-1197-SO	Blind	0.291	mg/kg	J	-19.0
LL3SS-258M-1194-SO	Sodium	60.4		LL3SS-258M-1197-SO	Blind	73.6	mg/kg		19.7
LL3SS-258M-1194-SO	Thallium	0.103		LL3SS-258M-1197-SO	Blind	0.103	mg/kg		0.0
LL3SS-258M-1194-SO	Vanadium	14.3		LL3SS-258M-1197-SO	Blind	16	mg/kg		11.2
LL3SS-258M-1194-SO	Zinc	74.1	J-	LL3SS-258M-1197-SO	Blind	88.2	mg/kg	J-	17.4

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-258M-1194-SO	Aluminum	9340		LL3SS-258M-1196-SO	Field	7160	mg/kg		-26.4
LL3SS-258M-1194-SO	Antimony	0.05	R	LL3SS-258M-1196-SO	Field	0.05	mg/kg	R	-1.0
LL3SS-258M-1194-SO	Arsenic	9.77	J-	LL3SS-258M-1196-SO	Field	9.79	mg/kg	J-	0.2
LL3SS-258M-1194-SO	Barium	46.8		LL3SS-258M-1196-SO	Field	37	mg/kg		-23.4
LL3SS-258M-1194-SO	Beryllium	0.534		LL3SS-258M-1196-SO	Field	0.411	mg/kg		-26.0
LL3SS-258M-1194-SO	Cadmium	0.678		LL3SS-258M-1196-SO	Field	0.573	mg/kg		-16.8
LL3SS-258M-1194-SO	Calcium	4790	J	LL3SS-258M-1196-SO	Field	3340	mg/kg	J	-35.7
LL3SS-258M-1194-SO	Chromium	12.8	J-	LL3SS-258M-1196-SO	Field	10.4	mg/kg	J-	-20.7
LL3SS-258M-1194-SO	Cobalt	6.56	J-	LL3SS-258M-1196-SO	Field	5.65	mg/kg	J-	-14.9
LL3SS-258M-1194-SO	Copper	19.5		LL3SS-258M-1196-SO	Field	17.8	mg/kg		-9.1
LL3SS-258M-1194-SO	Iron	19500	J-	LL3SS-258M-1196-SO	Field	17800	mg/kg	J-	-9.1
LL3SS-258M-1194-SO	Lead	28.3		LL3SS-258M-1196-SO	Field	20.4	mg/kg		-32.4
LL3SS-258M-1194-SO	Magnesium	2530		LL3SS-258M-1196-SO	Field	1980	mg/kg		-24.4
LL3SS-258M-1194-SO	Manganese	304	J-	LL3SS-258M-1196-SO	Field	285	mg/kg	J-	-6.5
LL3SS-258M-1194-SO	Mercury	0.017	J	LL3SS-258M-1196-SO	Field	0.012	mg/kg	J	-36.4
LL3SS-258M-1194-SO	Nickel	21.2	J-	LL3SS-258M-1196-SO	Field	19.7	mg/kg	J-	-7.3
LL3SS-258M-1194-SO	Potassium	889	J+	LL3SS-258M-1196-SO	Field	632	mg/kg	J+	-33.8
LL3SS-258M-1194-SO	Selenium	0.173	J-	LL3SS-258M-1196-SO	Field	0.177	mg/kg	J-	2.3
LL3SS-258M-1194-SO	Silver	0.352	J	LL3SS-258M-1196-SO	Field	0.19	mg/kg	U	-59.8
LL3SS-258M-1194-SO	Sodium	60.4		LL3SS-258M-1196-SO	Field	43.9	mg/kg		-31.6
LL3SS-258M-1194-SO	Thallium	0.103		LL3SS-258M-1196-SO	Field	0.088	mg/kg		-15.6
LL3SS-258M-1194-SO	Vanadium	14.3		LL3SS-258M-1196-SO	Field	11.4	mg/kg		-22.6
LL3SS-258M-1194-SO	Zinc	74.1	J-	LL3SS-258M-1196-SO	Field	70	mg/kg	J-	-5.7
LL3SS-258M-1194-SO	Hexavalent Chromium	0.05	U	LL3SS-258M-1197-SO	Blind	0.256	mg/kg	U	134.5
LL3SS-258M-1194-SO	Hexavalent Chromium	0.05	U	LL3SS-258M-1196-SO	Field	0.097	mg/kg	U	63.4
LL3SS-268M-1208-SO	Aroclor-1016	8.51	U	LL3SS-268M-1211-SO	Blind	8.36	ug/kg	U	-1.8
LL3SS-268M-1208-SO	Aroclor-1221	8.51	U	LL3SS-268M-1211-SO	Blind	8.36	ug/kg	U	-1.8
LL3SS-268M-1208-SO	Aroclor-1232	8.51	U	LL3SS-268M-1211-SO	Blind	8.36	ug/kg	U	-1.8
LL3SS-268M-1208-SO	Aroclor-1242	8.51	U	LL3SS-268M-1211-SO	Blind	8.36	ug/kg	U	-1.8
LL3SS-268M-1208-SO	Aroclor-1248	8.51	U	LL3SS-268M-1211-SO	Blind	8.36	ug/kg	U	-1.8
LL3SS-268M-1208-SO	Aroclor-1254	49.8		LL3SS-268M-1211-SO	Blind	63.8	ug/kg		24.6
LL3SS-268M-1208-SO	Aroclor-1260	8.51	U	LL3SS-268M-1211-SO	Blind	8.36	ug/kg	U	-1.8
LL3SS-268M-1208-SO	Aroclor-1016	8.51	U	LL3SS-268M-1210-SO	Field	8.66	ug/kg	U	1.7
LL3SS-268M-1208-SO	Aroclor-1221	8.51	U	LL3SS-268M-1210-SO	Field	8.66	ug/kg	U	1.7
LL3SS-268M-1208-SO	Aroclor-1232	8.51	U	LL3SS-268M-1210-SO	Field	8.66	ug/kg	U	1.7
LL3SS-268M-1208-SO	Aroclor-1242	8.51	U	LL3SS-268M-1210-SO	Field	8.66	ug/kg	U	1.7
LL3SS-268M-1208-SO	Aroclor-1248	8.51	U	LL3SS-268M-1210-SO	Field	8.66	ug/kg	U	1.7
LL3SS-268M-1208-SO	Aroclor-1254	49.8		LL3SS-268M-1210-SO	Field	49.9	ug/kg		0.2
LL3SS-268M-1208-SO	Aroclor-1260	8.51	U	LL3SS-268M-1210-SO	Field	8.66	ug/kg	U	1.7

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-268M-1208-SO	1,3,5-Trinitrobenzene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	1,3-Dinitrobenzene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	2,4,6-Trinitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	2,4-Dinitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	2,6-Dinitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	2-Nitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	3-Nitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	4-Nitrotoluene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	HMX	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	Nitrobenzene	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	Nitroglycerin	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	PETN	0.499	U	LL3SS-268M-1211-SO	Blind	0.501	mg/kg	U	0.4
LL3SS-268M-1208-SO	RDX	0.1	U	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	U	0.2
LL3SS-268M-1208-SO	Tetryl	0.1	R	LL3SS-268M-1211-SO	Blind	0.1	mg/kg	R	0.2
LL3SS-268M-1208-SO	1,3,5-Trinitrobenzene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	1,3-Dinitrobenzene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	2,4,6-Trinitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	2,4-Dinitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	2,6-Dinitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	2-Nitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	3-Nitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	4-Nitrotoluene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	HMX	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	Nitrobenzene	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	Nitroglycerin	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	PETN	0.499	U	LL3SS-268M-1210-SO	Field	0.503	mg/kg	U	0.8
LL3SS-268M-1208-SO	RDX	0.1	U	LL3SS-268M-1210-SO	Field	0.101	mg/kg	U	1.2
LL3SS-268M-1208-SO	Tetryl	0.1	R	LL3SS-268M-1210-SO	Field	0.101	mg/kg	R	1.2
LL3SS-268M-1208-SO	Aluminum	10900		LL3SS-268M-1211-SO	Blind	11400	mg/kg		4.5
LL3SS-268M-1208-SO	Antimony	0.052	R	LL3SS-268M-1211-SO	Blind	0.051	mg/kg	R	-1.9
LL3SS-268M-1208-SO	Arsenic	9.42	J-	LL3SS-268M-1211-SO	Blind	9.22	mg/kg	J-	-2.1
LL3SS-268M-1208-SO	Barium	65.6		LL3SS-268M-1211-SO	Blind	62.2	mg/kg		-5.3
LL3SS-268M-1208-SO	Beryllium	0.571		LL3SS-268M-1211-SO	Blind	0.582	mg/kg		1.9
LL3SS-268M-1208-SO	Cadmium	0.553		LL3SS-268M-1211-SO	Blind	0.483	mg/kg		-13.5
LL3SS-268M-1208-SO	Calcium	2920		LL3SS-268M-1211-SO	Blind	2920	mg/kg		0.0

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-268M-1208-SO	Chromium	15.6		LL3SS-268M-1211-SO	Blind	15.6	mg/kg		0.0
LL3SS-268M-1208-SO	Cobalt	8.16		LL3SS-268M-1211-SO	Blind	8.04	mg/kg		-1.5
LL3SS-268M-1208-SO	Copper	17.6		LL3SS-268M-1211-SO	Blind	17.9	mg/kg		1.7
LL3SS-268M-1208-SO	Iron	21700		LL3SS-268M-1211-SO	Blind	21600	mg/kg		-0.5
LL3SS-268M-1208-SO	Lead	22.4	J-	LL3SS-268M-1211-SO	Blind	26.9	mg/kg	J-	18.3
LL3SS-268M-1208-SO	Magnesium	2380		LL3SS-268M-1211-SO	Blind	2480	mg/kg		4.1
LL3SS-268M-1208-SO	Manganese	455	J-	LL3SS-268M-1211-SO	Blind	429	mg/kg	J-	-5.9
LL3SS-268M-1208-SO	Mercury	0.036	J	LL3SS-268M-1211-SO	Blind	0.031	mg/kg	J	-14.6
LL3SS-268M-1208-SO	Nickel	31.2	J-	LL3SS-268M-1211-SO	Blind	28.2	mg/kg	J-	-10.1
LL3SS-268M-1208-SO	Potassium	934	J+	LL3SS-268M-1211-SO	Blind	1030	mg/kg	J+	9.8
LL3SS-268M-1208-SO	Selenium	0.384	J+	LL3SS-268M-1211-SO	Blind	0.331	mg/kg	J+	-14.8
LL3SS-268M-1208-SO	Silver	0.36	J	LL3SS-268M-1211-SO	Blind	0.353	mg/kg		-2.0
LL3SS-268M-1208-SO	Sodium	40.1		LL3SS-268M-1211-SO	Blind	42.8	mg/kg		6.5
LL3SS-268M-1208-SO	Thallium	0.122		LL3SS-268M-1211-SO	Blind	0.132	mg/kg		7.9
LL3SS-268M-1208-SO	Vanadium	18.4		LL3SS-268M-1211-SO	Blind	19	mg/kg		3.2
LL3SS-268M-1208-SO	Zinc	70.6		LL3SS-268M-1211-SO	Blind	68.7	mg/kg		-2.7
LL3SS-268M-1208-SO	Aluminum	10900		LL3SS-268M-1210-SO	Field	11300	mg/kg		3.6
LL3SS-268M-1208-SO	Antimony	0.052	R	LL3SS-268M-1210-SO	Field	0.052	mg/kg	R	0.0
LL3SS-268M-1208-SO	Arsenic	9.42	J-	LL3SS-268M-1210-SO	Field	10.3	mg/kg	J-	8.9
LL3SS-268M-1208-SO	Barium	65.6		LL3SS-268M-1210-SO	Field	61.7	mg/kg		-6.1
LL3SS-268M-1208-SO	Beryllium	0.571		LL3SS-268M-1210-SO	Field	0.55	mg/kg		-3.7
LL3SS-268M-1208-SO	Cadmium	0.553		LL3SS-268M-1210-SO	Field	0.491	mg/kg		-11.9
LL3SS-268M-1208-SO	Calcium	2920		LL3SS-268M-1210-SO	Field	2710	mg/kg		-7.5
LL3SS-268M-1208-SO	Chromium	15.6		LL3SS-268M-1210-SO	Field	17.7	mg/kg		12.6
LL3SS-268M-1208-SO	Cobalt	8.16		LL3SS-268M-1210-SO	Field	7.98	mg/kg		-2.2
LL3SS-268M-1208-SO	Copper	17.6		LL3SS-268M-1210-SO	Field	17.7	mg/kg		0.6
LL3SS-268M-1208-SO	Iron	21700		LL3SS-268M-1210-SO	Field	20500	mg/kg		-5.7
LL3SS-268M-1208-SO	Lead	22.4	J-	LL3SS-268M-1210-SO	Field	23.7	mg/kg	J-	5.6
LL3SS-268M-1208-SO	Magnesium	2380		LL3SS-268M-1210-SO	Field	2480	mg/kg		4.1
LL3SS-268M-1208-SO	Manganese	455	J-	LL3SS-268M-1210-SO	Field	428	mg/kg	J-	-6.1
LL3SS-268M-1208-SO	Mercury	0.036	J	LL3SS-268M-1210-SO	Field	0.028	mg/kg	J	-23.6
LL3SS-268M-1208-SO	Nickel	31.2	J-	LL3SS-268M-1210-SO	Field	28.3	mg/kg	J-	-9.7
LL3SS-268M-1208-SO	Potassium	934	J+	LL3SS-268M-1210-SO	Field	1090	mg/kg	J+	15.4
LL3SS-268M-1208-SO	Selenium	0.384	J+	LL3SS-268M-1210-SO	Field	0.334	mg/kg	J+	-13.9
LL3SS-268M-1208-SO	Silver	0.36	J	LL3SS-268M-1210-SO	Field	0.196	mg/kg	J	-59.0
LL3SS-268M-1208-SO	Sodium	40.1		LL3SS-268M-1210-SO	Field	44.5	mg/kg		10.4
LL3SS-268M-1208-SO	Thallium	0.122		LL3SS-268M-1210-SO	Field	0.126	mg/kg		3.2
LL3SS-268M-1208-SO	Vanadium	18.4		LL3SS-268M-1210-SO	Field	18.8	mg/kg		2.2
LL3SS-268M-1208-SO	Zinc	70.6		LL3SS-268M-1210-SO	Field	66.4	mg/kg		-6.1

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL3SS-268M-1208-SO	Hexavalent Chromium	0.052	U	LL3SS-268M-1211-SO	Blind	0.253	mg/kg	U	132.2
LL3SS-268M-1208-SO	Hexavalent Chromium	0.052	U	LL3SS-268M-1210-SO	Field	0.053	mg/kg	U	1.9
LL4SS-201D-1185-SO	1,1,1-Trichloroethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,1,2,2-Tetrachloroethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,1,2-Trichloroethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,1-Dichloroethane	1.2	U	LL4SS-201D-1187-SO	VOC Blind	0.875	ug/kg	U	-31.3
LL4SS-201D-1185-SO	1,1-Dichloroethene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,2-Dibromoethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,2-Dichloroethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,2-Dichloroethene (total)	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	1,2-Dichloropropane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	2-Butanone	2.99	UJ	LL4SS-201D-1187-SO	VOC Blind	2.19	ug/kg	UJ	-30.9
LL4SS-201D-1185-SO	2-Hexanone	2.99	U	LL4SS-201D-1187-SO	VOC Blind	2.19	ug/kg	U	-30.9
LL4SS-201D-1185-SO	4-Methyl-2-pentanone	2.99	UJ	LL4SS-201D-1187-SO	VOC Blind	2.19	ug/kg	UJ	-30.9
LL4SS-201D-1185-SO	Acetone	5.99	R	LL4SS-201D-1187-SO	VOC Blind	4.38	ug/kg	R	-31.1
LL4SS-201D-1185-SO	Benzene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Bromochloromethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Bromodichloromethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Bromoform	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Bromomethane	1.2	U	LL4SS-201D-1187-SO	VOC Blind	0.875	ug/kg	U	-31.3
LL4SS-201D-1185-SO	Carbon disulfide	0.599	R	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	R	-31.1
LL4SS-201D-1185-SO	Carbon tetrachloride	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Chlorobenzene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Chloroethane	1.2	U	LL4SS-201D-1187-SO	VOC Blind	0.875	ug/kg	U	-31.3
LL4SS-201D-1185-SO	Chloroform	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Chloromethane	2.4	U	LL4SS-201D-1187-SO	VOC Blind	1.75	ug/kg	U	-31.3
LL4SS-201D-1185-SO	cis-1,3-Dichloropropene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Dibromochloromethane	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Ethyl benzene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Methylene chloride	1.2	U	LL4SS-201D-1187-SO	VOC Blind	0.875	ug/kg	U	-31.3
LL4SS-201D-1185-SO	Styrene	0.599	R	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	R	-31.1
LL4SS-201D-1185-SO	Tetrachloroethene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Toluene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	trans-1,3-Dichloropropene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Trichloroethene	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-201D-1185-SO	Vinyl chloride	1.2	U	LL4SS-201D-1187-SO	VOC Blind	0.875	ug/kg	U	-31.3
LL4SS-201D-1185-SO	Xylenes, Total	0.599	U	LL4SS-201D-1187-SO	VOC Blind	0.438	ug/kg	U	-31.1
LL4SS-209M-1196-SO	1,3,5-Trinitrobenzene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	1,3-Dinitrobenzene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-209M-1196-SO	2,4,6-Trinitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	2,4-Dinitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	2,6-Dinitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	2-Nitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	3-Nitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	4-Nitrotoluene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	HMX	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	Nitrobenzene	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	Nitroglycerin	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	PETN	0.502	U	LL4SS-209M-1199-SO	Blind	0.497	mg/kg	U	-1.0
LL4SS-209M-1196-SO	RDX	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	Tetryl	0.1	U	LL4SS-209M-1199-SO	Blind	0.099	mg/kg	U	-0.6
LL4SS-209M-1196-SO	1,3,5-Trinitrobenzene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	1,3-Dinitrobenzene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	2,4,6-Trinitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	2,4-Dinitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	2,6-Dinitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	2-Nitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	3-Nitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	4-Nitrotoluene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	HMX	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	Nitrobenzene	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	Nitroglycerin	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	PETN	0.502	U	LL4SS-209M-1198-SO	Field	0.503	mg/kg	U	0.2
LL4SS-209M-1196-SO	RDX	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	Tetryl	0.1	U	LL4SS-209M-1198-SO	Field	0.101	mg/kg	U	1.0
LL4SS-209M-1196-SO	4,4'-DDD	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	4,4'-DDE	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	4,4'-DDT	2.54	J	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	-43.1
LL4SS-209M-1196-SO	Aldrin	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	alpha Chlordane	43.8	J	LL4SS-209M-1199-SO	Blind	13.1	ug/kg	J	-107.9
LL4SS-209M-1196-SO	alpha-BHC	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	beta-BHC	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	delta-BHC	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Dieldrin	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-209M-1196-SO	Endosulfan I	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endosulfan II	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endosulfan sulfate	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endrin	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endrin aldehyde	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endrin ketone	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	gamma Chlordane	23.1		LL4SS-209M-1199-SO	Blind	8.6	ug/kg	J	-91.5
LL4SS-209M-1196-SO	gamma-BHC (Lindane)	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Heptachlor	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Heptachlor epoxide	2.8	J	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	-52.3
LL4SS-209M-1196-SO	Methoxychlor	1.64	U	LL4SS-209M-1199-SO	Blind	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Toxaphene	83.1	U	LL4SS-209M-1199-SO	Blind	83	ug/kg	U	-0.1
LL4SS-209M-1196-SO	4,4'-DDD	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	4,4'-DDE	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	4,4'-DDT	2.54	J	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	-43.1
LL4SS-209M-1196-SO	Aldrin	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	alpha Chlordane	43.8	J	LL4SS-209M-1198-SO	Field	8.97	ug/kg	J	-132.0
LL4SS-209M-1196-SO	alpha-BHC	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	beta-BHC	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	delta-BHC	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Dieldrin	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endosulfan I	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endosulfan II	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endosulfan sulfate	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endrin	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endrin aldehyde	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Endrin ketone	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	gamma Chlordane	23.1		LL4SS-209M-1198-SO	Field	6.35	ug/kg	J	-113.8
LL4SS-209M-1196-SO	gamma-BHC (Lindane)	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Heptachlor	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Heptachlor epoxide	2.8	J	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	-52.3
LL4SS-209M-1196-SO	Methoxychlor	1.64	U	LL4SS-209M-1198-SO	Field	1.64	ug/kg	U	0.0
LL4SS-209M-1196-SO	Toxaphene	83.1	U	LL4SS-209M-1198-SO	Field	83.2	ug/kg	U	0.1
LL4SS-209M-1196-SO	Aluminum	11000		LL4SS-209M-1199-SO	Blind	11700	mg/kg		6.2
LL4SS-209M-1196-SO	Antimony	0.049	R	LL4SS-209M-1199-SO	Blind	0.051	mg/kg	R	2.8
LL4SS-209M-1196-SO	Arsenic	10.7	J	LL4SS-209M-1199-SO	Blind	9.02	mg/kg	J	-17.0
LL4SS-209M-1196-SO	Barium	73.2		LL4SS-209M-1199-SO	Blind	82.8	mg/kg		12.3
LL4SS-209M-1196-SO	Beryllium	0.666		LL4SS-209M-1199-SO	Blind	0.738	mg/kg		10.3
LL4SS-209M-1196-SO	Cadmium	0.543	J+	LL4SS-209M-1199-SO	Blind	0.502	mg/kg	J+	-7.8

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-209M-1196-SO	Calcium	9900		LL4SS-209M-1199-SO	Blind	12000	mg/kg		19.2
LL4SS-209M-1196-SO	Chromium	14.8	J-	LL4SS-209M-1199-SO	Blind	13.5	mg/kg	J-	-9.2
LL4SS-209M-1196-SO	Cobalt	7.71	J-	LL4SS-209M-1199-SO	Blind	7.53	mg/kg	J-	-2.4
LL4SS-209M-1196-SO	Copper	22.9		LL4SS-209M-1199-SO	Blind	18.6	mg/kg		-20.7
LL4SS-209M-1196-SO	Iron	22200	J-	LL4SS-209M-1199-SO	Blind	20700	mg/kg	J-	-7.0
LL4SS-209M-1196-SO	Lead	17.6		LL4SS-209M-1199-SO	Blind	16.2	mg/kg		-8.3
LL4SS-209M-1196-SO	Magnesium	3820		LL4SS-209M-1199-SO	Blind	3960	mg/kg		3.6
LL4SS-209M-1196-SO	Manganese	512	J-	LL4SS-209M-1199-SO	Blind	535	mg/kg	J-	4.4
LL4SS-209M-1196-SO	Mercury	0.022	J	LL4SS-209M-1199-SO	Blind	0.017	mg/kg	J	-23.1
LL4SS-209M-1196-SO	Nickel	29.2	J	LL4SS-209M-1199-SO	Blind	24.4	mg/kg	J	-17.9
LL4SS-209M-1196-SO	Potassium	1150	J+	LL4SS-209M-1199-SO	Blind	1160	mg/kg	J+	0.9
LL4SS-209M-1196-SO	Selenium	0.265	J-	LL4SS-209M-1199-SO	Blind	0.284	mg/kg	J-	6.9
LL4SS-209M-1196-SO	Silver	0.589	J+	LL4SS-209M-1199-SO	Blind	0.429	mg/kg	J+	-31.4
LL4SS-209M-1196-SO	Sodium	71.9	U	LL4SS-209M-1199-SO	Blind	83.3	mg/kg	U	14.7
LL4SS-209M-1196-SO	Thallium	0.139		LL4SS-209M-1199-SO	Blind	0.121	mg/kg		-13.8
LL4SS-209M-1196-SO	Vanadium	16.8		LL4SS-209M-1199-SO	Blind	16.4	mg/kg		-2.4
LL4SS-209M-1196-SO	Zinc	86.8	J-	LL4SS-209M-1199-SO	Blind	67.5	mg/kg	J-	-25.0
LL4SS-209M-1196-SO	Aluminum	11000		LL4SS-209M-1198-SO	Field	8630	mg/kg		-24.1
LL4SS-209M-1196-SO	Antimony	0.049	R	LL4SS-209M-1198-SO	Field	0.051	mg/kg	R	2.2
LL4SS-209M-1196-SO	Arsenic	10.7	J	LL4SS-209M-1198-SO	Field	10.9	mg/kg	J	1.9
LL4SS-209M-1196-SO	Barium	73.2		LL4SS-209M-1198-SO	Field	60.5	mg/kg		-19.0
LL4SS-209M-1196-SO	Beryllium	0.666		LL4SS-209M-1198-SO	Field	0.551	mg/kg		-18.9
LL4SS-209M-1196-SO	Cadmium	0.543	J+	LL4SS-209M-1198-SO	Field	0.496	mg/kg	J+	-9.0
LL4SS-209M-1196-SO	Calcium	9900		LL4SS-209M-1198-SO	Field	8580	mg/kg		-14.3
LL4SS-209M-1196-SO	Chromium	14.8	J-	LL4SS-209M-1198-SO	Field	13.2	mg/kg	J-	-11.4
LL4SS-209M-1196-SO	Cobalt	7.71	J-	LL4SS-209M-1198-SO	Field	7.39	mg/kg	J-	-4.2
LL4SS-209M-1196-SO	Copper	22.9		LL4SS-209M-1198-SO	Field	19.2	mg/kg		-17.6
LL4SS-209M-1196-SO	Iron	22200	J-	LL4SS-209M-1198-SO	Field	19500	mg/kg	J-	-12.9
LL4SS-209M-1196-SO	Lead	17.6		LL4SS-209M-1198-SO	Field	20.1	mg/kg		13.3
LL4SS-209M-1196-SO	Magnesium	3820		LL4SS-209M-1198-SO	Field	3230	mg/kg		-16.7
LL4SS-209M-1196-SO	Manganese	512	J-	LL4SS-209M-1198-SO	Field	458	mg/kg	J-	-11.1
LL4SS-209M-1196-SO	Mercury	0.022	J	LL4SS-209M-1198-SO	Field	0.02	mg/kg	J	-6.2
LL4SS-209M-1196-SO	Nickel	29.2	J	LL4SS-209M-1198-SO	Field	32.3	mg/kg	J	10.1
LL4SS-209M-1196-SO	Potassium	1150	J+	LL4SS-209M-1198-SO	Field	838	mg/kg	J+	-31.4
LL4SS-209M-1196-SO	Selenium	0.265	J-	LL4SS-209M-1198-SO	Field	0.309	mg/kg	J-	15.3
LL4SS-209M-1196-SO	Silver	0.589	J+	LL4SS-209M-1198-SO	Field	0.623	mg/kg	J+	5.6
LL4SS-209M-1196-SO	Sodium	71.9	U	LL4SS-209M-1198-SO	Field	53.3	mg/kg	U	-29.7
LL4SS-209M-1196-SO	Thallium	0.139		LL4SS-209M-1198-SO	Field	0.136	mg/kg		-2.2
LL4SS-209M-1196-SO	Vanadium	16.8		LL4SS-209M-1198-SO	Field	13.1	mg/kg		-24.7

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-209M-1196-SO	Zinc	86.8	J-	LL4SS-209M-1198-SO	Field	70.2	mg/kg	J-	-21.1
LL4SS-209M-1196-SO	Hexavalent Chromium	0.253	UJ	LL4SS-209M-1199-SO	Blind	0.506	mg/kg	UJ	66.7
LL4SS-209M-1196-SO	Hexavalent Chromium	0.253	UJ	LL4SS-209M-1198-SO	Field	0.05	mg/kg	UJ	-134.1
LL4SS-212M-1202-SO	Aroclor-1016	8.17	U	LL4SS-212M-1205-SO	Blind	8.25	ug/kg	U	1.0
LL4SS-212M-1202-SO	Aroclor-1221	8.17	U	LL4SS-212M-1205-SO	Blind	8.25	ug/kg	U	1.0
LL4SS-212M-1202-SO	Aroclor-1232	8.17	U	LL4SS-212M-1205-SO	Blind	8.25	ug/kg	U	1.0
LL4SS-212M-1202-SO	Aroclor-1242	8.17	U	LL4SS-212M-1205-SO	Blind	8.25	ug/kg	U	1.0
LL4SS-212M-1202-SO	Aroclor-1248	8.17	U	LL4SS-212M-1205-SO	Blind	8.25	ug/kg	U	1.0
LL4SS-212M-1202-SO	Aroclor-1254	45.3	J	LL4SS-212M-1205-SO	Blind	17.8	ug/kg	J	-87.2
LL4SS-212M-1202-SO	Aroclor-1260	51.7	J	LL4SS-212M-1205-SO	Blind	32.3	ug/kg	J	-46.2
LL4SS-212M-1202-SO	Aroclor-1016	8.17	U	LL4SS-212M-1204-SO	Field	8.24	ug/kg	U	0.9
LL4SS-212M-1202-SO	Aroclor-1221	8.17	U	LL4SS-212M-1204-SO	Field	8.24	ug/kg	U	0.9
LL4SS-212M-1202-SO	Aroclor-1232	8.17	U	LL4SS-212M-1204-SO	Field	8.24	ug/kg	U	0.9
LL4SS-212M-1202-SO	Aroclor-1242	8.17	U	LL4SS-212M-1204-SO	Field	8.24	ug/kg	U	0.9
LL4SS-212M-1202-SO	Aroclor-1248	8.17	U	LL4SS-212M-1204-SO	Field	8.24	ug/kg	U	0.9
LL4SS-212M-1202-SO	Aroclor-1254	45.3	J	LL4SS-212M-1204-SO	Field	21.9	ug/kg	J	-69.6
LL4SS-212M-1202-SO	Aroclor-1260	51.7	J	LL4SS-212M-1204-SO	Field	26.7	ug/kg	J	-63.8
LL4SS-212M-1202-SO	1,3,5-Trinitrobenzene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	1,3-Dinitrobenzene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	2,4,6-Trinitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	2,4-Dinitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	2,6-Dinitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	2-Amino-4,6-dinitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	2-Nitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	3-Nitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	4-Amino-2,6-dinitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	4-Nitrotoluene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	HMX	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	Nitrobenzene	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	Nitroglycerin	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	PETN	0.497	U	LL4SS-212M-1205-SO	Blind	0.501	mg/kg	U	0.8
LL4SS-212M-1202-SO	RDX	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	Tetryl	0.099	U	LL4SS-212M-1205-SO	Blind	0.1	mg/kg	U	0.7
LL4SS-212M-1202-SO	1,3,5-Trinitrobenzene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	1,3-Dinitrobenzene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	2,4,6-Trinitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	2,4-Dinitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	2,6-Dinitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	2-Amino-4,6-dinitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-212M-1202-SO	2-Nitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	3-Nitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	4-Amino-2,6-dinitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	4-Nitrotoluene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	HMX	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	Nitrobenzene	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	Nitroglycerin	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	PETN	0.497	U	LL4SS-212M-1204-SO	Field	0.496	mg/kg	U	-0.2
LL4SS-212M-1202-SO	RDX	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	Tetryl	0.099	U	LL4SS-212M-1204-SO	Field	0.099	mg/kg	U	-0.2
LL4SS-212M-1202-SO	1,2,4-Trichlorobenzene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	1,2-Dichlorobenzene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	1,3-Dichlorobenzene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	1,4-Dichlorobenzene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2,4,5-Trichlorophenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2,4,6-Trichlorophenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2,4-Dichlorophenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2,4-Dimethylphenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2,4-Dinitrophenol	412	R	LL4SS-212M-1205-SO	Blind	408	ug/kg	R	-1.0
LL4SS-212M-1202-SO	2,4-Dinitrotoluene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2,6-Dinitrotoluene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2-Chloronaphthalene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2-Chlorophenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2-Methylnaphthalene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2-Methylphenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	2-Nitroaniline	412	UJ	LL4SS-212M-1205-SO	Blind	408	ug/kg	UJ	-1.0
LL4SS-212M-1202-SO	2-Nitrophenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	3,3'-Dichlorobenzidine	165	UJ	LL4SS-212M-1205-SO	Blind	163	ug/kg	UJ	-1.2
LL4SS-212M-1202-SO	3-,4-Methylphenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	3-Nitroaniline	412	UJ	LL4SS-212M-1205-SO	Blind	408	ug/kg	UJ	-1.0
LL4SS-212M-1202-SO	4,6-Dinitro-2-methylphenol	412	R	LL4SS-212M-1205-SO	Blind	408	ug/kg	R	-1.0
LL4SS-212M-1202-SO	4-Bromophenyl-phenylether	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	4-Chloro-3-methylphenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	4-Chloroaniline	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	4-Chlorophenyl-phenyl ether	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	4-Nitroaniline	412	UJ	LL4SS-212M-1205-SO	Blind	408	ug/kg	UJ	-1.0
LL4SS-212M-1202-SO	4-Nitrophenol	412	UJ	LL4SS-212M-1205-SO	Blind	408	ug/kg	UJ	-1.0
LL4SS-212M-1202-SO	Acenaphthene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Acenaphthylene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-212M-1202-SO	Anthracene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Benzo(a)anthracene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Benzo(a)pyrene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Benzo(b)fluoranthene	86.7	J	LL4SS-212M-1205-SO	Blind	82.9	ug/kg	J	-4.5
LL4SS-212M-1202-SO	Benzo(g,h,i)Perylene	82.6	R	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	R	-1.1
LL4SS-212M-1202-SO	Benzo(k)fluoranthene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Benzoic acid	330	R	LL4SS-212M-1205-SO	Blind	327	ug/kg	R	-0.9
LL4SS-212M-1202-SO	Benzyl alcohol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Bis(2-Chloroethoxy)Methane	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Bis(2-Chloroethyl)ether	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	bis(2-Chloroisopropyl)ether	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	bis(2-Ethylhexyl)phthalate	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Butylbenzylphthalate	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Carbazole	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Chrysene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Dibenzo(a,h)Anthracene	82.6	R	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	R	-1.1
LL4SS-212M-1202-SO	Dibenzofuran	82.6	R	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	R	-1.1
LL4SS-212M-1202-SO	Diethylphthalate	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Dimethylphthalate	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Di-N-Butylphthalate	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Di-n-octylphthalate	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Fluoranthene	82.7	J	LL4SS-212M-1205-SO	Blind	154	ug/kg	J	60.2
LL4SS-212M-1202-SO	Fluorene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Hexachlorobenzene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Hexachlorobutadiene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Hexachlorocyclopentadiene	82.6	R	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	R	-1.1
LL4SS-212M-1202-SO	Hexachloroethane	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Indeno(1,2,3-cd)pyrene	82.6	R	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	R	-1.1
LL4SS-212M-1202-SO	Isophorone	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Naphthalene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Nitrobenzene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	N-Nitrosodiphenylamine	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	N-NITROSODIPROPYLAMINE	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Pentachlorophenol	412	UJ	LL4SS-212M-1205-SO	Blind	408	ug/kg	UJ	-1.0
LL4SS-212M-1202-SO	Phenanthrene	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Phenol	82.6	UJ	LL4SS-212M-1205-SO	Blind	81.7	ug/kg	UJ	-1.1
LL4SS-212M-1202-SO	Pyrene	82.6	UJ	LL4SS-212M-1205-SO	Blind	125	ug/kg	J	40.8
LL4SS-212M-1202-SO	1,2,4-Trichlorobenzene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-212M-1202-SO	1,2-Dichlorobenzene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	1,3-Dichlorobenzene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	1,4-Dichlorobenzene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2,4,5-Trichlorophenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2,4,6-Trichlorophenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2,4-Dichlorophenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2,4-Dimethylphenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2,4-Dinitrophenol	412	R	LL4SS-212M-1204-SO	Field	412	ug/kg	R	0.0
LL4SS-212M-1202-SO	2,4-Dinitrotoluene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2,6-Dinitrotoluene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2-Chloronaphthalene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2-Chlorophenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2-Methylnaphthalene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2-Methylphenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	2-Nitroaniline	412	UJ	LL4SS-212M-1204-SO	Field	412	ug/kg	UJ	0.0
LL4SS-212M-1202-SO	2-Nitrophenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	3,3'-Dichlorobenzidine	165	UJ	LL4SS-212M-1204-SO	Field	165	ug/kg	UJ	0.0
LL4SS-212M-1202-SO	3-,4-Methylphenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	3-Nitroaniline	412	UJ	LL4SS-212M-1204-SO	Field	412	ug/kg	UJ	0.0
LL4SS-212M-1202-SO	4,6-Dinitro-2-methylphenol	412	R	LL4SS-212M-1204-SO	Field	412	ug/kg	R	0.0
LL4SS-212M-1202-SO	4-Bromophenyl-phenylether	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	4-Chloro-3-methylphenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	4-Chloroaniline	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	4-Chlorophenyl-phenyl ether	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	4-Nitroaniline	412	UJ	LL4SS-212M-1204-SO	Field	412	ug/kg	UJ	0.0
LL4SS-212M-1202-SO	4-Nitrophenol	412	UJ	LL4SS-212M-1204-SO	Field	412	ug/kg	UJ	0.0
LL4SS-212M-1202-SO	Acenaphthene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Acenaphthylene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Anthracene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Benzo(a)anthracene	82.6	UJ	LL4SS-212M-1204-SO	Field	153	ug/kg	J	59.8
LL4SS-212M-1202-SO	Benzo(a)pyrene	82.6	UJ	LL4SS-212M-1204-SO	Field	163	ug/kg	J	65.5
LL4SS-212M-1202-SO	Benzo(b)fluoranthene	86.7	J	LL4SS-212M-1204-SO	Field	178	ug/kg	J-	69.0
LL4SS-212M-1202-SO	Benzo(g,h,i)Perylene	82.6	R	LL4SS-212M-1204-SO	Field	82.5	ug/kg	R	-0.1
LL4SS-212M-1202-SO	Benzo(k)fluoranthene	82.6	UJ	LL4SS-212M-1204-SO	Field	182	ug/kg	J-	75.1
LL4SS-212M-1202-SO	Benzoic acid	330	R	LL4SS-212M-1204-SO	Field	330	ug/kg	R	0.0
LL4SS-212M-1202-SO	Benzyl alcohol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Bis(2-Chloroethoxy)Methane	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Bis(2-Chloroethyl)ether	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	bis(2-Chloroisopropyl)ether	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-212M-1202-SO	bis(2-Ethylhexyl)phthalate	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Butylbenzylphthalate	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Carbazole	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Chrysene	82.6	UJ	LL4SS-212M-1204-SO	Field	177	ug/kg	J-	72.7
LL4SS-212M-1202-SO	Dibenzo(a,h)Anthracene	82.6	R	LL4SS-212M-1204-SO	Field	82.5	ug/kg	R	-0.1
LL4SS-212M-1202-SO	Dibenzofuran	82.6	R	LL4SS-212M-1204-SO	Field	82.5	ug/kg	R	-0.1
LL4SS-212M-1202-SO	Diethylphthalate	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Dimethylphthalate	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Di-N-Butylphthalate	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Di-n-octylphthalate	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Fluoranthene	82.7	J	LL4SS-212M-1204-SO	Field	387	ug/kg	J-	129.6
LL4SS-212M-1202-SO	Fluorene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Hexachlorobenzene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Hexachlorobutadiene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Hexachlorocyclopentadiene	82.6	R	LL4SS-212M-1204-SO	Field	82.5	ug/kg	R	-0.1
LL4SS-212M-1202-SO	Hexachloroethane	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Indeno(1,2,3-cd)pyrene	82.6	R	LL4SS-212M-1204-SO	Field	82.5	ug/kg	R	-0.1
LL4SS-212M-1202-SO	Isophorone	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Naphthalene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Nitrobenzene	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	N-Nitrosodiphenylamine	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	N-NITROSODIPROPYLAMINE	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Pentachlorophenol	412	UJ	LL4SS-212M-1204-SO	Field	412	ug/kg	UJ	0.0
LL4SS-212M-1202-SO	Phenanthrene	82.6	UJ	LL4SS-212M-1204-SO	Field	182	ug/kg	J-	75.1
LL4SS-212M-1202-SO	Phenol	82.6	UJ	LL4SS-212M-1204-SO	Field	82.5	ug/kg	UJ	-0.1
LL4SS-212M-1202-SO	Pyrene	82.6	UJ	LL4SS-212M-1204-SO	Field	308	ug/kg	J-	115.4
LL4SS-212M-1202-SO	Aluminum	6610		LL4SS-212M-1205-SO	Blind	7290	mg/kg		9.8
LL4SS-212M-1202-SO	Antimony	0.05	R	LL4SS-212M-1205-SO	Blind	0.051	mg/kg	R	2.0
LL4SS-212M-1202-SO	Arsenic	17.2	J	LL4SS-212M-1205-SO	Blind	15	mg/kg	J	-13.7
LL4SS-212M-1202-SO	Barium	37		LL4SS-212M-1205-SO	Blind	39.1	mg/kg		5.5
LL4SS-212M-1202-SO	Beryllium	0.354		LL4SS-212M-1205-SO	Blind	0.396	mg/kg		11.2
LL4SS-212M-1202-SO	Cadmium	0.474	J+	LL4SS-212M-1205-SO	Blind	0.458	mg/kg	J+	-3.4
LL4SS-212M-1202-SO	Calcium	6280		LL4SS-212M-1205-SO	Blind	6940	mg/kg		10.0
LL4SS-212M-1202-SO	Chromium	10.3	J-	LL4SS-212M-1205-SO	Blind	11.5	mg/kg	J-	11.0
LL4SS-212M-1202-SO	Cobalt	7.16	J-	LL4SS-212M-1205-SO	Blind	7.95	mg/kg	J-	10.5
LL4SS-212M-1202-SO	Copper	24.3		LL4SS-212M-1205-SO	Blind	23.9	mg/kg		-1.7
LL4SS-212M-1202-SO	Iron	20600	J-	LL4SS-212M-1205-SO	Blind	21600	mg/kg	J-	4.7
LL4SS-212M-1202-SO	Lead	24.2		LL4SS-212M-1205-SO	Blind	21.9	mg/kg		-10.0

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-212M-1202-SO	Magnesium	3530		LL4SS-212M-1205-SO	Blind	3330	mg/kg		-5.8
LL4SS-212M-1202-SO	Manganese	402	J-	LL4SS-212M-1205-SO	Blind	449	mg/kg	J-	11.0
LL4SS-212M-1202-SO	Mercury	0.016	J	LL4SS-212M-1205-SO	Blind	0.013	mg/kg	J	-21.3
LL4SS-212M-1202-SO	Nickel	26	J	LL4SS-212M-1205-SO	Blind	73.6	mg/kg	J	95.6
LL4SS-212M-1202-SO	Potassium	713	J+	LL4SS-212M-1205-SO	Blind	766	mg/kg	J+	7.2
LL4SS-212M-1202-SO	Selenium	0.23	J-	LL4SS-212M-1205-SO	Blind	0.236	mg/kg	J-	2.6
LL4SS-212M-1202-SO	Silver	0.512	J+	LL4SS-212M-1205-SO	Blind	0.348	mg/kg	J+	-38.1
LL4SS-212M-1202-SO	Sodium	32.9	U	LL4SS-212M-1205-SO	Blind	36.9	mg/kg	U	11.5
LL4SS-212M-1202-SO	Thallium	0.164		LL4SS-212M-1205-SO	Blind	0.149	mg/kg		-9.6
LL4SS-212M-1202-SO	Vanadium	11.5		LL4SS-212M-1205-SO	Blind	12.9	mg/kg		11.5
LL4SS-212M-1202-SO	Zinc	91.2	J-	LL4SS-212M-1205-SO	Blind	91.6	mg/kg	J-	0.4
LL4SS-212M-1202-SO	Aluminum	6610		LL4SS-212M-1204-SO	Field	6330	mg/kg		-4.3
LL4SS-212M-1202-SO	Antimony	0.05	R	LL4SS-212M-1204-SO	Field	0.048	mg/kg	R	-2.4
LL4SS-212M-1202-SO	Arsenic	17.2	J	LL4SS-212M-1204-SO	Field	14.5	mg/kg	J	-17.0
LL4SS-212M-1202-SO	Barium	37		LL4SS-212M-1204-SO	Field	37.8	mg/kg		2.1
LL4SS-212M-1202-SO	Beryllium	0.354		LL4SS-212M-1204-SO	Field	0.35	mg/kg		-1.1
LL4SS-212M-1202-SO	Cadmium	0.474	J+	LL4SS-212M-1204-SO	Field	0.446	mg/kg	J+	-6.1
LL4SS-212M-1202-SO	Calcium	6280		LL4SS-212M-1204-SO	Field	9990	mg/kg		45.6
LL4SS-212M-1202-SO	Chromium	10.3	J-	LL4SS-212M-1204-SO	Field	9.12	mg/kg	J-	-12.2
LL4SS-212M-1202-SO	Cobalt	7.16	J-	LL4SS-212M-1204-SO	Field	6.96	mg/kg	J-	-2.8
LL4SS-212M-1202-SO	Copper	24.3		LL4SS-212M-1204-SO	Field	24.2	mg/kg		-0.4
LL4SS-212M-1202-SO	Iron	20600	J-	LL4SS-212M-1204-SO	Field	19500	mg/kg	J-	-5.5
LL4SS-212M-1202-SO	Lead	24.2		LL4SS-212M-1204-SO	Field	25.8	mg/kg		6.4
LL4SS-212M-1202-SO	Magnesium	3530		LL4SS-212M-1204-SO	Field	3390	mg/kg		-4.0
LL4SS-212M-1202-SO	Manganese	402	J-	LL4SS-212M-1204-SO	Field	376	mg/kg	J-	-6.7
LL4SS-212M-1202-SO	Mercury	0.016	J	LL4SS-212M-1204-SO	Field	0.016	mg/kg	J	3.8
LL4SS-212M-1202-SO	Nickel	26	J	LL4SS-212M-1204-SO	Field	27.2	mg/kg	J	4.5
LL4SS-212M-1202-SO	Potassium	713	J+	LL4SS-212M-1204-SO	Field	678	mg/kg	J+	-5.0
LL4SS-212M-1202-SO	Selenium	0.23	J-	LL4SS-212M-1204-SO	Field	0.261	mg/kg	J-	12.6
LL4SS-212M-1202-SO	Silver	0.512	J+	LL4SS-212M-1204-SO	Field	0.227	mg/kg	J+	-77.1
LL4SS-212M-1202-SO	Sodium	32.9	U	LL4SS-212M-1204-SO	Field	31.7	mg/kg	U	-3.7
LL4SS-212M-1202-SO	Thallium	0.164		LL4SS-212M-1204-SO	Field	0.165	mg/kg		0.6
LL4SS-212M-1202-SO	Vanadium	11.5		LL4SS-212M-1204-SO	Field	10.9	mg/kg		-5.4
LL4SS-212M-1202-SO	Zinc	91.2	J-	LL4SS-212M-1204-SO	Field	84.7	mg/kg	J-	-7.4
LL4SS-212M-1202-SO	Hexavalent Chromium	0.245	UJ	LL4SS-212M-1205-SO	Blind	0.244	mg/kg	UJ	-0.4
LL4SS-212M-1202-SO	Hexavalent Chromium	0.245	UJ	LL4SS-212M-1204-SO	Field	0.101	mg/kg	UJ	-83.2
LL4SS-220M-1217-SO	1,3,5-Trinitrobenzene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	1,3-Dinitrobenzene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	2,4,6-Trinitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-220M-1217-SO	2,4-Dinitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	2,6-Dinitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	2-Nitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	3-Nitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	4-Nitrotoluene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	HMX	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	Nitrobenzene	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	Nitroglycerin	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	PETN	0.5	U	LL4SS-220M-1222-SO	Blind	0.498	mg/kg	U	-0.4
LL4SS-220M-1217-SO	RDX	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	Tetryl	0.1	U	LL4SS-220M-1222-SO	Blind	0.1	mg/kg	U	-0.4
LL4SS-220M-1217-SO	1,3,5-Trinitrobenzene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	1,3-Dinitrobenzene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	2,4,6-Trinitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	2,4-Dinitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	2,6-Dinitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	2-Amino-4,6-dinitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	2-Nitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	3-Nitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	4-Amino-2,6-dinitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	4-Nitrotoluene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	HMX	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	Nitrobenzene	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	Nitroglycerin	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	PETN	0.5	U	LL4SS-220M-1221-SO	Field	0.499	mg/kg	U	-0.2
LL4SS-220M-1217-SO	RDX	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	Tetryl	0.1	U	LL4SS-220M-1221-SO	Field	0.1	mg/kg	U	-0.2
LL4SS-220M-1217-SO	Aluminum	5330		LL4SS-220M-1222-SO	Blind	5270	mg/kg		-1.1
LL4SS-220M-1217-SO	Antimony	0.05	R	LL4SS-220M-1222-SO	Blind	0.052	mg/kg	R	4.1
LL4SS-220M-1217-SO	Arsenic	7.99	J-	LL4SS-220M-1222-SO	Blind	7.98	mg/kg	J-	-0.1
LL4SS-220M-1217-SO	Barium	19		LL4SS-220M-1222-SO	Blind	17.9	mg/kg		-6.0
LL4SS-220M-1217-SO	Beryllium	0.231		LL4SS-220M-1222-SO	Blind	0.226	mg/kg		-2.2
LL4SS-220M-1217-SO	Cadmium	0.331		LL4SS-220M-1222-SO	Blind	0.329	mg/kg		-0.6
LL4SS-220M-1217-SO	Calcium	1000		LL4SS-220M-1222-SO	Blind	824	mg/kg		-19.3
LL4SS-220M-1217-SO	Chromium	6.67		LL4SS-220M-1222-SO	Blind	6.61	mg/kg		-0.9
LL4SS-220M-1217-SO	Cobalt	3.23		LL4SS-220M-1222-SO	Blind	3.2	mg/kg		-0.9
LL4SS-220M-1217-SO	Copper	16.8		LL4SS-220M-1222-SO	Blind	17.6	mg/kg		4.7

Primary Sample	Analyte	Result	Qualifier	QC SAMPLE ID	QC Type	Result	Unit	Qualifier	RPD
LL4SS-220M-1217-SO	Iron	12900		LL4SS-220M-1222-SO	Blind	12900	mg/kg		0.0
LL4SS-220M-1217-SO	Lead	11.6	J-	LL4SS-220M-1222-SO	Blind	12.4	mg/kg	J-	6.7
LL4SS-220M-1217-SO	Magnesium	1170		LL4SS-220M-1222-SO	Blind	1090	mg/kg		-7.1
LL4SS-220M-1217-SO	Manganese	131		LL4SS-220M-1222-SO	Blind	122	mg/kg		-7.1
LL4SS-220M-1217-SO	Mercury	0.01	U	LL4SS-220M-1222-SO	Blind	0.01	mg/kg	U	3.9
LL4SS-220M-1217-SO	Nickel	12.4		LL4SS-220M-1222-SO	Blind	19	mg/kg		42.0
LL4SS-220M-1217-SO	Potassium	427		LL4SS-220M-1222-SO	Blind	326	mg/kg		-26.8
LL4SS-220M-1217-SO	Selenium	0.138	J	LL4SS-220M-1222-SO	Blind	0.18	mg/kg	J	26.4
LL4SS-220M-1217-SO	Silver	0.193	U	LL4SS-220M-1222-SO	Blind	0.198	mg/kg	U	2.6
LL4SS-220M-1217-SO	Sodium	23.1	U	LL4SS-220M-1222-SO	Blind	19.8	mg/kg	U	-15.4
LL4SS-220M-1217-SO	Thallium	0.074		LL4SS-220M-1222-SO	Blind	0.074	mg/kg		-0.4
LL4SS-220M-1217-SO	Vanadium	8.43		LL4SS-220M-1222-SO	Blind	7.84	mg/kg		-7.3
LL4SS-220M-1217-SO	Zinc	48.7		LL4SS-220M-1222-SO	Blind	47.6	mg/kg		-2.3
LL4SS-220M-1217-SO	Aluminum	5330		LL4SS-220M-1221-SO	Field	5400	mg/kg		1.3
LL4SS-220M-1217-SO	Antimony	0.05	R	LL4SS-220M-1221-SO	Field	0.051	mg/kg	R	3.4
LL4SS-220M-1217-SO	Arsenic	7.99	J-	LL4SS-220M-1221-SO	Field	7.85	mg/kg	J-	-1.8
LL4SS-220M-1217-SO	Barium	19		LL4SS-220M-1221-SO	Field	19.4	mg/kg		2.1
LL4SS-220M-1217-SO	Beryllium	0.231		LL4SS-220M-1221-SO	Field	0.232	mg/kg		0.4
LL4SS-220M-1217-SO	Cadmium	0.331		LL4SS-220M-1221-SO	Field	0.346	mg/kg		4.4
LL4SS-220M-1217-SO	Calcium	1000		LL4SS-220M-1221-SO	Field	820	mg/kg		-19.8
LL4SS-220M-1217-SO	Chromium	6.67		LL4SS-220M-1221-SO	Field	6.86	mg/kg		2.8
LL4SS-220M-1217-SO	Cobalt	3.23		LL4SS-220M-1221-SO	Field	3.39	mg/kg		4.8
LL4SS-220M-1217-SO	Copper	16.8		LL4SS-220M-1221-SO	Field	17.5	mg/kg		4.1
LL4SS-220M-1217-SO	Iron	12900		LL4SS-220M-1221-SO	Field	13400	mg/kg		3.8
LL4SS-220M-1217-SO	Lead	11.6	J-	LL4SS-220M-1221-SO	Field	12	mg/kg	J-	3.4
LL4SS-220M-1217-SO	Magnesium	1170		LL4SS-220M-1221-SO	Field	1110	mg/kg		-5.3
LL4SS-220M-1217-SO	Manganese	131		LL4SS-220M-1221-SO	Field	134	mg/kg		2.3
LL4SS-220M-1217-SO	Mercury	0.01	U	LL4SS-220M-1221-SO	Field	0.013	mg/kg	J	22.2
LL4SS-220M-1217-SO	Nickel	12.4		LL4SS-220M-1221-SO	Field	12.4	mg/kg		0.0
LL4SS-220M-1217-SO	Potassium	427		LL4SS-220M-1221-SO	Field	370	mg/kg		-14.3
LL4SS-220M-1217-SO	Selenium	0.138	J	LL4SS-220M-1221-SO	Field	0.166	mg/kg	J	18.4
LL4SS-220M-1217-SO	Silver	0.193	U	LL4SS-220M-1221-SO	Field	0.187	mg/kg	U	-3.2
LL4SS-220M-1217-SO	Sodium	23.1	U	LL4SS-220M-1221-SO	Field	21	mg/kg	U	-9.5
LL4SS-220M-1217-SO	Thallium	0.074		LL4SS-220M-1221-SO	Field	0.078	mg/kg		4.7
LL4SS-220M-1217-SO	Vanadium	8.43		LL4SS-220M-1221-SO	Field	8.4	mg/kg		-0.4
LL4SS-220M-1217-SO	Zinc	48.7		LL4SS-220M-1221-SO	Field	49.7	mg/kg		2.0
LL4SS-220M-1217-SO	Hexavalent Chromium	0.506	UJ	LL4SS-220M-1222-SO	Blind	0.516	mg/kg	UJ	2.0
LL4SS-220M-1217-SO	Hexavalent Chromium	0.506	UJ	LL4SS-220M-1221-SO	Field	0.506	mg/kg	UJ	0.0

APPENDIX D

Validator Checklists

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): W6275319

Sample Delivery Group: L08060612

	Yes	No
1. Holding Time: Were samples analyzed within holding time? 8330B ht ✓ (14 days from collection) 8330 HT (see notes)	~~[X]~~	[X]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. (evaluated only level IV validation)	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 ✓ PETN ✓ Nitroguanidine – NO (see notes)	[ ]	[X]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%? (for all applicable target cpds)	[X]	[ ]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source? (for all applicable target cpds)	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%?		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)? (for all applicable target cpds)	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? (re valuated level IV only)	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	[X]	[ ]
• Were all identified hits confirmed on a second column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40?	[X]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak?	[ ]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (all TCs ND)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits? LCG 40-140%, 2,4,6-tnt was not evaluated as TC was in parent sample >4x spike amt	[X]	[ ]
Were the RPDs within control limits? LCG RPD ≤ 35%		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all samples PETN was reported on the ADR report for LCS outliers; however review of the data showed PETN to be within the QC limits of 50-150 in accordance w/ LCG VS table 5.

For all samples, the lab reported results from the primary & confirmation analyses on sample result forms. In accordance with LCG VS, the reviewer reported the higher of the two concentrations unless there was an indication of interference with the high concentration. In that instance, the lower result of the two values was reported.

Validated/Reviewed by:

Signature: KTShadanfelt Date: 03/24/08

Name: Kristin Shadanfelt

For all samples, the result summary forms for PETN incorrectly reference Cal'b. date of 06/23/08, rather than 07/01/08. Level IV validation indicated that 07/01/08 is the correct calibration date and ~~the samples were~~ correctly quantitated from the 07/01/08 ICAL, for ~~PETN~~, the PETN was ~~validated samples~~.

HT for nitroguanidine exceeded 14 day; therefore, all results estimated.

An MDL check was not performed for nitroguanidine. As an MRL standards were routinely performed for the nitroguanidine analyses and as the MRLs were within the established QC limits of %D ≤ 30%, no qualifications were applied.

POLY CHLORINATED BIPHENYLS (PCB/AROCLORS) CHECKLIST

Project Name: Ravenna

Laboratory: Mirobac Laboratories

Batch Number(s): LC6275054

Sample Delivery Group: L0806061 2

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[X]	[ ]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did Aroclors 1016 and 1260 meet the RSD ≤ 20% or the r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R	[X]	[ ]
5. Initial Calibration Verification (ICV):		
Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]

	Yes	No
6. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum %D < 20% for a specific compound?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed? N/A	[ ]	[ ]
• Were identified Aroclors confirmed on a second GC column?	[X]	[ ]
• Were individual Aroclor standards used to determine the pattern of the peaks? (Individual Aroclors are 1221, 1232, 1242, 1248, and 1254. Both Aroclor 1016, and 1260 can be used from the mixed calibration standards.)	[X]	[ ]
• Was RPD of target analyte conformation ≤ 40?	[X]	[ ]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? All TCs NO	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits?	[X]	[ ]
Were the RPDs within control limits?	[X]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[X]	[ ]

9. **Comments (attach additional sheets if necessary):**

For all sample, the lab reported results from the primary & confirmation analyses on sample result forms. In accordance with LCG VS, the reviewer reported the higher of the two values unless there was an indicate of interference with the higher concentration. In that instance the lower result of the two values was reported.

Although Aroclor 1260 was identified on the quantitation report of the sample validated samples in this SDG, the laboratory only reported Aroclor 1254. The sample chromatogram matched up best with the Aroclor 1254 pattern according to an email correspondence with the lab dated . It should also be noted that Aroclor 1254 was accurately quantitated using the Aroclor 1254 calibration.

Validated/Reviewed by:

Signature: KBSchadowlight

Date: 3/8/05

Name: Kristi Schadowlight

ORGANOCHLORINE PESTICIDES ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): WG276265, WG275056, WG275559

Sample Delivery Group: L08060612

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[ ]	[X]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. DDT/Endrin Breakdown:		
• Was breakdown ≤ 15%?	[X]	[ ]
3. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did all compounds meet the RSD ≤ 20% or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. (evaluated Level IV validation only)	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
4. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
5. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R	[X]	[ ]

	Yes	No
6. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]
7. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum D ≤ 20% for a specific compound?	[X]	[ ]
8. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]
• Were identified compounds confirmed on a second GC column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40? (see note)	[ ]	[X]
9. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? (no detects)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? (for retained analyses only)	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A (parent sample & MS/MSD analyzed @ 10 x DIL (sp. ke considered dil. out not	[ ]	[ ]
Were the RPD within control limits? evaluated) N/A	[ ]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[X]	[ ]

Retained analytes were analyzed @ 10 x DILs, surrogates were considered diluted out and were not evaluated

10. Comments (attach additional sheets if necessary):

In the level IV validation false negatives were identified for the following detects: heptachlor epoxide, 4,4'-DDE, and endrin in sample LL255-278M-1231-SO. In review of the level IV data, it was noted that there was a systemic error problem with the laboratory data reported, and that the data is suspected to have false negatives.

For all samples, the lab reported results from the primary & confirmation analyses on sample result forms. In accordance with LCG VS, the reviewer reported the highest of the two values unless there was an indication of interference with the highest concentration. In that instance the lower result of the two values was reported.

For target cpd confirmation RPDs >40%, the retained results were qualified as estimated. The following RPDs exceeded 40%: heptachlor epoxide & endrin in sample LL255-278M-1231-SO.

According to the case narration for this SDG, the samples were re-extracted twice due to low LCS %Rs. The third extraction yielded good %Rs, but was extracted beyond outside of the holding time period. Results for the retained analyses were qualified as estimated. Extraction batches WG275056 and WG275559 were rejected, "R", in favor of the analyses reported in batch WG276265.

Validated/Reviewed by:

Signature: KShadorgett

Date: 3/15/07

Name: Kristin Shadorgett

SEMIVOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 274336, 276162

Sample Delivery Group: L0906061 2
(Levels III and IV)

	Yes	No
1. Sample Holding Time:		
(a) Were samples extracted within holding time?	[✓] orig.	[✓] ve-ext. (RE)
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Instrument Tuning: Was the DFTPP tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Ion Mass Assignments: Was mass assignment based on m/z 198?	[✓]	[ ]
4. Ion Abundance: Indicate if DFTPP ions abundance relative to m/z 198 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
51	30.0 - 60.0 %	[✓]	[ ]
68	< 2% of mass 69	[✓]	[ ]
70	< 2% of mass 69	[✓]	[ ]
127	40-60%	[✓]	[ ]
197	< 1%	[✓]	[ ]
198	**100%, Base peak**	[✓]	[ ]
199	5-9%	[✓]	[ ]
275	10 - 30%	[✓]	[ ]
365	> 1%	[✓]	[ ]
441	present but < mass 443	[✓]	[ ]
442	> 40%	[✓]	[ ]
443	17-23% of mass 442	[✓]	[ ]

	Yes	No
5.0 Initial Calibration:		
• Did the initial calibration consist of five or more standards?	5-stds [ ] 6-8 more [✓]	[✓] [ ]
If the calibration curve consists of 5-standards, check validity of the calibration model.		
Was the linear model applied?	[✓]	[ ]
• Did the followings System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
RF		
N-nitroso-di-n-propylamine 0.05	[✓]	[ ]
Hexachlorocyclopentadiene 0.05	[✓]	[ ]
2,4-dinitrophenol 0.05	[✓]	[ ]
4-nitrophenol 0.05	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for the followings each individual Calibration Check Compound (CCC)?		
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15%?	[ ]	[✓]
• If the answer is "No", are the mean RSDs ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 30%?	[✓] N/C [✓]	[✓] see comments [ ]

	Yes	No
• Was manual integration "M" performed?	[✓]	[ ]

If the answer is "Yes", check for supporting documents. present (see attached)

• Was the manual integration necessary? (benzo(b) & (k) separation)	[✓]	[ ]

If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**

6. QCMDL:

• Was MDL Check performed? (not provided)	[✓]	[ ]

7. QCMRL:

• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 50-150% (Sporadic Marginal Failure)? (N/A - all are considered contaminants of concern)	[ ]	[✓] X MC

8. Initial Calibration Verification (ICV):

• Is the mid level (2nd source) recovery within 70-130% for contaminants of concern ?	[✓]	[ ]
• Is the mid level (2nd source) recovery within 50-150% for non-contaminants of concern (Sporadic Marginal Failure)? (N/A - all cont. of conc)	[ ]	[ ]

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did any of SPCC meet the minimum RF values?	[✓]	[ ]

		Yes	No
N-nitroso-di-n-propylamine	0.05	[✓]	[ ]
Hexachlorocyclopentadiene	0.05	[✓]	[ ]
2,4-dinitrophenol	0.05	[✓]	[ ]
4-nitrophenol	0.05	[✓]	[ ]

- Did the CCC meet the minimum requirements (D ≤ 20%) for the followings?

	Yes	No
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]

- Primary Evaluation: Was Drift or D ≤ 20% calculated from the initial calibration? [✓] [ ] see comments
- Alternative Evaluation: Maximum allowable Drift/D for each target analyte is ≤ 30%. (N/A) [ ] [ ]

10. Sample Analysis:

- Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? [✓] [ ]
- Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra? [ ] [✓]
- Were the internal standard areas within the QC limits (from -50% to +200%)? [✓] [ ]

11. Sample Quality Control:

	Yes	No
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits?	[ ]	[✓]
Were the RPD within control limits?	[✓]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[✓]	[ ]

12. Comments (attach additional sheets if necessary):

Due to marginal surrogate failures in qc samples associated w/original extraction/analysis, all samples were re-extracted. As all sample surrogate recoveries were acceptable, original extraction/analysis was considered most sound with fewer qualifications. Re-extr. data rejected as duplicate data.
- ICAL: hexachlorocyclopentadiene r < 0.995 (R/RC) also for MRL
- CCV: benzoic acid 44.5% (R/C) (≤20%D)
- MRL begin.: 3,3'-DCB 63.1, benzo(ghi) 68.1, bis 69.0, di-n-oct 49.1 (ok in end (70-130)) dibenz(a,h) 59.1, hexachlor. 59.9 (already R/C) indeno 123,cd 63.3, benz. acid 61.7
- MRL end: benzo ghi 68.1, dibenz ah 65.4, hexachlor 29.9 (R/C) already R/C
indeno 123 cd 65.3, benzoic acid already R/C 65.7/ok per professional judgment for "J" value trace level
- spectrum for benzo(a)anthr. 2° ion marginally ↑

Validated/Reviewed by:

Signature: Lynn S Calvin Date: 02.20.09

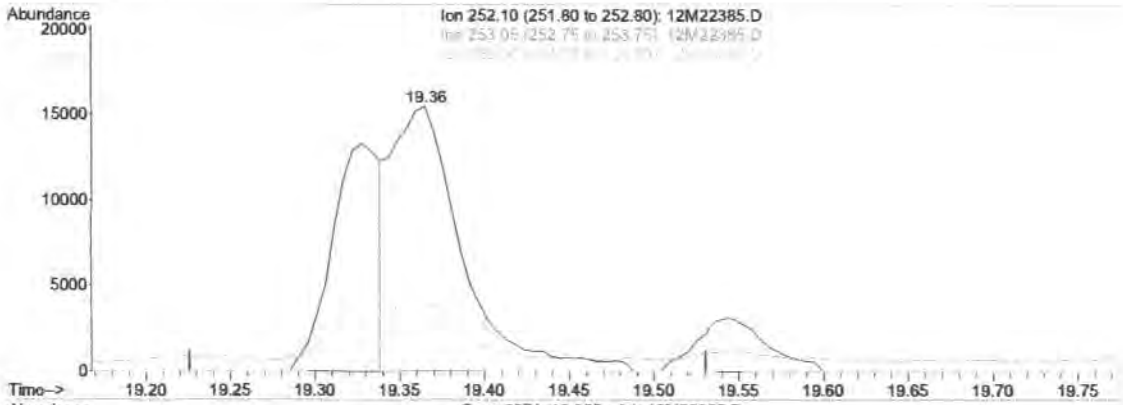
Name: Lynn S. Calvin

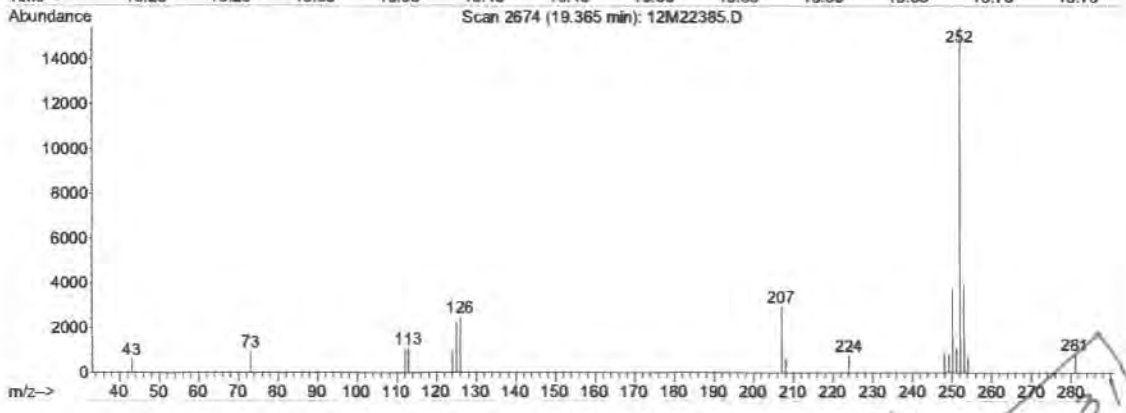
- MS/SD: (45-135) benzoic acid 20.3/19.9 (already R/C)
bis 2 Cl isopr. eth. 42.9/40.4 (UJ/Q)
- LCS: di-n-oct phth. 47.6 (50-160) (UJ/L)
n-nitroso-di ph. 44.1 (50-134)

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062708\12M22385.D Vial: 12
Acq On : 27 Jun 2008 1:59 pm Operator: MES
Sample : L08060612-05 SOIL Inst : HPMS12
Misc : 7,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 27 14:32 2008 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : 8270/625 Initial cal. 06/13/08
Last Update : Fri Jun 27 13:47:29 2008
Response via : Multiple Level Calibration





TIC: 12M22385.D

(131) Benzo[k]fluoranthene

19.36min 2.91ug/ml m

response 44953

Ion	Exp%	Act%
252.10	100	100
253.05	22.00	11.45#
125.00	11.90	0.00#
0.00	0.00	0.00

44953 x 20 / 631089 ÷ 0.9786 = 2.9115 x DF = 144.31 reported

20.95 x .963 (%sol.) DF = 19.5667

MDL 81.7

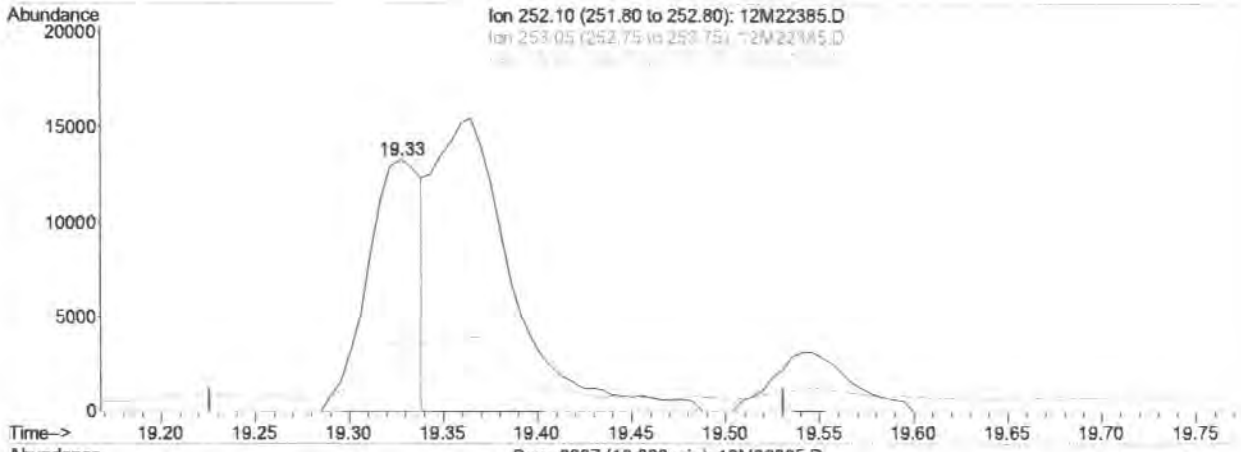
12M22385.D MEGAMIX.M Fri Jun 27 14:32:57 2008

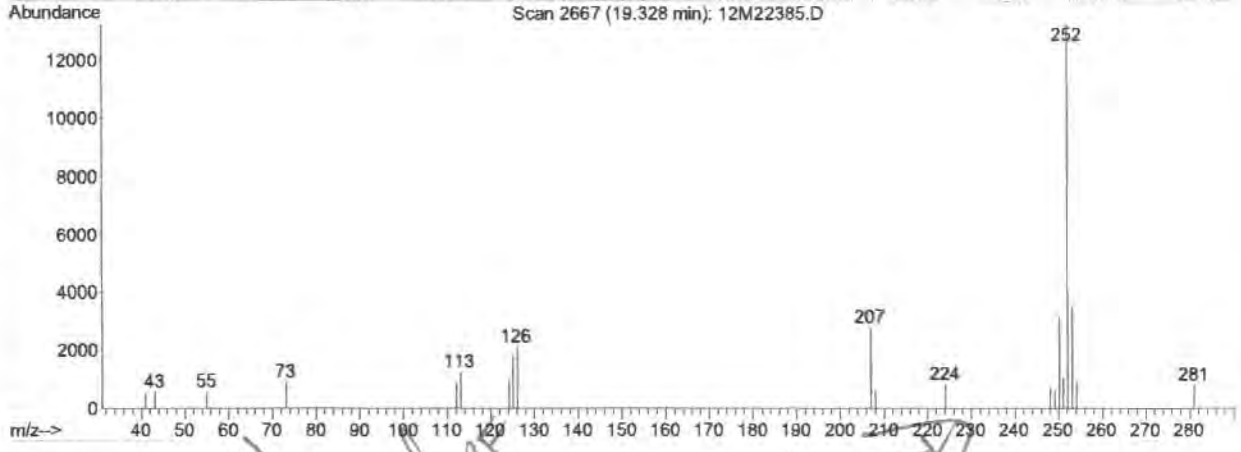
Approved: July 01, 2008	Supervisor: July 01, 2008
Reason #3: Improperly Integrated Isomers and/or coeluting compounds	

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\062708\12M22385.D Vial: 12
Acq On : 27 Jun 2008 1:59 pm Operator: MES
Sample : L08060612-05 SOIL Inst : HPMS12
Misc : 7,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jun 27 14:30 2008 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : 8270/625 Initial cal. 06/13/08
Last Update : Fri Jun 27 13:47:29 2008
Response via : Multiple Level Calibration





TIC: 12M22385.D

(131) Benzo[k]fluoranthene
19.33min 1.69ug/ml
response 26170

Ion	Exp%	Act%
252.10	100	100
253.05	22.00	19.67
125.00	11.90	0.00#
0.00	0.00	0.00

0 B1. calc'd w/wrong RF

24170 x 40 / 631099 x 1.147 = 1.4461 x 4954467 ≈ 71.6% (4 MDL)

12M22385.D MEGAMIX.M Fri Jun 27 14:32:50 2008

VOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 275662, 275542

Sample Delivery Group (SDG): L0806061Z
(Levels III and IV
VLC)

	Yes	No
1. Holding Time:		
(a) Were samples preserved?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Was the BFB tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Was mass assignment based on m/z 95?	[✓]	[ ]
4. Indicate if BFB ions abundance relative to m/z 95 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
50	15.0 - 40.0 %	[✓]	[ ]
75	30.0 - 66.0 %	[✓]	[ ]
95	**100%, Base Peak**	[✓]	[ ]
96	5.0 - 9.0%	[✓]	[ ]
173	<2.0% of m/z 174	[✓]	[ ]
174	>50%	[✓]	[ ]
175	5.0 - 9.0% of mass 174	[✓]	[ ]
176	95.0 - 101.0% of m/z 174	[✓]	[ ]
177	5.0 - 9.0% of m/z 176	[✓]	[ ]

The relative ion abundance of m/z 95/96, m/z 174/176, and 176/177 are of critical importance.

The relative ion abundance of m/z 50 and 75 are of lower importance.

	Yes	No
5. Initial Calibration:		
• Did the initial calibration consist of five standards? (4-10)	[✓]	[ ]
• Did the System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
Chloromethane (RF 0.1)	[✓]	[ ]
1,1-Dichloroethane (RF 0.1)	[✓]	[ ]
Bromoform (RF 0.1)	[✓]	[ ]
Chlorobenzene (RF 0.3)	[✓]	[ ]
1,1,2,2-Tetrachloroethane (RF 0.3)	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for each individual Calibration Check Compound (CCC)?		
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 20%?	[ ]	[✓]
If the answer is "No", are the mean RSDs ≤ 15%?	[✓]	[ ]
• Was manual integration "M" performed?	[ ]	[✓]
If the answer is "Yes", check for supporting documents.	[ ]	[ ]
• Was the manual integration necessary?		
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**	[ ]	[ ]
6. QCMDL:		
• Was MDL Check performed? (not provided)	[✓] NC	[ ]
7. QCMRL:	[✓]	[ ]

	Yes	No
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 60-140% (Sporadic Marginal Failure) N/A	[ ]	[ ]

8. Initial Calibration Verification (ICV):

• Is the mid level (2nd source) recovery within 80 - 120% for contaminants of concern ?	[✓]	[ ]
• Is the mid level (2nd source) recovery within 60-140% for non-contaminants of concern (Sporadic Marginal Failure)?		

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?		[✓]	[ ]
• Did SPCC meet the RF values?		[✓]	[ ]
RF			
Chloromethane	0.1	[✓]	[ ]
1,1-Dichloroethane	0.1	[✓]	[ ]
Bromoform	0.1	[✓]	[ ]
Chlorobenzene	0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane	0.3	[✓]	[ ]
• Did the CCC meet the minimum requirements (D ≤ 20%)?		[✓]	[ ]
1,1-Dichloroethene		[✓]	[ ]
Chloroform		[✓]	[ ]
1,2-Dichloropropane		[✓]	[ ]
Toluene		[✓]	[ ]
Ethylbenzene		[✓]	[ ]
Vinyl chloride		[✓]	[ ]
• Primary Evaluation: Was the mean, Drift or D ≤ 20% from the initial calibration?		[✓]	[ ]
• Alternative Evaluation: Maximum allowable Drift/D for			

	Yes	No
each target analyte is ≤ 30% when mean D ≤ 20%?	[✓]	[ ]

10. Sample Analysis:

• Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component?	[✓]	[ ]
• Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra?	[✓]	[ ]
• Were the internal standard areas within the QC limits (from -50% to +200%)?	[✓]	[ ]

11. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[✓]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits (50-150%)?	[✓]	[ ]

12. Comments (attach additional sheets if necessary):
(see attached)

Validated/Reviewed by:
Signature: Lynn S Calvin Date: 03.20.09

Name: Lynn S. Calvin

20080612

ICALs:

MS 9 6.26.08

% RSDs > 15% : acetone 45.3, styrene 49.9 (R/C)

MS 10 6.27.08

~~RRF~~ acetone ~~0.042~~ MC 0.04248 (R/R)

MRLs 6.30 MS 9

16:55 beg / end 19:58

acetone 64.5 — ok est. (R/C)

(no detects ~~or~~ or outliers w/ ↑ recoveries)

7.1 MS 10

14:28 beg / end 16:24

ok bromoform 65.4

~~LCS/LCSD (water) m.dl 144/MC 118/119 (69-118) J/L~~

(no detects ~~or~~ or outliers w/ ↑ recoveries)

ICP METALS ANALYSIS (6010) + 6020 CHECKLIST

Project Name: [illegible]

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L6606612

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time (6-Months)?	N	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	
three calibration standards and a blank?	N	[ ]	
• Was R ≥ 0.995	N	[ ]	
3. QCMDL:			
• Was MDL Check performed? not provided	[ ]	[ ]	
QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ]	bracketing samples ICP only
	N	[ ]	No for ICPMS
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]	
4. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within 90 - 110%?			
5. Initial Calibration Blank (ICP):			

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL? or insufficient to qualify samples	N	[ ]

6. Interelement Check Standard:

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	N	[ ]
• Was ICS-AB results within QC limits (80-120)?	N	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every 10 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	N	[ ]
• Were analytes ≤ 1/2 MRL? or insufficient to qualify	N	[ ]

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every 10 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	N	[ ]

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL? or insufficient to qualify	N	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	N	[ ]
• MS: Were the percent recoveries within limits? 75-125%	[ ]	N
• MD: Were the RPDs within control limits? ±25%	[ ]	N

11. Serial Dilution:

• Was serial dilution (1:5) conducted when needed?	N	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	N

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	N

13. Comments (attach additional sheets if necessary):

QCMRL - Na, Ts, Ba, Be, Cr, Mn & Na spike level 72 MDL. No quals as detects in samples >7 MDL. ICPMS analyzed @ begining & net end corps samples near begining
MS - Sb = 5%, As = 70.5%, K = 150%
Al, Ca, Ni native 74 spike + Fe, ~~Mg~~, Mn
Dup - Ni = 34%
Se, Ag & Sb w/in ± RL
SD - Fe = 15.6%, Mn = 24.5, Cr = 10.9, Co = 23.1%
SD - on - 02
Dup on - 12
MS on - 12 for ICP only
QSM limits
{Internal Stds ± sample ICC series w/in 30-120% of ICB
{Tune - mass <0.1 amu; %RSD <5%, pos <0.9 amu

Validated/Reviewed by:

Signature: Patt Meeks Date: 2/19/09

Name: Patt. Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806612

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
five calibration standards and a blank?	N	[ ]
• Was R ≥ 0.995	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	N	[ ]
• Was the QC/MRL between 70-130% R?	N	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	N	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]

	Yes	No	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	[X]	[ ]	
• Was CCB conducted at end of the analytical sequence?	[X]	[ ]	
• Were analytes ≤ 1/2 MRL?	[X]	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	[X]	[ ]	
• Was CCV conducted at end of the analytical sequence?	[X]	[ ]	
• Was the %R between 80-120?	[X]	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]	N/A
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits? 90-127.	[X]	[ ]	
• MS: Were the percent recoveries within limits? 75-125%	[ ]	[ ]	
• MD: Were the RPDs within control limits? ±25%	[ ]	[ ]	

11. Comments (attach additional sheets if necessary):

Dup on -02
MS -none for SDG
Post digest spikes on all samples
-12= 126%

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/19/09

Name: Patti Meeks

Hexavalent Chromium 7196A
~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806062

	Yes	No
1. Holding Time: 24 H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank?	[ ]	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	N	[ ]
QCMRL:		
• Were QC/MRL run at the beginning ~~and end~~ of every daily sequence or every 12 hours??	N	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]
4. Initial Calibration Verification (ICV):	N	[ ]
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (~~ICP~~):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]

6. Interelement Check Standard: N/A

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every 15 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	[ ]	N
• Were analytes ≤ 1/2 MRL?	N	N/A

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every 15 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	N	[ ]

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	N	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 90-110% lab limits	N	[ ]
• MS: Were the percent recoveries within limits? 85-115% GSM Limits	[ ]	N
• MD: Were the RPDs within control limits? ±30% soil	[ ]	[ ] N/A

11. Serial Dilution: N/A

• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect ($R \geq 0.995$)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

MS/MSD on -012
66 & 65%

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/19/09

Name: P.H. Meeks

Nitrocellulose

~~CYANIDE~~ ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): ~~L0806061Z~~

Sample Delivery Group: L0806061Z

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ] NA @ Level III
Six calibration standards and a blank?	[ ]	[ ]
• Was R ≥ 0.995	[ ]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[N]	[N]
4. QCMRL:		
• Were QC/MRL run at the beginning of every daily sequence??	[ ]	[N]
• Was the QC/MRL between 70-130% R?	[ ]	[ ] NA
5. Initial Calibration Verification (ICV):	[N]	[ ]
• Is the mid level (2nd source) recovery within ~~80-120%~~? DoD QSM limits 90-110%		
7. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

	Yes	No
7. Continuing calibration Blank (CCB):	[Y]	[ ]
• Was CCB conducted every 10 samples?	[Y]	[ ]
• Was CCB conducted at end of the analytical sequence?	[ ]	[ ]
• Were analytes ≤ 1/2 MRL?		
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[Y]	[ ]
• Was CCV conducted at end of the analytical sequence?	[Y]	[ ]
• Was the %R between ~~80-120~~? DoD QSM limits 70-110%	[Y]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[Y]	[ ]
12. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[Y]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? lab limits 50-110%	[Y]	[ ]
• MS: Were the percent recoveries within limits? lab limits 50-110%	[ ]	[Y]
• MD: Were the RPDs within control limits? MS/MSD RPD lab limit = 50%	[ ]	[Y]

13. Comments (attach additional sheets if necessary):

MS = 8 - 4%
MSD : Acceptable
RPD = 60%

GCMRL - ~~Sample > RL → CCV Data Indicator~~
J for lack

	Yes	No

Validated/Reviewed by:

Signature: Patti Meeks **Date:** 3/10/09

Name: Patti Meeks

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): W6275319

Sample Delivery Group: L080060623

	Yes	No
1. Holding Time: Were samples analyzed within holding time? (nt ✓ (within 14 days collect)	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. (only (level IV evaluated)	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 ✓ RTN ✓	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%? (for all applicable target cpds)	[X]	[ ]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source? (for all applicable target cpds)	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%? Yes		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)? (For all applicable target cpds)	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? (level IV validation and only)	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	[X]	[ ]
• Were all identified hits confirmed on a second column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40?	[X]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak?	[ ]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]

	Yes	No
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all samples the lab reported results from the primary & confirmation analyses on sample result forms. In accordance with LCG WS, the reviewer reported the higher of the two concentrations unless there was an indication of interference with the higher concentration. In that instance, the lower result of the two values was reported.

For all samples, the result summary forms for PETN incorrectly reference calib. date of 06/23/08 rather than 07/01/08. In the level-IV validation it was noted that the correct calibration date for PETN is 07/01/08 and PETN was correctly quantified from the ICAL 07/01/08, ~~for the validated Samples~~.

Validated/Reviewed by:

Signature: Kristin Shadowlight Date: 03/04/09

Name: Kristin Shadowlight

ICP METALS ANALYSIS (6010) 6020
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L6806623

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time (6-Months)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
three calibration standards and a blank?	N	[ ]
• Was R ≥ 0.995	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N ICP	N → ICPMS
• Was the QC/MRL between 70-130% R?	[ ]	N
Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No	
• Were analytes in the blank ≤ 1/2 MRL? or insufficient to qualify	[N]	[ ]	
6. Interelement Check Standard:			
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[N]	[ ]	
• Was ICS-AB results within QC limits (80-120)?	[N]	[ ]	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	[N]	[ ]	
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]	
• Were analytes ≤ 1/2 MRL?	[ ]	[N]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	[N]	[ ]	
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]	
• Was the %R between 90-110?	[N]	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ]	
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL? or insufficient to qualify	[N]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	[N]	[ ]	
• MS: Were the percent recoveries within limits? 75-125%	[ ]	[N]	
• MD: Were the RPDs within control limits? ±25%	[N]	[ ]	
11. Serial Dilution:			
• Was serial dilution (1:5) conducted when needed?	[N]	[ ]	N/A

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	N	[ ]

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ] NA

13. Comments (attach additional sheets if necessary):

QCMRL - Cu = 67.6, V = 143, Fe = 135 but detects >7 MDL or MRL
Sb = 141% but R/Q
Cd = 49%, ~~Ag = 64%~~, Tl = 136% but sample detects >7 MRL
Ag - 69% UJ 01, 02, 03
CCB Sb = 0.153 ug/L V/B LL255-305 M-1273-50

MS - on -01 although MS summary ID does not reflect this
Sb - not recovered (2.2%)
Co = 126, Cu = 157, K = 196, Pb = 146, Ni = 515
rest have native >4x spike
Dup on -01
Se w/in ±RL

~~Serial Dilution on -02 although summary ID doesn't reflect this~~
Co = 21.6, Fe = 149%, Mn = 20.9, V = 14.0, Zn = 12.3% Fe in -02 reported from 5x + is OK
Tune - mass <0.1 amu, %RSD < 5%, Res <0.9 amu
Internals Stds - samples w/in 30-120% of ICB

Validated/Reviewed by:

Signature: Patt Meeks Date: 2/19/09

Name: Patt. Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0506Z3

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
five calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[N]	[ ]
• Was the QC/MRL between 70-130% R?	[N]	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	[N]	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

	Yes	No
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[X]	[ ]
• Was CCB conducted at end of the analytical sequence?	[X]	[ ]
• Were analytes ≤ 1/2 MRL?	[X]	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[X]	[ ]
• Was CCV conducted at end of the analytical sequence?	[X]	[ ]
• Was the %R between 80-120?	[X]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ] N/A
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	[X]	[ ]
• MS: Were the percent recoveries within limits? 75-125%	[X]	[ ]
• MD: Were the RPDs within control limits? ± 25%	[X]	[ ]

11. Comments (attach additional sheets if necessary):

DUP on -01
MS on - 01

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/19/01

Name: Patti Meeks

U.S. Army Corps of Engineers Louisville District - LCG

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806623

	Yes	No
1. Holding Time: 24H from ext		
• Were samples analyzed within holding time (~~6-Months~~)?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank?	[ ]	[ ]
• Was $R \geq 0.995$	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed?	[N]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning ~~and end~~ of every daily sequence or every 12 hours??	[N]	[ ]
• Was the QC/MRL between 70-130% R?	[N]	[ ]
Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[N]	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

6. Interelement Check Standard: N/A

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every 15 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]
• Were analytes ≤ 1/2 MRL?	[N]	[ ]

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every 15 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]
• Was the %R between 90-110?	[N]	[ ]

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ]

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 70-110% lab limits	[N]	[ ]
• MS: Were the percent recoveries within limits? 85-115%	[ ]	[ ] N/A
• MD: Were the RPDs within control limits? ±30% soil	[ ]	[ ]

GSM Limits

11. Serial Dilution: N/A

• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

No MS/MSD or dup

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/19/09

Name: Patt. Meeks

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): W6275357

Sample Delivery Group: L08060652

	Yes	No
1. Holding Time: Were samples analyzed within holding time? (HT ✓ 14 days from sample collection)	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 ✓ PETN ✓	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%? (for all applicable TCs)	[X]	[ ]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source? (for all applicable TCs)	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%?		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)? (for all applicable target cpds)	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? (level, Level IV only)	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	[X]	[ ]
• Were all identified hits confirmed on a second column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40?	[ ]	[X]
• Was there a shoulder on the 2,4,6-TNT peak?	[ ]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (all ND)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits? (MS/LCS parent was not validated) N/A	[ ]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits? (unless diluted out)	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all samples, the lab reported results from the primary & Confirmation analyses on sample result forms. In accordance with LCG, the reviewer reported the higher of the two concentrations unless there was an indication of interference with the high concentration. In that instance, the lower of the two values was reported. result

RPD>40 & lmx in LL255-285M-1240-SO, LL255-285M-1246-SO & LL255-285M-1246-SO not allowed result goal as estimated.

In instance when the primary detect was not confirmed in the secondary analysis, the result was reported as a nondetect ~~but~~.

Validated/Reviewed by:

Signature: [signature] Date: 03/04/09

Name: Kristin Studenlight

For all samples the result summary forms for PETN incorrectly reference a Calibration date of 06/23/08 rather than 07/01/08. In the level IV validation it was noted that 07/01/08 is the correct Calibration date. and PETN was correctly quantitated from the 07/01/08 ICAL.

POLY CHLORINATED BIPHENYLS (PCB/AROCLORS) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): WG275220, WG275848, WG276435

Sample Delivery Group: L0806052

	Yes	No	
1. Holding Time:			
(a) Were samples extracted within holding time?	[ ]	[X]	(see notes)
(b) Were samples analyzed within holding time?	[X]	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of five standards?	[X]	[ ]	
• Did Aroclors 1016 and 1260 meet the RSD ≤ 20% or the r ≥ 0.99?	[X]	[ ]	
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]	
• Was the manual integration necessary?	[ ]	[ ]	
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**			
3. QCMDL:			
• Was MDL Check performed?	[ ]	[ ]	
4. QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]	
• Was the QC/MRL between 70-130% R	[X]	[ ]	
5. Initial Calibration Verification (ICV):			
Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]	

	Yes	No
6. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum %D < 20% for a specific compound?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[ ]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]
• Were identified Aroclors confirmed on a second GC column?	[X]	[ ]
• Were individual Aroclor standards used to determine the pattern of the peaks? (Individual Aroclors are 1221, 1232, 1242, 1248, and 1254. Both Aroclor 1016, and 1260 can be used from the mixed calibration standards.)	[X]	[ ]
• Was RPD of target analyte conformation ≤ 40?	[X]	[ ]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? all TCs ND	[X]	[X] NO
• LCS: Were the percent recoveries for LCS within the limits? (for retained results)	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPDs within control limits? N/A	[ ]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits? (for retained results)	[X]	[ ]

9. Comments (attach additional sheets if necessary):

QC batch WG276435 was extracted outside of HT of 14 days from collection; therefore, the retained results were qualified as estimated (see below).

According to the case narration for this SDG, the samples were re-extracted twice due to low LCS %Rs. The 2nd re-extraction yielded good %Rs; however it was extracted outside of the HT. The analyses for the original extraction batch (WG275220) and the 1st re-extract (WG275848) were rejected, "R," in favor of the analyses reported in batch WG276435. The retained analyses were qualified as estimated.

For all samples, the laboratory reported both the primary & confirmation analyses; therefore, for the retained analyses, the lower ~~of the~~ concentration of the two analyses was rejected, "R," in favor of the higher concentration of the same target cpd. (as per LCG V-S).

For all samples, the lab reported ~~both~~ results from both the primary and confirmation analyses on sample result forms. In accordance with LCG V-S, the reviewer reported the highe of the two values unless there was an indicator of interference with the higher concentration. In that instance, the lower result of the two was reported.

Validated/Reviewed by:

Signature: K Shugart Date: 3/15/05

Name: Kristi Shugart

It should be noted that there is a potential high bias due to the contribution from each of the Aroclors to the individual peaks used for quantitation of the Aroclors. For the retained results of the validated sample in this SDG, ~~the Aroclor~~ the results for Aroclor 1254 and Aroclor 1260 were qualified as estimated.

SEMIVOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 274698, 274974

Sample Delivery Group: L0606052
(Levels III & IV)

	Yes	No
1. Sample Holding Time:		
(a) Were samples extracted within holding time?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Instrument Tuning: Was the DFTPP tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Ion Mass Assignments: Was mass assignment based on m/z 198?	[✓]	[ ]
4. Ion Abundance: Indicate if DFTPP ions abundance relative to m/z 198 base peak met the ions abundance criteria:		
m/z — Acceptance Criteria		
51 — 30.0 - 60.0 %	[✓]	[ ]
68 — < 2% of mass 69	[✓]	[ ]
70 — < 2% of mass 69	[✓]	[ ]
127 — 40-60%	[✓]	[ ]
197 — < 1%	[✓]	[ ]
198 — 100%, Base peak	[✓]	[ ]
199 — 5-9%	[✓]	[ ]
275 — 10 - 30%	[✓]	[ ]
365 — > 1%	[✓]	[ ]
441 — present but < mass 443	[✓]	[ ]
442 — > 40%	[✓]	[ ]
443 — 17-23% of mass 442	[✓]	[ ]

	Yes	No
5.0 Initial Calibration:		
• Did the initial calibration consist of five or more standards?	5-stds [ ] 6 more [✓]	[✓] [ ]
If the calibration curve consists of 5-standards, check validity of the calibration model.		
Was the linear model applied?	[✓]	[ ]
• Did the followings System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
RF		
N-nitroso-di-n-propylamine 0.05	[✓]	[ ]
Hexachlorocyclopentadiene 0.05	[✓]	[ ]
2,4-dinitrophenol 0.05	[✓]	[ ]
4-nitrophenol 0.05	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for the followings each individual Calibration Check Compound (CCC)?		
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15%?	[ ]	[✓]
• If the answer is "No", are the mean RSDs ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 30%?	[ ] [✓]	[✓] [ ]

	Yes	No
• Was manual integration "M" performed?	[✓]	[ ]
If the answer is "Yes", check for supporting documents. present		
• Was the manual integration necessary? – separation of benzo(b)+(k) fluoranthene – incorrect peak initially integrated for benzo(a) anthracene	[✓]	[ ]
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		

6. QCMDL:

• Was MDL Check performed? (not provided) NC	[✓]	[ ]

7. QCMRL:

• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 50-150% (Sporadic Marginal Failure)? N/A	[ ]	[ ]

8. Initial Calibration Verification (ICV):

• Is the mid level (2nd source) recovery within 70-130% for contaminants of concern ?	[✓]	[ ]
• Is the mid level (2nd source) recovery within 50-150% for non-contaminants of concern (Sporadic Marginal Failure)? N/A	[ ]	[ ]

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did any of SPCC meet the minimum RF values?	[✓]	[ ]

		Yes	No
N-nitroso-di-n-propylamine	0.05	[✓]	[ ]
Hexachlorocyclopentadiene	0.05	[✓]	[ ]
2,4-dinitrophenol	0.05	[✓]	[ ]
4-nitrophenol	0.05	[✓]	[ ]

- Did the CCC meet the minimum requirements (D ≤ 20%) for the followings?

Base/Neutral Fraction:

Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]

Acid Fraction:

4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]

- Primary Evaluation: Was Drift or D ≤ 20% calculated from the initial calibration? [✓] see comments [ ]
- Alternative Evaluation: Maximum allowable Drift/D for each target analyte is ≤ 30%. N/A [ ] [ ]

10. Sample Analysis:

- Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? [✓] [ ]
- Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra? [ ] [✓]
- Were the internal standard areas within the QC limits (from -50% to +200%)? [✓] [ ]

11. Sample Quality Control:

	Yes	No
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[ ]	[✓]

12. Comments (attach additional sheets if necessary):

- ICAL: hexachlorocyclopentadiene r <0.995 (R/RC) DC
- CCVs: benzoic acid %Ds 44.5 and 39.8 w↓ bias (R/C)
- LCS/LCSD (water): benzoic acid rec's 25.9/29.1 (30-130) (R/L)
- MRL's 4.27 beg: ~~3,3'DCB~~ 63.1, benzo ghi 68.1, bis 69.0, di-n-oct 49.1 (ok in end), dibenz ah 59.1, hexchlorcl 59.9 (already R/R) indeno 63.3, benz acid 61.7 (already R/C) end 4.27: benzo ghi 68.1, dibenz ah 65.4, hexachlorcl. 29.9 (R/C), indeno 65.3, benzoic acid 65.7 (already R/C),
- 22255-245M-1244-50 surrogate 2-fluorophenol 48.6 (50-150) acid cmpds J/UJ-S
- benzo(a)anthracene: 2° ion ratio marginally ↑ - ok per professional judgement
- MRL outliers 7.2.08 — see attached.
- ER 22255-302M-0000-ER/benzyl alcohol @ 31.2 ug/L - applies to a sample not validated (22255-302M-1270-50)

Validated/Reviewed by:

Signature: Lynn S Calvin Date: 02·21·09

Name: Lynn S. Calvin

(soils)

MRLs 07.07.08

	beginning (70-130)	ending	
hexachlorocyclopentadiene	59.3%	13.4%	R/QR (already R/R)
4,6-DN-2-MP	131% (no detects)		
benzoic acid	47.3%	63.7%	for QCV (already R/C)
		benzo ghi 60.8	J/UJ-C
		di-n-oct phth 145% (no detects)	
		dibenz anthr 64.5	J/UJ-C
		indeno 123 65.5	↓

ICP METALS ANALYSIS (6010) + 6020 CHECKLIST

Project Name: Ravenna

Laboratory: Mercbac

Batch Number(s): _____

Sample Delivery Group: L0801652

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time (6-Months)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
three calibration standards and a blank?	N	[ ]
• Was R ≥ 0.995	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N KP	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[ ]	N
4. Initial Calibration Verification (ICV):	N	[ ]
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]
6. Interelement Check Standard:		
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	N	[ ]
• Was ICS-AB results within QC limits (80-120)?	N	[ ]
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	N	[ ]
• Were analytes ≤ 1/2 MRL? or insufficient to qualify	N	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	N	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	N	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	N	[ ]
• MS: Were the percent recoveries within limits?	[ ]	N
• MD: Were the RPDs within control limits?	[ ]	N
11. Serial Dilution:		
• Was serial dilution (1:5) conducted when needed?	N	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[N]

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ] N/A

13. Comments (attach additional sheets if necessary):

QCMRL - Be = 66 & Cu = 42% but detects >7 RL + Cd = 48%
Sb = 63% ~~but is RLQ~~ UJ

MS - act on Level IV on -07 ICP only
Al, Ca, Fe, Mg, Mn >4* spike
As = 52.6%, Sb = 1.67%, Se = 70.4%, Ni = 48.6

~~No ICPMS spike in sample in SDG → No ICPMS spike goals~~

Dup - on -07 ~~ICP only~~
Ni = 32.5%

SD - on ER + -01 ~~ICP~~
Cr = 10.4, Co = 25.3, Fe = 14.5, Mn = 22.4, V = 17.4, Zn = 11.7%
As = 16.4

SD - on -02 ICPMS
As = 16.4%

Internal stds: samples w/in 30-120% of ICB
tunes: mass < 0.1 amu, %RSD < 5%, Res < 0.9 amu

Validated/Reviewed by:

Signature: Patti Mell Date: 2/20/04

Name: Patti Marks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806052

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
five calibration standards and a blank?	N	[ ]
• Was R ≥ 0.995	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	N	[ ]
• Was the QC/MRL between 70-130% R?	N	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	N	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]

	Yes	No
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]
• Were analytes ≤ 1/2 MRL?	[N]	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]
• Was the %R between 80-120?	[N]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ] N/A
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	[N]	[ ]
• MS: Were the percent recoveries within limits? ±25% 75-125%	[N]	[N]
• MD: Were the RPDs within control limits? ±25%	[ ]	[N]

11. Comments (attach additional sheets if necessary):

MS - on 07
Dup - on -07 Hg = 26% bt w/in tRL

Raw data - no responses provided; cannot verify result from raw absorbance

Validated/Reviewed by:

Signature: Patt Meek Date: 2/20/09

Name: Patt. Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806052

	Yes	No
1. Holding Time: 24H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank? 5+N	[ ]	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	N	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ]
• Was the QC/MRL between 70-130% R?	N	[ ]
Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No	
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]	
6. Interelement Check Standard: N/A			
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]	
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	N	[ ]	
• Was CCB conducted at end of the analytical sequence?	N	[ ]	
• Were analytes ≤ 1/2 MRL?	N	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	N	N	1st + last
• Was CCV conducted at end of the analytical sequence?	N	[ ]	
• Was the %R between 90-110?	N	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]	color interference
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	N	[ ]	
• LCS: Were the percent recoveries for LCS within the limits? 90-110% lab limits	N	[ ]	
• MS: Were the percent recoveries within limits? 75-115% GSM Limits	N	[ ]	~~N/A~~
• MD: Were the RPDs within control limits? ±30% soil	[ ]	[ ]	N/A
11. Serial Dilution: N/A			
• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]	

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

MS/MSD on -12
67.9% & 66.2%

not on Sample in this SDG

MS/MSD on -07
OK

Validated/Reviewed by:

Signature: _____ Date: _____

Name: _____

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): WG275739

Sample Delivery Group: L1080607 761

	Yes	No
1. Holding Time: Were samples analyzed within holding time? 8330B extraction HT ✓ (14 days from collection)	[X]	[X]
2. Initial Calibration: 8330 HT (see notes)		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. (eval. Level IV only)	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 Yes, PETN Yes Nitroguanidine - NO (see notes)	[ ]	[X]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%?	[X]	[ ]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source? (for all applicable TCs)	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%?		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)? (for all applicable TCs)	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? (level IV eval. only)	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	N/A [ ]	[ ]
• Were all identified hits confirmed on a second column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40?	[X]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak? (eval. LCS)	[ ]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (all ND)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits? N/A MS/MSD not validated	[ ]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all samples, the lab reported results from the primary & confirmation analyses on sample result forms. In accordance with LCT, the reviewer reported the higher of the two concentrations unless there was an indication of interference with the higher concentration. In that instance, the lower result of the two values was reported.

In instances when the primary detect was not confirmed by the secondary analysis, the result was reported as a nondetect.

Validated/Reviewed by:

Signature: KYShadowlight Date: 03/04/09

Name: Kristin Shadowlight

For all samples, the result summary forms for PETN incorrectly reference a calibration date of 06/23/08 rather than 07/01/08. In the Level IV validation it was noted that 07/01/08 is the correct calibration date, and PETN was correctly quantitated from the 07/01/08 ICAL.

HT nitroguanidine exceeded 14 days from collection, therefore all results estimated

An MDL check was not performed for nitroguanidine. As MRL standards were routinely performed for the nitroguanidine analysis and as the MRLs were within the established QC limits of %D ≤ 30%, no qualifications were applied.

VOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 275308, 276088

Sample Delivery Group (SDG): L0901607161
(Level III)

	Yes	No
1. Holding Time:		
(a) Were samples preserved?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Was the BFB tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Was mass assignment based on m/z 95?	[✓]	[ ]
4. Indicate if BFB ions abundance relative to m/z 95 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
50	15.0 - 40.0 %	[✓]	[ ]
75	30.0 - 66.0 %	[✓]	[ ]
95	**100%, Base Peak**	[✓]	[ ]
96	5.0 - 9.0%	[✓]	[ ]
173	<2.0% of m/z 174	[✓]	[ ]
174	>50%	[✓]	[ ]
175	5.0 - 9.0% of mass 174	[✓]	[ ]
176	95.0 - 101.0% of m/z 174	[✓]	[ ]
177	5.0 - 9.0% of m/z 176	[✓]	[ ]

The relative ion abundance of m/z 95/96, m/z 174/176, and 176/177 are of critical importance.

The relative ion abundance of m/z 50 and 75 are of lower importance.

	Yes	No
5. Initial Calibration:		
• Did the initial calibration consist of five standards? (ie-10)	[✓]	[ ]
• Did the System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
RF		
Chloromethane 0.1	[✓]	[ ]
1,1-Dichloroethane 0.1	[✓]	[ ]
Bromoform 0.1	[✓]	[ ]
Chlorobenzene 0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane 0.3	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for each individual Calibration Check Compound (CCC)?		
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 20%?	WC [X]	[✓]
If the answer is "No", are the mean RSDs ≤ 15%?	[✓]	[ ]
• Was manual integration "M" performed? N/A@2ev el III	[ ]	[ ]
If the answer is "Yes", check for supporting documents.	[ ]	[ ]
• Was the manual integration necessary?		
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**	[ ]	[ ]
6. QCMDL: (not provided)	[ ]	[ ]
• Was MDL Check performed?		
7. QCMRL:	[✓]	[ ]

	Yes	No
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 60-140% (Sporadic Marginal Failure) (N/A)	[ ]	[✗]
8. Initial Calibration Verification (ICV):	[✓]	[ ]
• Is the mid level (2nd source) recovery within 80 - 120% for contaminants of concern ?		
• Is the mid level (2nd source) recovery within 60-140% for non-contaminants of concern (Sporadic Marginal Failure)?		
9. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did SPCC meet the RF values?	[✓]	[ ]

RF

Chloromethane	0.1	[✓]	[ ]
1,1-Dichloroethane	0.1	[✓]	[ ]
Bromoform	0.1	[✓]	[ ]
Chlorobenzene	0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane	0.3	[✓]	[ ]

• Did the CCC meet the minimum requirements (D ≤ 20%)?	[✓]	[ ]
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Primary Evaluation: Was the mean, Drift or D ≤ 20% from the initial calibration?	[✓]	[ ]
• Alternative Evaluation: Maximum allowable Drift/D for		

	Yes	No
each target analyte is ≤ 30% when mean D ≤ 20%?	[✓]	[ ]

10. Sample Analysis:

• Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? (N/A @ Level III)	[✓] WC	[ ]
• Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra?	[✓] WC	[ ]
• Were the internal standard areas within the QC limits (from -50% to +200%)?	[✓]	[ ]

11. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits (50-150%)?	[ ]	[ ]

12. Comments (attach additional sheets if necessary):

(see attached)

Validated/Reviewed by:
Signature: Lynn S. Calvin

Date: 03.20.09

Name: Lynn S. Calvin

2080607G1

ICALs:

MS9 6.26.08
% RSDs > 15%: acetone 45.3, styrene 49.9 (R/C)

MS 10 6.27.08
~~RRF~~ acetone ~~0.01~~ MC 0.04248 (R/R)

MRLs 7.2 MS9 (other compounds for outliers w/ ↑ recoveries)
beg 13:19 / end 17:52
MIBK 63.7 / 67.7 (UJ/C)
acetone 46.2 / ok (R/C)
~~chloroform ok~~ MC

7.7
beg 13 17:47 / end 19:59
meth. dcl. ok / 136 (J/C)

water LCS/LCSD: m.cl ↑ @ 118/119 (#s 69-118) (J/L)

ICP METALS ANALYSIS (6010) + 6020 CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806076|

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time (6-Months)?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
three calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[N]	[ ]
	[ ]	[N]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[N]	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]
6. Interelement Check Standard:		
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	N	[ ]
• Was ICS-AB results within QC limits (80-120)?	N	[ ]
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	N	[ ]
• Were analytes ≤ 1/2 MRL? or insufficient to qualify	N	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	N	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	N	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	N	[ ]
• MS: Were the percent recoveries within limits? 75-125%	[ ]	N
• MD: Were the RPDs within control limits?	[ ]	N
11. Serial Dilution:		
• Was serial dilution (1:5) conducted when needed?	N	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[N]

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ] N/A

13. Comments (attach additional sheets if necessary):

MS on -12
Al, Cu, Fe, Mn > 4* spike
Sb = 4.75%, Se = 74.2%

Dup on -12
Ag = 31.7% but w/in ±RL & Tl = 26.3% but w/in ±RL

SD on -02 ICP
Cu = 11.1, Cr = 13.7, Co = 20.9, Fe = 13.8, Mn = 24.9, Zn = 10.2
std 2 → in -02

SD on -01 ICPMS
As = 16.8 & Ni = 12.2%
reported from 5X. Serial dilution on 5X OK
~~All~~ qual level IV & III

QCMRL Cu = 59% V = 63% but detects > MRL
Pb = 68.6% but detects > MRL

Tune: RRSDs <5%, Res <0.9, Mass <0.1 amu
Internal stds: samples w/in 30-120% of ICD

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/20/09

Name: Patti Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0860761

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
five calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[N]	[ ]
• Was the QC/MRL between 70-130% R?	[N]	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	[N]	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

	Yes	No	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	[N]	[ ]	
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]	
• Were analytes ≤ 1/2 MRL?	[ ]	[N]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	[N]	[ ]	
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]	
• Was the %R between 80-120?	[N]	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]	N/A
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits? 80-120%	[N]	[ ]	
• MS: Were the percent recoveries within limits? 75-125%	[N]	[ ]	
• MD: Were the RPDs within control limits?	[ ]	[N]	

11. Comments (attach additional sheets if necessary):

MS - on - 12
Dup on - 12 RPD = 200% but w/in IRL

CCB = - 0.157 µg/L JTUJ/B

Raw data - no absorbances for samples cannot confirm result

Validated/Reviewed by:

Signature: Patt Meeks **Date:** 2/20/09

Name: Patt. Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microba

Batch Number(s): _____

Sample Delivery Group: L0806076l

	Yes	No
1. Holding Time: 24H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank?	[ ]	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the ~~beginning and~~ end of every daily sequence or every 12 hours??	N	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]
4. Initial Calibration Verification (ICV):	N	[ ]
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

6. Interelement Check Standard: N/A

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every ~~10~~ 15 samples? no - beginning	[ ]	[N]
• Was CCB conducted at end of the analytical sequence?	[ ]	[N]
• Were analytes ≤ 1/2 MRL?	[N]	[ ]

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every ~~10~~ 15 samples? beginning + end	[ ]	[N]
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]
• Was the %R between 90-110?	[N]	[ ]

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ] color interference

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 90-110% (lab limits)	[N]	[ ]
• MS: Were the percent recoveries within limits? 85-115% (GSM Limits)	[ ]	[N] N/A
• MD: Were the RPDs within control limits? ±30% soil	[ ]	[ ] N/A

11. Serial Dilution: N/A

• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

MS/MSD on ~~17~~ Sample in another SDG
~~68.7 % + 63.6 %~~

CCB - every 15 not ~~40~~ required by method or QSM
CCV - every 15 required by QSM, looks OK w/ beginning + end

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/20/09

Name: Patti Meeks

Nitrocellulose

~~CYANIDE~~ ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806076l

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time?	N	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	
5 ~~Six~~ calibration standards and a blank?	N	[ ]	
• Was R ≥ 0.995	N	[ ]	
3. QCMDL:			
• Was MDL Check performed? ~~Not provided~~	N	[ ]	
4. QCMRL:			
• Were QC/MRL run at the beginning of every daily sequence??	[ ]	N	
• Was the QC/MRL between 70-130% R?	[ ]	[ ]	N/A
5. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within ~~80-120%~~? 90-110% DoD QSM limit	N	[ ]	
7. Initial calibration Blank (ICP):			
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]	

	Yes	No
7. Continuing calibration Blank (CCB):	[N]	[ ]
• Was CCB conducted every 10 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[ ]	[ ]
• Were analytes ≤ 1/2 MRL?		
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]
• Was the %R between ~~80-120~~ 90-110% DoD QSM limits?	[ ]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ] N/A
12. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? lab limits of 50-110%	[N]	[ ]
• MS: Were the percent recoveries within limits? lab limit of 50-110%	[ ]	[N]
• MD: Were the RPDs within control limits? MS/MSD lab limit = 50%	[N]	[ ]

13. Comments (attach additional sheets if necessary):

MS: 40.4 %
MSD: acceptable
QC MRL - UJ for lack

	Yes	No

Validated/Reviewed by:

Signature: Patti Meeks **Date:** 3/10/05

Name: Patti Meeks

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): IW6276697

Sample Delivery Group: L0806052

	Yes	No
1. Holding Time: Were samples analyzed within holding time? 8330B HT w/in 14 days Global ✓ 8330 HT (See notes)	[X]	[X]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[ ]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed?	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%? (See notes)	[ ]	[X]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source? (NS (for all applicable IEs))	[X]	[X]
• Was the mid level (2nd source) recovery within 85 - 115%? (See notes)		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)? (See notes)	[ ]	[X]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	[X]	[ ]
• Were all identified hits confirmed on a second column? (See notes)	[ ]	[X]
• Was RPD of target analyte confirmation ≤ 40?	[X]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak?	[X]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (no detects)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits?	[ ]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits? (%Rs were not evaluated for sample analyzed @ 10x or greater, as considered diluted out).	[X]	[ ]

9. Comments (attach additional sheets if necessary):

tetryl ICV 69% on confirm. i.e. quant. tetryl UJ/C in sample LL355-256M-1188-50, LL355-256M-1190-50, and LL355-256M-1194-50.

%Ds 715% for tetryl on primary Colum 7/14(16:23) — 7/15(09:42) with a negative bias; therefore, tetryl rejected, R in samples LL355-268M-1205-50 LL355-268-1210-50, LL355-268M-1211-50, ~~LL355-256M-1190-50, AND LL355-~~ AND

For all samples the lab reported results for the primary & confirm analyses on sample result forms. In accordance with LCG, the reviewer reported the higher of the two concentrations unless there was an indication of interference with the higher concentration. In that instance, the lower result of the two values was reported.

Validated/Reviewed by:

Signature: KSladgit Date: 3/17/09

Name: Kristin Sladowski

For all samples, ~~the~~ result summary form for PETN incorrectly referenced a calibration date of 06/23/08 rather than 07/01/08. In the case of validation it was determined 07/01/08 is the correct calibration date AND PETN was correctly quantitated from the 07/01/08 ICAL.

HT nitroguanidine exceed 14 days from collection; therefore all results estimated.

An ~~MRL~~ MDL check was not performed for nitroguanidine. As MRL standards were routinely performed for the nitroguanidine analysis and as the MRLs were within the established 2C limits of ±30%, no qualifications were applied.

Notes for L08060852 Explosives

Primary column analyses were not performed at a 1x dilution for samples LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO; however, primary and confirmation analyses were performed at dilution for these samples. In the Level IV review, it was noted that 1,3,5-trinitrobenzene, 4-amino-2,6-dinitrotoluene, and 2-amino-4,6-dinitrotoluene were detected in the primary column (20x) analysis of LL3SS-256M-1188-SO, but due to the dilution the target compounds were not reportable. These target compounds were confirmed in the undiluted analysis performed on the confirmation column; therefore, these detects were reported from the confirmation column. As noted in the Level IV review, detects for one or more of the aforementioned target compounds were reported in the 1× dilution of the confirmation analyses of samples LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO. The target compounds were present on the primary column of the diluted analyses but were not reportable; therefore, 1,3,5-trinitrobenzene and 4-amino-2,6-dinitrotoluene in LL3SS-256M-1190-SO and LL3SS-256M-1191-SO, and 2-amino-4,6-dinitrotoluene in LL3SS-256M-1191-SO were reported from the undiluted confirmation analyses. Detects for 2,4-dintrotoluene and 2-amino-4,6-dinitrotoluene in the neat analysis of LL3SS-256M-1190-SO were not reported as they were completed diluted out in the primary column analysis at 100x, and could not be verified.

POLY CHLORINATED BIPHENYLS (PCB/AROCLORS) CHECKLIST

Project Name: Ravenna

Laboratory: Micro bac laboratories

Batch Number(s): WG275848, WG276435

Sample Delivery Group: L0806085 2

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[X]	[ ]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did Aroclors 1016 and 1260 meet the RSD ≤ 20% or the r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. (level IV validation only)	[X]	[ ]
• Was the manual integration necessary?	[X]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R	[X]	[ ]
5. Initial Calibration Verification (ICV):		
Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]

	Yes	No
6. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum %D < 20% for a specific compound?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]
• Were identified Aroclors confirmed on a second GC column?	[X]	[ ]
• Were individual Aroclor standards used to determine the pattern of the peaks? (Individual Aroclors are 1221, 1232, 1242, 1248, and 1254. Both Aroclor 1016, and 1260 can be used from the mixed calibration standards.)	[X]	[ ]
• Was RPD of target analyte conformation ≤ 40?	[X]	[ ]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPDs within control limits? LCS/LCSD	[X]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[ ]	[X]

all TC NO

(for the retained ~~bottle~~ analyses)

(See notes)

9. Comments (attach additional sheets if necessary):

Surrogate %Rs were not evaluated for sample analyzed @ 10x DIL or higher as they are considered diluted out.

According to the case narrative for this SDG, the samples were extracted twice due to low LCS %Rs. The re-extraction yielded good %Rs. The analyses for the original extraction batch (WG275848) were rejected, "R," in favor of the analyses reported in WG276435.

For all samples, the lab reported results from the primary & confirmation analyses on sample result forms. In accordance with LCG-VS, the reviewer reported the higher of the two values. Unless there was an indicator of interference with the higher concentration. In that instance the lower result of the two values was reported.

Although Aroclor 1260 was identified on the quantitation reports of the validated samples in this SDG, the laboratory only reported Aroclor 1254. The sample chromatogram matched up best with the Aroclor 1254 pattern according to an email correspondence with the lab dated
It should be noted that Aroclor 1254 was accurately quantitated using the Aroclor 1254 calibration.

Validated/Reviewed by:

Signature: KTShadgett Date: 3/19/09

Name: Kristin Shadongett

ORGANOCHLORINE PESTICIDES ANALYSIS CHECKLIST

Project Name: L Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): L08060852 WG276265, WG275876

Sample Delivery Group: L08060852

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	~~[X]~~ US	[X]
(b) Were samples analyzed within holding time?	[X]	[ ]
The retained analyses were extracted outside of the holding time period of 14 days from collection		
2. DDT/Endrin Breakdown:		
• Was breakdown ≤ 15%?	[X]	[ ]
3. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did all compounds meet the RSD ≤ 20% or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. (evaluated Level IV validation only)	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
4. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
5. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R	[X]	[ ]

	Yes	No
6. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]
7. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum D ≤ 20% for a specific compound?	[X]	[ ]
8. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]
• Were identified compounds confirmed on a second GC column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40? (see note)	[ ]	[X]
9. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? (no detects)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? (for retained analyses only)	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits? (see notes)	[X]	[ ]

(surrogates ~~%s~~ were considered diluted out for samples analyzed at 10x or higher and %Rs were not evaluated).

10. Comments (attach additional sheets if necessary):

In the level IV validation false negative were identified for the following detects: heptachlor epoxide, dieldrin, endrin, endrin aldehyde, and gamma-chlordane in sample LL355-256M-1188-SO. In review of the level IV data, it was noted that there was a systemic problem with the lab data reported; and the data is suspected to have false negatives.

The interference exceed 100% for
The results for heptachlor epoxides and gamma-chlordane in LL355-256M-1188-SO; therefore, the retained results for these two cpds were qualified as tentatively identified, "N." -in accordance with NFG (10/99).

For all samples, the lab reported results from the primary & confirmation analyses on sample result forms. In accordance w/ LCG-V5, the reviewer reported the higher of the two values unless there was an indication of interference with the higher concentration result. In that instance the lower result of the two values was reported.

RPD For target cpd confirmation RPDs >40%. the retained results were qualified as estimated. The following RPDs exceeded 40%; hep epoxide, dieldrin, and gamma-chlordane in LL355-256M-1188-SO.

Validated/Reviewed by:

Signature: K T Shadrgett Date: 3.17.09

Name: Kristi Shadrgett

According to the Case narrative for this SDG, the samples were re-extracted due to low LCS %Rs. The re-extraction (WG276265) yielded good %Rs for the LCS. The original analyses (batch WG275876) were therefore rejected, "R" in favor of the re-extraction (WG276265).

SEMIVOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 275632

Sample Delivery Group: L0806052
(Levels III + IV)

	Yes	No
1. Sample Holding Time:		
(a) Were samples extracted within holding time?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Instrument Tuning:		
Was the DFTPP tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Ion Mass Assignments:		
Was mass assignment based on m/z 198?	[✓]	[ ]
4. Ion Abundance:		
Indicate if DFTPP ions abundance relative to m/z 198 base peak met the ions abundance criteria:		
m/z — Acceptance Criteria		
51 — 30.0 - 60.0 %	[✓]	[ ]
68 — < 2% of mass 69	[✓]	[ ]
70 — < 2% of mass 69	[✓]	[ ]
127 — 40-60%	[✓]	[ ]
197 — < 1%	[✓]	[ ]
198 — 100%, Base peak	[✓]	[ ]
199 — 5-9%	[✓]	[ ]
275 — 10 - 30%	[✓]	[ ]
365 — > 1%	[✓]	[ ]
441 — present but < mass 443	[✓]	[ ]
442 — > 40%	[✓]	[ ]
443 — 17-23% of mass 442	[✓]	[ ]

	Yes	No
5.0 Initial Calibration:		
• Did the initial calibration consist of five or more standards?	5-stds [ ] more [✓] (6-8)	[✓] [ ]
If the calibration curve consists of 5-standards, check validity of the calibration model.		
Was the linear model applied?	[✓]	[ ]
• Did the followings System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
N-nitroso-di-n-propylamine (RF 0.05)	[✓]	[ ]
Hexachlorocyclopentadiene (RF 0.05)	[✓]	[ ]
2,4-dinitrophenol (RF 0.05)	[✓]	[ ]
4-nitrophenol (RF 0.05)	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for the followings each individual Calibration Check Compound (CCC)?		
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15%?	[ ]	[✓]
• If the answer is "No", are the mean RSDs ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 30%?	[✓]	[ ]

	Yes	No
• Was manual integration "M" performed?	[✓]	[ ]
If the answer is "Yes", check for supporting documents. present		
• Was the manual integration necessary? (separation of benzo(b)& & fluoranthene)	[✓]	[ ]
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		

6. QCMDL:

• Was MDL Check performed? (not provided)	[X]	[ ]

7. QCMRL:

• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 50-150% (Sporadic Marginal Failure)? N/A	[ ]	[ ]

8. Initial Calibration Verification (ICV):

• Is the mid level (2nd source) recovery within 70-130% for contaminants of concern ?	[✓]	[ ]
• Is the mid level (2nd source) recovery within 50-150% for non-contaminants of concern (Sporadic Marginal Failure)? N/A	[ ]	[ ]

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did any of SPCC meet the minimum RF values?	[✓]	[ ]

		Yes	No
N-nitroso-di-n-propylamine	0.05	[✓]	[ ]
Hexachlorocyclopentadiene	0.05	[✓]	[ ]
2,4-dinitrophenol	0.05	[✓]	[ ]
4-nitrophenol	0.05	[✓]	[ ]

- Did the CCC meet the minimum requirements (D ≤ 20%) for the followings?

Base/Neutral Fraction:

Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]

Acid Fraction:

4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]

- Primary Evaluation: Was Drift or D ≤ 20% calculated from the initial calibration? [✓] [ ]
- Alternative Evaluation: Maximum allowable Drift/D for each target analyte is ≤ 30%. N/A [ ] [ ]

10. Sample Analysis:

- Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? [✓] [ ]
- Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra? [ ] [✓]
- Were the internal standard areas within the QC limits (from -50% to +200%)? [✓] [ ]

11. Sample Quality Control:

	Yes	No
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[✓]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits? ↓	[ ]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[ ]	[✓]

12. Comments (attach additional sheets if necessary):

- L2355-256M-1188-SO analyzed @ 2X for extract color – TICs (detects) sufficient to justify dilution
- ICAL: hexachlorocyclopentadiene r²<0.995 (R/RD) MC
- CCVs: benzoic acid %Ds 39.5/51.7 with low bias (R/C)
- MRLs: see attached
- surrogates: L2355-256M-1188-SO/2-fluorophenol 4/6.1/all acids WJ's
  L2355-251M-1191-SO/2-FP 33.3 2FBP 33.6, d5-P 36.9 d5-NB 36.9/all cmpds ↓
- benzo(a)anthracene 2° ion ratio out/L2355-256M-1188-SO – d per professional judgement

Validated/Reviewed by:

Signature: Lynn S Calvin Date: 02-22-09

Name: Lynn S. Calvin

(soils)

MRLs 07.03.08 (70-130)

beginning 19:37	beginning ~~ending~~	ending 19:50	
hexachlorocyclopentadiene	59.3%	13.4%	(already R/QR)
4,6-DN-2-MP	131%	(no detects)	
benzoic acid	47.3%	63.7%	(already R/C for CCV)
		benzo ghi 60.8	J/UJ-C
		di-n-oct phth 145%	(no detects)
		dibenz ah anthr 64.5	J/UJ-C
		indeno 123 65.5	↓

*no summaries / outlier recoveries calculated from raw data

MRLs 07.03.08 (70-130) (-14 only)

beg. ~~17:58~~ MC 11:24*	end 17:03* 17:38	
hexchlcycl. 56.0	38.1	(already R/RC)
~~2NA 47.0~~ * MC	—	UJ/C
ok ~~4NP 24.0~~	~~35.6~~	~~R/C~~ * MC
di-n-oct. 67.3	—	UJ/C
indeno 63.6	—	↓
dibenz ah 61.5	—	↓
benzo ghi 65.8	69.1	UJ/C
benzoic acid 64.7	64.1	

* ~~Raw d~~ summaries & raw data in subsequent SDGs show recoveries w/in limits

MC 02.22.09

VOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 2-760488

Sample Delivery Group (SDG): L0806009852
(Level III)

	Yes	No
1. Holding Time:		
(a) Were samples preserved?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Was the BFB tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Was mass assignment based on m/z 95?	[✓]	[ ]
4. Indicate if BFB ions abundance relative to m/z 95 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
50	15.0 - 40.0 %	[✓]	[ ]
75	30.0 - 66.0 %	[✓]	[ ]
95	**100%, Base Peak**	[✓]	[ ]
96	5.0 - 9.0%	[✓]	[ ]
173	<2.0% of m/z 174	[✓]	[ ]
174	>50%	[✓]	[ ]
175	5.0 - 9.0% of mass 174	[✓]	[ ]
176	95.0 - 101.0% of m/z 174	[✓]	[ ]
177	5.0 - 9.0% of m/z 176	[✓]	[ ]

The relative ion abundance of m/z 95/96, m/z 174/176, and 176/177 are of critical importance.

The relative ion abundance of m/z 50 and 75 are of lower importance.

	Yes	No
5. Initial Calibration:		
• Did the initial calibration consist of five standards? (6-10)	[✓]	[ ]
• Did the System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
Chloromethane (RF 0.1)	[✓]	[ ]
1,1-Dichloroethane (RF 0.1)	[✓]	[ ]
Bromoform (RF 0.1)	[✓]	[ ]
Chlorobenzene (RF 0.3)	[✓]	[ ]
1,1,2,2-Tetrachloroethane (RF 0.3)	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for each individual Calibration Check Compound (CCC)?		
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 20%?	[✓]	[ ]
If the answer is "No", are the mean RSDs ≤ 15%?	[ ]	[ ]
• Was manual integration "M" performed? N/A @ Level III	[ ]	[ ]
If the answer is "Yes", check for supporting documents.	[ ]	[ ]
• Was the manual integration necessary?		
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**	[ ]	[ ]
6. QCMDL:		
• Was MDL Check performed? (not provided) MC	[X]	[ ]
7. QCMRL:	[ ]	[✓]

	Yes	No
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 60-140% (Sporadic Marginal Failure) N/A	[ ]	[ ]
8. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80 - 120% for contaminants of concern ?	[✓]	[ ]
• Is the mid level (2nd source) recovery within 60-140% for non-contaminants of concern (Sporadic Marginal Failure)?		
9. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did SPCC meet the RF values?	[✓]	[ ]

RF

Chloromethane	0.1	[✓]	[ ]
1,1-Dichloroethane	0.1	[✓]	[ ]
Bromoform	0.1	[✓]	[ ]
Chlorobenzene	0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane	0.3	[✓]	[ ]

• Did the CCC meet the minimum requirements (D ≤ 20%)?	[✓]	[ ]
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Primary Evaluation: Was the mean, Drift or D ≤ 20% from the initial calibration?	[✓]	[ ]
• Alternative Evaluation: Maximum allowable Drift/D for		

	Yes	No
each target analyte is ≤ 30% when mean D ≤ 20%?	[✓]	[ ]

10. Sample Analysis:

• Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? (N/A @ Level III MC)	[✓]	[ ]
• Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra? (✓ MC)	[✓]	[ ]
• Were the internal standard areas within the QC limits (from -50% to +200%)?	[✓]	[ ]

11. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits (50-150%)?	[✓]	[ ]

12. Comments (attach additional sheets if necessary):

(see attached)

Validated/Reviewed by:
Signature: Lynn S Calvin

Date: 03.20.09

Name: Lynn S. Calvin

2080608S2 (VB only)

ICALs:

~~MS9 6.26.08~~

~~%RSDs > 15%: acetone 45.3, styrene 49.9 (R/C)~~

MS10 6.27.08

~~RRF~~ acetone ~~0.01~~ MC 0.04248 (~~R~~/R) J, MC

MRL ending 19:59/MS10 meth.chl ↑ @ 136 J/C

water LCS/LCSD meth.chl ↑ @ 118/119 (69-118) J/L

ICP METALS ANALYSIS (6010) + 6020 CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806852

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time (6-Months)?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
three calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[N]	[ ]
	[ ]	[N]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[N]	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

6. Interelement Check Standard:

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[N]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every 10 samples?	[ ]	[ ]
• Was CCB conducted at end of the analytical sequence?	[ ]	[ ]
• Were analytes ≤ 1/2 MRL?	[N]	[ ]

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every 10 samples?	[ ]	[ ]
• Was CCV conducted at end of the analytical sequence?	[ ]	[ ]
• Was the %R between 90-110?	[ ]	[ ]

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ]

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? 80 - 120%	[N]	[ ]
• MS: Were the percent recoveries within limits? 75-125%	[ ]	[N]
• MD: Were the RPDs within control limits? +/- 25%	[ ]	[N]

11. Serial Dilution:

• Was serial dilution (1:5) conducted when needed?	[ ]	[N]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	N

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ] N/A

13. Comments (attach additional sheets if necessary):

ICP only MS on -07 although summary sheet doesn't reflect this
→ Al, Ca, Fe, Mg, Mn >4x spike
K = 137%
Dup on -07 summary sheet does not reflect this
Ag = 25.7% but w/in +/- RL
Serial Dilution on -01
Mn = 15.1%, As = 36.1, Pb = 24.7 Ni = 33.8
↳ no qual for -14 as reported from 10x
QCMRL - Cu = 50.6% but detects >7 RL Pb 68.6% detects >7MRL
ICPMS marginally beyond 12h for dilutions ~~OK~~ on 8/1 - OK
Se = 139% on 8/2
ICPMS MS on -01 As = 68%, Sb = 4.6%, Ni = -15%
Dup on -01 Ni = 71.5%

Internal stds: Samples w/in 30-120% of ICB
Tune - % RSDs < 5%, Res < 0.9, Mass < 0.1 amu

Validated/Reviewed by:

Signature: Patt Meeks Date: 2/20/09

Name: Patt. Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806095Z

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
4 ~~five~~ calibration standards and a blank?	N	[ ]
• Was R ≥ 0.995	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	N	[ ]
• Was the QC/MRL between 70-130% R?	N	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	N	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]

	Yes	No
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]
• Were analytes ≤ 1/2 MRL?	[N]	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]
• Was the %R between 80-120?	[N]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[N]	[ ]
• MS: Were the percent recoveries within limits?	[N]	[ ]
• MD: Were the RPDs within control limits?	[N]	[ ]

11. Comments (attach additional sheets if necessary):

MS on -01
Dup on -01
no absorbances provided for samples. Cannot confirm results from raw ~~da~~ instrument absorbances

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L08060852

	Yes	No
1. Holding Time: 24H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank?	[ ]	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ]
	N	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]
6. Interelement Check Standard: N/A		
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every ~~10~~ 15 samples? beginning only	[ ]	[ ]
• Was CCB conducted at end of the analytical sequence?	[ ]	[ ]
• Were analytes ≤ 1/2 MRL?	N	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every ~~10~~ 15 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	[ ]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ] color interference
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	N	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	N	[ ]
• MS: Were the percent recoveries within limits? 85-115% (GSM Limits)	N	[ ]
• MD: Were the RPDs within control limits? ±30% soil	N	[ ]
11. Serial Dilution: N/A		
• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

Dup -07
MS -07

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

Nitrocellulose

CYANIDE ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806852

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
5 ~~Six~~ calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[N]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning of every daily sequence??	[ ]	[N]
• Was the QC/MRL between 70-130% R?	[ ]	[ ] N/A
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within ~~80-120~~ 90-110%? DoD QSM limits	[N]	[ ]
7. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

	Yes	No
7. Continuing calibration Blank (CCB):	[N]	[ ]
• Was CCB conducted every 10 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]
• Were analytes ≤ 1/2 MRL?		
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]
• Was the %R between ~~80-120~~ 90-110% DoD QSM limits?	[N]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ]
12. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits? lab limits of 80-110%	[N]	[ ]
• MS: Were the percent recoveries within limits?	[ ]	[ ] N/A
• MD: Were the RPDs within control limits?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

QC MRL samples > 5x RL → ccv better indicator
except -15 → J

	Yes	No

Validated/Reviewed by:

Signature: Patti Meeks **Date:** 3/10/03

Name: Patti Meeks

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): 0 6277128

Sample Delivery Group: L08060886

	Yes	No
1. Holding Time: Were samples analyzed within holding time?	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 ✓ PETN ✓	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%? (see notes)	[ ]	[X]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source?	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%? (for all applicable target specs)		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)? (for all applicable target specs)	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? @ Level III	[ ] N/A	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	[X]	[ ]
• Were all identified hits confirmed on a second column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40?	[N/A]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak? N/A @ Level III	[ ]	[ ]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (all TCs ND)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits? ~~N/A~~ (MS/MSD percent sample was not validated)	[X]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits? (%Rs were not evaluated for samples analyzed at 10x or greater, as considered diluted out)	[X]	[ ]

9. Comments (attach additional sheets if necessary): For all samples, the lab reported results for the primary & confirmation analyses on sample result forms. In accordance with LCAS, the reviewer reported the highe of the two concentrations unless there was an indicate of interference with the high concentration. In that instance, the lower result of the two values was reported.

In instances where the primary detect was not confirmed by the secondary analysis the result was reported as a non-detect.

Validated/Reviewed by:

Signature: [signature] Date: 03/04/09

Name: Kristin Shadowlight

For all samples the result summary form for PSTN incorrectly referenced a calibration date of 06/23/08 LCMS instead of 07/01/08. In the level IV validation it was noted that 07/01/08 is the correct calibration date and PSTN was correctly quantitated from the 07/01/08 calibration.

SEMIVOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 275992, 275639

Sample Delivery Group: L0606096 (Level III)

	Yes	No
1. Sample Holding Time:		
(a) Were samples extracted within holding time?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Instrument Tuning:		
Was the DFTPP tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Ion Mass Assignments:		
Was mass assignment based on m/z 198?	[✓]	[ ]
4. Ion Abundance:		
Indicate if DFTPP ions abundance relative to m/z 198 base peak met the ions abundance criteria:		
m/z — Acceptance Criteria		
51 — 30.0 - 60.0 %	[✓]	[ ]
68 — < 2% of mass 69	[✓]	[ ]
70 — < 2% of mass 69	[✓]	[ ]
127 — 40-60%	[✓]	[ ]
197 — < 1%	[✓]	[ ]
198 — 100%, Base peak	[✓]	[ ]
199 — 5-9%	[✓]	[ ]
275 — 10 - 30%	[✓]	[ ]
365 — > 1%	[✓]	[ ]
441 — present but < mass 443	[✓]	[ ]
442 — > 40%	[✓]	[ ]
443 — 17-23% of mass 442	[✓]	[ ]

	Yes	No
5.0 Initial Calibration:		
• Did the initial calibration consist of five or more standards?	5-stds [ ] 6-8 more [✓]	[✓] [ ]
If the calibration curve consists of 5-standards, check validity of the calibration model.		
Was the linear model applied?	[✓]	[ ]
• Did the followings System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
RF		
N-nitroso-di-n-propylamine 0.05	[✓]	[ ]
Hexachlorocyclopentadiene 0.05	[✓]	[ ]
2,4-dinitrophenol 0.05	[✓]	[ ]
4-nitrophenol 0.05	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for the followings each individual Calibration Check Compound (CCC)?		
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15%?	[ ]	[✓]
• If the answer is "No", are the mean RSDs ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 30%?	[ ] [✓]	[✓] [ ]

	Yes	No
• Was manual integration "M" performed? N/A @ Level III	[ ]	[ ]
If the answer is "Yes", check for supporting documents.		
• Was the manual integration necessary?	[ ]	[ ]

If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**

6. QCMDL:

• Was MDL Check performed? (not provided)	[X] NC	[ ]

7. QCMRL:

• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 50-150% (Sporadic Marginal Failure)? N/A	[ ]	[ ]

8. Initial Calibration Verification (ICV):

	[✓]	[ ]
• Is the mid level (2nd source) recovery within 70-130% for contaminants of concern ?		
• Is the mid level (2nd source) recovery within 50-150% for non-contaminants of concern (Sporadic Marginal Failure)? N/A	[X] n/c	[ ]

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did any of SPCC meet the minimum RF values?	[✓]	[ ]

		Yes	No
N-nitroso-di-n-propylamine	0.05	[✓]	[ ]
Hexachlorocyclopentadiene	0.05	[✓]	[ ]
2,4-dinitrophenol	0.05	[✓]	[ ]
4-nitrophenol	0.05	[✓]	[ ]

- Did the CCC meet the minimum requirements (D ≤ 20%) for the followings?

Base/Neutral Fraction:

Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]

Acid Fraction:

4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]

- Primary Evaluation: Was Drift or D ≤ 20% calculated from the initial calibration? [✓] [ ]
- Alternative Evaluation: Maximum allowable Drift/D for each target analyte is ≤ 30%. N/A [ ] [ ]

10. Sample Analysis:

- Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? N/A [✓] [ ]
- Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra? [ ] [ ]
- Were the internal standard areas within the QC limits (from -50% to +200%)? [✓] [ ]

11. Sample Quality Control:

#PMS 12
*no summaries / outlier recoveries calculated from raw data
LMRLs 07.03.08 (70-130) (~~14 only~~) -19 only, this SDG

	beg. ~~17:11~~ MC 11:24*	end 17:03* 17:38
hexachlcycl.	56.0	38.1 (already R/RC*)
~~2 NA~~	~~47.0*~~ *MC	— UJ/C
ok ~~4 NP~~	~~24.0~~	~~35.6 R/C*MC~~
di-n-oct.	47.3	— UJ/C
indeno	63.6	—
dibenz ah	61.5	—
benzo ghi	65.8	69.1 UJ/C
benzoic acid	64.7	64.1 (already R/C)

* ~~Raw d~~ Summaries & raw data in subsequent SDG show recoveries w/in limits

#PMS 4
MRLs 07.14 (*all

	beg 12:12	end	w/neg bias all retained J/UJ-C
245 TCP	66.2		
246 TCP	69.3		
24 DCP	61.1		
2 NP	69.1		
4C3 MP	68.9		
4 CA	67.9		
benzo b fl.	69.4	< benzo ghi 67.4	
benz alc.	68.0	< hexachlcycl. 20.6	R/C (already for CCV)
di-n-oct	150	——— 1dd (no detects)	
dibenz ah	65.8	——— 69.1	
indeno	68.0	——— 69.1	
46DN2MP	65.6		
benz. ac	69.4	/ (already R/C for CCV)	

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L08060886
Instrument Id: HPMS4
Workgroup (AAB#): WG276947

Method: 8270
CAL ID: HPMS4-08-JUL-08
Matrix: Soil

Sample Number	Dilution	Tag	1	2	3	4	5	6
L08060886-01	1.00	01	74.5	49.6	50.7	52.1	99.0	52.9
L08060886-02	1.00	01	66.0	46.2	49.9	52.3	85.8	53.1
L08060886-03	1.00	01	46.5	36.3	46.3	44.3	34.4	49.5
L08060886-06	1.00	01	68.0	55.8	58.1	60.8	81.1	62.3
L08060886-07	1.00	01	89.0	80.0	79.5	83.4	99.3	85.2
L08060886-10	1.00	01	53.3	45.3	51.5	53.3	56.8	54.9
L08060886-11	1.00	01	91.6	73.4	73.7	70.4	95.5	79.8
L08060886-12	1.00	01	70.4	60.6	61.6	62.1	77.9	67.4
L08060886-16	2.00	DL01	80.9	74.8	78.5	78.8	84.1	81.6
WG275922-02	1.00	02	79.1	77.4	77.9	80.2	110	80.7
WG275922-03	1.00	02	106	82.5	85.7	81.0	122	88.8
WG276947-01	1.00	01	4.73	4.60	2.35	4.81	4.82	2.27
WG276947-02	1.00	01	13.7	24.9	13.0	25.9	26.1	12.4
WG276947-03	1.00	01	4.91	4.85	2.46	4.97	4.90	2.39
WG276947-04	1.00	01	14.2	24.9	13.3	25.9	26.0	12.7

off BN cmpds
all cmpds

Surrogates	Surrogate Limits
1 - 2,4,6-Tribromophenol	50 - 150
2 - 2-Fluorobiphenyl	50 - 150
3 - 2-Fluorophenol	50 - 150
4 - Nitrobenzene-d5	50 - 150
5 - p-Terphenyl-d14	50 - 150
6 - Phenol-d5	50 - 150

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1139116
Report generated: 07/15/2008 15:42

VOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): 275992, 276088

Sample Delivery Group (SDG): 2030608846
(Level III)

	Yes	No
1. Holding Time:		
(a) Were samples preserved?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Was the BFB tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Was mass assignment based on m/z 95?	[✓]	[ ]
4. Indicate if BFB ions abundance relative to m/z 95 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
50	15.0 - 40.0 %	[✓]	[ ]
75	30.0 - 66.0 %	[✓]	[ ]
95	**100%, Base Peak**	[✓]	[ ]
96	5.0 - 9.0%	[✓]	[ ]
173	<2.0% of m/z 174	[✓]	[ ]
174	>50%	[✓]	[ ]
175	5.0 - 9.0% of mass 174	[✓]	[ ]
176	95.0 - 101.0% of m/z 174	[✓]	[ ]
177	5.0 - 9.0% of m/z 176	[✓]	[ ]

The relative ion abundance of m/z 95/96, m/z 174/176, and 176/177 are of critical importance.

The relative ion abundance of m/z 50 and 75 are of lower importance.

	Yes	No
5. Initial Calibration:		
• Did the initial calibration consist of five standards? (4-10)	[✓]	[ ]
• Did the System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
Chloromethane (RF 0.1)	[✓]	[ ]
1,1-Dichloroethane (RF 0.1)	[✓]	[ ]
Bromoform (RF 0.1)	[✓]	[ ]
Chlorobenzene (RF 0.3)	[✓]	[ ]
1,1,2,2-Tetrachloroethane (RF 0.3)	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for each individual Calibration Check Compound (CCC)?		
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 20%?	[ ]	[✓]
If the answer is "No", are the mean RSDs ≤ 15%?	[✓]	[ ]
• Was manual integration "M" performed? (N/A @ Level III)	[ ]	[ ]
If the answer is "Yes", check for supporting documents.	[ ]	[ ]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
6. QCMDL: (not provided)	[ ]	[ ]
• Was MDL Check performed?		
7. QCMRL:	[✓]	[ ]

	Yes	No
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 60-140% (Sporadic Marginal Failure) N/A	[ ]	[ ]
8. Initial Calibration Verification (ICV):	[✓]	[ ]
• Is the mid level (2nd source) recovery within 80 - 120% for contaminants of concern ?		
• Is the mid level (2nd source) recovery within 60-140% for non-contaminants of concern (Sporadic Marginal Failure)?		
9. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did SPCC meet the RF values?	[✓]	[ ]

RF

Chloromethane	0.1	[✓]	[ ]
1,1-Dichloroethane	0.1	[✓]	[ ]
Bromoform	0.1	[✓]	[ ]
Chlorobenzene	0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane	0.3	[✓]	[ ]

• Did the CCC meet the minimum requirements (D ≤ 20%)?	[✓]	[ ]
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Primary Evaluation: Was the mean, Drift or D ≤ 20% from the initial calibration?	[✓]	[✓]
• Alternative Evaluation: Maximum allowable Drift/D for		

	Yes	No
each target analyte is ≤ 30% when mean D ≤ 20%?	[✓]	[ ]
10. Sample Analysis: (N/A @ Level III)		
• Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component?	[ ]	[ ]
• Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra?	[ ]	[ ]
• Were the internal standard areas within the QC limits (from -50% to +200%)?	[✓]	[ ]
11. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[✓]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits (50-150%)?	[✓]	[ ]

12. Comments (attach additional sheets if necessary):
(see attached)

Validated/Reviewed by:
Signature: Lynn S. Calvin

Date: 03.20.09

Name: Lynn S. Calvin

2080608886

ICALs:

MS9 6.26.08
% RSDs > 15% : acetone 45.3, styrene 49.9 (R/C)

MS 10 6.27.08
~~RRF~~ acetone ~~0.01~~ MC 0.04248 (R/R)

CCV MS9 7.3 11:06 %D > 20% (-bias) carbon disulfide 20.3 (R/C)

MRLs 7.3

beg 12:47 / end 17:09
2but. ok / 69.9
MIBK 66.6 / 60.2 | MJ/C already (R/C)
carbdis. ok / 56.7 |

~~water LCS/LCSD : m.chl f @ 118/119 (69-118) J/J~~ MC
ND - no qual's

ICP METALS ANALYSIS (6010) +6020 CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L08060886

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time (6-Months)?	~~[ ]~~ N	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	
three calibration standards and a blank?	~~[ ]~~ N	[ ]	
• Was R ≥ 0.995	~~[ ]~~ N	[ ]	
3. QCMDL:			
• Was MDL Check performed? not provided	[ ]	[ ]	
QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	~~[ ]~~ N	[ ]	ICPMS marginally beyond 12h
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[ ]	~~[ ]~~ N	
4. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within 90 - 110%?	~~[ ]~~ N	[ ]	
5. Initial Calibration Blank (ICP):			

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL? or insufficient to qualify	[X]	[ ]
6. Interelement Check Standard:		
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[N]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[N]	[ ]
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]
• Were analytes ≤ 1/2 MRL?	[N/A]	[N/A]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[ ]	[ ]
• Was the %R between 90-110?	[N]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? or insufficient to qualify	[N]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[N]	[ ]
• MS: Were the percent recoveries within limits?	[ ]	[N]
• MD: Were the RPDs within control limits?	[ ]	[N]
11. Serial Dilution:		
• Was serial dilution (1:5) conducted when needed?	[N]	[ ]

	Yes	No	
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]	
12. Method of Standard Addition (MSA):			
• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]	N/A

13. Comments (attach additional sheets if necessary):

MS on -10
Ca, Al, Fe, Mn > 4* spike
K = 136%, As = 69.1, Sb = 5%, Se = 61.5, Ni = 40.1

Dup on -10
~~Mn = 23.6, Na = 202 + 7 ± RL (native < 5*RL)~~, Ca = 41.5%

SD - on -03
Cr = 13.1, Co = 26.6, Fe = 16.6, Mn = 23.4, Zn = 11.4%
As = 14.8, Ni = 10.4 ↳ -03 no qual as reported from 5x (SD on 5x ok)
SD on 19 (ER)

QCMRL - V = 42.3 + Mg = 61.4% @ 15:13 on 7/16 but > 7 RL
Ag = 1339% @ 0929 7/22 } do not bracket samples in this SDG
Cd = 152 + Ag = 1429% 10:19 7/22 }
ICPMS - some out on 7/15 + 7/19 but no validated samples analyzed
~~CCB = 0.168 for Sb 4-03~~ (8/1
Internal Stds - 30-120% fo samples
Tune - not applicable @ Level III

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0806088

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
4 ~~five~~ calibration standards and a blank?	N	[ ]
• Was R ≥ 0.995	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	N	[ ]
• Was the QC/MRL between 70-130% R?	N	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	N	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]

	Yes	No	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	[N]	[ ]	
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]	
• Were analytes ≤ 1/2 MRL?	[N]	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	[N]	[ ]	
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]	
• Was the %R between 80-120?	[N]	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N/A]	[ ]	~~color interference~~ N/A
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits?	[N]	[ ]	
• MS: Were the percent recoveries within limits?	[N]	[ ]	
• MD: Were the RPDs within control limits?	[N]	[ ]	

11. Comments (attach additional sheets if necessary):

MS on -10
Dup on -10

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L08060886

	Yes	No
1. Holding Time: 24 H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[N]	[ ]
	[ ]	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[N]	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No	
• Were analytes in the blank ≤ 1/2 MRL?	~~[ ]~~ N	[ ]	
6. Interelement Check Standard: N/A			
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]	
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every ~~10~~ 15 samples? beginning only	[ ]	~~[ ]~~ N	
• Was CCB conducted at end of the analytical sequence?	[ ]	~~[ ]~~ N	
• Were analytes ≤ 1/2 MRL?	~~[ ]~~ N	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every ~~10~~ 15 samples?	~~[ ]~~ N	[ ]	
• Was CCV conducted at end of the analytical sequence?	~~[ ]~~ N	[ ]	
• Was the %R between 90-110?	~~[ ]~~ N	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	~~[ ]~~ N	[ ]	Color interferen
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	~~[ ]~~ N	[ ]	
• LCS: Were the percent recoveries for LCS within the limits?	~~[ ]~~ N	[ ]	
• MS: Were the percent recoveries within limits? 85-115%	~~[ ]~~ N	[ ]	
GSM Limits • MD: Were the RPDs within control limits? ±30% soil	[ ]	[ ]	N/A
11. Serial Dilution: N/A			
• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]	

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect ($R \geq 0.995$)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

MS/MSD 01-10

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): WG277529

Sample Delivery Group: L0807074

	Yes	No
1. Holding Time:		
Were samples analyzed within holding time? extract HT (14 days from collect)	[X] ✓	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 ✓ PETN ✓	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%?	[X]	[ ]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source?	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%?		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	N/A [ ]	[ ]
• Were all identified hits confirmed on a second column?	N/A [ ]	[ ]
• Was RPD of target analyte confirmation ≤ 40?	N/A [ ]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak?	[ ]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (all TCs ND)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits? (MS/SD parent sample was not validated)	[X]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all samples, the result summary form for PETN incorrectly reference a calibration date of 06/23/05 rather than 07/01/05. In the Level IV validation it was noted that 07/01/05 is the correct calibration date & PETN was correctly quantitated from the 07/01/05 ICAL.

Validated/Reviewed by:

Signature: KTShadwlyth Date: 03/04/09

Name: Kristin Shadawlyth

POLY CHLORINATED BIPHENYLS (PCB/AROCLORS) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): W6276435

Sample Delivery Group: L080700074

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[X]	[ ]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did Aroclors 1016 and 1260 meet the RSD ≤ 20% or the r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R	[X]	[ ]
5. Initial Calibration Verification (ICV):		
Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]

	Yes	No
6. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum %D < 20% for a specific compound?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[ ]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed? N/A	[ ]	[ ]
• Were identified Aroclors confirmed on a second GC column?	[X]	[ ]
• Were individual Aroclor standards used to determine the pattern of the peaks? (Individual Aroclors are 1221, 1232, 1242, 1248, and 1254. Both Aroclor 1016, and 1260 can be used from the mixed calibration standards.)	[X]	[ ]
• Was RPD of target analyte conformation ≤ 40? (See note)	[ ]	[X]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? all TCs ND	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPDs within control limits? LCS/LCSD	[X]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

the retained analysis if RPD >40% for target Cpd Confirmation in Ar 1254 in sample LL45-212M-1205-SO was qualified as estimated.

For all samples the lab reported both the primary and confirmation analyses; therefore, in instances when there is no interference the lower concentration was rejected, "R," in favor of the higher concentration of the same target cpd (as per LCG V5).

For all samples the lab reported results from both the primary and confirmation analyses on sample result forms. In accordance with LCG V-5, the reviewer reported the higher of the two values unless there was an indication of interference with the higher concentration. In that instance, the lower result of the two was reported.

It should be noted that there is a potential high bias due to the contribution from each of the Aroclors to the individual peak used for quantitation of the Aroclors. For the validated samples in this SDG, the reported results for Aroclor 1254 and Aroclor 1260 were qualified as estimated.

Validated/Reviewed by:

Signature: KTSmallwith Date: 3/19/05

Name: Kristen Shadowlight

ORGANOCHLORINE PESTICIDES ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): ~~WG276[illegible]228~~ WG276433 ~~to 276 228~~ to

Sample Delivery Group: L0807074

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[X]	[ ]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. DDT/Endrin Breakdown:		
• Was breakdown ≤ 15%?	[X]	[ ]
3. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did all compounds meet the RSD ≤ 20% or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? (Level IV evaluated only) If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary? (Level IV evaluated only) validation If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**	[ ]	[X]
4. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
5. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[X] (See notes)

	Yes	No
6. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]
7. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum D ≤ 20% for a specific compound?	[X]	[ ]
8. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]
• Were identified compounds confirmed on a second GC column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40? (see notes)	[ ]	[X]
9. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? ~~N/A~~ all TC ND	[X]	[X] ~~[ ]~~ NA
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits? LCS/LCSD	[X]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[X]	[ ]

10. Comments (attach additional sheets if necessary):

QC MRL 07/09/08 (21:07) Methoxychlor & endrin aldehyde were recovered @ (70-130%); however as there were no detects for these cpds no qualification were assigned.

For all samples, the lab reported results from the primary and confirmation analyses on sample result forms. In accordance with LCG VS, the reviewer reported the higher of the two values unless there was an indication of interference with the higher concentration result. In that instance, the lower of the two values was reported.

For target Cpd Confirmation RPDs >40% as denoted by a laboratory "P" flag, the retained results were qualified as estimated.

Validated/Reviewed by:

Signature: KSchaefer Date: 3/19/09

Name: Kristin Shadowlight

SEMIVOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): WG276099, WG276386

Sample Delivery Group: L0807004

	Yes	No
1. Sample Holding Time:		
(a) Were samples extracted within holding time?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Instrument Tuning:		
Was the DFTPP tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Ion Mass Assignments:		
Was mass assignment based on m/z 198?	[✓]	[ ]
4. Ion Abundance:		
Indicate if DFTPP ions abundance relative to m/z 198 base peak met the ions abundance criteria:		
m/z — Acceptance Criteria		
51 — 30.0 - 60.0 %	[✓]	[ ]
68 — < 2% of mass 69	[✓]	[ ]
70 — < 2% of mass 69	[✓]	[ ]
127 — 40-60%	[✓]	[ ]
197 — < 1%	[✓]	[ ]
198 — 100%, Base peak	[✓]	[ ]
199 — 5-9%	[✓]	[ ]
275 — 10 - 30%	[✓]	[ ]
365 — > 1%	[✓]	[ ]
441 — present but < mass 443	[✓]	[ ]
442 — > 40%	[✓]	[ ]
443 — 17-23% of mass 442	[✓]	[ ]

	Yes	No
5.0 Initial Calibration:		
• Did the initial calibration consist of five or more standards?	5-stds [ ] 4-6 more [✓]	[✓] [ ]
If the calibration curve consists of 5-standards, check validity of the calibration model.		
Was the linear model applied?	[✓]	[ ]
• Did the followings System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
N-nitroso-di-n-propylamine (RF 0.05)	[✓]	[ ]
Hexachlorocyclopentadiene (RF 0.05)	[✓]	[ ]
2,4-dinitrophenol (RF 0.05)	[✓]	[ ]
4-nitrophenol (RF 0.05)	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for the followings each individual Calibration Check Compound (CCC)?		
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15%?	[ ]	[✓]
• If the answer is "No", are the mean RSDs ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 30%?	[ ] [✓]	[✓] [ ]

	Yes	No
• Was manual integration "M" performed? N/A @ Level III	[ ]	[ ]
If the answer is "Yes", check for supporting documents.		
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		

6. QCMDL:

• Was MDL Check performed? (not provided)	[ ] N/C	[ ]

7. QCMRL:

• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 50-150% (Sporadic Marginal Failure)?	[ ]	[✓]

8. Initial Calibration Verification (ICV):

	[✓]	[ ]
• Is the mid level (2nd source) recovery within 70-130% for contaminants of concern ?		
• Is the mid level (2nd source) recovery within 50-150% for non-contaminants of concern (Sporadic Marginal Failure)?	[✓]	[ ]

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did any of SPCC meet the minimum RF values?	[✓]	[ ]

	Yes	No
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits? ↓	[ ]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[ ]	[✓]

12. Comments (attach additional sheets if necessary):

- ICAL: hexachlorocyclopentadiene r 0.993 dibenzofuran r 0.991 (R/R)
- CCV: %D's >20%: 2,4-DNP 36.3(-), hexchlcyc 29.3(+), benzoic acid 62.5(-)
- water LCS: benzoic acid 25.7% (R/L)
- MRLs: (beg/end) 2NP 65.8/ok benzo ghi 46.8/42.2, bis(2-chloroethoxy)methane 55.1/59.4, dibenz ah 44.4/49.8, indeno 45.5/48.9 hexchlcyc ok/17.9 (already R/C), DPC NDPA 58.1/61.3, 2,4-DNP 43.1/44.7, 4,6-DN2MP 35.9/27.6, 4NP 43.9/47.3, pentachlorophenol 52.6/56.0
- surrogates: see attached - all TCs qualified in soil samples

Validated/Reviewed by:

Signature: Lynn A Calvin Date: 03.04.09

Name: Lynn S. Calvin

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L08070074
Instrument Id: HPMS12
Workgroup (AAB#): WG276386

Method: 8270
CAL ID: HPMS12-08-JUL-08
Matrix: Soil

Sample Number	Dilution	Tag	1	2	3	4	5	6
L08070074-06	1.00	01	86.9	44.8	39.7	40.6	107	46.0
L08070074-07	1.00	01	66.1	45.9	43.2	44.6	69.0	49.7
L08070074-08	1.00	01	89.4	47.5	43.8	46.4	100	47.4
L08070074-09	1.00	01	88.8	40.4	37.6	39.6	88.1	42.1
L08070074-10	1.00	01	93.3	43.9	37.7	41.1	103	42.4
WG276227-01	1.00	01	64.1	63.9	57.9	63.6	125	62.9
WG276227-02	1.00	01	83.5	53.8	52.9	51.5	109	56.5
WG276227-03	1.00	01	84.4	56.0	51.7	51.4	113	55.7
WG276386-01	1.00	01	2.44	6.83	2.93	6.05	6.50	3.15
WG276386-01	1.00	03	1.86	5.78	2.47	5.05	5.71	2.54
WG276386-02	1.00	01	16.5	33.8	16.3	33.5	31.8	16.8
WG276386-02	1.00	03	12.1	27.9	12.5	26.5	28.6	13.0
WG276386-03	1.00	01	1.07	6.85	2.90	5.96	6.87	3.07
WG276386-03	1.00	03	2.28	6.08	2.54	5.18	6.17	2.70
WG276386-04	1.00	01	14.8	33.6	16.2	33.0	32.5	16.7
WG276386-04	1.00	03	13.1	28.7	12.8	26.2	29.6	13.4

Surrogates	Surrogate Limits
1 - 2,4,6-Tribromophenol	50 - 150
2 - 2-Fluorobiphenyl	50 - 150
3 - 2-Fluorophenol	50 - 150
4 - Nitrobenzene-d5	50 - 150
5 - p-Terphenyl-d14	50 - 150
6 - Phenol-d5	50 - 150

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 1143973
Report generated: 07/15/2008 15:55

ICP METALS ANALYSIS (6010) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0807007Y

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time (6-Months)?	N	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	
three calibration standards and a blank?	N	[ ]	
• Was $R \geq 0.995$	N	[ ]	
3. QCMDL:			
• Was MDL Check performed? not provided	[ ]	[ ]	
QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ]	ICPMS marginally longer than 12h
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[ ]	N	
	N	[ ]	
4. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within 90 - 110%?			
5. Initial Calibration Blank (ICP):			

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]
6. Interelement Check Standard:		
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	N	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	N	[ ]
• Were analytes ≤ 1/2 MRL? or insufficient to qualify	N	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	[ ]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[ ]	N
• LCS: Were the percent recoveries for LCS within the limits?	N	[ ]
• MS: Were the percent recoveries within limits?	[ ]	N
• MD: Were the RPDs within control limits?	N	[ ] NA
11. Serial Dilution:		
• Was serial dilution (1:5) conducted when needed?	N	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[N]

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ] N/A

13. Comments (attach additional sheets if necessary):

MB: Na = 43.8 mg/Kg U 6 validated samples (<RL)

MS: on -14
Al, Ca, Fe, Mg >4* spike
K = 161%
~~Zn + Ba out in MS of sample not in this SDG~~
As = 74.5%, Sb = 1%, Se = 67.3%
No dup on ~~sample in SDG~~ -01 ICP only

MS: on -01 ICP only
Al, Ba, Ca, Fe, Mn, Zn
all >4* spike

MS: on -05 ICPMS only
in prep sheet - results not reported. Post digest: Se = 71.8%

① SD: on -02
Cr = 13.0, Co = 24.4, Fe = 16.8, Mn = 25.9%
② SD on: -05 ICPMS only
③ SD: on -17
Cr = 10.7, Co = 24.4, Fe = 14.1 Mn = 21.7%
④ SD: on -01 ICPMS only As = 16.4%
⑤ SD: on Dup of -14
Cr = 15.3, Co = 26.8, Fe = 19.7, Mn = 26.6, Zn = 12.7%, As = 16.5, Ni = 10.4%
~~⑥ SD on -21~~
QCMRL: Cd = 153% (7/12 10:08), Ag = 132% (7/12 10:40) } J
= 140% (" 13:24)
↳ ~~Cd → Zn~~:

Validated/Reviewed by:

Signature: Patti Meek Date: 2/23/09

Name: Patti Meek

QCMRL
Se = 139% (8/2 1411) brackets -21, -12, -17

Internal Stds: w/in 30-120%
Tune: %RSDs < 5%, Res < 0.9amu, Mass < 0.1 amu

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0807007Y

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	[ ]	[N]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
4 five calibration standards and a blank?	[N]	[ ]
• Was R ≥ 0.995	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[N]	[ ]
• Was the QC/MRL between 70-130% R?	[N]	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	[N]	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

	Yes	No	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	N	[ ]	
• Was CCB conducted at end of the analytical sequence?	N	[ ]	
• Were analytes ≤ 1/2 MRL?	N	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	N	[ ]	
• Was CCV conducted at end of the analytical sequence?	N	[ ]	
• Was the %R between 80-120?	N	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]	N/A
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	N	[ ]	
• LCS: Were the percent recoveries for LCS within the limits?	N	[ ]	
• MS: Were the percent recoveries within limits?	N	[ ]	
• MD: Were the RPDs within control limits?	[ ]	[ ]	N/A

11. Comments (attach additional sheets if necessary):

MS - on -14

No absorbances reported for samples

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L08070074

	Yes	No
1. Holding Time: 24 H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	[ ]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
three calibration standards and a blank?	[ ]	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ]
	[ ]	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[ ]	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No	
• Were analytes in the blank ≤ 1/2 MRL?	[X]	[ ]	

6. Interelement Check Standard: N/A

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]	
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]	

7. Continuing calibration Blank (CCB):

• Was CCB conducted every ~~10~~ 15 samples? beginning only	[ ]	[X]	
• Was CCB conducted at end of the analytical sequence?	[ ]	[X]	
• Were analytes ≤ 1/2 MRL?	[X]	[ ]	

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every ~~10~~ 15 samples? beginning + end	[ ]	[X]	
• Was CCV conducted at end of the analytical sequence?	[X]	[ ]	
• Was the %R between 90-110?	[X]	[ ]	

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]	color interferena

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]	
• MS: Were the percent recoveries within limits? 85-115%	[ ]	[X]	
• MD: Were the RPDs within control limits? ±30% soil	[ ]	[ ]	N/A

QSM Limits

11. Serial Dilution: N/A

• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]	

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect ($R \geq 0.995$)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):
MS/MSD on -14
= 88.8 ± 16.2%

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac Laboratories

Batch Number(s): 40627408

Sample Delivery Group: 20807011

	Yes	No
1. Holding Time: Were samples analyzed within holding time? (extract HT (14 days from collection)	[X] ✓	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. N/A	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed? 8330 yes, PETN yes Nitroguanidine no (see notes)	[ ]	[X]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%?	[X]	[ ]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source?	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%?		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? (equal LCS Level IV)	[X]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed? N/A	[ ]	[ ]
• Were all identified hits confirmed on a second column? N/A	[ ]	[ ]
• Was RPD of target analyte confirmation ≤ 40? N/A	[ ]	[ ]
• Was there a shoulder on the 2,4,6-TNT peak? ~~N/A~~ (equal LCS Level IV)	[ ]	[X]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]

	Yes	No
• MS/MSD: Were the percent recoveries within limits? N/A (analyzed LCS/LCSD) Were the RPDs within control limits?	[ ]	[ ]
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all samples the result summary form for PETN incorrectly referenced a calibration date of 06/23/08 rather than 07/01/08. In the level IV validation it was noted that 07/01/08 is the correct calibration date & PETN was correctly quantitated from the 07/01/08 ICAL.

Validated/Reviewed by:

Signature: KShadoan Date: 03/04/09

Name: Kristin Shadoan

An MDL check was not performed for nitroguanidine. As an MRL standards were routinely performed for the nitroguanidine analysis and as the MRL's were within the established QC limits of %D ≤ 30%, no qualifications were applied.

ICP METALS ANALYSIS (6010) CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0807011

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time (6-Months)?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
three calibration standards and a blank?	[N]	[ ]
• Was $R \geq 0.995$	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[N]	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[ ]	[N]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?	[N]	[ ]
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	N	[ ]

6. Interelement Check Standard:

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	N	[ ]
• Was ICS-AB results within QC limits (80-120)?	N	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every 10 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	N	[ ]
• Were analytes ≤ 1/2 MRL?	N	[ ]

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every 10 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110?	N	[ ]

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	N	[ ]

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[ ]	N
• LCS: Were the percent recoveries for LCS within the limits?	N	[ ]
• MS: Were the percent recoveries within limits?	N	[ ] ~~N/A~~
• MD: Were the RPDs within control limits?	N	[ ] ~~N/A~~

11. Serial Dilution:

• Was serial dilution (1:5) conducted when needed?	N	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[X]

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

MB: Na = 255 mg/Kg (7 RL) U

SD on -02 Mn = 12.1 %

QCMRL
V = 42.3 % but detects 7 RL + Mg = 61.4 %

MS for ICPMS on -01
Sb = 6 %
Dup for ICPMS on -01
Sb + Se out but w/in ±RL (both < 5 * RL)

SD on -01 ICPMS a
As = 23.8, Pb = 10.5 %

Internal stds: w/in 30-120% of ICB
Tune: %RSDs < 5%, Res < 0.9, Mass < 0.1 amu

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L08070111

	Yes	No
1. Holding Time:		
• Were samples analyzed within holding time?	[N]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank?	[ ]	[ ]
4 ~~five~~ calibration standards and a blank?	[N]	[ ]
• Was $R \geq 0.995$	[N]	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[N]	[ ]
• Was the QC/MRL between 70-130% R?	[N]	[ ]
5. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 80-120%?	[N]	[ ]
6. Initial calibration Blank (ICP):		
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]

	Yes	No	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every 10 samples?	[N]	[ ]	
• Was CCB conducted at end of the analytical sequence?	[N]	[ ]	
• Were analytes ≤ 1/2 MRL?	[N]	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every 10 samples?	[N]	[ ]	
• Was CCV conducted at end of the analytical sequence?	[N]	[ ]	
• Was the %R between 80-120?	[N]	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]	N/A
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits?	[N]	[ ]	
• MS: Were the percent recoveries within limits?	[N]	[ ]	
• MD: Were the RPDs within control limits?	[N]	[ ]	

11. Comments (attach additional sheets if necessary):

MS + Dup on -01

No absorbances reported for samples

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: Microbac

Batch Number(s): _____

Sample Delivery Group: L0807011

	Yes	No
1. Holding Time: 24 H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	N	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ]
S ~~three calibration standards and a blank?~~	N	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ]
	N	[ ]
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ]
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?		
5. Initial Calibration Blank (ICP):		

	Yes	No	
• Were analytes in the blank ≤ 1/2 MRL?	[N]	[ ]	
6. Interelement Check Standard: N/A			
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]	
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]	
7. Continuing calibration Blank (CCB):			
• Was CCB conducted every ~~10~~ 15 samples? beginning only	[Y]	[ ]	
• Was CCB conducted at end of the analytical sequence?	[ ]	[N]	
• Were analytes ≤ 1/2 MRL?	[N]	[ ]	
8. Continuing Calibration Verification (CCV):			
• Was CCV conducted every ~~10~~ 15 samples?	[N]	[ ]	
• Was the CCV conducted at end of the analytical sequence?	[N]	[ ]	
• Was the %R between 90-110?	[N]	[ ]	
9. Sample Analysis:			
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[N]	[ ]	color interference
10. Sample Quality Control:			
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[N]	[ ]	
• LCS: Were the percent recoveries for LCS within the limits?	[N]	[ ]	
• MS: Were the percent recoveries within limits? 75-115%	[N]	[N]	
• MD: Were the RPDs within control limits? ±30% soil	[N]	[ ]	
11. Serial Dilution: N/A			
• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]	

GSM Limits

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect ($R \geq 0.995$)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

Dup on -02
MS on -02 = 68% result not reported by lab on summary form

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/23/09

Name: Patti Meeks



U.S. Army Corps of Engineers
Louisville District

Ravenna Army Ammunition Plant
Load Lines 2, 3, and 4 Soil Sampling
Ravenna, Ohio

Chemical Quality Assurance Report
Sample Delivery Groups:
Multiple

June 2009

Prepared for:
U.S. Army Corps of Engineers
Louisville District
Contract No. W912QR-08-D-0001
Delivery Order 0001

Prepared by:
MEC^X, LP
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EXECUTIVE SUMMARY

The overall objective of the project described in this document was to determine if contaminants are present in the soils below the floor slabs of Load Lines 2, 3, and 4 and to excavate and transport contaminated soils at the Ravenna Army Ammunition Plant (RVAAP).

The following analyses were performed for all QA samples by Microbac Laboratories, Inc. (Microbac) in Marietta, Ohio and all quality assurance (QA) samples by CT Laboratories (CT) in Baraboo, Wisconsin:

- United States Environmental Protection Agency (USEPA) SW-846 Methods 6010B and 6020 for metals
- USEPA SW-846 Method 7471A for mercury
- USEPA SW-846 Method 8260B for volatile organic compounds (VOCs)
- USEPA SW-846 Method 8270C for semivolatile compounds (SVOCs)
- USEPA SW-846 Method.8081 for pesticides
- USEPA SW-846 Method 8082 for polychlorinated biphenyls (PCBs)
- USEPA SW-846 Method 8330B for explosive compounds
- USEPA SW-846 Method 7196A for hexavalent chromium
- United States Army Cold Regions Research and Engineering Laboratory (USACRREL) Method for nitrocellulose

Some data were rejected due to calibration, laboratory control sample, matrix spike/matrix spike duplicate, or matrix spike criteria outliers. All remaining data were usable for its intended purpose with the qualification applied by MEC^{X}. Specific concerns regarding the QA data are noted below:

- The reporting limits for the following compounds exceeded the criteria listed in Table 3-3 of the FWQAPP and Appendix A of the QAPP Addendum:
    - Cadmium
    - Dibromochloroethane and chloroethane
    - After accounting for percent moisture, the PCB reporting limits marginally exceeded the criteria
    - After accounting for percent moisture, the phenol and 2-nitrophenol reporting limits marginally exceeded the criteria
    - 4-Nitrophenol
- All hexavalent chromium data were rejected due to low MS/MSD recoveries. No comparisons to the primary samples could be made for hexavalent chromium.

Specific concerns regarding the primary data are noted below:

- False negatives were identified in the Microbac pesticide data. When a compound retention time (RT) shift exceeded half of the defined RT window, the laboratory flagged the compound with an "F," only on the quantitation report, and did not report the compound as detected. In these instances, MEC^X qualified the results as false negatives.

  It is likely that false negatives exist in the unvalidated data.

- Primary column analyses were not performed for the undiluted analyses of samples LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO while both primary and confirmation analyses were performed for the diluted analyses of these samples. Some target compounds were noted to be present below the MDL in the primary column diluted analyses that were confirmed and present above the MDL in the undiluted confirmation column analyses.

- Except for SDG L08060612, the Microbac mercury raw data did not list the sample absorbances; therefore, the reviewer was not able to calculate the sample results from the raw data.

- Microbac reported total xylenes and total 1,2-dichloroethene instead of the specific isomers, m,p-xylene, o-xylene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene.

ACRONYMS AND ABBREVIATIONS

ADR	Automated Data Review
BTEX	Benzene, toluene, ethylbenzene, xylenes
CCB	Continuing Calibration Blank
CCC	Calibration Check Compounds
CCV	Continuing Calibration Verification
DoD	Department of Defense
ICSA	Interference Check Sample A
ICSAB	Interference Check Sample AB
ICV	Initial Calibration Verification
ICP	Inductively Coupled Plasma
LCG	Louisville Chemistry Guidance
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LODV	Limit of Detection Verification
LUST	Leaking Underground Storage Tank
MRL	Method Reporting Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MDL	Method Detection Limit
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PE	Performance Evaluation
PDS	Post Digestion Spike
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
SDG	Sample Delivery Group
SPCC	System Performance Check Compound
SVOC	Semivolatile Organic Compounds
TIC	Tentatively Identified Compounds
TNT	Trinitrotoluene
TS	Total Solids
USACE	United State Army Corps of Engineers
USACERREL	United States Army Cold Regions Research and Engineering Laboratory
USEPA	United State Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

The overall objective of the project described in this document was to determine if contaminants are present in the soils below the floor slabs of Load Lines 2, 3, and 4 and to excavate and transport contaminated soils.

Sampling was conducted by URS Corporation (URS) in June and July 2008. Ninety-one primary samples, 10 field duplicate samples, ten blind field duplicate samples and 3 VOC blind field duplicate samples were collected and analyzed by the primary laboratory, Microbac. Thirteen soil QA samples were collected and analyzed by the QA laboratory, CT Laboratories (CT) in Baraboo, Wisconsin. The following analyses were performed:

	CT		Microbac	
Parameter	**Method**	**Preparation Method**	**Method**	**Preparation Method**
Energetics	8330	8330	8330	8330B
Hexavalent Chromium	7196A	3060A	SM3500Cr-D 7196A	SM3500Cr-D 7196A
Mercury	7471A	General Prep	7471A	7471A
Metals	6010B, 7060, 7740, 7841	3050B	6010B, 6020	3051
Nitrocellulose	9056	General Prep	USACRREL	USACRREL
PCBs	8082	3545	8082	3550B
Pesticides	8081A	3545	8081A	3550B
Semivolatiles	8270C	3545	8270C	3545
Volatiles	8260B	5035	8260B	5030B/5035

Preparation method differed slightly between the laboratories for pesticides, PCBs and metals. CT generally reported metals from 6010B but used graphite furnace methods to analyze for arsenic, selenium, and thallium. Microbac reported antimony, arsenic, nickel, selenium, and thallium by 6020 and all remaining metals by 6010B. The data were not adversely affected by these differences.

This report describes findings of data validation performed by MEC^X, LP (MEC^X) on the site samples reported in one sample delivery group (SDG) from CT.

1.2 PREVIOUS ACTIVITIES AND DATA

The following summary was adapted from the Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition Plant, Ravenna, Ohio (FWQAPP) prepared by Science Applications International Corporation (SAIC) and the Final of the Work Plan for the Sampling of Soils Below Floor Slabs at LLs-2,3,4.and Excavation and Transportation of Contaminated soils to LL-4 (Buildings G-1, G-1A, and G-3) (URS Group, Inc.)

Located in northeastern Ohio on approximately 21,000 acres, RVAAP was established in 1940 to load, store, and demilitarize conventional artillery ammunition, bombs, mines, fuzes and boosters, primers and percussion elements. Originally RVAAP operated as two separate units, the Portage Ordnance Depot and the Ravenna Ordnance Plant. During World War II, a contractor operated the Ravenna Ordnance Depot and the government operated the Portage Ordnance Depot. Ordnance production and storage for World War II continued until August 1945, at which time the facility was renamed as the Ravenna Arsenal, and the government assumed control of all operations. From 1951 to 1999, the entire facility was operated by contractors. Ordnance production at the facility was phased out and sent to Plum Brook Ordnance Works in Sandusky, Ohio and Keystone Ordnance Works in Meadville Pennsylvania. All production at the facility had ceased by 1957 and the plant was placed on standby. In 1961, the plant was operational for seven months, processing and performing explosive melt-out of bombs. After deactivation late in 1961, the facility was renamed RVAAP. From mid-1968 until 1971, the plant was reactivated to load, assemble, and pack munitions on three load lines and two component lines. Operations ceased at Load Lines 1, 2, 3, and 4 in 1971; however, the Lines were reactivated to perform demilitarization operations for several months in 1973 and 1974. In 1992, RVAAP was again placed on “Inactive” status. Salvage and demolition operation started in 1998 and administrative control of the facility was transferred to the Ohio Army National Guard in 1999.

Since 1978, approximately 20 environmental condition investigations have been performed at RVAAP. Only a portion of these investigations are discussed below.

In 1989, the USEPA contracted Jacobs Engineering to perform a Resource Conservation and Recovery Act Facility Assessment. Thirty-one solid areas of concern were identified during the assessment, 13 of which were recommended for no further action. In 1996 the United States Army Corps of Engineers (USACE) performed a facility wide preliminary assessment and conducted Phase I remedial investigations at 11 areas of concern. Monitoring wells were installed and Phase I and Phase II remedial investigations were performed at Load Line 11 by the USACE in 1999 and 2000. Also in 2000, the USACE performed Phase II remedial investigations at Load Lines 1 and 12.

Operations at Load Lines 2, 3, and 4 consisted of melting and loading energetic compounds into large caliber shells. Water to wash down the lines and the building was collected in concrete sumps and discharged to a drainage ditch or settling pond. Soil and dry sediments outside the foot prints of the buildings at Load Lines 2, 3, and 4 were removed by Shaw Engineering in 2003 and the buildings were demolished in 2007. Although soil samples collected by Shaw in 2004 found that the soils below the building slabs and foundations were generally uncontaminated, the slabs and foundations were left intact in order to prevent water infiltration to the potentially contaminated soils below. Results of these samples are summarized below:

- Load Line 2 – 17 samples were collected and all field results for trinitrotoluene (TNT) and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) were less than 1 mg.kg. Most metals were generally below the background levels. In 10 samples copper was detected above

the background level and thallium was detected above the background level in all samples.

- Load Line 3 – Four samples were analyzed for energetic compounds and three of the samples contained trace levels of energetic degradation products. Twelve samples were analyzed for metals and most were below the background levels. Nine samples had copper above the background and all samples had cadmium detects above the background levels.

- Load Line 4 – Nine samples were collected and all field energetic results were nondetects. Most metals were detected below the background levels. Copper, magnesium, and zinc were detected above background levels in most samples.

Floor slabs were removed as part of the project described in this report and the soil samples described in this report were collected from beneath the floor slabs at Load Lines 2, 3, and 4.

2. DESCRIPTION OF WORK PERFORMED

This section describes the data validation procedures used during the evaluation of the site samples and the assessments performed on the resulting data.

2.1 CHEMICAL QUALITY ASSURANCE REPORT TASKS

QA samples were compared to the primary samples using the criteria in the FWQAPP. This data is presented in Section 4.0. The final EDD were then reviewed to determine the analytical completeness for the project. This data is presented in Section 5.0.

2.2 DATA VALIDATION PROCESS

Thirteen QA samples, presented in the table below, were validated at Level III.

Table 1. Validated QA sample identification table

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
LL2SS-278M-1232-QA	574689	Soil	6/18/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330
LL2SS-280D-1238-QA	574690	Soil	6/18/2008	III	8260B
LL2SS-285M-1245-QA	575164	Soil	6/20/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8270C, 8330
LL2SS-297M-1262-QA	576420	Soil	6/24/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330, 9056
LL2SS-305M-1274-QA	574687	Soil	6/17/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330
LL3SS-249D-1180-QA	576421	Soil	6/24/2008	III	8260B
LL3SS-256M-1189-QA	577264	Soil	6/26/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330, 9056
LL3SS-258M-1195-QA	577443	Soil	6/27/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330
LL3SS-268M-1209-QA	577263	Soil	6/25/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8330
LL4SS-201D-1186-QA	579230	Soil	7/1/2008	III	8260B
LL4SS-209M-1197-QA	579226	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8081A, 8330
LL4SS-212M-1203-QA	579229	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082,

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
					8270C, 8330
LL4SS-220M-1220-QA	579236	Soil	7/2/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330, 9056

Data validators assessed results based on the FWQAPP, Quality Assurance Project Plan Addendum for the Sampling of Soils Below Floor Slabs at LLs-2. 3. 4. and Excavation and Transportation of Contaminated Soils to Load Lines 4 (QAPP Addendum), Louisville Chemistry Guideline Version 5 (LCG), Shell for Analytical Chemistry Requirements (Shell), Department of Defense Quality systems Manual for Environmental Laboratories Version 3 (DoD QSM), the specific EPA methods, the National Functional Guidelines for Organic Data Review (1994), and the National Functional Guidelines for Inorganic Data Review (1994). The specific items reviewed during Level III data validation are documented in Section 2.1 of the Ravenna Army Ammunition Plant Load Lines 2, 3, and 4 Soil Sampling Data Validation Report.

2.3 DATA VALIDATION QUALIFIERS

Data qualifiers, as defined below, were applied following the documents noted in Section 2.2:

U Nondetected at the limit of detections
The analyte was analyzed for but not definitively detected.

J Estimated
The identification of the analyte is acceptable but the quality assurance criteria indicate that the quantitative values may be outside the normal expected range of precision. Additionally used to identify detects reported below the reporting limit.

N Identity Presumptive and Tentative
There is presumptive evidence that the analyte is present but it has not been confirmed. There is an indication that the reported analyte is present; however, all quality control requirements necessary for confirmation were not met.

R Rejected
Data are considered to be rejected and shall not be used for environmental decisions.

2.4 FLAGGING CODES

The qualification codes in the following table may have been used to flag the data described in this document: Sample qualifications are summarized in Section 5.2.2. All qualifications and associated qualification codes have been entered into the electronic data deliverables (EDD) received from the laboratories and may be reviewed in the EDD appended to this report.

Table 2. Qualification code reference table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient was noncompliant.
R	Calibration RRF was noncompliant.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tuning was noncompliant
T	Presumed contamination as indicated by the trip blank results.	Not applicable
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).

3. DATA ACQUISITION ACTIVITIES

3.1 SAMPLE COLLECTION

Thirteen soil samples were collected in June and July 2008. The samples were submitted under chain of custody to the QA laboratory, CT. All results were report in one SDG.

The chains of custody were appropriately signed by both field and/or laboratory personnel with all samples and analyses accounted for, cooler custody seals intact and within the temperature limits of 4±2^{o}C. All documentation regarding sample handling as presented in the case narratives, chains of custody, correspondence, and sample condition upon receipt forms, was evaluated.

3.2 SAMPLE ANALYSIS

CT analyzed a total of 13 samples by USEPA SW-846 Methods 6010B, 6020, 7060, 7740, and 7841 for various metals, USEPA SW-846 Method 741A for mercury, USEPA SW-846 Method 8270C for SVOCs, USEPA SW-846 Method 8081 for pesticides, USEPA SW-846 Method 8082 for PCBs, USEPA SW-846 Method 8330B for explosives, USEPA SW-846 Method 8260B for VOCs, USACERREL method for nitrocellulose, and USEPA Method 7196A for hexavalent chromium.

3.3 DATA COMPLETENESS

Data completeness for the project described in this report was found to be generally acceptable as no deliverables were missing.

3.4 DETECTION LIMIT REQUIREMENTS

The following reporting limits exceeded the criteria listed in Table 3-3 of the FWQAPP and Appendix A of the QAPP Addendum:

- Cadmium
- Dibromochloroethane and chloroethane
- After accounting for percent moisture, the PCB reporting limits marginally exceeded the criteria
- After accounting for percent moisture, the phenol and 2-nitrophenol reporting limits marginally exceeded the criteria
- 4-Nitrophenol

All MDLs, including those for the above listed compounds, met the reporting limit criteria.

4. DATA QUALITY EVALUATION

This section summarizes the data quality for each analytical method evaluated.

4.1 EXPLOSIVES

Ten samples were analyzed by CT Laboratories for Explosives by USEPA SW-846 Method 8330B and three samples were analyzed by CT Laboratories for nitroguanidine by USEPA SW-846 Method 8330.

- MDL studies were not evaluated as part of this project.
- Calibration: Calibration criteria were met.
    - Initial calibration average percent relative standard deviations (%RSDs) were within the control limits listed in the LCG Table 5 of ≤20%, or the linear regression r values were ≥0.990. The second source initial calibration verification standard (ICV) was within the control limits listed in LCG Table 5 of 85-115%.
    - The continuing calibration verification (CCV) standard %Ds were within the control limits listed in LCG Table 5 of ≤15%.
    - Unless otherwise noted, the MRL standard recoveries were within the control limits listed in LCG Table 5 of %D≤30%. In accordance with LCG, as an MDL check with acceptable recoveries was analyzed immediately following the MRL standards, results for target compounds with a %Ds>30% and a negative bias were qualified as estimated rather than rejected. Therefore, the nondetect results for the %D outliers were qualified as estimated, "UJ," and coded with a "C," qualification code.

Samples qualified for MRL recovery outliers			
Analyte	**MRL standard**	**%D**	**Qualified Samples**
2-nitrotoluene, 4-nitrotoluene	7/08 (0435)	51%, 40.1%	LL2SS-305M-1274-QA, LL2SS-278M-1232-QA, LL2SS-285M-1245-QA, LL2SS-297M-1262-QA, LL3SS-268M-1209-QA, LL3SS-256M-1189-QA, LL3SS-258M-1195-QA

    - Although MDL checks are only required once per quarter per instrument as per LCG Table 5, the laboratory analyzed MDL checks at the beginning and end of the daily calibration. The MDL checks were found to be acceptable for all target compounds.
- Blanks: The method blanks associated with the validated samples had no target compound detects above the control limits listed in LCG Table 5, of one-half the reporting

limit for target compounds, and no common laboratory contaminant detects above the reporting limit.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the control limits listed in LCG Appendix C for all listed target compounds. PETN and nitroguanidine were not included in Appendix C; however, the control limits were within the laboratory established control limits of 80-120% and 50-150%, respectively.

- Surrogate Recovery: Recoveries were within the control limits listed in LCG Table 5 of 50-150%.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for samples LL2SS-297M-1262-QA and LL4SS-220M-1220-QA. Recoveries were within the control limits listed in FWQAPP Tables 3-1 of 40-140%. RPDs were within the laboratory control limit of 35%.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for explosives but were not associated with the samples validated at Level IV or III.

- Compound Identification: Compound identification was not verified at a Level III validation. .

- Compound Quantification and Reported Detection Limits: Compound quantification was not verified at a level III validation. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Sample LL3SS-256M-1189-QA was reanalyzed at a 50× dilution in order to report 2,4,6-trinitrotoluene within linear range of the calibration. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

- Target compound confirmation was performed by the laboratory for detects in the validated samples. Unless otherwise noted in the table below, RPDs were within the control limits listed in LCG Table 5 of ≤40%. For RPDs >40%, the results were qualified as estimated, "J," and coded with "*III" qualification code.

Samples qualified for intercolumn %D outliers	
Analyte(s)	**Sample**
nitroglycerin and tetryl	LL2SS-285M-1245-SO
nitroglycerin	LL3SS-256M-1189-SO
nitroguanidine	LL2SS-297M-1262-QA
nitroguanidine	LL4SS-220M-1220-QA

- System Performance: Review is not applicable at Level III validation.
- Manual integrations: Review is not applicable at Level III validation.

4.2 POLYCHLORINATED BIPHENYLS (PCBS)

Five samples were analyzed by CT Laboratories for PCBs by USEPA SW-846 Method 8082.

- MDL studies were not evaluated as part of this project.
- Calibration: Calibration criteria were met.
    - Initial calibration average percent relative standard deviations (%RSDs) were within the control limits listed in the LCG Table 3 of ≤20%, or the linear regression r values were ≥0.990. The second source initial calibration verification standard (ICV) was within the control limits listed in LCG Table 3 of 85-115%.
    - The continuing calibration verification (CCV) standard %Ds were within the control limits listed in LCG Table 3 of ≤15%.
    - The MRL standard recoveries were within the control limits listed in LCG Table 3 of 70-130%.
    - An MDL check was performed once per quarter per instrument as per LCG Table 3. The MDL check was found to be acceptable for all target compounds.
- Blanks: The method blanks had no target compound detects above the control limit listed in LCG Table 3, of one-half the reporting limit.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the control limits listed in LCG Appendix C.
- Surrogate Recovery: Recoveries were within the control limits listed in LCG Table 3 of 50-150%.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for samples LL2SS-278M-1232-QA and LL4SS-212M-1203-QA. Recoveries were within the control limits listed in FWQAPP Tables 3-1 of 40-140%. RPDs were within the control limit of 35%.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

- Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for PCBs but were not associated with the samples validated at Level IV or III.

- Compound Identification: Compound identification was not verified at a Level III validation. .

- Compound Quantification and Reported Detection Limits: Compound quantification was not verified at a level III validation. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

  In accordance with the LCG, the reviewer reported the higher of the two values unless there was an indication of interference with the higher concentration result. In that instance the lower result of the two values was reported. The sample result form was edited by the reviewer to report the applicable concentration and the revised result was coded with a "$" qualification code.

- Target compound confirmation was performed for positive detects in the validated samples of this SDG. The target compound confirmation RPDs were within the control limits listed in LCG Table 3 of ≤40%.

- System Performance: Is not evaluated at this level of validation.

- Manual integrations were not evaluated at a Level III validation.

4.3 PESTICIDES

Three samples were analyzed by CT Laboratories for Pesticides by USEPA SW-846 Method 8081A.

- MDL studies were not evaluated as part of this project.

- Calibration: Calibration criteria were met. Initial calibration average percent relative standard deviations (%RSDs) were within the control limits listed in the LCG Table 4 of ≤20%, or the linear regression r values were ≥0.990. The second source initial calibration verification standard (ICV) was within the control limits listed in LCG Table 4 of 85-115%.

  - The DDT/Endrin breakdown standards were within the control limits listed in LCG Table 4 of ≤15%.

  - The continuing calibration verification (CCV) standard %Ds were within the control limits listed in LCG Table 4 of ≤15%.

o Except as noted below, the MRL standard recoveries were within the control limits listed in LCG Table 4 of 70-130%. Nondetected results were not qualified for high recoveries.

Results noted in the table below were qualified as estimated, "J," for detects and "UJ," for nondetects; however, nondetected results were not qualified for recoveries above the control limit and the outliers were not included in this table. All qualified results were coded with a "C" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results with low recoveries were assigned a negative bias, "J-," and detected results with high recoveries were assigned a positive bias, "J+."

Samples qualified for MRL recovery outliers			
Analyte	**MRL standard**	**Recovery Column A/B (%)**	**Qualified Samples**
4,4'-DDE Alpha-chlordane Beta-BHC Dieldrin Endosulfan sulfate Heptachlor Lindane Methoxychlor Endosulfan I Heptachlor epoxide	7/11 (1006)	150/150 150/150 200/150 150/150 250/250 150/ok ok/150 250/150 150/150 150/150	LL2SS-278M-1232-QA, LL3SS-256M-1189-QA
Methoxychlor Heptachlor epoxide	7/11 (1340)	150/150 400/ok	LL2SS-278M-1232-QA, LL3SS-256M-1189-QA
4,4-DDD 4,4'-DDE Alpha-chlordane Beta-BHC Dieldrin Gamma-chlordane Heptachlor Heptachlor epoxide	7/16 (0902)	200/150 150/150 150/150 150/50 150/150 200/150 150/150 150/150	LL4SS-209M-1197-QA
4,4-DDD 4,4'-DDE Alpha-chlordane Beta-BHC Dieldrin Gamma-chlordane Heptachlor Heptachlor epoxide Lindane	7/16 (1202)	150/150 150/150 150/150 150/50 150/150 200/200 ok/150 150/200 150/150	LL4SS-209M-1197-QA

- Although an MDL check is required to be performed once per quarter per instrument as per LCG Table 4, the laboratory analyzed an MDL check at the beginning and

end of every daily sequence. Unless noted below, the MDL check was found to be acceptable for all target compounds. Results noted in the table below were qualified as estimated, "J," for detects and the nondetect result was rejected, "R," in the associated samples. All qualified results were coded with a "C," qualification code.

Samples qualified for MDL check recovery outliers			
Analyte	**MDL standard**	**Recovery**	**Qualified Samples**
methoxychlor	Closing MDL for 7/11/08	Not recovered	LL2SS-278M-1232-QA, LL3SS-256M-1189-QA

- Blanks: The method blanks had no target compound detects above the control limits listed in LCG Table 4, of one-half the reporting limit for target compounds, and no common laboratory contaminant detects above the reporting limit.

- Blank Spikes and Laboratory Control Samples: Recoveries were within the control limits listed in LCG Appendix C.

- Surrogate Recovery: Recoveries were within the control limits listed in LCG Table 4 of 50-150%. For samples analyzed at a 10× dilution or higher, surrogate recoveries were considered diluted out and were not evaluated.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed for samples LL2SS-278M-1232-QA and LL4S-209M-1197-QA. Recoveries were within the control limits listed in FWQAPP Tables 3-1 of 40-140% and RPDs were within the control limit of 35%, except as noted below:

Samples qualified for MS/MSD recovery outliers		
Analyte	**MS/MSD Recoveries**	**Qualified Sample**
Endrin aldehyde	12%/7%	LL2SS-278M-1232-QA
Endrin aldehyde Alpha chlordane	10%/11% 34%44%	LL4SS-209M-1197-QA

For MS/MSD recoveries below 10%, nondetected results were rejected, "R," and for MS/MSD recoveries ≥10% the results were qualified as estimated, "J," for detects and "UJ," for nondetects in the associated samples. All results were coded with a "Q," qualification code.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

  - Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for pesticides but were not associated with the samples validated at Level IV or III.

- Compound Identification: Compound identification was not verified at a Level III.

- Compound Quantification and Reported Detection Limits: Compound quantification was not verified at a Level III. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Sample LL3SS-256M-1189-QA was analyzed at a 5× dilution to report target compounds within linear range of the calibration. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

  In accordance with the LCG, the reviewer reported the higher of the two values unless there was an indication of interference with the higher concentration result. In that instance the lower result of the two values was reported. The sample result form was edited by the reviewer to report the higher concentration of the two values when applicable and the revised result was coded with a "$" qualification code.

  Target compound confirmation was performed by the laboratory for detects in the samples of this SDG. Unless otherwise noted in the table below, RPDs were within the control limits listed in LCG Table 4 of ≤ 40%. For RPDs >40%, the results were qualified as estimated, "J," and coded with *III qualification code.

Samples qualified for intercolumn %D outliers	
Analyte(s)	**Sample**
dieldrin endosulfan I heptachlor	LL2SS-278M-1232-QA
alpha-chlordane dieldrin endosulfan sulfate heptachlor lindane methoxychlor endosulfan I heptachlor epoxide	LL3SS-256M-1189-QA
4,4'-DDE Beta-BHC Dieldrin Heptachlor Heptachlor epoxide lindane	LL4SS-209M-1197-QA

- System Performance: System performance was not evaluated at a Level III validation.

- Manual integrations were not evaluated at a Level III validation.

4.4 SEMIVOLATILE ORGANIC COMPOUNDS (SVOCS)

Five samples were analyzed by CT for semivolatile organic compounds by USEPA SW-846 Method 8270C.

Table 1. Validated Samples

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
LL2SS-278M-1232-QA	574689	Soil	6/18/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330
LL2SS-280D-1238-QA	574690	Soil	6/18/2008	III	8260B
LL2SS-285M-1245-QA	575164	Soil	6/20/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8270C, 8330
LL2SS-297M-1262-QA	576420	Soil	6/24/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330, 9056
LL2SS-305M-1274-QA	574687	Soil	6/17/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330
LL3SS-249D-1180-QA	576421	Soil	6/24/2008	III	8260B
LL3SS-256M-1189-QA	577264	Soil	6/26/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330, 9056
LL3SS-258M-1195-QA	577443	Soil	6/27/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330
LL3SS-268M-1209-QA	577263	Soil	6/25/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8330
LL4SS-201D-1186-QA	579230	Soil	7/1/2008	III	8260B
LL4SS-209M-1197-QA	579226	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8081A, 8330
LL4SS-212M-1203-QA	579229	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8270C, 8330
LL4SS-220M-1220-QA	579236	Soil	7/2/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330, 9056

- MDL studies were not evaluated as part of this project.
- GC/MS Tuning: The DFTPP tunes met the method abundance criteria. The samples were analyzed within 12 hours of the DFTPP injection time.
- Calibration: Calibration criteria were met, with exceptions affecting sample results noted in the tables below.
    - Initial calibration average RRFs and ICV and CCV RRFs were within method control limits of ≥0.050 for system performance check compounds (SPCCs). Except as noted in the table below, all initial calibration %RSDs were within the method control

limits listed in the LCG Table 2, of ≤30% for calibration check compounds (CCCs) and ≤15% for remaining compounds, or linear regression r values ≥0.995.

- All second source initial calibration verification standard recoveries were within the control limits listed in the LCG Table 2 of 70-130%.

- Except as noted in the table below, continuing calibration %Ds were within the method control limits of ≤20% listed in the LCG Table 2. When no other qualifications with conflicting bias were assigned to a result, affected sample results for %D outliers with a negative bias were rejected, "R," for nondetects, and coded with a "C" qualification code.

Samples qualified for calibration %D outliers			
Analyte	**%D**	**Calibration Date / Instrument**	**Affected Samples**
3-nitroaniline **3,3'-dichlorobenzidine**	23.9 23.0	07/31/08 MS2	All validated samples of 67307

Bold analytes indicate rejected results in the affected samples.

- MRL standard recoveries were within the control limits of 70-130% listed in the LCG Table 2, with exceptions affecting sample results listed in the table below. When no other qualifications with conflicting bias were assigned to a result, retained sample results associated with recovery outliers below the QC limits but ≥50% were qualified as estimated, "J-," for detects, or "UJ," for nondetects. Retained sample results for recovery outliers below 50% were rejected, "R," in the affected samples (or estimated if ending recovery was acceptable), and coded with a "C" qualification code.

Samples qualified for MRL recovery outliers			
Analyte	**Recovery Outliers Begin / End**	**Date / Instrument**	**Affected Samples**
3-nitroaniline 4-nitroaniline 3,3'-dichlorobenzidine 4-nitrophenol	42% / — 68% / — 58% / — — / 65%	07/31/08 MS2	All validated samples of 67307 (see Table 1)

- Blanks: The method blanks had no target compound detects above the control limits listed in the LCG Table 2, of one-half the reporting limit for target compounds, and no common laboratory contaminant detects above the reporting limit.

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the control limits listed in the LCG Appendix C for soils, with exceptions affecting sample data noted in the table below. Analytes recovered below 30% and not detected in the associated samples were rejected, "R."

Samples qualified for LCS recovery outliers		
Analyte	**Recovery Outlier (Limits)**	**Affected Samples**
benzoic acid	**27%** (30-160%)	All samples of 67307 except LL2SS-297M-1262-QA and LL2SS-297M-1262-QA
benzoic acid	**28%** (30-160%)	LL2SS-297M-1262-QA, LL2SS-297M-1262-QA

Bold analytes and recoveries indicate rejected results in the affected samples.

- Surrogate Recoveries: QA laboratory surrogate recoveries for all analyses were within the control limits of 50-150% listed in the LCG Table 2.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on samples LL2SS-278M-1232-QA and LL4SS-212M-1203-QA. Both MS/MSD pairs had numerous recoveries outside of the control limits of 45-135% listed in the LCG Table 2, all below the control limits. The reviewer used professional judgment to apply qualifications based on consistent outliers in both the MS and MSD of a pair, as noted in the table below. Outlier analytes recovered at <20% were rejected, "R," if not detected in the parent sample and analytes recovered above 20% were qualified estimated, "UJ," when not detected in the parent sample. Results previously rejected were not further qualified. RPDs >50% were not further qualified, as the analytes were already rejected for recoveries.

Analyte	**Recovery Outlier MS / MSD**	**Parent Sample**
2,4-dinitrophenol	**17% / 0%**	LL2SS-278M-1232-QA
4,6-dinitro-2-methylphenol	**21% / 17%**	
4-chloroaniline	39% / 31%	
benzoic acid	26% / 26%	
benzyl alcohol	**17% / 3%**	
pentachlorophenol	44% / 43%	
2,4-dinitrophenol	**18% / 18%**	LL4SS-212M-1203-QA
4,6-dinitro-2-methylphenol	21% / 23%	
4-chloroaniline	31% / 35%	
benzoic acid	29% / 27%	

Bold analytes and recoveries indicate rejected results in the parent sample.

- Internal Standards Performance: The internal standard area counts and retention times were within the LCG Table 2 control limits established by the midpoint initial calibration standard: ±30 seconds for retention times and -50% / +100% for internal standard areas.

- Compound Identification: Verification of compound identification is not applicable at a Level III validation.

- Compound Quantification and Reported Detection Limits: Verification of compound quantification is not applicable at a Level III validation. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory.

- System Performance: Review is not applicable at a Level III validation.

- Manual Integrations: Review is not applicable at a Level III validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Three equipment rinsate samples were collected and analyzed for semivolatiles but were not associated with the samples validated at Level III in this SDG.

4.5 VOLATILE ORGANIC COMPOUNDS (VOCS)

Three soil samples were analyzed by CT for volatile organic compounds by USEPA SW-846 Method 8260B.

Table 1. Validated Samples

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
LL2SS-278M-1232-QA	574689	Soil	6/18/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330
LL2SS-280D-1238-QA	574690	Soil	6/18/2008	III	8260B
LL2SS-285M-1245-QA	575164	Soil	6/20/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8270C, 8330
LL2SS-297M-1262-QA	576420	Soil	6/24/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330, 9056
LL2SS-305M-1274-QA	574687	Soil	6/17/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330
LL3SS-249D-1180-QA	576421	Soil	6/24/2008	III	8260B
LL3SS-256M-1189-QA	577264	Soil	6/26/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330, 9056
LL3SS-258M-1195-QA	577443	Soil	6/27/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330
LL3SS-268M-1209-QA	577263	Soil	6/25/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8330
LL4SS-201D-1186-QA	579230	Soil	7/1/2008	III	8260B
LL4SS-209M-1197-QA	579226	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8081A, 8330
LL4SS-212M-1203-QA	579229	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082,

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
					8270C, 8330
LL4SS-220M-1220-QA	579236	Soil	7/2/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330, 9056

- MDL studies were not evaluated as part of this project.
- GC/MS Tuning: The BFB tunes met the method abundance criteria. The samples were analyzed within 12 hours of the BFB injection time.
- Calibration: Calibration criteria were met, with exceptions affecting sample results noted in the tables below.
  - Initial calibration average RRFs and ICV and CCV RRFs were within method control limits of ≥0.050 for system performance check compounds (SPCCs). All initial calibration %RSDs were within the method control limits listed in the LCG Table 1, of ≤30% for calibration check compounds (CCCs) and ≤15% for remaining compounds, or linear regression r values ≥0.995, with one exception noted below. Affected results were rejected, "R," for nondetects and coded with a "C" qualification code.

Samples qualified for initial calibration outliers			
Analyte	**r value**	**Calibration Date / Instrument**	**Affected Samples**
bromomethane	0.993	06/30/08 / MS2	All validated samples of 67307 (see Table 1)

Bold analytes indicate rejected results in the affected samples.

  - All second source initial calibration verification standard recoveries affecting sample data were within the control limits listed in the LCG Table 1 of 80-120%.
  - Except as noted in the table below, continuing calibration %Ds were within the method control limits of ≤20% listed in the LCG Table 1. Affected sample results for %D outliers with a negative bias were rejected, "R," for nondetects, and coded with a "C" qualification code.

Samples qualified for continuing calibration outliers			
Analyte	**%D**	**Calibration Date / Instrument**	**Affected Samples**
methylene chloride	31.8	07/01/08 / MS2	LL2AA-280D-1238-QA and LL3SS-249D-1180-QA
bromomethane **methylene chloride**	58.5 60.8	07/10/08 / MS2	LL4SS-201D-1186-QA

Bold analytes indicate rejected results in the affected samples.

  - MRL standard recoveries were within the control limits of 70-130% listed in the LCG Table 1, with exceptions affecting sample results noted in the table below. When

no other qualifications with conflicting bias were assigned to a result, retained sample results associated with recovery outliers below the QC limits but ≥60% were qualified as estimated, "J-," for detects, or "UJ," for nondetects. Nondetected sample results associated with recovery outliers below 60% were rejected, "R," in the affected samples. Qualified results were coded with a "C" qualification code.

Samples qualified for MRL recovery outliers			
Analyte	**Outlier Recovery % Begin / End**	**Date / Instrument**	**Affected Samples**
methylene chloride	1200 / 0	07/31/08 / MS2	LL2AA-280D-1238-QA, LL3SS-249D-1180-QA
methylene chloride	140 / 0	07/31/08 / MS2	LL4SS-201D-1186-QA

Bold analytes indicate rejected results in the affected samples.

- Blanks: Except as noted in the table below, the method blanks had no target compound detects affecting sample data above the control limits listed in the LCG Table 1, of one-half the reporting limit for target compounds, and no common laboratory contaminant detects above the reporting limit. The affected sample result was qualified as a nondetect, "U," at the RL, and coded with a "B" qualification code. (As a nondetect, the result was subsequently rejected for calibration outliers.)

Samples qualified for method blank detects		
Analyte	**Concentration**	**Affected Samples**
methylene chloride	4.10 µg/Kg	LL2SS-280D-1238-QA

- Blank Spikes and Laboratory Control Samples: LCS recoveries were within the control limits listed in the LCG Appendix C for soils, with exceptions affecting sample data noted in the table below. When no other qualifications with conflicting bias were assigned to a result, sample results associated with recovery outliers below the QC limits but ≥30% were qualified as estimated, "J-," for detects, or "UJ," for nondetects, and coded with an "L" qualification code.

Samples qualified for LCS recovery outliers		
Analyte	**Outlier Recovery % LCS (Limits)**	**Affected Samples**
1,1,1-trichloroethene 1,1-dichloroethane ethylbenzene vinyl chloride	70 (75-133) 75 (80-126) 73 (75-120) 70 (75-134)	LL4SS-201D-1186-QA

- Surrogate Recoveries: QA laboratory surrogate recoveries for all analyses were within the control limits of 50-150% listed in the LCG Table 1.

- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were not performed on any of the validated samples for this SDG. Evaluation of method precision and/or accuracy was based on LCS results.

- Internal Standards Performance: The internal standard area counts and retention times were within the LCG Table 1 control limits established by the midpoint initial calibration standard: ±30 seconds for retention times and -50% / +100% for internal standard areas.

- Compound Identification: Verification of compound identification is not applicable at a Level III validation.

- Compound Quantification and Reported Detection Limits: Verification of compound quantification is not applicable at a Level III validation. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any result reported between the MDL and the reporting limit was qualified as estimated, "J," by the laboratory.

- System Performance: Review is not applicable at a Level III validation.

- Manual Integrations: Review is not applicable at a Level III validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - o Trip Blanks: The trip blanks associated with the site samples in this SDG were not validated; however, trip blank results were reviewed for any contamination affecting sample results. None of the trip blank detects affected reported sample results.

    - o Field Blanks and Equipment Rinsates: The site samples in this SDG had no associated field blank or equipment rinsate samples.

4.6 METALS

A total of 10 samples were analyzed by CT for various metals by USEPA Methods 6010B, 6020, 7060A, 7471A, 7740, and 7841.

Table 1. Validated Samples

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
LL2SS-278M-1232-QA	574689	Soil	6/18/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330
LL2SS-280D-1238-QA	574690	Soil	6/18/2008	III	8260B
LL2SS-285M-1245-QA	575164	Soil	6/20/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8270C, 8330
LL2SS-297M-1262-QA	576420	Soil	6/24/2008	III	6010B, 7060, 7196A,

Client Sample ID	Laboratory ID	Matrix	Collection Date	Validation Level	Validated Methods
					7471A, 7740, 7841, 8270C, 8330, 9056
LL2SS-305M-1274-QA	574687	Soil	6/17/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330
LL3SS-249D-1180-QA	576421	Soil	6/24/2008	III	8260B
LL3SS-256M-1189-QA	577264	Soil	6/26/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8081A, 8270C, 8330, 9056
LL3SS-258M-1195-QA	577443	Soil	6/27/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8270C, 8330
LL3SS-268M-1209-QA	577263	Soil	6/25/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8330
LL4SS-201D-1186-QA	579230	Soil	7/1/2008	III	8260B
LL4SS-209M-1197-QA	579226	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8081A, 8330
LL4SS-212M-1203-QA	579229	Soil	7/1/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8082, 8270C, 8330
LL4SS-220M-1220-QA	579236	Soil	7/2/2008	III	6010B, 7060, 7196A, 7471A, 7740, 7841, 8330, 9056

- Calibration: Except as noted below, calibration criteria were met.
    - Initial calibration: Linear regression r values were within the control limit listed in the LCG Tables 7 and 9 of ≥0.995.
    - The %RSDs for the ICV and continuing calibration verification (CCV) standards were within the control limit listed in the LCG Table 7 of <5%.
    - The inductively coupled plasma (ICP), ICP-mass spectrometer (ICPMS) and ICV and CCV recoveries were within the control limits listed in LCG Table 7 of 90-110%. ICV and CCV recoveries were within the control limits listed in the LCG Table 9 of 80-120% for mercury.
    - The graphite furnace atomic absorption (GFAA) and ICV and CCV recoveries were within the control limits listed in LCG Table 8 of 80-120%. However, for selenium results reported from 7/13/08 and 7/16/08 and for the thallium result reported from 7/14 no ending CCV was analyzed and the opening CCV was analyzed two days before the reported analyses. Although the National Functional Guidelines only specify that a CCV must be analyzed every 20 injections, it was the reviewer's professional opinion that the instrument calibration was not verified; therefore, all

selenium results and all thallium results except for LL4SS-209M-1197-QA, LL4SS-212M-1203-QA, and LL4SS-220M-1220-QA were rejected, "R."

- o Except as noted below, MRL recoveries were within the control limits listed in the LCG Tables 7, 8, and 9 of 70-130%. Nondetected results were not qualified for high recoveries. Samples with results that were greater than 10× the reporting limit were not qualified for MRL recovery outliers as it was the reviewer's professional opinion that at those concentrations, the CCV recoveries were more indicative of the instrument performance relative to the sample.

  Results noted in the table below were qualified as estimated, "J," for detects and "UJ," for nondetects in the associated samples. All qualified results were coded with a "C" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results with low recoveries were assigned a negative bias, "J-," and detected results with high recoveries were assigned a positive bias, "J-."

Samples qualified for MRL recovery outliers		
Analyte	**Recovery**	**Qualified Samples**
Beryllium	135%	All beryllium results except LL4SS-220M-1220-QA, LL4SS-212M-1203-QA, and LL4SS-209M-1197-QA
Silver	132%	Silver in LL4SS-212M-1203-QA
Antimony	141% 68%	Antimony in all samples. No qualifications applied as all results rejected (see calibration and MS/MSD).

- o The laboratory did not provide MDL verification information.

- Except as noted below, method blanks and CCBs (Level IV only) had no applicable detects above the control limit listed in the LCG Tables 7, 8, and 9 of one-half the MRL. Samples noted in the table below were qualified as nondetected, "U," at the reporting limit if detected below the reporting limit or at the level of contamination if detected above the reporting limit. When associated with a negative blank value, results were qualified as estimated, "J," for detects and, "UJ," for nondetect. All qualified samples noted below were coded with a "B" qualification code.

Samples qualified for blank detects		
Analyte	**Blank Result**	**Qualified Samples**
Silver	-1.2 µg/L	LL4SS-212M-1203-QA
Antimony	8.7 µg/L 9.5 µg/L	All antimony results except LL4SS-209M-1197-QA, LL4SS-212M-1203-QA, and LL4SS-220M-1220-QA. Nondetected results, subsequently rejected (see calibration and MS/MSD).

- ICP and ICPMS interference check sample A (ICSA) and AB (ICSAB) recoveries were within the control limits listed in QAPP Table 7 of 80-120%.

- Laboratory Control Samples: Recoveries were within the control limits listed in LCG Appendix C of 80-120%.

- Except as noted below, laboratory duplicate RPDs were within the control limits listed in the FWQAPP Table 3-1 of ≤20%. The duplicate criterion was only applied when the original sample result was nominally ≥5× the reporting limit. In cases where the original sample result was <5× the reporting limit, the reasonable control limit of ± the reporting limit was applied. In the duplicate analysis of LL4SS-209M-1197-QA, the iron RPD was 26% and cadmium exceeded the control limit of ± the reporting limit; therefore, iron and cadmium in all samples except LL2SS-305M-1274-QA were qualified as estimated, "J," and coded with an "E" qualification code. In instances where more than one laboratory duplicate was analyzed in an SDG, parent samples were qualified only for the RPD outliers in the sample's laboratory duplicate; therefore, LL2SS-305M-1274-QA was not qualified for the iron RPD outlier.

- Matrix Spike/Matrix Spike Duplicate: Except as noted below, recoveries were within the control limits listed in FWQAPP Table 3-1 of 75-125%. Matrix spike control limits were not applied when the native sample concentration exceeded the spiked amount by a factor of four or more. In instances where more than one matrix spike was analyzed in an SDG, parent samples were qualified only for the recovery outliers in the sample's matrix spike. Exceptions to the matrix spike qualifications are noted in the table below.

  Nondetected results associated with recoveries less than 30% were rejected, "R," and are noted in **bold** in the table below. All remaining results noted in the table below were qualified as estimated, "J," for detects and "UJ," for nondetects in the associated samples; however, nondetected results were not qualified for recoveries above the control limit. All qualified results were coded with a "Q" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results with low recoveries were assigned a negative bias, "J-," and detected results with high recoveries were assigned a positive bias, "J-."

Samples qualified for MS/MSD recovery outliers			
Parent Sample	**Analyte**	**Recovery**	**Qualified Samples**
LL2SS-305M-1274-QA	Cobalt	73%	Cobalt in all samples (see Table 1)
	Silver	-76%	**Silver in all samples except LL4SS-209M-1197-QA**
	Vanadium	194%	Vanadium in all samples except LL4SS-209M-1197-QA.
	Antimony	14%	**Antimony in all samples** (see Table 1)
	Arsenic	-1%	Arsenic in all samples (see Table 1)
	Selenium	16%	**Selenium in all samples** (see Table 1)
	Mercury	68%	Mercury in all samples except LL4SS-209M-1197-QA.

Samples qualified for MS/MSD recovery outliers			
Parent Sample	**Analyte**	**Recovery**	**Qualified Samples**
LL4SS-209M-1197-QA	Antimony	17%	**Antimony in all samples** (see Table 1)
	Cobalt	73%	Cobalt in all samples (see Table 1)
	Nickel	59%	Nickel in all samples except LL2SS305M-1274-QA
	Arsenic	-1%	Arsenic in all samples (see Table 1)
	Selenium	19%	**Selenium in all samples** (see Table 1)
	Thallium	58%	Thallium in all samples except LL2SS305M-1274-QA (unless otherwise rejected, see calibration section)

- Serial Dilution: Except as noted below, serial dilution %Ds were within the control limit listed in LCG Table 7 of ≤10%. The serial dilution control limit is only applicable when the original sample concentration is minimally ≥50× the MDL for ICP analytes and ≥25× the MDL for mercury.

  All detect results for the analytes noted in the table below were qualified as estimated, "J," and were coded with an "A" qualification code. When no other qualifications with conflicting bias were assigned to a result, detected results noted in the table below were assigned a negative bias, "J-."

Samples qualified for serial dilution %D outliers			
Parent Sample	**Analyte**	**%D**	**Qualified Samples**
LL2SS-305M-1274-QA	Barium	15%	Barium in all samples (see Table 1)
	Beryllium	19%	Beryllium in all samples (see Table 1)
	Calcium	17%	Calcium in all samples (see Table 1)
	Chromium	21%	Chromium in all samples (see Table 1)
	Copper	39%	Copper in all samples (see Table 1)
	Lead	14%	Lead in all samples except LL4SS-209M-1197-QA
	Vanadium	22%	Vanadium in all samples (see Table 1)
	Zinc	17%	Zinc in all samples (see Table 1)
	Iron	35%	Iron in all samples (see Table 1)
	Thallium	57%	Thallium in all samples (see Table 1)
LL4SS-209M-1197-QA	Barium	18%	Barium in all samples (see Table 1)
	Beryllium	21%	Beryllium in all samples (see Table 1)
	Calcium	30%	Calcium in all samples (see Table 1)
	Chromium	26%	Chromium in all samples (see Table 1)
	Magnesium	27%	Magnesium in all samples except LL2SS-305M-1274-QA
	Manganese	22%	Manganese in all samples except LL2SS-305M-1274-QA
	Zinc	18%	Zinc in all samples (see Table 1)
	Aluminum	42%	Aluminum in all samples except LL2SS-305M-1274-QA
	Copper	35%	Copper in all samples (see Table 1)

Samples qualified for serial dilution %D outliers			
Parent Sample	**Analyte**	**%D**	**Qualified Samples**
	Iron	22%	Iron in all samples (see Table 1)
	Vanadium	34%	Vanadium in all samples (see Table 1)
	Thallium	56%	Thallium in all samples (unless otherwise rejected, see calibration section)

- Sample Result Verification: Sample results are not verified at Level III validation. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

- Manual Integrations: Manual integrations are not reviewed at Level III validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Two equipment rinsate samples were collected and analyzed for metals but were not associated with the samples validated at Level IV or III.

4.6 GENERAL CHEMISTRY - HEXAVALENT CHROMIUM AND NITROCELLULOSE

Thirteen samples were analyzed for hexavalent chromium by USEPA SW-846 Method 7196A. Three samples were analyzed by CT for nitrocellulose as nitrate/nitrite by USEPA Method Cold Regions Research and Engineering Laboratory's method for nitrocellulose.

- Calibration: Except as noted below, calibration criteria were met.

    - Initial calibration: The initial calibration is not reviewed at a Level III validation.

    - The ICV and CCV recoveries were within the control limits listed in DoD QSM Tables B-8 and B-10 of 90-110%.

    - MRL recoveries were within the control limits listed in the LCG Table 7 (for metals) of 70-130%.

    - MDL Verification: The laboratory did not provide MDL verification information for hexavalent chromium. Nitrate/nitrite was detected in the nitrocellulose MDL verification.

- Blanks: Method blanks and CCBs (Level IV only) had no applicable detects above the control limit listed in the DoD QSM Tables B-8 and B-10 of one-half the MRL.

- Blank Spikes and Laboratory Control Samples: Hexavalent chromium recoveries were within the laboratory-established control limits of 90-110% and the nitrate/nitrite recoveries were within the laboratory-established control limits of 70-130%.

- Laboratory Duplicates: The hexavalent chromium laboratory duplicate RPDs were within the control limits listed in the DoD QSM Table B-8 of ≤30%. The nitrate/nitrite laboratory duplicate RPD was within the laboratory-established control limit of ≤20%. The duplicate criterion was only applied when the original sample result was nominally ≥5× the reporting limit. In cases where the original sample result was <5× the reporting limit, the reasonable control limit of ± the reporting limit was applied.

- Matrix Spike/Matrix Spike Duplicate: Recoveries for the hexavalent chromium MS/MSD analyses of LL2SS-305M-1274-QA exceeded the DoD QSM Table B-8 control limits of 85-115%, at 20% and 15%; therefore, nondetected hexavalent chromium in all of the samples was rejected, "R." The nitrate/nitrite recoveries were within the laboratory-established control limits of 50-150%.

- Sample Result Verification: Sample results are not reviewed at a Level III validation. Any result reported between the MDL and the reporting limit was qualified as estimated, "J."

- Manual Integrations: Manual integrations are not reviewed at a Level III validation.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

    - Field Blanks and Equipment Rinsates: Two equipment rinsate samples were collected and analyzed for metals but were not associated with the samples validated at Level IV or III.

4.7 PRIMARY DATA QUALITY EVALUATION SUMMARY

The following table summarizes the qualifications applied to the primary sample data:

Table 3. Primary data qualification summary

Analysis	Number of Samples Analyzed	Number of Analytes per Sample	Percent Rejected	Percent Estimated
Energetics	31	15	0.95	1.9
Pesticides	10	21	0	43.8
PCBs	16	7	0	25.9
SVOCs	13	73	4.7	43.1
VOCs	6	35	6.7	2.9
Metals	31	23	4.1	36.5
Hexavalent Chromium	31	1	0	6.5

Nitroguanidine	7	1	0	7
Nitrocellulose	7	1	0	71.4
		Totals	**3.4**	**30.2**

A complete summary of qualifications applied to the primary samples can be found in Appendix A of the Ravenna Army Ammunition Plant Load Lines 2, 3, and 4 Soil Sampling Data Validation Report. With the exception of rejected data, the primary data was found to be usable for its intended purpose with the qualifications applied by MEC^{X}.

5. DATA USABILITY SUMMARY

5.1 OVERALL COMPLETENESS REVIEW

As the data validated in this report are not inclusive of the entire field effort, no field completeness value was calculated.

The analytical completeness goal for the project that was established in the FWQAPP was 90% for each method. Data with reporting limits that exceeded the established criteria and data estimated for quality control outliers or for detects between the MDL and the RL were included in Table 3 for informational purposes only. The primary laboratory reported total xylenes and total 1,2-dichloroethene and the QA laboratory reported the isomers, m,p-xylene, o-xylene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene; therefore, for the volatile analyses, the number of samples and analytes per sample in the table below parenthetically lists the QA laboratory counts. The following table summarizes the calculated completeness for the project.

Table 4. Overall analytical completeness

			Number of Results					
Analysis	**Samples Analyzed**	**Analytes per Sample**	**Total**	**Rejected**	**MDLs Exceeding Criteria**	**Estimated for QC Outliers**	**Estimated for Detects <RL**	**Percent Complete**
Energetics	41	15	615	0	0	27	5	100%
Pesticides	13	21	273	2	129	115	9	99.3%
PCBs	21	7	147	0	28	29	0	100%
SVOCs	18	66	1,188	64	0	422	84	94.6%
VOCs	6 (3)	35 (37)	321	6	0	10	0	98.1%
Metals	41	23	943	61	0	425	94	93.5%
Hexavalent Chromium	41	1	41	10	0	13	2	**75.6%**
Nitroguanidine	10	1	10	0	0	9	0	100%
Nitrocellulose	10	1	10	0	0	5	0	100%
Totals			**3,517**	**143**	**157**	**1,042**	**192**	**95.9%**

It should be noted that all QA laboratory hexavalent chromium data were rejected due to low MS/MSD recoveries. No comparison to the primary data could be made for hexavalent chromium.

5.2 DATA DEFICIENCIES

5.2.1 Sources

Some data were rejected for QC considerations. For most organic method, the rejections were primarily due to calibration criteria outliers. For the inorganic analyses, the rejections were primarily due to low matrix spike recoveries.

In instances where a data point had multiple results, the reviewer chose the most technically sound result to report and rejected the remaining data points. These rejected data points do not affect data quality or usability.

5.2.2 Impact on Data Quality

A total of 3.1% of data were rejected and these data are not usable. Although some data were rejected, the overall analytical completeness goal listed in the FWQAPP of 90% was met, with the actual completeness equal to 95.9%. The analytical completeness goal for hexavalent chromium, 90%, was not met as all QA laboratory data were rejected due to low MS/MSD recoveries. Although 30% of the data were qualified, the data quality was not adversely impacted by these qualifications.

As no hexavalent chromium data were retained, no comparison to the primary samples could be made for hexavalent chromium.

5.3 GENERAL DATA USABILITY

Except for rejected data noted in Appendix B of this document and Appendix B of the Ravenna Army Ammunition Plant Load Lines 2, 3, and 4 Soil Sampling Data Validation Report, all data are usable with the assigned qualifications.

Specific concerns regarding the QA data are noted below:

- The reporting limits for the following compounds exceeded the criteria listed in Table 3-3 of the FWQAPP and Appendix A of the QAPP Addendum:
    - Cadmium
    - Dibromochloroethane and chloroethane
    - After accounting for percent moisture, the PCB reporting limits marginally exceeded the criteria
    - After accounting for percent moisture, the phenol and 2-nitrophenol reporting limits marginally exceeded the criteria
    - 4-Nitrophenol
- All hexavalent chromium data were rejected due to low MS/MSD recoveries. No comparison to the primary samples could be made for hexavalent chromium.

Specific concerns regarding the primary data are noted below:

- False negatives were identified in the pesticide data. When a compound retention time (RT) shift exceeded half of the defined RT window, the laboratory flagged the compound with an "F," only on the quantitation report, and did not report the compound as detected. In these instances, MEC^X qualified the results as false negatives. I

  It is likely that false negatives exist in the unvalidated data.

- Primary column analyses were not performed for the undiluted energetic analyses of samples LL3SS-256M-1188-SO, LL3SS-256M-1190-SO, and LL3SS-256M-1191-SO while both primary and confirmation analyses were performed for the diluted analyses of these samples. Some energetic compounds were noted to be present below the MDL in the primary column diluted analyses that were confirmed and present above the MDL in the undiluted confirmation column analyses.

- Except for SDG L08060612, the Microbac mercury raw data did not list the sample absorbances; therefore, the reviewer was not able to calculate the sample results from the raw data.

- Microbac reported total xylenes and total 1,2-dichloroethene instead of the specific isomers, m,p-xylene, o-xylene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene.

In order to avoid repetition of the issues noted above, the following actions should be taken:

- In the future, the QA laboratory should be instructed to perform corrective actions such as notifying the project chemist or reanalyzing samples when MS/MSD analyses fail.

- The exact process used to confirm analyte identification in gas chromatographic methods should be reviewed with Microbac and discrepancies between the method and the laboratory's actions should be pointed out. A laboratory audit may also help identify related issues.

- The QAPP should list the primary compounds of concern and this list should be provided to the laboratory project manager. This list can be used by the laboratory analysts in order to determine if undiluted analyses should be performed to confirm specific compounds of concern.

- A comprehensive list of items in a Level IV data packages should be listed in the QAPP and provided to the laboratory project manager. This list should note that the raw data for all spectroscopic methods must include the raw absorbances.

- A specific analyte list should be given to the laboratory project manager for review and confirmation. Alternate laboratories should be subcontracted in the event the laboratory cannot report all necessary analytes.

- QAPP required reporting limit tables should be sent to the laboratory project manager to ensure compliance with project requirements. Deficient reporting limits should be pointed out to the laboratory and alternative laboratories should be subcontracted in the event that the laboratory cannot comply with the project requirements.

6. QA SAMPLE COMPARISONS

The following table presents the QA samples and associated primary samples. Results of these samples are compared in the following sections. A full comparison of all sample detects can be found in Appendix C.

Table 5. QA sample and primary sample associations

QA Sample	QA SDG	Primary Sample	Primary SDG	Collection Date	Analyses
LL2SS-278M-1232-QA	67307	LL2SS-278M-1231-QA	L08060612	6/18/2008	Energetics, Hexavalent Chromium, Metals, PCBs, Pesticides, Semivolatiles
LL2SS-280D-1238-QA	67307	LL2SS-280D-1237-QA	L08060612	6/18/2008	Volatiles
LL2SS-285M-1245-QA	67307	LL2SS-285M-1244-QA	L08060652	6/20/2008	Energetics, Hexavalent Chromium, Metals, PCBs Semivolatiles
LL2SS-297M-1262-QA	67307	LL2SS-297M-1261-QA	L08060761	6/24/2008	Energetics, Hexavalent Chromium, Metals, Propellants, Semivolatiles
LL2SS-305M-1274-QA	67307	LL2SS-305M-1273-QA	L08060623	6/17/2008	Energetics, Hexavalent Chromium, Metals
LL3SS-249D-1180-QA	67307	LL3SS-249D-1179-QA	L08060761	6/24/2008	Volatiles
LL3SS-256M-1189-QA	67307	LL3SS-256M-1188-QA	L08060852	6/26/2008	Energetics, Hexavalent Chromium, Metals, PCBs, Pesticides, Propellants, Semivolatiles
LL3SS-258M-1195-QA	67307	LL3SS-258M-1194-QA	L08060886	6/27/2008	Energetics, Hexavalent Chromium, Metals,
LL3SS-268M-1209-QA	67307	LL3SS-268M-1208-QA	L08060852	6/25/2008	Energetics, Hexavalent Chromium, Metals, PCBs
LL4SS-201D-1186-QA	67307	LL4SS-201D-1185-QA	L08060886	7/1/2008	Volatiles
LL4SS-209M-1197-QA	67307	LL4SS-209M-1196-QA	L08070074	7/1/2008	Energetics, Hexavalent Chromium, Metals, Pesticides
LL4SS-212M-1203-QA	67307	LL4SS-212M-1202-QA	L08070074	7/1/2008	Energetics, Hexavalent Chromium, PCBs, Semivolatiles
LL4SS-220M-1220-QA	67307	LL4SS-220M-1217-QA	L08070111	7/2/2008	Energetic, Hexavalent Chromium, Metals

Eleven percent of the QA pair results evaluated were in disagreement or major disagreement. Most of the discrepancies occurred in the semivolatile and metal analyses and most occurred between QA sample LL3SS-256M-1189-QA and associated primary sample LL3SS-256M-1188-

SO. For a number of semivolatile compounds, the QA laboratory reporting limit was approximately 6× lower than the primary laboratory. For the LL3SS-256M-1189-QA/LL3SS-256M-1188-SO pair, this difference exceeded the 10× criteria used for common nondetects, as the primary laboratory reported all results from a 2× dilution. For the metals analyses of the same pair, most of the discrepancies were similar, indicating possible inhomogeniety between the samples.

The following table summarizes the discrepancies by method. Please note that rejected results were not assessed. Additionally, the pesticide results were not assessed due to false negatives found in the Microbac data (see Data Validation Report).

Table 6. Primary/QA sample comparison summary

Method	Analytes	Primary/QA Sample Pairs	Total Analytes	Agreement	Minor Discrepancy	Major Discrepancy
Energetics	15	10	150	149	0	1
Pesticides	18	3	52	Not performed due to Microbac false negatives		
PCBs	7	5	35	31	0	4
SVOCs	66	5	291	230	7	54
VOCs	35	3	105	105	0	0
Metals	10	23	197	171	2	24
Hexavalent Chromium	1	10	10	Not performed as all QA results rejected		
Nitroguanidine	1	2	2	2	0	0
Nitrocellulose	1	3	3	1	0	2

Other than a large difference in the QA laboratory and primary laboratory MDLs and a potential for nonhomogeniety between the samples, the data validators were unable to find a cause for these discrepancies.

Again, it should be noted that no comparison was made for hexavalent chromium as all QA sample results were rejected due to low MS/MSD recoveries.

7. CONCLUSIONS AND RECOMENDATIONS

In general, the QA and primary data were in good agreement. One-third of the discrepancies in the data stemmed from common nondetects in the QA/primary sample pairs that had a greater than 10× difference in the nondetected results. (In these instances, the primary laboratory had the highest MDL.) If common nondetected results were not counted, only 6.4% of the data would be in discrepancy.

The percentage of discrepancies in this dataset is lower than noted for other projects. While it is not possible to absolutely determine the reason for the consistency in the data, it is likely that the multi-incremental sampling method used for this field effort lessened the effect of sample nonhomogeniety often encountered in soil sampling. MEC^X would recommend further evaluation of this approach to soil sampling, when appropriate.

8. REFERENCES

Contract Laboratory Program National Functional Guidelines for Organic Data Review. United States Environmental Protection Agency Contract Laboratory Program (CLP). February 1994.

Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. United States Environmental Protection Agency. February 1994.

Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3. DoD Data Quality Workgroup. January 2006.

Facility-Wide Sampling and Analysis Plan for Environmental Investigations at the Ravenna Army Ammunition plant, Ravenna, Ohio. SAIC. March 2001.

Final of the Work Plan for the Sampling of Soils Below Floor Slabs at LLs-2,3,4.and Excavation and Transportation of Contaminated soils to LL-4 (Buildings G-1, G-1A, and G-3). URS Group, Inc. May 2008.

Louisville Chemistry Guideline, Version 5, Environmental Engineering Branch, United States Army Corps of Engineers, Louisville District. June 2002.

Quality Assurance Project Plan for Environmental Investigations at the Ravenna Army Ammunition Plant. SAIC. March 2001.

Quality Assurance Project Plan Addendum for the Sampling of Soils Below Floor Slabs at LLs-2, 3, 4, and Excavation and Transportation of Contaminated Soils to Load Lines 4. URS. April 2008.

Shell for Analytical Chemistry Requirements. United State Army Corps of Engineers. February 2001.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Revision 6. United States Environmental Protection Agency. February 2007.

APPENDIX A

Qualified Sample Result Forms

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect.
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient was noncompliant.
R	Calibration RRF was noncompliant.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
E	Not applicable	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tuning was noncompliant
T	Presumed contamination as indicated by the trip blank results.	Not applicable
+	False positive – reported compound was not present.	False positive – reported compound was not present.
-	False negative – compound was present but not reported.	False negative – compound was present but not reported.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).	A deficiency was found that has been described in the "Sample Management," section (*II) or the "Method Analyses" section (*III).

Validated Sample Result Forms: 67307

Analysis Method 3060A/7196A

Sample Name LL2SS-278M-1232-QA **AnalysisType:**

Lab Sample Name: 574689 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name LL2SS-285M-1245-QA **AnalysisType:**

Lab Sample Name: 575164 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name LL2SS-297M-1262-QA **AnalysisType:**

Lab Sample Name: 576420 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name LL2SS-305M-1274-QA **AnalysisType:**

Lab Sample Name: 574687 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Hexavalent Chromium		3.2	11	3.2	mg/kg	UM	**R**	**Q**

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Analysis Method 3060A/7196A

Sample Name	LL3SS-258M-1195-QA	**AnalysisType:**						
Lab Sample Name:	577443	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name	LL3SS-268M-1209-QA	**AnalysisType:**						
Lab Sample Name:	577263	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name	LL4SS-209M-1197-QA	**AnalysisType:**						
Lab Sample Name:	579226	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name	LL4SS-212M-1203-QA	**AnalysisType:**						
Lab Sample Name:	579229	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Sample Name	LL4SS-220M-1220-QA	**AnalysisType:**						
Lab Sample Name:	579236	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Hexavalent Chromium		3.2	11	3.2	mg/kg	U	**R**	**Q**

Analysis Method 6010B

Sample Name LL2SS-278M-1232-QA **AnalysisType:**

Lab Sample Name: 574689 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Iron		33000	20	1.9	mg/kg		**J**	**E,A**
Calcium		6000	100	0.3	mg/kg		**J**	**A**
Chromium		11.8	2	0.11	mg/kg		**J**	**A**
Lead		17.5	1	0.11	mg/kg		**J**	**A**
Barium		45	1	0.015	mg/kg		**J**	**A**
Copper		16.8	1	0.03	mg/kg		**J**	**A**
Zinc		62.5	1	0.22	mg/kg		**J**	**A**
Potassium		1050	500	18	mg/kg			
Vanadium		10.8	1	0.08	mg/kg		**J**	**Q,A**
Nickel		26.5	2	0.21	mg/kg		**J**	**Q**
Cobalt		7.5	2	0.028	mg/kg		**J**	**Q**
Magnesium		4300	100	11	mg/kg		**J**	**A**
Manganese		570	1	0.28	mg/kg		**J**	**A**
Aluminum		11400	20	1.5	mg/kg		**J**	**A**
Beryllium		0.48	1	0.004	mg/kg		**J**	**C,A**
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Cadmium		0.014	1	0.014	mg/kg	U	**U**	
Sodium		55.3	100	10	mg/kg			
Antimony		0.58	10	0.17	mg/kg		**R**	**B,Q**

Analysis Method 6010B

Sample Name LL2SS-285M-1245-QA **AnalysisType:**

Lab Sample Name: 575164 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Barium		59.8	1	0.015	mg/kg		**J**	**A**
Calcium		3080	100	0.3	mg/kg		**J**	**A**
Copper		16.3	1	0.03	mg/kg		**J**	**A**
Chromium		13.4	2	0.11	mg/kg		**J**	**A**
Vanadium		13.2	1	0.08	mg/kg		**J**	**Q,A**
Zinc		104	1	0.22	mg/kg		**J**	**A**
Antimony		0.43	10	0.17	mg/kg	*	**R**	**B,Q**
Cadmium		0.014	1	0.014	mg/kg	U	**U**	
Cobalt		8.2	2	0.028	mg/kg		**J**	**Q**
Manganese		498	1	0.28	mg/kg		**J**	**A**
Iron		28000	20	1.9	mg/kg		**J**	**E,A**
Magnesium		2700	100	11	mg/kg		**J**	**A**
Nickel		24.1	2	0.21	mg/kg		**J**	**Q**
Aluminum		10600	20	1.5	mg/kg		**J**	**A**
Beryllium		0.42	1	0.004	mg/kg		**J**	**C,A**
Sodium		145	100	10	mg/kg			
Potassium		1420	500	18	mg/kg			
Lead		56.8	1	0.11	mg/kg		**J**	**A**

Analysis Method 6010B

Sample Name LL2SS-297M-1262-QA **AnalysisType:**

Lab Sample Name: 576420 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Calcium		6000	100	0.3	mg/kg		**J**	**A**
Cadmium		0.014	1	0.014	mg/kg	U	**U**	
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Aluminum		9700	20	1.5	mg/kg		**J**	**A**
Antimony		0.58	10	0.17	mg/kg		**R**	**B,Q**
Vanadium		11.3	1	0.08	mg/kg		**J**	**Q,A**
Copper		19.5	1	0.03	mg/kg		**J**	**A**
Lead		21.8	1	0.11	mg/kg		**J**	**A**
Beryllium		0.35	1	0.004	mg/kg		**J**	**C,A**
Cobalt		6.3	2	0.028	mg/kg		**J**	**Q**
Zinc		82.5	1	0.22	mg/kg		**J**	**A**
Potassium		1140	500	18	mg/kg			
Manganese		635	1	0.28	mg/kg		**J**	**A**
Sodium		54.3	100	10	mg/kg			
Nickel		19.9	2	0.21	mg/kg		**J**	**Q**
Iron		28800	20	1.9	mg/kg		**J**	**E,A**
Magnesium		3200	100	11	mg/kg		**J**	**A**
Barium		45	1	0.015	mg/kg		**J**	**A**
Chromium		10	2	0.11	mg/kg		**J**	**A**

Analysis Method 6010B

Sample Name LL2SS-305M-1274-QA **AnalysisType:**

Lab Sample Name: 574687 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cobalt		6.8	2	0.028	mg/kg		**J**	**Q**
Aluminum		9230	20	1.5	mg/kg			
Nickel		47.3	2	0.21	mg/kg			
Manganese		428	1	0.28	mg/kg			
Magnesium		2460	100	11	mg/kg			
Iron		23500	20	1.9	mg/kg		**J**	**A**
Potassium		880	500	18	mg/kg			
Zinc		62.5	1	0.22	mg/kg		**J**	**A**
Barium		50	1	0.015	mg/kg		**J**	**A**
Calcium		3750	100	0.3	mg/kg		**J**	**A**
Lead		15.3	1	0.11	mg/kg		**J**	**A**
Copper		13.5	1	0.03	mg/kg		**J**	**A**
Chromium		10.8	2	0.11	mg/kg		**J**	**A**
Antimony		0.55	10	0.17	mg/kg	Y	**R**	**B,Q**
Beryllium		0.38	1	0.004	mg/kg		**J**	**C,A**
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Cadmium		0.014	1	0.014	mg/kg	U	**U**	
Sodium		33.8	100	10	mg/kg			
Vanadium		12.8	1	0.08	mg/kg		**J**	**Q,A**

Analysis Method 6010B

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Antimony		0.45	10	0.17	mg/kg	*	**R**	**B,Q**
Lead		35	1	0.11	mg/kg		**J**	**A**
Calcium		18000	100	0.3	mg/kg		**J**	**A**
Manganese		59	1	0.028	mg/kg		**J**	**A**
Cobalt		7	2	0.028	mg/kg		**J**	**Q**
Beryllium		0.63	1	0.004	mg/kg		**J**	**C,A**
Nickel		2.6	2	0.021	mg/kg		**J**	**C**
Cadmium		0.25	1	0.014	mg/kg		**J**	**E**
Chromium		13.8	2	0.11	mg/kg		**J**	**A**
Barium		77.5	1	0.015	mg/kg		**J**	**A**
Zinc		82.5	1	0.22	mg/kg		**J**	**A**
Iron		2580	20	0.19	mg/kg		**J**	**E,A**
Aluminum		1190	20	0.15	mg/kg		**J**	**A**
Potassium		880	500	18	mg/kg			
Sodium		34.5	100	10	mg/kg			
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Vanadium		13	1	0.08	mg/kg		**J**	**Q,A**
Magnesium		413	100	1.1	mg/kg		**J**	**A**
Copper		18.5	1	0.03	mg/kg		**J**	**A**

Analysis Method 6010B

Sample Name LL3SS-258M-1195-QA **AnalysisType:**

Lab Sample Name: 577443 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Vanadium		11.5	1	0.08	mg/kg		**J**	**Q,A**
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Cadmium		0.06	1	0.014	mg/kg		**J**	**E**
Beryllium		0.38	1	0.004	mg/kg		**J**	**C,A**
Chromium		11	2	0.11	mg/kg		**J**	**A**
Copper		20	1	0.03	mg/kg		**J**	**A**
Lead		21.3	1	0.11	mg/kg		**J**	**A**
Barium		42.5	1	0.015	mg/kg		**J**	**A**
Calcium		5000	100	0.3	mg/kg		**J**	**A**
Manganese		41.8	1	0.028	mg/kg		**J**	**A**
Antimony		0.4	10	0.17	mg/kg	*	**R**	**B,Q**
Aluminum		960	20	0.15	mg/kg		**J**	**A**
Cobalt		6.3	2	0.028	mg/kg		**J**	**Q**
Magnesium		283	100	1.1	mg/kg		**J**	**A**
Iron		2470	20	0.19	mg/kg		**J**	**E,A**
Nickel		2.1	2	0.021	mg/kg		**J**	**C**
Potassium		820	500	18	mg/kg			
Sodium		45.8	100	10	mg/kg			
Zinc		77.5	1	0.22	mg/kg		**J**	**A**

Analysis Method 6010B

Sample Name LL3SS-268M-1209-QA **AnalysisType:**

Lab Sample Name: 577263 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Calcium		3750	100	0.3	mg/kg		**J**	**A**
Cobalt		8	2	0.028	mg/kg		**J**	**Q**
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Beryllium		0.5	1	0.004	mg/kg		**J**	**C,A**
Antimony		0.55	10	0.17	mg/kg		**R**	**B,Q**
Chromium		13.8	2	0.11	mg/kg		**J**	**A**
Copper		14.5	1	0.03	mg/kg		**J**	**A**
Vanadium		15.3	1	0.08	mg/kg		**J**	**Q,A**
Lead		22.8	1	0.11	mg/kg		**J**	**A**
Cadmium		0.014	1	0.014	mg/kg	U	**U**	
Iron		36500	20	1.9	mg/kg		**J**	**E,A**
Zinc		72.5	1	0.22	mg/kg		**J**	**A**
Potassium		1040	500	18	mg/kg			
Sodium		30.5	100	10	mg/kg	*		
Aluminum		14900	20	1.5	mg/kg		**J**	**A**
Nickel		31.8	2	0.21	mg/kg		**J**	**Q**
Magnesium		3650	100	11	mg/kg		**J**	**A**
Barium		60	1	0.015	mg/kg		**J**	**A**
Manganese		825	1	0.28	mg/kg		**J**	**A**

Analysis Method 6010B

Sample Name LL4SS-209M-1197-QA **AnalysisType:**

Lab Sample Name: 579226 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Zinc		75	1	0.22	mg/kg		**J**	**A**
Manganese		750	1	0.028	mg/kg		**J**	**A**
Barium		77.5	1	0.015	mg/kg		**J**	**A**
Cobalt		8.3	2	0.028	mg/kg		**J**	**Q**
Magnesium		4000	100	1.1	mg/kg		**J**	**A**
Silver		7.1	2	0.3	mg/kg	Y,M		
Potassium		1560	500	18	mg/kg			
Cadmium		0.1	1	0.014	mg/kg	Y	**J**	**E**
Vanadium		15.9	1	0.8	mg/kg		**J**	**A**
Nickel		30	2	0.021	mg/kg		**J**	**Q**
Lead		19	1	0.11	mg/kg			
Chromium		14.3	2	0.11	mg/kg		**J**	**A**
Beryllium		0.73	1	0.004	mg/kg		**J**	**A**
Antimony		0.37	10	0.17	mg/kg	*Y	**J-**	**Q**
Copper		21.5	1	0.3	mg/kg		**J**	**A**
Aluminum		11100	20	1.5	mg/kg	Y	**J**	**A**
Sodium		73.8	100	10	mg/kg			
Calcium		12800	100	0.3	mg/kg		**J**	**A**
Iron		24000	20	1.9	mg/kg	Y	**J**	**E,A**

Analysis Method 6010B

Sample Name LL4SS-212M-1203-QA **AnalysisType:**

Lab Sample Name: 579229 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Calcium		9500	100	0.3	mg/kg		**J**	**A**
Cobalt		7.5	2	0.028	mg/kg		**J**	**Q**
Manganese		600	1	0.028	mg/kg		**J**	**A**
Aluminum		8000	20	0.15	mg/kg		**J**	**A**
Copper		23.3	1	0.03	mg/kg		**J**	**A**
Zinc		92.5	1	0.22	mg/kg		**J**	**A**
Nickel		23.5	2	0.021	mg/kg		**J**	**Q**
Vanadium		21	1	0.08	mg/kg		**J**	**Q,A**
Lead		20.5	1	0.11	mg/kg		**J**	**A**
Chromium		11.3	2	0.11	mg/kg		**J**	**A**
Antimony		1.1	10	0.17	mg/kg		**J**	**Q**
Barium		42.5	1	0.015	mg/kg		**J**	**A**
Potassium		1100	500	18	mg/kg			
Beryllium		0.4	1	0.004	mg/kg		**J**	**A**
Silver		0.1	2	0.03	mg/kg	*	**J**	**B,C,Q**
Magnesium		4500	100	1.1	mg/kg		**J**	**A**
Sodium		47.5	100	10	mg/kg			
Iron		24000	20	0.19	mg/kg		**J**	**E,A**
Cadmium		0.078	1	0.014	mg/kg		**J**	**E**

Analysis Method 6010B

Sample Name LL4SS-220M-1220-QA **AnalysisType:**

Lab Sample Name: 579236 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Cadmium		0.014	1	0.014	mg/kg	U	**U**	
Magnesium		1280	100	1.1	mg/kg		**J**	**A**
Calcium		1130	100	0.3	mg/kg		**J**	**A**
Nickel		11.8	2	0.021	mg/kg		**J**	**Q**
Silver		0.03	2	0.03	mg/kg	U	**R**	**Q**
Vanadium		14.3	1	0.08	mg/kg		**J**	**Q,A**
Beryllium		0.25	1	0.004	mg/kg		**J**	**A**
Iron		15300	20	0.19	mg/kg		**J**	**E,A**
Sodium		23.3	100	10	mg/kg	*		
Lead		17	1	0.11	mg/kg		**J**	**A**
Potassium		675	500	18	mg/kg			
Copper		17.8	1	0.03	mg/kg		**J**	**A**
Manganese		200	1	0.028	mg/kg		**J**	**A**
Barium		21	1	0.015	mg/kg		**J**	**A**
Cobalt		4.3	2	0.028	mg/kg		**J**	**Q**
Aluminum		5500	20	0.15	mg/kg		**J**	**A**
Chromium		7	2	0.11	mg/kg		**J**	**A**
Zinc		60	1	0.22	mg/kg		**J**	**A**
Antimony		0.63	10	0.17	mg/kg		**J**	**Q**

Analysis Method 7060A

Sample Name	LL2SS-278M-1232-QA	AnalysisType:						
Lab Sample Name:	574689	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		9.9	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL2SS-285M-1245-QA	AnalysisType:						
Lab Sample Name:	575164	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		8.4	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL2SS-297M-1262-QA	AnalysisType:						
Lab Sample Name:	576420	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		11.9	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL2SS-305M-1274-QA	AnalysisType:						
Lab Sample Name:	574687	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		9.6	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL3SS-256M-1189-QA	AnalysisType:						
Lab Sample Name:	577264	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		9.7	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL3SS-258M-1195-QA	AnalysisType:						
Lab Sample Name:	577443	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		8.6	1.5	1.5	mg/kg		**J**	**Q**

Analysis Method 7060A

Sample Name	LL3SS-268M-1209-QA	**AnalysisType:**						
Lab Sample Name:	577263	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		9.6	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL4SS-209M-1197-QA	**AnalysisType:**						
Lab Sample Name:	579226	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		10.9	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL4SS-212M-1203-QA	**AnalysisType:**						
Lab Sample Name:	579229	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		13.6	1.5	1.5	mg/kg		**J**	**Q**

Sample Name	LL4SS-220M-1220-QA	**AnalysisType:**						
Lab Sample Name:	579236	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Arsenic		8.8	1.5	1.5	mg/kg		**J**	**Q**

Analysis Method 7471A

Sample Name	LL2SS-278M-1232-QA		**AnalysisType:**					
Lab Sample Name:	574689		**Validation Level:**	III				
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.016	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL2SS-285M-1245-QA		**AnalysisType:**					
Lab Sample Name:	575164		**Validation Level:**	III				
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.04	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL2SS-297M-1262-QA		**AnalysisType:**					
Lab Sample Name:	576420		**Validation Level:**	III				
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.021	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL2SS-305M-1274-QA		**AnalysisType:**					
Lab Sample Name:	574687		**Validation Level:**	III				
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.018	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL3SS-256M-1189-QA		**AnalysisType:**					
Lab Sample Name:	577264		**Validation Level:**	III				
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.027	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL3SS-258M-1195-QA		**AnalysisType:**					
Lab Sample Name:	577443		**Validation Level:**	III				
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.023	0.1	0.0021	mg/kg		**J**	**Q**

Analysis Method 7471A

Sample Name	LL3SS-268M-1209-QA	**AnalysisType:**						
Lab Sample Name:	577263	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.027	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL4SS-209M-1197-QA	**AnalysisType:**						
Lab Sample Name:	579226	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.019	0.1	0.0021	mg/kg	Y		

Sample Name	LL4SS-212M-1203-QA	**AnalysisType:**						
Lab Sample Name:	579229	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.017	0.1	0.0021	mg/kg		**J**	**Q**

Sample Name	LL4SS-220M-1220-QA	**AnalysisType:**						
Lab Sample Name:	579236	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Mercury		0.014	0.1	0.0021	mg/kg		**J**	**Q**

Analysis Method 7740

Sample Name	LL2SS-278M-1232-QA	**AnalysisType:**						
Lab Sample Name:	574689	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.28	1	0.04	mg/kg		**R**	**C,Q**

Sample Name	LL2SS-285M-1245-QA	**AnalysisType:**						
Lab Sample Name:	575164	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.25	1	0.08	mg/kg	V	**R**	**C,Q**

Sample Name	LL2SS-297M-1262-QA	**AnalysisType:**						
Lab Sample Name:	576420	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.16	1	0.16	mg/kg	UV	**R**	**C,Q**

Sample Name	LL2SS-305M-1274-QA	**AnalysisType:**						
Lab Sample Name:	574687	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.19	1	0.16	mg/kg	*M,V	**R**	**C,Q**

Sample Name	LL3SS-256M-1189-QA	**AnalysisType:**						
Lab Sample Name:	577264	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.04	1	0.04	mg/kg	U	**R**	**C,Q**

Sample Name	LL3SS-258M-1195-QA	**AnalysisType:**						
Lab Sample Name:	577443	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.16	1	0.16	mg/kg	UV	**R**	**Q,C**

Analysis Method 7740

Sample Name	LL3SS-268M-1209-QA	**AnalysisType:**						
Lab Sample Name:	577263	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.23	1	0.04	mg/kg		**R**	**C,Q**

Sample Name	LL4SS-209M-1197-QA	**AnalysisType:**						
Lab Sample Name:	579226	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.16	1	0.16	mg/kg	UM,V	**R**	**C,Q**

Sample Name	LL4SS-212M-1203-QA	**AnalysisType:**						
Lab Sample Name:	579229	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.04	1	0.04	mg/kg	UM	**R**	**C,Q**

Sample Name	LL4SS-220M-1220-QA	**AnalysisType:**						
Lab Sample Name:	579236	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Selenium		0.086	1	0.04	mg/kg	*	**R**	**C,Q**

Analysis Method 7841

Sample Name	LL2SS-278M-1232-QA	AnalysisType:						
Lab Sample Name:	574689	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.13	0.0048	0.0015	mg/kg		**R**	**C**

Sample Name	LL2SS-285M-1245-QA	AnalysisType:						
Lab Sample Name:	575164	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.096	0.0048	0.0015	mg/kg		**R**	**C**

Sample Name	LL2SS-297M-1262-QA	AnalysisType:						
Lab Sample Name:	576420	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.12	0.0048	0.0015	mg/kg		**R**	**C**

Sample Name	LL2SS-305M-1274-QA	AnalysisType:						
Lab Sample Name:	574687	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.1	0.0048	0.0015	mg/kg	M	**R**	**C**

Sample Name	LL3SS-256M-1189-QA	AnalysisType:						
Lab Sample Name:	577264	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.089	0.0048	0.0015	mg/kg		**R**	**C**

Sample Name	LL3SS-258M-1195-QA	AnalysisType:						
Lab Sample Name:	577443	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.076	0.0048	0.0015	mg/kg		**R**	**C**

Analysis Method 7841

Sample Name	LL3SS-268M-1209-QA	AnalysisType:						
Lab Sample Name:	577263	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.11	0.0048	0.0015	mg/kg		**R**	**C**

Sample Name	LL4SS-209M-1197-QA	AnalysisType:						
Lab Sample Name:	579226	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.13	0.0048	0.0015	mg/kg		**J**	**Q,A**

Sample Name	LL4SS-212M-1203-QA	AnalysisType:						
Lab Sample Name:	579229	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.14	0.0048	0.0015	mg/kg		**J**	**Q,A**

Sample Name	LL4SS-220M-1220-QA	AnalysisType:						
Lab Sample Name:	579236	Validation Level:	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Thallium		0.1	0.0048	0.0015	mg/kg		**J**	**Q,A**

Analysis Method 8081A

Sample Name LL2SS-278M-1232-QA **AnalysisType:**

Lab Sample Name: 574689 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Endrin aldehyde		0.5	2	0.5	ug/kg	UM	**R**	**Q**
Endosulfan I		4.3	2	0.5	ug/kg	P	**J**	**C,*III**
gamma-Chlordane		0.6	2	0.6	ug/kg	U	**U**	
Heptachlor epoxide		0.6	2	0.6	ug/kg	U	**U**	
Methoxychlor		0.6	2	0.6	ug/kg	U	**R**	**C**
Toxaphene		7	30	7	ug/kg	U	**U**	
Lindane		0.6	2	0.6	ug/kg	U	**U**	
Dieldrin		0.8	2	0.5	ug/kg	*P	**J**	**C,*III**
4,4'-DDT		0.6	2	0.6	ug/kg	U	**U**	
alpha-Chlordane		1.2	2	0.5	ug/kg	*	**J+**	**C,$**
Endrin		0.5	2	0.5	ug/kg	U	**U**	
Heptachlor		1.5	2	0.5	ug/kg	*P	**J**	**C,*III**
4,4'-DDD		0.5	2	0.5	ug/kg	U	**U**	
Endrin ketone		0.5	2	0.5	ug/kg	U	**U**	
Endosulfan sulfate		0.5	2	0.5	ug/kg	U	**U**	
Endosulfan II		0.5	2	0.5	ug/kg	U	**U**	
delta-BHC		0.5	2	0.5	ug/kg	U	**U**	
beta-BHC		0.5	2	0.5	ug/kg	U	**U**	
alpha-BHC		0.5	2	0.5	ug/kg	U	**U**	
Aldrin		0.5	2	0.5	ug/kg	U	**U**	
4,4'-DDE		0.5	2	0.5	ug/kg	U	**U**	

Analysis Method 8081A

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Endrin aldehyde		0.5	2	0.5	ug/kg	U	**U**	
gamma-Chlordane		0.6	2	0.6	ug/kg	U	**U**	
Endosulfan I		120	2.5	2.5	ug/kg	P	**J**	**C,*III**
Heptachlor epoxide		220	3	3	ug/kg	P	**J**	**C,*III**
4,4'-DDD		0.5	2	0.5	ug/kg	U	**U**	
Aldrin		0.5	2	0.5	ug/kg	U	**U**	
alpha-BHC		0.5	2	0.5	ug/kg	U	**U**	
delta-BHC		0.5	2	0.5	ug/kg	U	**U**	
Endosulfan II		0.5	2	0.5	ug/kg	U	**U**	
4,4'-DDT		0.6	2	0.6	ug/kg	U	**U**	
Endrin ketone		0.5	2	0.5	ug/kg	U	**U**	
4,4'-DDE		9.9	2	0.5	ug/kg		**J**	**C**
Toxaphene		7	30	7	ug/kg	U	**U**	
beta-BHC		10	2	0.5	ug/kg		**J+**	**$,C**
Lindane		10	2	0.6	ug/kg	P	**J**	**C,*III**
Heptachlor		14	2	0.5	ug/kg	P	**J**	**C,*III**
alpha-Chlordane		21	2	0.5	ug/kg	P	**J**	**C,*III**
Endosulfan sulfate		4.6	2	0.5	ug/kg	P	**J**	**C,*III**
Dieldrin		45	2	0.5	ug/kg	P	**J**	**C,*III**
Methoxychlor		5.8	2	0.6	ug/kg	P	**J**	**C,*III**
Endrin		0.5	2	0.5	ug/kg	U	**U**	

Analysis Method 8081A

Sample Name LL4SS-209M-1197-QA **AnalysisType:**

Lab Sample Name: 579226 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Endrin ketone		0.5	2	0.5	ug/kg	U	**U**	
Lindane		13	2	0.6	ug/kg	P	**J**	**C,*III**
Heptachlor		1.4	2	0.5	ug/kg	*P	**J**	**C,*III**
Heptachlor epoxide		0.8	2	0.6	ug/kg	*P	**J**	**C,*III**
Dieldrin		0.8	2	0.5	ug/kg	*P	**J**	**C,*III**
Toxaphene		7	30	7	ug/kg	U	**U**	
Methoxychlor		0.6	2	0.6	ug/kg	U	**U**	
Aldrin		0.5	2	0.5	ug/kg	U	**U**	
Endrin aldehyde		0.5	2	0.5	ug/kg	UM	**UJ**	**Q**
alpha-Chlordane		29	2	0.5	ug/kg	M	**J**	**Q,C**
Endrin		0.5	2	0.5	ug/kg	U	**U**	
Endosulfan sulfate		0.5	2	0.5	ug/kg	U	**U**	
Endosulfan II		0.5	2	0.5	ug/kg	U	**U**	
Endosulfan I		0.5	2	0.5	ug/kg	U	**U**	
delta-BHC		0.5	2	0.5	ug/kg	U	**U**	
alpha-BHC		0.5	2	0.5	ug/kg	U	**U**	
4,4'-DDT		0.6	2	0.6	ug/kg	U	**U**	
beta-BHC		3.1	2	0.5	ug/kg	P	**J**	**C,*III**
4,4'-DDE		3.2	2	0.5	ug/kg			
gamma-Chlordane		21	2	0.6	ug/kg		**J+**	**C**
4,4'-DDD		14	2	0.5	ug/kg	P	**J**	**C,*III**

Analysis Method 8082

Sample Name LL2SS-278M-1232-QA **AnalysisType:**

Lab Sample Name: 574689 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1254		80	10	3	ug/kg			**$**
Aroclor-1242		10	34	10	ug/kg	U	**U**	
Aroclor-1221		12	41	12	ug/kg	U	**U**	
Aroclor-1232		14	47	14	ug/kg	U	**U**	
Aroclor-1260		6	19	6	ug/kg	U	**U**	
Aroclor-1248		9	29	9	ug/kg	U	**U**	
Aroclor-1016		9	31	9	ug/kg	U	**U**	

Sample Name LL2SS-285M-1245-QA **AnalysisType:**

Lab Sample Name: 575164 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1221		12	41	12	ug/kg	U	**U**	
Aroclor-1232		14	47	14	ug/kg	U	**U**	
Aroclor-1260		6	19	6	ug/kg	U	**U**	
Aroclor-1248		9	29	9	ug/kg	U	**U**	
Aroclor-1016		9	31	9	ug/kg	U	**U**	
Aroclor-1254		480	10	3	ug/kg			**$**
Aroclor-1242		10	34	10	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1232		14	47	14	ug/kg	U	**U**	
Aroclor-1254		2000	15	15	ug/kg			**$**
Aroclor-1221		12	41	12	ug/kg	U	**U**	
Aroclor-1248		9	29	9	ug/kg	U	**U**	
Aroclor-1242		10	34	10	ug/kg	U	**U**	
Aroclor-1016		9	31	9	ug/kg	U	**U**	
Aroclor-1260		6	19	6	ug/kg	U	**U**	

Sample Name LL3SS-268M-1209-QA **AnalysisType:**

Lab Sample Name: 577263 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1221		12	41	12	ug/kg	U	**U**	
Aroclor-1232		14	47	14	ug/kg	U	**U**	
Aroclor-1260		6	19	6	ug/kg	U	**U**	
Aroclor-1248		9	29	9	ug/kg	U	**U**	
Aroclor-1016		9	31	9	ug/kg	U	**U**	
Aroclor-1254		47	10	3	ug/kg			
Aroclor-1242		10	34	10	ug/kg	U	**U**	

Analysis Method 8082

Sample Name LL4SS-212M-1203-QA **AnalysisType:**

Lab Sample Name: 579229 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Aroclor-1248		9	29	9	ug/kg	U	**U**	
Aroclor-1016		9	31	9	ug/kg	U	**U**	
Aroclor-1254		3	10	3	ug/kg	U	**U**	
Aroclor-1260		6	19	6	ug/kg	U	**U**	
Aroclor-1232		14	47	14	ug/kg	U	**U**	
Aroclor-1242		10	34	10	ug/kg	U	**U**	
Aroclor-1221		12	41	12	ug/kg	U	**U**	

Analysis Method 8260B

Sample Name LL2SS-280D-1238-QA **AnalysisType:**

Lab Sample Name: 574690 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Chloromethane		0.5	5	0.5	ug/kg	U	**U**	
Toluene		0.6	5	0.6	ug/kg	U	**U**	
trans-1,2-Dichloroethene		0.6	5	0.6	ug/kg	U	**U**	
1,2-Dichloropropane		0.6	5	0.6	ug/kg	U	**U**	
cis-1,3-Dichloropropene		0.6	5	0.6	ug/kg	U	**U**	
Bromodichloromethane		0.4	5	0.4	ug/kg	U	**U**	
1,1,2-Trichloroethane		0.6	5	0.6	ug/kg	U	**U**	
Trichloroethene		0.5	5	0.5	ug/kg	U	**U**	
Dibromochloromethane		0.71	10	0.71	ug/kg	U	**U**	
1,1,1-Trichloroethane		0.5	5	0.5	ug/kg	U	**U**	
Bromochloromethane		0.6	5	0.6	ug/kg	U	**U**	
Bromoform		0.71	5	0.71	ug/kg	U	**U**	
1,1-Dichloroethane		0.3	5	0.3	ug/kg	U	**U**	
1,2-Dibromoethane		0.3	5	0.3	ug/kg	U	**U**	
Benzene		0.3	5	0.3	ug/kg	U	**U**	
cis-1,2-Dichloroethene		0.5	5	0.5	ug/kg	U	**U**	
1,1-Dichloroethene		0.5	5	0.5	ug/kg	U	**U**	
Chloroethane		0.4	10	0.4	ug/kg	U	**U**	
Styrene		0.5	5	0.5	ug/kg	U	**U**	
2-Hexanone		5	20	5	ug/kg	U	**U**	
o-Xylene		1	5	1	ug/kg	U	**U**	
Carbon disulfide		1	5	1	ug/kg	U	**U**	
1,2-Dichloroethane		0.6	5	0.6	ug/kg	U	**U**	
Tetrachloroethene		0.91	5	0.91	ug/kg	U	**U**	
Chlorobenzene		0.81	5	0.81	ug/kg	U	**U**	

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1,1,2,2-Tetrachloroethane	1.1	5	1.1	ug/kg	U	**U**	
4-Methyl-2-pentanone	2.9	20	2.9	ug/kg	U	**U**	
Acetone	6	20	6	ug/kg	U	**U**	
2-Butanone	6	20	6	ug/kg	U	**U**	
Chloroform	0.4	5	0.4	ug/kg	U	**U**	
trans-1,3-Dichloropropene	0.81	5	0.81	ug/kg	U	**U**	
Bromomethane	1.2	5	1.2	ug/kg	UA	**R**	**C**
Methylene chloride	2.7	10	1.9	ug/kg	*A,B,Q	**R**	**B,C**
Vinyl chloride	0.71	5	0.71	ug/kg	U	**U**	
Ethylbenzene	0.71	5	0.71	ug/kg	U	**U**	
Carbon tetrachloride	0.71	5	0.71	ug/kg	U	**U**	
m & p-Xylene	1.7	10	1.7	ug/kg	U	**U**	

Analysis Method 8260B

Sample Name LL3SS-249D-1180-QA **AnalysisType:**

Lab Sample Name: 576421 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,2-Dibromoethane		0.25	5	0.25	ug/kg	U	**U**	
Bromochloromethane		0.5	5	0.5	ug/kg	U	**U**	
trans-1,2-Dichloroethene		0.5	5	0.5	ug/kg	U	**U**	
1,2-Dichloropropane		0.5	5	0.5	ug/kg	U	**U**	
cis-1,3-Dichloropropene		0.5	5	0.5	ug/kg	U	**U**	
1,2-Dichloroethane		0.5	5	0.5	ug/kg	U	**U**	
1,1,2-Trichloroethane		0.5	5	0.5	ug/kg	U	**U**	
Styrene		0.42	5	0.42	ug/kg	U	**U**	
cis-1,2-Dichloroethene		0.42	5	0.42	ug/kg	U	**U**	
Benzene		0.25	5	0.25	ug/kg	U	**U**	
Chloroethane		0.33	10	0.33	ug/kg	U	**U**	
o-Xylene		0.83	5	0.83	ug/kg	U	**U**	
Chloromethane		0.42	5	0.42	ug/kg	U	**U**	
Bromodichloromethane		0.33	5	0.33	ug/kg	U	**U**	
1,1-Dichloroethene		0.42	5	0.42	ug/kg	U	**U**	
Trichloroethene		0.42	5	0.42	ug/kg	U	**U**	
Chlorobenzene		0.67	5	0.67	ug/kg	U	**U**	
Methylene chloride		1.6	10	1.6	ug/kg	U	**R**	**C**
m & p-Xylene		1.4	10	1.4	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane		0.92	5	0.92	ug/kg	U	**U**	
2-Hexanone		4.2	20	4.2	ug/kg	U	**U**	
Carbon disulfide		0.83	5	0.83	ug/kg	U	**U**	
Tetrachloroethene		0.75	5	0.75	ug/kg	U	**U**	
Acetone		5	20	5	ug/kg	U	**U**	
Toluene		0.5	5	0.5	ug/kg	U	**U**	

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4-Methyl-2-pentanone	2.4	20	2.4	ug/kg	U	**U**	
Chloroform	0.33	5	0.33	ug/kg	U	**U**	
1,1,1-Trichloroethane	0.42	5	0.42	ug/kg	U	**U**	
Bromomethane	1	5	1	ug/kg	U	**R**	**C**
trans-1,3-Dichloropropene	0.67	5	0.67	ug/kg	U	**U**	
Vinyl chloride	0.58	5	0.58	ug/kg	U	**U**	
Ethylbenzene	0.58	5	0.58	ug/kg	U	**U**	
Carbon tetrachloride	0.58	5	0.58	ug/kg	U	**U**	
Bromoform	0.58	5	0.58	ug/kg	U	**U**	
Dibromochloromethane	0.58	10	0.58	ug/kg	U	**U**	
1,1-Dichloroethane	0.25	5	0.25	ug/kg	U	**U**	
2-Butanone	5	20	5	ug/kg	U	**U**	

Analysis Method 8260B

Sample Name LL4SS-201D-1186-QA **AnalysisType:**

Lab Sample Name: 579230 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Bromoform		0.62	5	0.62	ug/kg	U	**U**	
Chloroform		0.36	5	0.36	ug/kg	U	**U**	
Chlorobenzene		0.71	5	0.71	ug/kg	U	**U**	
trans-1,3-Dichloropropene		0.71	5	0.71	ug/kg	U	**U**	
Vinyl chloride		0.62	5	0.62	ug/kg	UQ	**UJ**	**L**
Ethylbenzene		0.62	5	0.62	ug/kg	U	**UJ**	**L**
Carbon tetrachloride		0.62	5	0.62	ug/kg	U	**U**	
Tetrachloroethene		0.8	5	0.8	ug/kg	U	**U**	
cis-1,2-Dichloroethene		0.45	5	0.45	ug/kg	U	**U**	
cis-1,3-Dichloropropene		0.54	5	0.54	ug/kg	U	**U**	
1,2-Dichloroethane		0.54	5	0.54	ug/kg	U	**U**	
Carbon disulfide		0.89	5	0.89	ug/kg	U	**U**	
Trichloroethene		0.45	5	0.45	ug/kg	U	**U**	
Acetone		5.4	20	5.4	ug/kg	U	**U**	
Bromochloromethane		0.54	5	0.54	ug/kg	U	**U**	
Chloromethane		0.45	5	0.45	ug/kg	U	**U**	
1,1,2-Trichloroethane		0.54	5	0.54	ug/kg	U	**U**	
1,1-Dichloroethene		0.45	5	0.45	ug/kg	U	**U**	
Bromodichloromethane		0.36	5	0.36	ug/kg	U	**U**	
Chloroethane		0.36	10	0.36	ug/kg	U	**U**	
Benzene		0.27	5	0.27	ug/kg	U	**U**	
1,1-Dichloroethane		0.27	5	0.27	ug/kg	UQ	**UJ**	**L**
1,2-Dibromoethane		0.27	5	0.27	ug/kg	U	**U**	
1,1,1-Trichloroethane		0.45	5	0.45	ug/kg	UQ	**UJ**	**L**
Methylene chloride		1.7	10	1.7	ug/kg	UQ	**R**	**C**

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o-Xylene	0.89	5	0.89	ug/kg	U	**U**	
Styrene	0.45	5	0.45	ug/kg	U	**U**	
m & p-Xylene	1.5	10	1.5	ug/kg	U	**U**	
1,2-Dichloropropane	0.54	5	0.54	ug/kg	U	**U**	
4-Methyl-2-pentanone	2.6	20	2.6	ug/kg	U	**U**	
Dibromochloromethane	0.62	10	0.62	ug/kg	U	**U**	
Toluene	0.54	5	0.54	ug/kg	U	**U**	
2-Hexanone	4.5	20	4.5	ug/kg	U	**U**	
2-Butanone	5.4	20	5.4	ug/kg	U	**U**	
Bromomethane	1.1	5	1.1	ug/kg	UQ	**R**	**C**
trans-1,2-Dichloroethene	0.54	5	0.54	ug/kg	U	**U**	
1,1,2,2-Tetrachloroethane	0.98	5	0.98	ug/kg	U	**U**	

Analysis Method 8270C

Sample Name LL2SS-278M-1232-QA **AnalysisType:**

Lab Sample Name: 574689 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Phenol		130	410	130	ug/kg	U	**U**	
Bis(2-chloroethoxy)methane		20	100	20	ug/kg	U	**U**	
Acenaphthylene		20	100	20	ug/kg	U	**U**	
2-Methylnaphthalene		19	100	19	ug/kg	U	**U**	
N-Nitrosodiphenylamine & Diphn		17	200	17	ug/kg	U	**U**	
Hexachloroethane		17	100	17	ug/kg	UM	**U**	
1,2,4-Trichlorobenzene		16	100	16	ug/kg	U	**U**	
2-Nitrophenol		120	400	120	ug/kg	U	**U**	
2-Chloronaphthalene		13	100	13	ug/kg	U	**U**	
2,4-Dinitrophenol		220	710	220	ug/kg	UM,Y	**R**	**Q**
Bis(2-chloroethyl)ether		14	100	14	ug/kg	U	**U**	
Hexachlorobenzene		15	100	15	ug/kg	U	**U**	
Acenaphthene		15	100	15	ug/kg	U	**U**	
1,4-Dichlorobenzene		13	100	13	ug/kg	UM	**U**	
Anthracene		19	100	10	ug/kg	*	**J**	
2,4-Dimethylphenol		77	260	77	ug/kg	UM	**U**	
Benzyl alcohol		78	270	78	ug/kg	UM,Y	**R**	**Q**
Naphthalene		9	100	9	ug/kg	U	**U**	
4-Chloro-3-methylphenol		91	310	91	ug/kg	U	**U**	
2,4-Dichlorophenol		93	320	93	ug/kg	U	**U**	
Chrysene		110	100	12	ug/kg			
Benzo(a)pyrene		130	100	19	ug/kg			
Nitrobenzene		40	140	40	ug/kg	U	**U**	
Pyrene		180	100	11	ug/kg			
Pentachlorophenol		70	500	70	ug/kg	UM	**UJ**	**Q**

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Benzo(b)fluoranthene	190	100	11	ug/kg			
Fluoranthene	220	100	21	ug/kg			
Bis(2-ethylhexyl)phthalate	480	100	28	ug/kg			
Phenanthrene	54	100	11	ug/kg		**J**	
Di-n-butylphthalate	59	140	40	ug/kg	*	**J**	
Benzo(k)fluoranthene	61	100	21	ug/kg	*	**J**	
Indeno(1,2,3-cd)pyrene	62	100	8	ug/kg		**J**	
Benzo(g,h,i)perylene	67	100	25	ug/kg	*	**J**	
Benzo(a)anthracene	150	100	9	ug/kg			
3-Nitroaniline	32	110	32	ug/kg	U	**R**	**C**
Hexachlorocyclopentadiene	26	100	26	ug/kg	UM	**U**	
2-Nitroaniline	26	100	26	ug/kg	U	**U**	
Isophorone	27	100	27	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	280	930	280	ug/kg	UQ	**R**	**C**
Benzoic acid	290	980	290	ug/kg	UM,Q	**R**	**L**
N-Nitroso-di-n-propylamine	30	110	30	ug/kg	U	**U**	
2,6-Dinitrotoluene	31	110	31	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	31	110	31	ug/kg	U	**U**	
2,4,6-Trichlorophenol	76	260	76	ug/kg	U	**U**	
Hexachlorobutadiene	31	110	31	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	71	500	71	ug/kg	UM	**R**	**Q**
4-Nitrophenol	330	1100	330	ug/kg	U	**UJ**	**C**
Dibenzofuran	37	130	37	ug/kg	U	**U**	
Diethylphthalate	38	130	38	ug/kg	U	**U**	
Di-n-octylphthalate	39	130	39	ug/kg	U	**U**	
3 & 4-Methylphenol	110	350	110	ug/kg	U	**U**	
4-Chloroaniline	65	220	65	ug/kg	UM	**UJ**	**Q**
2,4-Dinitrotoluene	23	100	23	ug/kg	U	**U**	
Butylbenzylphthalate	24	100	24	ug/kg	U	**U**	

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4-Nitroaniline	31	110	31	ug/kg	U	**UJ**	**C**
2,4,5-Trichlorophenol	110	350	110	ug/kg	U	**U**	
Dimethylphthalate	26	100	26	ug/kg	U	**U**	
1,2-Dichlorobenzene	10	100	10	ug/kg	UM	**U**	
4-Bromophenyl-phenyl ether	10	100	10	ug/kg	U	**U**	
Fluorene	11	100	11	ug/kg	U	**U**	
Carbazole	11	100	11	ug/kg	U	**U**	
1,3-Dichlorobenzene	11	100	11	ug/kg	UM	**U**	
Bis(2-chloroisopropyl)ether	11	100	11	ug/kg	U	**U**	
2-Methylphenol	110	340	110	ug/kg	U	**U**	
2-Chlorophenol	110	350	110	ug/kg	U	**U**	
Dibenzo(a,h)anthracene	11	100	11	ug/kg	U	**U**	

Analysis Method 8270C

Sample Name LL2SS-285M-1245-QA **AnalysisType:**

Lab Sample Name: 575164 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,2,4-Trichlorobenzene		4	100	4	ug/kg	U	**U**	
2,6-Dinitrotoluene		26	110	26	ug/kg	U	**U**	
2,4-Dichlorophenol		26	320	26	ug/kg	U	**U**	
Acenaphthylene		3	100	3	ug/kg	U	**U**	
1,4-Dichlorobenzene		3	100	3	ug/kg	U	**U**	
4-Chloroaniline		3	220	3	ug/kg	U	**U**	
2-Methylphenol		32	340	32	ug/kg	U	**U**	
Phenol		34	410	34	ug/kg	U	**U**	
1,3-Dichlorobenzene		4	100	4	ug/kg	U	**U**	
3,3'-Dichlorobenzidine		39	930	39	ug/kg	UQ	**R**	**C**
N-Nitrosodiphenylamine & Diphn		26	200	26	ug/kg	U	**U**	
Butylbenzylphthalate		17	100	17	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether		4	110	4	ug/kg	U	**U**	
Nitrobenzene		4	140	4	ug/kg	U	**U**	
2-Nitrophenol		35	400	35	ug/kg	U	**U**	
Diethylphthalate		16	130	16	ug/kg	U	**U**	
Phenanthrene		920	100	15	ug/kg			
Carbazole		89	100	3	ug/kg		**J**	
Benzoic acid		130	980	130	ug/kg	UQ	**R**	**L**
Bis(2-chloroethoxy)methane		13	100	13	ug/kg	U	**U**	
Bis(2-chloroisopropyl)ether		14	100	14	ug/kg	U	**U**	
2,4-Dimethylphenol		21	260	21	ug/kg	U	**U**	
2,4,6-Trichlorophenol		15	260	15	ug/kg	U	**U**	
2-Chlorophenol		25	350	25	ug/kg	U	**U**	
Hexachlorocyclopentadiene		16	100	16	ug/kg	U	**U**	

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3 & 4-Methylphenol	51	350	51	ug/kg	U	**U**
Hexachlorobenzene	17	100	17	ug/kg	U	**U**
2-Chloronaphthalene	4	100	4	ug/kg	U	**U**
N-Nitroso-di-n-propylamine	23	110	23	ug/kg	U	**U**
Pentachlorophenol	23	500	23	ug/kg	U	**U**
Di-n-octylphthalate	15	130	15	ug/kg	U	**U**
Dibenzofuran	58	130	16	ug/kg		**J**
1,2-Dichlorobenzene	5	100	5	ug/kg	U	**U**
Benzo(g,h,i)perylene	150	100	7	ug/kg		
Anthracene	180	100	3	ug/kg		
Benzo(a)pyrene	280	100	5	ug/kg		
Chrysene	320	100	3	ug/kg		
Benzo(a)anthracene	320	100	3	ug/kg		
Fluorene	120	100	3	ug/kg		
Benzo(b)fluoranthene	390	100	7	ug/kg		
Benzo(k)fluoranthene	110	100	6	ug/kg		
Bis(2-ethylhexyl)phthalate	65	100	20	ug/kg	*	**J**
2,4-Dinitrotoluene	72	100	21	ug/kg		**J**
Pyrene	730	100	3	ug/kg		
Naphthalene	76	100	3	ug/kg		**J**
Di-n-butylphthalate	77	140	13	ug/kg		**J**
Fluoranthene	870	100	3	ug/kg		
2-Methylnaphthalene	37	100	12	ug/kg	*	**J**
Hexachloroethane	8	100	8	ug/kg	U	**U**
4-Chloro-3-methylphenol	48	310	48	ug/kg	U	**U**
4-Bromophenyl-phenyl ether	5	100	5	ug/kg	U	**U**
Dibenzo(a,h)anthracene	5	100	5	ug/kg	U	**U**
Dimethylphthalate	13	100	13	ug/kg	U	**U**
2,4-Dinitrophenol	52	710	52	ug/kg	U	**U**

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2,4,5-Trichlorophenol	58	350	58	ug/kg	U	**U**	
Indeno(1,2,3-cd)pyrene	130	100	5	ug/kg			
2-Nitroaniline	6	100	6	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	45	500	45	ug/kg	U	**U**	
Benzyl alcohol	82	270	82	ug/kg	U	**U**	
Hexachlorobutadiene	9	110	9	ug/kg	U	**U**	
3-Nitroaniline	9	110	9	ug/kg	U	**R**	**C**
Isophorone	9	100	9	ug/kg	U	**U**	
4-Nitrophenol	93	1100	93	ug/kg	U	**UJ**	**C**
Acenaphthene	110	100	4	ug/kg			
4-Nitroaniline	6	110	6	ug/kg	U	**UJ**	**C**
Bis(2-chloroethyl)ether	12	100	12	ug/kg	U	**U**	

Analysis Method 8270C

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
3 & 4-Methylphenol		51	350	51	ug/kg	U	**U**	
4-Nitrophenol		93	1100	93	ug/kg	U	**U**	**C**
1,2,4-Trichlorobenzene		4	100	4	ug/kg	U	**U**	
1,3-Dichlorobenzene		4	100	4	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether		4	110	4	ug/kg	U	**U**	
Nitrobenzene		4	140	4	ug/kg	U	**U**	
2-Chloronaphthalene		4	100	4	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol		45	500	45	ug/kg	U	**U**	
4-Chloro-3-methylphenol		48	310	48	ug/kg	U	**U**	
4-Bromophenyl-phenyl ether		5	100	5	ug/kg	U	**U**	
2-Nitrophenol		35	400	35	ug/kg	U	**U**	
Dibenzo(a,h)anthracene		5	100	5	ug/kg	U	**U**	
Phenol		34	410	34	ug/kg	U	**U**	
2,4-Dinitrophenol		52	710	52	ug/kg	U	**U**	
4-Nitroaniline		6	110	6	ug/kg	U	**UJ**	**C**
Benzo(b)fluoranthene		250	100	7	ug/kg			
Hexachloroethane		8	100	8	ug/kg	U	**U**	
Benzyl alcohol		82	270	82	ug/kg	U	**U**	
Hexachlorobutadiene		9	110	9	ug/kg	U	**U**	
3-Nitroaniline		9	110	9	ug/kg	U	**R**	**C**
Isophorone		9	100	9	ug/kg	U	**U**	
1,2-Dichlorobenzene		5	100	5	ug/kg	U	**U**	
N-Nitroso-di-n-propylamine		23	110	23	ug/kg	U	**U**	
Bis(2-chloroethoxy)methane		13	100	13	ug/kg	U	**U**	
Dimethylphthalate		13	100	13	ug/kg	U	**U**	

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Benzoic acid	130	980	130	ug/kg	UQ	**R**	**L**
Bis(2-chloroisopropyl)ether	14	100	14	ug/kg	U	**U**	
Di-n-octylphthalate	15	130	15	ug/kg	U	**U**	
2,4,6-Trichlorophenol	15	260	15	ug/kg	U	**U**	
Hexachlorocyclopentadiene	16	100	16	ug/kg	U	**U**	
Butylbenzylphthalate	17	100	17	ug/kg	U	**U**	
Hexachlorobenzene	17	100	17	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	39	930	39	ug/kg	UQ	**R**	**C**
2,4-Dinitrotoluene	21	100	21	ug/kg	U	**U**	
2-Nitroaniline	6	100	6	ug/kg	U	**U**	
Pentachlorophenol	23	500	23	ug/kg	U	**U**	
2-Chlorophenol	25	350	25	ug/kg	U	**U**	
N-Nitrosodiphenylamine & Diphn	26	200	26	ug/kg	U	**U**	
2,6-Dinitrotoluene	26	110	26	ug/kg	U	**U**	
2,4-Dichlorophenol	26	320	26	ug/kg	U	**U**	
Acenaphthylene	3	100	3	ug/kg	U	**U**	
1,4-Dichlorobenzene	3	100	3	ug/kg	U	**U**	
4-Chloroaniline	3	220	3	ug/kg	U	**U**	
2-Methylphenol	32	340	32	ug/kg	U	**U**	
2,4-Dimethylphenol	21	260	21	ug/kg	U	**U**	
Chrysene	180	100	3	ug/kg			
Fluorene	66	100	3	ug/kg		**J**	
Pyrene	340	100	3	ug/kg			
Phenanthrene	400	100	15	ug/kg			
Carbazole	44	100	3	ug/kg		**J**	
Bis(2-ethylhexyl)phthalate	110	100	20	ug/kg			
Anthracene	100	100	3	ug/kg		**J**	
Fluoranthene	440	100	3	ug/kg			
Benzo(a)pyrene	150	100	5	ug/kg			

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Acenaphthene	45	100	4	ug/kg		**J**
2-Methylnaphthalene	49	100	12	ug/kg		**J**
Dibenzofuran	51	130	16	ug/kg	*	**J**
Bis(2-chloroethyl)ether	12	100	12	ug/kg	U	**U**
Benzo(a)anthracene	180	100	3	ug/kg		
Di-n-butylphthalate	220	140	13	ug/kg		
Benzo(k)fluoranthene	78	100	6	ug/kg		**J**
Benzo(g,h,i)perylene	74	100	7	ug/kg		**J**
Naphthalene	69	100	3	ug/kg		**J**
Indeno(1,2,3-cd)pyrene	67	100	5	ug/kg		**J**
2,4,5-Trichlorophenol	58	350	58	ug/kg	U	**U**
Diethylphthalate	50	130	16	ug/kg	*	**J**

Analysis Method 8270C

Sample Name LL3SS-258M-1195-QA **AnalysisType:**

Lab Sample Name: 577443 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Acenaphthylene		20	100	20	ug/kg	U	**U**	
Acenaphthene		15	100	15	ug/kg	U	**U**	
1,2,4-Trichlorobenzene		16	100	16	ug/kg	U	**U**	
Hexachloroethane		17	100	17	ug/kg	U	**U**	
N-Nitrosodiphenylamine & Diphn		17	200	17	ug/kg	U	**U**	
Fluorene		12	100	11	ug/kg	*	**J**	
Anthracene		27	100	10	ug/kg	*	**J**	
Fluoranthene		160	100	21	ug/kg			
Phenanthrene		120	100	11	ug/kg			
Hexachlorobutadiene		31	110	31	ug/kg	U	**U**	
4-Nitroaniline		31	110	31	ug/kg	U	**UJ**	**C**
4-Chlorophenyl-phenyl ether		31	110	31	ug/kg	U	**U**	
2,6-Dinitrotoluene		31	110	31	ug/kg	U	**U**	
N-Nitroso-di-n-propylamine		30	110	30	ug/kg	U	**U**	
Benzoic acid		290	980	290	ug/kg	UQ	**R**	**L**
3 & 4-Methylphenol		110	350	110	ug/kg	U	**U**	
Pyrene		120	100	11	ug/kg			
2,4,5-Trichlorophenol		110	350	110	ug/kg	U	**U**	
Benzo(b)fluoranthene		100	100	11	ug/kg		**J**	
2,4-Dichlorophenol		93	320	93	ug/kg	U	**U**	
4-Chloro-3-methylphenol		91	310	91	ug/kg	U	**U**	
Naphthalene		9	100	9	ug/kg	U	**U**	
Carbazole		11	100	11	ug/kg	U	**U**	
Dibenzo(a,h)anthracene		11	100	11	ug/kg	U	**U**	
1,3-Dichlorobenzene		11	100	11	ug/kg	U	**U**	

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Bis(2-chloroisopropyl)ether	11	100	11	ug/kg	U	**U**	
2-Methylphenol	110	340	110	ug/kg	U	**U**	
2-Chlorophenol	110	350	110	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	280	930	280	ug/kg	UQ	**R**	**C**
Benzo(g,h,i)perylene	31	100	25	ug/kg	*	**J**	
1,4-Dichlorobenzene	13	100	13	ug/kg	U	**U**	
Hexachlorobenzene	15	100	15	ug/kg	U	**U**	
4-Chloroaniline	65	220	65	ug/kg	U	**U**	
Pentachlorophenol	70	500	70	ug/kg	U	**U**	
Phenol	130	410	130	ug/kg	U	**U**	
Bis(2-chloroethyl)ether	14	100	14	ug/kg	U	**U**	
Benzyl alcohol	78	270	78	ug/kg	U	**U**	
Di-n-octylphthalate	39	130	39	ug/kg	U	**U**	
Indeno(1,2,3-cd)pyrene	28	100	8	ug/kg		**J**	
Isophorone	27	100	27	ug/kg	U	**U**	
Benzo(a)pyrene	57	100	19	ug/kg	*	**J**	
Bis(2-ethylhexyl)phthalate	64	100	28	ug/kg	*	**J**	
Benzo(a)anthracene	67	100	9	ug/kg		**J**	
Chrysene	72	100	12	ug/kg		**J**	
4-Bromophenyl-phenyl ether	10	100	10	ug/kg	U	**U**	
Di-n-butylphthalate	76	140	40	ug/kg	*	**J**	
2,4-Dimethylphenol	77	260	77	ug/kg	U	**U**	
2,4,6-Trichlorophenol	76	260	76	ug/kg	U	**U**	
Benzo(k)fluoranthene	28	100	21	ug/kg	*	**J**	
Diethylphthalate	38	130	38	ug/kg	U	**U**	
2,4-Dinitrophenol	220	710	220	ug/kg	U	**U**	
2-Nitrophenol	120	400	120	ug/kg	U	**U**	
2-Chloronaphthalene	13	100	13	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol	71	500	71	ug/kg	U	**U**	

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1,2-Dichlorobenzene	10	100	10	ug/kg	U	**U**	
Nitrobenzene	40	140	40	ug/kg	U	**U**	
Dibenzofuran	37	130	37	ug/kg	U	**U**	
Bis(2-chloroethoxy)methane	20	100	20	ug/kg	U	**U**	
2-Methylnaphthalene	21	100	19	ug/kg	*	**J**	
3-Nitroaniline	32	110	32	ug/kg	U	**R**	**C**
2,4-Dinitrotoluene	23	100	23	ug/kg	U	**U**	
Butylbenzylphthalate	24	100	24	ug/kg	U	**U**	
Dimethylphthalate	26	100	26	ug/kg	U	**U**	
Hexachlorocyclopentadiene	26	100	26	ug/kg	U	**U**	
2-Nitroaniline	26	100	26	ug/kg	U	**U**	
4-Nitrophenol	330	1100	330	ug/kg	U	**UJ**	**C**

Analysis Method 8270C

Sample Name LL4SS-212M-1203-QA **AnalysisType:**

Lab Sample Name: 579229 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,4-Dichlorophenol		93	320	93	ug/kg	U	**U**	
Nitrobenzene		40	140	40	ug/kg	U	**U**	
4-Chloroaniline		65	220	65	ug/kg	UM	**UJ**	**Q**
Benzo(a)anthracene		150	100	9	ug/kg			
1,2-Dichlorobenzene		10	100	10	ug/kg	U	**U**	
Di-n-octylphthalate		39	130	39	ug/kg	U	**U**	
Pentachlorophenol		70	500	70	ug/kg	U	**U**	
4,6-Dinitro-2-methylphenol		71	500	71	ug/kg	UM	**UJ**	**Q**
2,4,6-Trichlorophenol		76	260	76	ug/kg	U	**U**	
2,4-Dimethylphenol		77	260	77	ug/kg	U	**U**	
Benzyl alcohol		78	270	78	ug/kg	UM	**U**	
Naphthalene		9	100	9	ug/kg	U	**U**	
4-Chloro-3-methylphenol		91	310	91	ug/kg	U	**U**	
Benzo(g,h,i)perylene		110	100	25	ug/kg			
Carbazole		15	100	11	ug/kg	*	**J**	
Benzo(a)pyrene		150	100	19	ug/kg			
Indeno(1,2,3-cd)pyrene		96	100	8	ug/kg		**J**	
Fluorene		16	100	11	ug/kg	*	**J**	
Phenanthrene		190	100	11	ug/kg			
Di-n-butylphthalate		190	140	40	ug/kg			
Benzo(b)fluoranthene		220	100	11	ug/kg			
Pyrene		260	100	11	ug/kg			
Fluoranthene		340	100	21	ug/kg			
Bis(2-ethylhexyl)phthalate		41	100	28	ug/kg	*	**J**	
Anthracene		44	100	10	ug/kg		**J**	

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Diethylphthalate	49	130	38	ug/kg	*	**J**	
Benzo(k)fluoranthene	66	100	21	ug/kg	*	**J**	
Chrysene	150	100	12	ug/kg			
Hexachlorocyclopentadiene	26	100	26	ug/kg	U	**U**	
4-Chlorophenyl-phenyl ether	31	110	31	ug/kg	U	**U**	
Acenaphthylene	20	100	20	ug/kg	U	**U**	
Bis(2-chloroethoxy)methane	20	100	20	ug/kg	U	**U**	
2,4-Dinitrophenol	220	710	220	ug/kg	UM	**R**	**Q**
2,4-Dinitrotoluene	23	100	23	ug/kg	U	**U**	
N-Nitrosodiphenylamine & Diphn	17	200	17	ug/kg	U	**U**	
Dimethylphthalate	26	100	26	ug/kg	U	**U**	
Hexachloroethane	17	100	17	ug/kg	U	**U**	
2-Nitroaniline	26	100	26	ug/kg	U	**U**	
Isophorone	27	100	27	ug/kg	U	**U**	
3,3'-Dichlorobenzidine	280	930	280	ug/kg	UQ	**R**	**C**
Benzoic acid	290	980	290	ug/kg	UM,Q	**R**	**L**
N-Nitroso-di-n-propylamine	30	110	30	ug/kg	U	**U**	
2,6-Dinitrotoluene	31	110	31	ug/kg	U	**U**	
Butylbenzylphthalate	24	100	24	ug/kg	U	**U**	
1,4-Dichlorobenzene	13	100	13	ug/kg	U	**U**	
Dibenzo(a,h)anthracene	11	100	11	ug/kg	U	**U**	
4-Bromophenyl-phenyl ether	10	100	10	ug/kg	U	**U**	
Bis(2-chloroisopropyl)ether	11	100	11	ug/kg	U	**U**	
2-Chlorophenol	110	350	110	ug/kg	U	**U**	
2,4,5-Trichlorophenol	110	350	110	ug/kg	U	**U**	
2-Methylnaphthalene	19	100	19	ug/kg	U	**U**	
2-Nitrophenol	120	400	120	ug/kg	U	**U**	
2-Methylphenol	110	340	110	ug/kg	U	**U**	
2-Chloronaphthalene	13	100	13	ug/kg	U	**U**	

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Phenol	130	410	130	ug/kg	U	**U**	
Bis(2-chloroethyl)ether	14	100	14	ug/kg	U	**U**	
Hexachlorobenzene	15	100	15	ug/kg	U	**U**	
Acenaphthene	15	100	15	ug/kg	U	**U**	
1,2,4-Trichlorobenzene	16	100	16	ug/kg	U	**U**	
3 & 4-Methylphenol	110	350	110	ug/kg	U	**U**	
Dibenzofuran	37	130	37	ug/kg	U	**U**	
4-Nitrophenol	330	1100	330	ug/kg	U	**UJ**	**C**
3-Nitroaniline	32	110	32	ug/kg	U	**R**	**C**
1,3-Dichlorobenzene	11	100	11	ug/kg	U	**U**	
Hexachlorobutadiene	31	110	31	ug/kg	U	**U**	
4-Nitroaniline	31	110	31	ug/kg	U	**UJ**	**C**

Analysis Method 8330

Sample Name LL2SS-297M-1262-QA **AnalysisType:**

Lab Sample Name: 576420 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine		0.29	0.14	0.05	mg/kg	P	**J**	***III**

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine		1.7	0.14	0.049	mg/kg			

Sample Name LL4SS-220M-1220-QA **AnalysisType:**

Lab Sample Name: 579236 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroguanidine		0.27	0.14	0.05	mg/kg	P	**J**	***III**

Analysis Method 8330B

Sample Name LL2SS-278M-1232-QA **AnalysisType:**

Lab Sample Name: 574689 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Tetryl		0.07	0.23	0.07	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
3-Nitrotoluene		0.07	0.22	0.07	mg/kg	U	**U**	
4-Nitrotoluene		0.07	0.23	0.07	mg/kg	U	**UJ**	**C**
HMX		0.07	0.21	0.07	mg/kg	U	**U**	
2,4,6-Trinitrotoluene		0.08	0.24	0.08	mg/kg	U	**U**	
RDX		0.06	0.18	0.06	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		0.08	0.25	0.08	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.06	0.2	0.06	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.06	0.18	0.06	mg/kg	U	**U**	
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**UJ**	**C**
2,4-Dinitrotoluene		0.04	0.23	0.04	mg/kg	U	**U**	
PETN		0.8	2.6	0.8	mg/kg	U	**U**	
Nitroglycerin		0.6	2	0.6	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL2SS-285M-1245-QA **AnalysisType:**

Lab Sample Name: 575164 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
Nitroglycerin		0.83	2	0.6	mg/kg	*P	**J**	***III**
2,4,6-Trinitrotoluene		110	12	4	mg/kg			
2-Amino-4,6-dinitrotoluene		2.5	0.18	0.06	mg/kg			
HMX		0.07	0.21	0.07	mg/kg	U	**U**	
Tetryl		0.2	0.23	0.07	mg/kg	*P	**J**	***III**
2,4-Dinitrotoluene		0.12	0.23	0.04	mg/kg	*	**J**	
RDX		0.1	0.18	0.06	mg/kg	*	**J**	
PETN		0.8	2.6	0.8	mg/kg	U	**U**	
4-Nitrotoluene		0.07	0.23	0.07	mg/kg	U	**UJ**	**C**
3-Nitrotoluene		0.07	0.22	0.07	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.75	0.2	0.06	mg/kg			
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**UJ**	**C**
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		4	0.25	0.08	mg/kg			

Analysis Method 8330B

Sample Name LL2SS-297M-1262-QA **AnalysisType:**

Lab Sample Name: 576420 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
4-Nitrotoluene		0.07	0.23	0.07	mg/kg	U	**UJ**	**C**
HMX		0.07	0.21	0.07	mg/kg	U	**U**	
3-Nitrotoluene		0.07	0.22	0.07	mg/kg	U	**U**	
RDX		0.06	0.18	0.06	mg/kg	U	**U**	
Tetryl		0.07	0.23	0.07	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.06	0.2	0.06	mg/kg	U	**U**	
Nitroglycerin		0.6	2	0.6	mg/kg	U	**U**	
2,4,6-Trinitrotoluene		0.08	0.24	0.08	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
PETN		0.8	2.6	0.8	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		0.08	0.25	0.08	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
2,4-Dinitrotoluene		0.04	0.23	0.04	mg/kg	U	**U**	
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**UJ**	**C**
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.06	0.18	0.06	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL2SS-305M-1274-QA **AnalysisType:**

Lab Sample Name: 574687 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
PETN		0.8	2.6	0.8	mg/kg	U	**U**	
HMX		0.07	0.21	0.07	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.37	0.18	0.06	mg/kg			
4-Amino-2,6-dinitrotoluene		0.87	0.25	0.08	mg/kg			
2,4,6-Trinitrotoluene		9.9	0.24	0.08	mg/kg			
4-Nitrotoluene		0.07	0.23	0.07	mg/kg	U	**UJ**	**C**
Nitroglycerin		0.6	2	0.6	mg/kg	U	**U**	
3-Nitrotoluene		0.07	0.22	0.07	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.076	0.2	0.06	mg/kg	*	**J**	
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
Tetryl		0.07	0.23	0.07	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**UJ**	**C**
RDX		0.06	0.18	0.06	mg/kg	U	**U**	
2,4-Dinitrotoluene		0.04	0.23	0.04	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL3SS-256M-1189-QA **AnalysisType:**

Lab Sample Name: 577264 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,4-Dinitrotoluene		0.1	0.23	0.04	mg/kg	*	**J**	
Tetryl		0.22	0.23	0.07	mg/kg	*	**J**	
4-Amino-2,6-dinitrotoluene		2	0.25	0.08	mg/kg			
2-Amino-4,6-dinitrotoluene		0.79	0.18	0.06	mg/kg			
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.81	0.2	0.06	mg/kg			
PETN		0.8	2.6	0.8	mg/kg	U	**U**	
4-Nitrotoluene		0.07	0.23	0.07	mg/kg	U	**UJ**	**C**
Nitroglycerin		0.88	2	0.6	mg/kg	*P	**J**	***III**
3-Nitrotoluene		0.07	0.22	0.07	mg/kg	U	**U**	
HMX		0.07	0.21	0.07	mg/kg	U	**U**	
RDX		0.06	0.18	0.06	mg/kg	U	**U**	
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
2,4,6-Trinitrotoluene		97	12	4	mg/kg			
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**UJ**	**C**

Analysis Method 8330B

Sample Name LL3SS-258M-1195-QA **AnalysisType:**

Lab Sample Name: 577443 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
2,4,6-Trinitrotoluene		25	2.4	0.79	mg/kg			
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
RDX		0.06	0.18	0.06	mg/kg	U	**U**	
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**UJ**	**C**
2,4-Dinitrotoluene		0.04	0.23	0.04	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
HMX		0.069	0.21	0.069	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		1.6	0.25	0.079	mg/kg			
2-Amino-4,6-dinitrotoluene		0.46	0.18	0.06	mg/kg			
1,3,5-Trinitrobenzene		0.1	0.2	0.06	mg/kg	*	**J**	
PETN		0.79	2.6	0.79	mg/kg	U	**U**	
Nitroglycerin		0.6	2	0.6	mg/kg	U	**U**	
4-Nitrotoluene		0.069	0.23	0.069	mg/kg	U	**UJ**	**C**
Tetryl		0.069	0.23	0.069	mg/kg	U	**U**	
3-Nitrotoluene		0.069	0.22	0.069	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL3SS-268M-1209-QA **AnalysisType:**

Lab Sample Name: 577263 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
PETN		0.81	2.6	0.81	mg/kg	U	**U**	
RDX		0.061	0.18	0.061	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.061	0.2	0.061	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.061	0.2	0.061	mg/kg	U	**U**	
HMX		0.071	0.21	0.071	mg/kg	U	**U**	
3-Nitrotoluene		0.071	0.22	0.071	mg/kg	U	**U**	
4-Nitrotoluene		0.071	0.23	0.071	mg/kg	U	**UJ**	**C**
Tetryl		0.071	0.23	0.071	mg/kg	U	**U**	
Nitroglycerin		0.61	2	0.61	mg/kg	U	**U**	
2-Nitrotoluene		0.051	0.14	0.051	mg/kg	U	**UJ**	**C**
2,4,6-Trinitrotoluene		0.25	0.24	0.081	mg/kg			
4-Amino-2,6-dinitrotoluene		0.081	0.25	0.081	mg/kg	U	**U**	
2,4-Dinitrotoluene		0.04	0.23	0.04	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
Nitrobenzene		0.051	0.15	0.051	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.061	0.18	0.061	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL4SS-209M-1197-QA **AnalysisType:**

Lab Sample Name: 579226 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
RDX		0.061	0.18	0.061	mg/kg	U	**U**	
Nitroglycerin		0.61	2	0.61	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		0.081	0.25	0.081	mg/kg	U	**U**	
2,4,6-Trinitrotoluene		0.081	0.24	0.081	mg/kg	U	**U**	
Tetryl		0.071	0.23	0.071	mg/kg	U	**U**	
4-Nitrotoluene		0.071	0.23	0.071	mg/kg	U	**U**	
3-Nitrotoluene		0.071	0.22	0.071	mg/kg	U	**U**	
HMX		0.071	0.21	0.071	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.061	0.2	0.061	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.061	0.18	0.061	mg/kg	U	**U**	
Nitrobenzene		0.051	0.15	0.051	mg/kg	U	**U**	
2-Nitrotoluene		0.051	0.14	0.051	mg/kg	U	**U**	
2,4-Dinitrotoluene		0.041	0.23	0.041	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.041	0.13	0.041	mg/kg	U	**U**	
PETN		0.81	2.6	0.81	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.061	0.2	0.061	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL4SS-212M-1203-QA **AnalysisType:**

Lab Sample Name: 579229 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
HMX		0.071	0.21	0.071	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.041	0.13	0.041	mg/kg	U	**U**	
3-Nitrotoluene		0.071	0.22	0.071	mg/kg	U	**U**	
4-Nitrotoluene		0.071	0.23	0.071	mg/kg	U	**U**	
Tetryl		0.071	0.23	0.071	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		0.081	0.25	0.081	mg/kg	U	**U**	
PETN		0.81	2.6	0.81	mg/kg	U	**U**	
2,4,6-Trinitrotoluene		0.081	0.24	0.081	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.061	0.2	0.061	mg/kg	U	**U**	
1,3,5-Trinitrobenzene		0.061	0.2	0.061	mg/kg	U	**U**	
RDX		0.061	0.18	0.061	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.061	0.18	0.061	mg/kg	U	**U**	
Nitrobenzene		0.051	0.15	0.051	mg/kg	U	**U**	
2-Nitrotoluene		0.051	0.14	0.051	mg/kg	U	**U**	
2,4-Dinitrotoluene		0.041	0.23	0.041	mg/kg	U	**U**	
Nitroglycerin		0.61	2	0.61	mg/kg	U	**U**	

Analysis Method 8330B

Sample Name LL4SS-220M-1220-QA **AnalysisType:**

Lab Sample Name: 579236 **Validation Level:** III

Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Qualifier Code
1,3,5-Trinitrobenzene		0.06	0.2	0.06	mg/kg	U	**U**	
2,4,6-Trinitrotoluene		0.08	0.24	0.08	mg/kg	U	**U**	
PETN		0.8	2.6	0.8	mg/kg	U	**U**	
Nitroglycerin		0.6	2	0.6	mg/kg	U	**U**	
4-Amino-2,6-dinitrotoluene		0.08	0.25	0.08	mg/kg	U	**U**	
Tetryl		0.07	0.23	0.07	mg/kg	U	**U**	
4-Nitrotoluene		0.07	0.23	0.07	mg/kg	U	**U**	
3-Nitrotoluene		0.07	0.22	0.07	mg/kg	U	**U**	
2,6-Dinitrotoluene		0.06	0.2	0.06	mg/kg	U	**U**	
RDX		0.06	0.18	0.06	mg/kg	U	**U**	
2-Amino-4,6-dinitrotoluene		0.06	0.18	0.06	mg/kg	U	**U**	
Nitrobenzene		0.05	0.15	0.05	mg/kg	U	**U**	
2-Nitrotoluene		0.05	0.14	0.05	mg/kg	U	**U**	
2,4-Dinitrotoluene		0.04	0.23	0.04	mg/kg	U	**U**	
1,3-Dinitrobenzene		0.04	0.13	0.04	mg/kg	U	**U**	
HMX		0.07	0.21	0.07	mg/kg	U	**U**	

Analysis Method 9056

Sample Name	LL2SS-297M-1262-QA	**AnalysisType:**						
Lab Sample Name:	576420	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Nitrocellulose		33.04		5	mg/kg			

Sample Name	LL3SS-256M-1189-QA	**AnalysisType:**						
Lab Sample Name:	577264	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Nitrocellulose		73.42		5	mg/kg			

Sample Name	LL4SS-220M-1220-QA	**AnalysisType:**						
Lab Sample Name:	579236	**Validation Level:**	III					
Analyte	**CAS No**	**Result Value**	**RL**	**MDL**	**Result Units**	**Lab Qualifier**	**Validation Qualifier**	**Validation Qualifier Code**
Nitrocellulose		5		5	mg/kg	U	**U**	

APPENDIX B

Sample Qualification Summary

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier
67307	LL2SS-278M-1232-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL2SS-278M-1232-QA	Aluminum	11400	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Antimony	0.58	mg/kg	R	B,Q
67307	LL2SS-278M-1232-QA	Arsenic	9.9	mg/kg	J	Q
67307	LL2SS-278M-1232-QA	Barium	45	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Beryllium	0.48	mg/kg	J	C,A
67307	LL2SS-278M-1232-QA	Calcium	6000	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Chromium	11.8	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Cobalt	7.5	mg/kg	J	Q
67307	LL2SS-278M-1232-QA	Copper	16.8	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Iron	33000	mg/kg	J	E,A
67307	LL2SS-278M-1232-QA	Lead	17.5	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Magnesium	4300	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Manganese	570	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Nickel	26.5	mg/kg	J	Q
67307	LL2SS-278M-1232-QA	Selenium	0.28	mg/kg	R	C,Q
67307	LL2SS-278M-1232-QA	Silver	0.03	mg/kg	R	Q
67307	LL2SS-278M-1232-QA	Thallium	0.13	mg/kg	R	C
67307	LL2SS-278M-1232-QA	Vanadium	10.8	mg/kg	J	Q,A
67307	LL2SS-278M-1232-QA	Zinc	62.5	mg/kg	J	A
67307	LL2SS-278M-1232-QA	Mercury	0.016	mg/kg	J	Q
67307	LL2SS-278M-1232-QA	alpha-Chlordane	1.2	ug/kg	J+	C,$
67307	LL2SS-278M-1232-QA	Dieldrin	0.8	ug/kg	J	C,*III
67307	LL2SS-278M-1232-QA	Endosulfan I	4.3	ug/kg	J	C,*III
67307	LL2SS-278M-1232-QA	Endrin aldehyde	0.5	ug/kg	R	Q
67307	LL2SS-278M-1232-QA	Heptachlor	1.5	ug/kg	J	C,*III
67307	LL2SS-278M-1232-QA	Methoxychlor	0.6	ug/kg	R	C
67307	LL2SS-278M-1232-QA	2,4-Dinitrophenol	220	ug/kg	R	Q
67307	LL2SS-278M-1232-QA	3,3'-Dichlorobenzidine	280	ug/kg	R	C
67307	LL2SS-278M-1232-QA	3-Nitroaniline	32	ug/kg	R	C
67307	LL2SS-278M-1232-QA	4,6-Dinitro-2-methylphenol	71	ug/kg	R	Q
67307	LL2SS-278M-1232-QA	4-Chloroaniline	65	ug/kg	UJ	Q
67307	LL2SS-278M-1232-QA	4-Nitroaniline	31	ug/kg	UJ	C
67307	LL2SS-278M-1232-QA	4-Nitrophenol	330	ug/kg	UJ	C
67307	LL2SS-278M-1232-QA	Benzoic acid	290	ug/kg	R	L
67307	LL2SS-278M-1232-QA	Benzyl alcohol	78	ug/kg	R	Q
67307	LL2SS-278M-1232-QA	Pentachlorophenol	70	ug/kg	UJ	Q
67307	LL2SS-278M-1232-QA	2-Nitrotoluene	0.05	mg/kg	UJ	C
67307	LL2SS-278M-1232-QA	4-Nitrotoluene	0.07	mg/kg	UJ	C
67307	LL2SS-280D-1238-QA	Bromomethane	1.2	ug/kg	R	C
67307	LL2SS-280D-1238-QA	Methylene chloride	2.7	ug/kg	R	B,C
67307	LL2SS-285M-1245-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL2SS-285M-1245-QA	Aluminum	10600	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Antimony	0.43	mg/kg	R	B,Q
67307	LL2SS-285M-1245-QA	Arsenic	8.4	mg/kg	J	Q
67307	LL2SS-285M-1245-QA	Barium	59.8	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Beryllium	0.42	mg/kg	J	C,A
67307	LL2SS-285M-1245-QA	Calcium	3080	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Chromium	13.4	mg/kg	J	A

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier
67307	LL2SS-285M-1245-QA	Cobalt	8.2	mg/kg	J	Q
67307	LL2SS-285M-1245-QA	Copper	16.3	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Iron	28000	mg/kg	J	E,A
67307	LL2SS-285M-1245-QA	Lead	56.8	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Magnesium	2700	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Manganese	498	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Nickel	24.1	mg/kg	J	Q
67307	LL2SS-285M-1245-QA	Selenium	0.25	mg/kg	R	C,Q
67307	LL2SS-285M-1245-QA	Silver	0.03	mg/kg	R	Q
67307	LL2SS-285M-1245-QA	Thallium	0.096	mg/kg	R	C
67307	LL2SS-285M-1245-QA	Vanadium	13.2	mg/kg	J	Q,A
67307	LL2SS-285M-1245-QA	Zinc	104	mg/kg	J	A
67307	LL2SS-285M-1245-QA	Mercury	0.04	mg/kg	J	Q
67307	LL2SS-285M-1245-QA	3,3'-Dichlorobenzidine	39	ug/kg	R	C
67307	LL2SS-285M-1245-QA	3-Nitroaniline	9	ug/kg	R	C
67307	LL2SS-285M-1245-QA	4-Nitroaniline	6	ug/kg	UJ	C
67307	LL2SS-285M-1245-QA	4-Nitrophenol	93	ug/kg	UJ	C
67307	LL2SS-285M-1245-QA	Benzoic acid	130	ug/kg	R	L
67307	LL2SS-285M-1245-QA	2-Nitrotoluene	0.05	mg/kg	UJ	C
67307	LL2SS-285M-1245-QA	4-Nitrotoluene	0.07	mg/kg	UJ	C
67307	LL2SS-285M-1245-QA	Nitroglycerin	0.83	mg/kg	J	*III
67307	LL2SS-285M-1245-QA	Tetryl	0.2	mg/kg	J	*III
67307	LL2SS-297M-1262-QA	Nitroguanidine	0.29	mg/kg	J	*III
67307	LL2SS-297M-1262-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL2SS-297M-1262-QA	Aluminum	9700	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Antimony	0.58	mg/kg	R	B,Q
67307	LL2SS-297M-1262-QA	Arsenic	11.9	mg/kg	J	Q
67307	LL2SS-297M-1262-QA	Barium	45	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Beryllium	0.35	mg/kg	J	C,A
67307	LL2SS-297M-1262-QA	Calcium	6000	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Chromium	10	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Cobalt	6.3	mg/kg	J	Q
67307	LL2SS-297M-1262-QA	Copper	19.5	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Iron	28800	mg/kg	J	E,A
67307	LL2SS-297M-1262-QA	Lead	21.8	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Magnesium	3200	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Manganese	635	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Nickel	19.9	mg/kg	J	Q
67307	LL2SS-297M-1262-QA	Selenium	0.16	mg/kg	R	C,Q
67307	LL2SS-297M-1262-QA	Silver	0.03	mg/kg	R	Q
67307	LL2SS-297M-1262-QA	Thallium	0.12	mg/kg	R	C
67307	LL2SS-297M-1262-QA	Vanadium	11.3	mg/kg	J	Q,A
67307	LL2SS-297M-1262-QA	Zinc	82.5	mg/kg	J	A
67307	LL2SS-297M-1262-QA	Mercury	0.021	mg/kg	J	Q
67307	LL2SS-297M-1262-QA	2-Nitrotoluene	0.05	mg/kg	UJ	C
67307	LL2SS-297M-1262-QA	4-Nitrotoluene	0.07	mg/kg	UJ	C
67307	LL2SS-305M-1274-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL2SS-305M-1274-QA	Antimony	0.55	mg/kg	R	B,Q
67307	LL2SS-305M-1274-QA	Arsenic	9.6	mg/kg	J	Q

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier
67307	LL2SS-305M-1274-QA	Barium	50	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Beryllium	0.38	mg/kg	J	C,A
67307	LL2SS-305M-1274-QA	Calcium	3750	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Chromium	10.8	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Cobalt	6.8	mg/kg	J	Q
67307	LL2SS-305M-1274-QA	Copper	13.5	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Iron	23500	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Lead	15.3	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Selenium	0.19	mg/kg	R	C,Q
67307	LL2SS-305M-1274-QA	Silver	0.03	mg/kg	R	Q
67307	LL2SS-305M-1274-QA	Thallium	0.1	mg/kg	R	C
67307	LL2SS-305M-1274-QA	Vanadium	12.8	mg/kg	J	Q,A
67307	LL2SS-305M-1274-QA	Zinc	62.5	mg/kg	J	A
67307	LL2SS-305M-1274-QA	Mercury	0.018	mg/kg	J	Q
67307	LL2SS-305M-1274-QA	2-Nitrotoluene	0.05	mg/kg	UJ	C
67307	LL2SS-305M-1274-QA	4-Nitrotoluene	0.07	mg/kg	UJ	C
67307	LL3SS-249D-1180-QA	Bromomethane	1	ug/kg	R	C
67307	LL3SS-249D-1180-QA	Methylene chloride	1.6	ug/kg	R	C
67307	LL3SS-256M-1189-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL3SS-256M-1189-QA	Aluminum	1190	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Antimony	0.45	mg/kg	R	B,Q
67307	LL3SS-256M-1189-QA	Arsenic	9.7	mg/kg	J	Q
67307	LL3SS-256M-1189-QA	Barium	77.5	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Beryllium	0.63	mg/kg	J	C,A
67307	LL3SS-256M-1189-QA	Cadmium	0.25	mg/kg	J	E
67307	LL3SS-256M-1189-QA	Calcium	18000	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Chromium	13.8	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Cobalt	7	mg/kg	J	Q
67307	LL3SS-256M-1189-QA	Copper	18.5	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Iron	2580	mg/kg	J	E,A
67307	LL3SS-256M-1189-QA	Lead	35	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Magnesium	413	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Manganese	59	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Nickel	2.6	mg/kg	J	C
67307	LL3SS-256M-1189-QA	Selenium	0.04	mg/kg	R	C,Q
67307	LL3SS-256M-1189-QA	Silver	0.03	mg/kg	R	Q
67307	LL3SS-256M-1189-QA	Thallium	0.089	mg/kg	R	C
67307	LL3SS-256M-1189-QA	Vanadium	13	mg/kg	J	Q,A
67307	LL3SS-256M-1189-QA	Zinc	82.5	mg/kg	J	A
67307	LL3SS-256M-1189-QA	Mercury	0.027	mg/kg	J	Q
67307	LL3SS-256M-1189-QA	4,4'-DDE	9.9	ug/kg	J	C
67307	LL3SS-256M-1189-QA	alpha-Chlordane	21	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	beta-BHC	10	ug/kg	J+	$,C
67307	LL3SS-256M-1189-QA	Dieldrin	45	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	Endosulfan I	120	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	Endosulfan sulfate	4.6	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	Heptachlor	14	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	Heptachlor epoxide	220	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	Lindane	10	ug/kg	J	C,*III

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier
67307	LL3SS-256M-1189-QA	Methoxychlor	5.8	ug/kg	J	C,*III
67307	LL3SS-256M-1189-QA	3,3'-Dichlorobenzidine	39	ug/kg	R	C
67307	LL3SS-256M-1189-QA	3-Nitroaniline	9	ug/kg	R	C
67307	LL3SS-256M-1189-QA	4-Nitroaniline	6	ug/kg	UJ	C
67307	LL3SS-256M-1189-QA	Benzoic acid	130	ug/kg	R	L
67307	LL3SS-256M-1189-QA	2-Nitrotoluene	0.05	mg/kg	UJ	C
67307	LL3SS-256M-1189-QA	4-Nitrotoluene	0.07	mg/kg	UJ	C
67307	LL3SS-256M-1189-QA	Nitroglycerin	0.88	mg/kg	J	*III
67307	LL3SS-258M-1195-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL3SS-258M-1195-QA	Aluminum	960	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Antimony	0.4	mg/kg	R	B,Q
67307	LL3SS-258M-1195-QA	Arsenic	8.6	mg/kg	J	Q
67307	LL3SS-258M-1195-QA	Barium	42.5	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Beryllium	0.38	mg/kg	J	C,A
67307	LL3SS-258M-1195-QA	Cadmium	0.06	mg/kg	J	E
67307	LL3SS-258M-1195-QA	Calcium	5000	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Chromium	11	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Cobalt	6.3	mg/kg	J	Q
67307	LL3SS-258M-1195-QA	Copper	20	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Iron	2470	mg/kg	J	E,A
67307	LL3SS-258M-1195-QA	Lead	21.3	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Magnesium	283	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Manganese	41.8	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Nickel	2.1	mg/kg	J	C
67307	LL3SS-258M-1195-QA	Selenium	0.16	mg/kg	R	Q,C
67307	LL3SS-258M-1195-QA	Silver	0.03	mg/kg	R	Q
67307	LL3SS-258M-1195-QA	Thallium	0.076	mg/kg	R	C
67307	LL3SS-258M-1195-QA	Vanadium	11.5	mg/kg	J	Q,A
67307	LL3SS-258M-1195-QA	Zinc	77.5	mg/kg	J	A
67307	LL3SS-258M-1195-QA	Mercury	0.023	mg/kg	J	Q
67307	LL3SS-258M-1195-QA	3,3'-Dichlorobenzidine	280	ug/kg	R	C
67307	LL3SS-258M-1195-QA	3-Nitroaniline	32	ug/kg	R	C
67307	LL3SS-258M-1195-QA	4-Nitroaniline	31	ug/kg	UJ	C
67307	LL3SS-258M-1195-QA	4-Nitrophenol	330	ug/kg	UJ	C
67307	LL3SS-258M-1195-QA	Benzoic acid	290	ug/kg	R	L
67307	LL3SS-258M-1195-QA	2-Nitrotoluene	0.05	mg/kg	UJ	C
67307	LL3SS-258M-1195-QA	4-Nitrotoluene	0.069	mg/kg	UJ	C
67307	LL3SS-268M-1209-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL3SS-268M-1209-QA	Aluminum	14900	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Antimony	0.55	mg/kg	R	B,Q
67307	LL3SS-268M-1209-QA	Arsenic	9.6	mg/kg	J	Q
67307	LL3SS-268M-1209-QA	Barium	60	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Beryllium	0.5	mg/kg	J	C,A
67307	LL3SS-268M-1209-QA	Calcium	3750	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Chromium	13.8	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Cobalt	8	mg/kg	J	Q
67307	LL3SS-268M-1209-QA	Copper	14.5	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Iron	36500	mg/kg	J	E,A
67307	LL3SS-268M-1209-QA	Lead	22.8	mg/kg	J	A

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier
67307	LL3SS-268M-1209-QA	Magnesium	3650	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Manganese	825	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Nickel	31.8	mg/kg	J	Q
67307	LL3SS-268M-1209-QA	Selenium	0.23	mg/kg	R	C,Q
67307	LL3SS-268M-1209-QA	Silver	0.03	mg/kg	R	Q
67307	LL3SS-268M-1209-QA	Thallium	0.11	mg/kg	R	C
67307	LL3SS-268M-1209-QA	Vanadium	15.3	mg/kg	J	Q,A
67307	LL3SS-268M-1209-QA	Zinc	72.5	mg/kg	J	A
67307	LL3SS-268M-1209-QA	Mercury	0.027	mg/kg	J	Q
67307	LL3SS-268M-1209-QA	2-Nitrotoluene	0.051	mg/kg	UJ	C
67307	LL3SS-268M-1209-QA	4-Nitrotoluene	0.071	mg/kg	UJ	C
67307	LL4SS-201D-1186-QA	1,1,1-Trichloroethane	0.45	ug/kg	UJ	L
67307	LL4SS-201D-1186-QA	1,1-Dichloroethane	0.27	ug/kg	UJ	L
67307	LL4SS-201D-1186-QA	Bromomethane	1.1	ug/kg	R	C
67307	LL4SS-201D-1186-QA	Ethylbenzene	0.62	ug/kg	UJ	L
67307	LL4SS-201D-1186-QA	Methylene chloride	1.7	ug/kg	R	C
67307	LL4SS-201D-1186-QA	Vinyl chloride	0.62	ug/kg	UJ	L
67307	LL4SS-209M-1197-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL4SS-209M-1197-QA	Aluminum	11100	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Antimony	0.37	mg/kg	J-	Q
67307	LL4SS-209M-1197-QA	Arsenic	10.9	mg/kg	J	Q
67307	LL4SS-209M-1197-QA	Barium	77.5	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Beryllium	0.73	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Cadmium	0.1	mg/kg	J	E
67307	LL4SS-209M-1197-QA	Calcium	12800	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Chromium	14.3	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Cobalt	8.3	mg/kg	J	Q
67307	LL4SS-209M-1197-QA	Copper	21.5	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Iron	24000	mg/kg	J	E,A
67307	LL4SS-209M-1197-QA	Magnesium	4000	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Manganese	750	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Nickel	30	mg/kg	J	Q
67307	LL4SS-209M-1197-QA	Selenium	0.16	mg/kg	R	C,Q
67307	LL4SS-209M-1197-QA	Thallium	0.13	mg/kg	J	Q,A
67307	LL4SS-209M-1197-QA	Vanadium	15.9	mg/kg	J	A
67307	LL4SS-209M-1197-QA	Zinc	75	mg/kg	J	A
67307	LL4SS-209M-1197-QA	4,4'-DDD	14	ug/kg	J	C,*III
67307	LL4SS-209M-1197-QA	alpha-Chlordane	29	ug/kg	J	Q,C
67307	LL4SS-209M-1197-QA	beta-BHC	3.1	ug/kg	J	C,*III
67307	LL4SS-209M-1197-QA	Dieldrin	0.8	ug/kg	J	C,*III
67307	LL4SS-209M-1197-QA	Endrin aldehyde	0.5	ug/kg	UJ	Q
67307	LL4SS-209M-1197-QA	gamma-Chlordane	21	ug/kg	J+	C
67307	LL4SS-209M-1197-QA	Heptachlor	1.4	ug/kg	J	C,*III
67307	LL4SS-209M-1197-QA	Heptachlor epoxide	0.8	ug/kg	J	C,*III
67307	LL4SS-209M-1197-QA	Lindane	13	ug/kg	J	C,*III
67307	LL4SS-212M-1203-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL4SS-212M-1203-QA	Aluminum	8000	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Antimony	1.1	mg/kg	J	Q
67307	LL4SS-212M-1203-QA	Arsenic	13.6	mg/kg	J	Q

SDG	Sample ID	Analyte	Result	Units	Qualifier	Qualifier
67307	LL4SS-212M-1203-QA	Barium	42.5	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Beryllium	0.4	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Cadmium	0.078	mg/kg	J	E
67307	LL4SS-212M-1203-QA	Calcium	9500	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Chromium	11.3	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Cobalt	7.5	mg/kg	J	Q
67307	LL4SS-212M-1203-QA	Copper	23.3	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Iron	24000	mg/kg	J	E,A
67307	LL4SS-212M-1203-QA	Lead	20.5	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Magnesium	4500	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Manganese	600	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Nickel	23.5	mg/kg	J	Q
67307	LL4SS-212M-1203-QA	Selenium	0.04	mg/kg	R	C,Q
67307	LL4SS-212M-1203-QA	Silver	0.1	mg/kg	J	B,C,Q
67307	LL4SS-212M-1203-QA	Thallium	0.14	mg/kg	J	Q,A
67307	LL4SS-212M-1203-QA	Vanadium	21	mg/kg	J	Q,A
67307	LL4SS-212M-1203-QA	Zinc	92.5	mg/kg	J	A
67307	LL4SS-212M-1203-QA	Mercury	0.017	mg/kg	J	Q
67307	LL4SS-212M-1203-QA	2,4-Dinitrophenol	220	ug/kg	R	Q
67307	LL4SS-212M-1203-QA	3,3'-Dichlorobenzidine	280	ug/kg	R	C
67307	LL4SS-212M-1203-QA	3-Nitroaniline	32	ug/kg	R	C
67307	LL4SS-212M-1203-QA	4,6-Dinitro-2-methylphenol	71	ug/kg	UJ	Q
67307	LL4SS-212M-1203-QA	4-Chloroaniline	65	ug/kg	UJ	Q
67307	LL4SS-212M-1203-QA	4-Nitroaniline	31	ug/kg	UJ	C
67307	LL4SS-212M-1203-QA	4-Nitrophenol	330	ug/kg	UJ	C
67307	LL4SS-212M-1203-QA	Benzoic acid	290	ug/kg	R	L
67307	LL4SS-220M-1220-QA	Nitroguanidine	0.27	mg/kg	J	*III
67307	LL4SS-220M-1220-QA	Hexavalent Chromium	3.2	mg/kg	R	Q
67307	LL4SS-220M-1220-QA	Aluminum	5500	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Antimony	0.63	mg/kg	J	Q
67307	LL4SS-220M-1220-QA	Arsenic	8.8	mg/kg	J	Q
67307	LL4SS-220M-1220-QA	Barium	21	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Beryllium	0.25	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Calcium	1130	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Chromium	7	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Cobalt	4.3	mg/kg	J	Q
67307	LL4SS-220M-1220-QA	Copper	17.8	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Iron	15300	mg/kg	J	E,A
67307	LL4SS-220M-1220-QA	Lead	17	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Magnesium	1280	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Manganese	200	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Nickel	11.8	mg/kg	J	Q
67307	LL4SS-220M-1220-QA	Selenium	0.086	mg/kg	R	C,Q
67307	LL4SS-220M-1220-QA	Silver	0.03	mg/kg	R	Q
67307	LL4SS-220M-1220-QA	Thallium	0.1	mg/kg	J	Q,A
67307	LL4SS-220M-1220-QA	Vanadium	14.3	mg/kg	J	Q,A
67307	LL4SS-220M-1220-QA	Zinc	60	mg/kg	J	A
67307	LL4SS-220M-1220-QA	Mercury	0.014	mg/kg	J	Q

APPENDIX C

QA/Primary Sample Comparisons

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-278M-1232-QA	Aluminum	11400	J	LL2SS-278M-1231-SO	8190	mg/kg		
LL2SS-278M-1232-QA	Antimony	0.58	R	LL2SS-278M-1231-SO	0.0490	mg/kg	R	Major
LL2SS-278M-1232-QA	Arsenic	9.9	J	LL2SS-278M-1231-SO	12.1	mg/kg	J-	
LL2SS-278M-1232-QA	Barium	45	J	LL2SS-278M-1231-SO	44.9	mg/kg		
LL2SS-278M-1232-QA	Beryllium	0.48	J	LL2SS-278M-1231-SO	0.491	mg/kg		
LL2SS-278M-1232-QA	Cadmium	0.014	U	LL2SS-278M-1231-SO	0.386	mg/kg		Major
LL2SS-278M-1232-QA	Calcium	6000	J	LL2SS-278M-1231-SO	5020	mg/kg		
LL2SS-278M-1232-QA	Chromium	11.8	J	LL2SS-278M-1231-SO	27.2	mg/kg	J-	Minor
LL2SS-278M-1232-QA	Cobalt	7.5	J	LL2SS-278M-1231-SO	7.41	mg/kg	J-	
LL2SS-278M-1232-QA	Copper	16.8	J	LL2SS-278M-1231-SO	21.0	mg/kg		
LL2SS-278M-1232-QA	Iron	33000	J	LL2SS-278M-1231-SO	20200	mg/kg	J-	
LL2SS-278M-1232-QA	Lead	17.5	J	LL2SS-278M-1231-SO	23.8	mg/kg		
LL2SS-278M-1232-QA	Magnesium	4300	J	LL2SS-278M-1231-SO	2980	mg/kg		
LL2SS-278M-1232-QA	Manganese	570	J	LL2SS-278M-1231-SO	324	mg/kg	J-	
LL2SS-278M-1232-QA	Mercury	0.016	J	LL2SS-278M-1231-SO	0.0150	mg/kg	J	
LL2SS-278M-1232-QA	Nickel	26.5	J	LL2SS-278M-1231-SO	28.2	mg/kg	J	
LL2SS-278M-1232-QA	Potassium	1050		LL2SS-278M-1231-SO	934	mg/kg	J+	
LL2SS-278M-1232-QA	Selenium	0.28	R	LL2SS-278M-1231-SO	0.191	mg/kg	J	
LL2SS-278M-1232-QA	Silver	0.03	R	LL2SS-278M-1231-SO	0.179	mg/kg	UJ	Major
LL2SS-278M-1232-QA	Sodium	55.3		LL2SS-278M-1231-SO	58.6	mg/kg		
LL2SS-278M-1232-QA	Thallium	0.13	R	LL2SS-278M-1231-SO	0.129	mg/kg		
LL2SS-278M-1232-QA	Vanadium	10.8	J	LL2SS-278M-1231-SO	12.3	mg/kg		
LL2SS-278M-1232-QA	Zinc	62.5	J	LL2SS-278M-1231-SO	62.4	mg/kg		
LL2SS-278M-1232-QA	4,4'-DDD	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	4,4'-DDE	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	J	Minor
LL2SS-278M-1232-QA	4,4'-DDT	0.6	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	Aldrin	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	alpha-BHC	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	beta-BHC	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	delta-BHC	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	Dieldrin	0.8	J	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	Minor
LL2SS-278M-1232-QA	Endosulfan I	4.3	J	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	Endosulfan II	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-278M-1232-QA	Endosulfan sulfate	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	Endrin	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	J	Minor
LL2SS-278M-1232-QA	Endrin aldehyde	0.5	R	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	Major
LL2SS-278M-1232-QA	Endrin ketone	0.5	U	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	Heptachlor	1.5	J	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	
LL2SS-278M-1232-QA	Heptachlor epoxide	0.6	U	LL2SS-278M-1231-SO	3.41	ug/kg	J	Major
LL2SS-278M-1232-QA	Methoxychlor	0.6	R	LL2SS-278M-1231-SO	3.41	ug/kg	UJ	Major
LL2SS-278M-1232-QA	Toxaphene	7	U	LL2SS-278M-1231-SO	173	ug/kg	UJ	Major
LL2SS-278M-1232-QA	Aroclor-1016	9	U	LL2SS-278M-1231-SO	8.35	ug/kg	U	
LL2SS-278M-1232-QA	Aroclor-1221	12	U	LL2SS-278M-1231-SO	8.35	ug/kg	U	
LL2SS-278M-1232-QA	Aroclor-1232	14	U	LL2SS-278M-1231-SO	8.35	ug/kg	U	
LL2SS-278M-1232-QA	Aroclor-1242	10	U	LL2SS-278M-1231-SO	8.35	ug/kg	U	
LL2SS-278M-1232-QA	Aroclor-1248	9	U	LL2SS-278M-1231-SO	8.35	ug/kg	U	
LL2SS-278M-1232-QA	Aroclor-1254	80		LL2SS-278M-1231-SO	106	ug/kg		
LL2SS-278M-1232-QA	Aroclor-1260	6	U	LL2SS-278M-1231-SO	8.35	ug/kg	U	
LL2SS-278M-1232-QA	1,2,4-Trichlorobenzene	16	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	1,2-Dichlorobenzene	10	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	1,3-Dichlorobenzene	11	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	1,4-Dichlorobenzene	13	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2,4,5-Trichlorophenol	110	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2,4,6-Trichlorophenol	76	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2,4-Dichlorophenol	93	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2,4-Dimethylphenol	77	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2,4-Dinitrophenol	220	R	LL2SS-278M-1231-SO	408	ug/kg	U	
LL2SS-278M-1232-QA	2,4-Dinitrotoluene	23	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2,6-Dinitrotoluene	31	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2-Chloronaphthalene	13	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2-Chlorophenol	110	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2-Methylnaphthalene	19	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2-Methylphenol	110	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	2-Nitroaniline	26	U	LL2SS-278M-1231-SO	408	ug/kg	U	
LL2SS-278M-1232-QA	2-Nitrophenol	120	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	3,3'-Dichlorobenzidine	280	R	LL2SS-278M-1231-SO	163	ug/kg	UJ	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-278M-1232-QA	3-Nitroaniline	32	R	LL2SS-278M-1231-SO	408	ug/kg	U	Major
LL2SS-278M-1232-QA	4,6-Dinitro-2-methylphenol	71	R	LL2SS-278M-1231-SO	408	ug/kg	U	Major
LL2SS-278M-1232-QA	4-Chloro-3-methylphenol	91	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	4-Chloroaniline	65	UJ	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	4-Chlorophenyl-phenyl ether	31	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	4-Nitroaniline	31	UJ	LL2SS-278M-1231-SO	408	ug/kg	U	
LL2SS-278M-1232-QA	4-Nitrophenol	330	UJ	LL2SS-278M-1231-SO	408	ug/kg	U	
LL2SS-278M-1232-QA	Acenaphthene	15	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Acenaphthylene	20	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Anthracene	19	J	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Benzo(a)anthracene	150		LL2SS-278M-1231-SO	118	ug/kg	J	
LL2SS-278M-1232-QA	Benzo(a)pyrene	130		LL2SS-278M-1231-SO	104	ug/kg	J	
LL2SS-278M-1232-QA	Benzo(b)fluoranthene	190		LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Benzo(g,h,i)perylene	67	J	LL2SS-278M-1231-SO	81.7	ug/kg	UJ	
LL2SS-278M-1232-QA	Benzo(k)fluoranthene	61	J	LL2SS-278M-1231-SO	144	ug/kg	J	
LL2SS-278M-1232-QA	Benzoic acid	290	R	LL2SS-278M-1231-SO	327	ug/kg	R	
LL2SS-278M-1232-QA	Benzyl alcohol	78	R	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Bis(2-chloroethoxy)methane	20	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Bis(2-chloroethyl)ether	14	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Bis(2-chloroisopropyl)ether	11	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Bis(2-ethylhexyl)phthalate	480		LL2SS-278M-1231-SO	81.7	ug/kg	UJ	Major
LL2SS-278M-1232-QA	Butylbenzylphthalate	24	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Carbazole	11	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Chrysene	110		LL2SS-278M-1231-SO	112	ug/kg	J	
LL2SS-278M-1232-QA	Dibenzo(a,h)anthracene	11	U	LL2SS-278M-1231-SO	81.7	ug/kg	UJ	
LL2SS-278M-1232-QA	Dibenzofuran	37	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Diethylphthalate	38	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Dimethylphthalate	26	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Di-n-butylphthalate	59	J	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Di-n-octylphthalate	39	U	LL2SS-278M-1231-SO	81.7	ug/kg	UJ	
LL2SS-278M-1232-QA	Fluoranthene	220		LL2SS-278M-1231-SO	236	ug/kg		
LL2SS-278M-1232-QA	Fluorene	11	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Hexachlorobenzene	15	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-278M-1232-QA	Hexachlorobutadiene	31	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Hexachlorocyclopentadiene	26	U	LL2SS-278M-1231-SO	81.7	ug/kg	R	
LL2SS-278M-1232-QA	Hexachloroethane	17	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Indeno(1,2,3-cd)pyrene	62	J	LL2SS-278M-1231-SO	81.7	ug/kg	UJ	
LL2SS-278M-1232-QA	Isophorone	27	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Naphthalene	9	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Nitrobenzene	40	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Pentachlorophenol	70	UJ	LL2SS-278M-1231-SO	408	ug/kg	U	
LL2SS-278M-1232-QA	Phenanthrene	54	J	LL2SS-278M-1231-SO	96.2	ug/kg	J	
LL2SS-278M-1232-QA	Phenol	130	U	LL2SS-278M-1231-SO	81.7	ug/kg	U	
LL2SS-278M-1232-QA	Pyrene	180		LL2SS-278M-1231-SO	185	ug/kg		
LL2SS-278M-1232-QA	1,3,5-Trinitrobenzene	0.06	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	1,3-Dinitrobenzene	0.04	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	2,4,6-Trinitrotoluene	0.08	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	2,4-Dinitrotoluene	0.04	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	2,6-Dinitrotoluene	0.06	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	2-Amino-4,6-dinitrotoluene	0.06	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	2-Nitrotoluene	0.05	UJ	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	3-Nitrotoluene	0.07	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	4-Amino-2,6-dinitrotoluene	0.08	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	4-Nitrotoluene	0.07	UJ	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	HMX	0.07	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	Nitrobenzene	0.05	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	Nitroglycerin	0.6	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	PETN	0.8	U	LL2SS-278M-1231-SO	0.501	mg/kg	U	
LL2SS-278M-1232-QA	RDX	0.06	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-278M-1232-QA	Tetryl	0.07	U	LL2SS-278M-1231-SO	0.100	mg/kg	U	
LL2SS-280D-1238-QA	1,1,1-Trichloroethane	0.5	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	1,1,2,2-Tetrachloroethane	1.1	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	1,1,2-Trichloroethane	0.6	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	1,1-Dichloroethane	0.3	U	LL2SS-280D-1237-SO	1.23	ug/kg	U	
LL2SS-280D-1238-QA	1,1-Dichloroethene	0.5	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	1,2-Dibromoethane	0.3	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-280D-1238-QA	1,2-Dichloroethane	0.6	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	1,2-Dichloropropane	0.6	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	2-Butanone	6	U	LL2SS-280D-1237-SO	3.06	ug/kg	U	
LL2SS-280D-1238-QA	2-Hexanone	5	U	LL2SS-280D-1237-SO	3.06	ug/kg	U	
LL2SS-280D-1238-QA	4-Methyl-2-pentanone	2.9	U	LL2SS-280D-1237-SO	3.06	ug/kg	U	
LL2SS-280D-1238-QA	Acetone	6	U	LL2SS-280D-1237-SO	6.13	ug/kg	R	
LL2SS-280D-1238-QA	Benzene	0.3	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Bromochloromethane	0.6	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Bromodichloromethane	0.4	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Bromoform	0.71	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Bromomethane	1.2	R	LL2SS-280D-1237-SO	1.23	ug/kg	U	
LL2SS-280D-1238-QA	Carbon disulfide	1	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Carbon tetrachloride	0.71	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Chlorobenzene	0.81	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Chloroethane	0.4	U	LL2SS-280D-1237-SO	1.23	ug/kg	U	
LL2SS-280D-1238-QA	Chloroform	0.4	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Chloromethane	0.5	U	LL2SS-280D-1237-SO	2.45	ug/kg	U	
LL2SS-280D-1238-QA	cis-1,3-Dichloropropene	0.6	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Dibromochloromethane	0.71	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Methylene chloride	2.7	R	LL2SS-280D-1237-SO	1.23	ug/kg	U	
LL2SS-280D-1238-QA	Styrene	0.5	U	LL2SS-280D-1237-SO	0.613	ug/kg	R	
LL2SS-280D-1238-QA	Tetrachloroethene	0.91	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Toluene	0.6	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	trans-1,3-Dichloropropene	0.81	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Trichloroethene	0.5	U	LL2SS-280D-1237-SO	0.613	ug/kg	U	
LL2SS-280D-1238-QA	Vinyl chloride	0.71	U	LL2SS-280D-1237-SO	1.23	ug/kg	U	
LL2SS-285M-1245-QA	Aluminum	10600	J	LL2SS-285M-1244-SO	7840	mg/kg		
LL2SS-285M-1245-QA	Antimony	0.43	R	LL2SS-285M-1244-SO	0.0545	mg/kg	R	Major
LL2SS-285M-1245-QA	Arsenic	8.4	J	LL2SS-285M-1244-SO	9.75	mg/kg	J-	
LL2SS-285M-1245-QA	Barium	59.8	J	LL2SS-285M-1244-SO	57.8	mg/kg		
LL2SS-285M-1245-QA	Beryllium	0.42	J	LL2SS-285M-1244-SO	0.476	mg/kg		
LL2SS-285M-1245-QA	Cadmium	0.014	U	LL2SS-285M-1244-SO	0.865	mg/kg		Major
LL2SS-285M-1245-QA	Calcium	3080	J	LL2SS-285M-1244-SO	5350	mg/kg		

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-285M-1245-QA	Chromium	13.4	J	LL2SS-285M-1244-SO	14.0	mg/kg	J-	
LL2SS-285M-1245-QA	Cobalt	8.2	J	LL2SS-285M-1244-SO	7.25	mg/kg	J-	
LL2SS-285M-1245-QA	Copper	16.3	J	LL2SS-285M-1244-SO	20.5	mg/kg		
LL2SS-285M-1245-QA	Iron	28000	J	LL2SS-285M-1244-SO	21200	mg/kg	J-	
LL2SS-285M-1245-QA	Lead	56.8	J	LL2SS-285M-1244-SO	38.7	mg/kg		
LL2SS-285M-1245-QA	Magnesium	2700	J	LL2SS-285M-1244-SO	2170	mg/kg		
LL2SS-285M-1245-QA	Manganese	498	J	LL2SS-285M-1244-SO	405	mg/kg	J-	
LL2SS-285M-1245-QA	Mercury	0.04	J	LL2SS-285M-1244-SO	0.0346	mg/kg	J	
LL2SS-285M-1245-QA	Nickel	24.1	J	LL2SS-285M-1244-SO	22.0	mg/kg	J-	
LL2SS-285M-1245-QA	Potassium	1420		LL2SS-285M-1244-SO	540	mg/kg		Minor
LL2SS-285M-1245-QA	Selenium	0.25	R	LL2SS-285M-1244-SO	0.174	mg/kg	J-	
LL2SS-285M-1245-QA	Silver	0.03	R	LL2SS-285M-1244-SO	0.216	mg/kg	J	Major
LL2SS-285M-1245-QA	Sodium	145		LL2SS-285M-1244-SO	43.0	mg/kg		Major
LL2SS-285M-1245-QA	Thallium	0.096	R	LL2SS-285M-1244-SO	0.111	mg/kg		
LL2SS-285M-1245-QA	Vanadium	13.2	J	LL2SS-285M-1244-SO	13.4	mg/kg	J-	
LL2SS-285M-1245-QA	Zinc	104	J	LL2SS-285M-1244-SO	93.0	mg/kg	J-	
LL2SS-285M-1245-QA	Aroclor-1016	9	U	LL2SS-285M-1244-SO	44.4	ug/kg	UJ	
LL2SS-285M-1245-QA	Aroclor-1221	12	U	LL2SS-285M-1244-SO	44.4	ug/kg	UJ	
LL2SS-285M-1245-QA	Aroclor-1232	14	U	LL2SS-285M-1244-SO	44.4	ug/kg	UJ	
LL2SS-285M-1245-QA	Aroclor-1242	10	U	LL2SS-285M-1244-SO	44.4	ug/kg	UJ	
LL2SS-285M-1245-QA	Aroclor-1248	9	U	LL2SS-285M-1244-SO	44.4	ug/kg	UJ	
LL2SS-285M-1245-QA	Aroclor-1254	480		LL2SS-285M-1244-SO	437	ug/kg	J+	
LL2SS-285M-1245-QA	Aroclor-1260	6	U	LL2SS-285M-1244-SO	191	ug/kg	J+	Major
LL2SS-285M-1245-QA	1,2,4-Trichlorobenzene	4	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	1,2-Dichlorobenzene	5	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	1,3-Dichlorobenzene	4	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	1,4-Dichlorobenzene	3	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	2,4,5-Trichlorophenol	58	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	2,4,6-Trichlorophenol	15	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	2,4-Dichlorophenol	26	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	2,4-Dimethylphenol	21	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	2,4-Dinitrophenol	52	U	LL2SS-285M-1244-SO	445	ug/kg	UJ	
LL2SS-285M-1245-QA	2,4-Dinitrotoluene	72	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-285M-1245-QA	2,6-Dinitrotoluene	26	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	2-Chloronaphthalene	4	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	2-Chlorophenol	25	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	2-Methylnaphthalene	37	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	2-Methylphenol	32	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	2-Nitroaniline	6	U	LL2SS-285M-1244-SO	445	ug/kg	U	Major
LL2SS-285M-1245-QA	2-Nitrophenol	35	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	3,3'-Dichlorobenzidine	39	R	LL2SS-285M-1244-SO	178	ug/kg	U	Minor
LL2SS-285M-1245-QA	3-Nitroaniline	9	R	LL2SS-285M-1244-SO	445	ug/kg	U	Major
LL2SS-285M-1245-QA	4,6-Dinitro-2-methylphenol	45	U	LL2SS-285M-1244-SO	445	ug/kg	UJ	
LL2SS-285M-1245-QA	4-Chloro-3-methylphenol	48	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	4-Chloroaniline	3	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	4-Chlorophenyl-phenyl ether	4	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	4-Nitroaniline	6	UJ	LL2SS-285M-1244-SO	445	ug/kg	U	Major
LL2SS-285M-1245-QA	4-Nitrophenol	93	UJ	LL2SS-285M-1244-SO	445	ug/kg	UJ	
LL2SS-285M-1245-QA	Acenaphthene	110		LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Acenaphthylene	3	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	Anthracene	180		LL2SS-285M-1244-SO	175	ug/kg	J	
LL2SS-285M-1245-QA	Benzo(a)anthracene	320		LL2SS-285M-1244-SO	427	ug/kg		
LL2SS-285M-1245-QA	Benzo(a)pyrene	280		LL2SS-285M-1244-SO	379	ug/kg		
LL2SS-285M-1245-QA	Benzo(b)fluoranthene	390		LL2SS-285M-1244-SO	301	ug/kg		
LL2SS-285M-1245-QA	Benzo(g,h,i)perylene	150		LL2SS-285M-1244-SO	237	ug/kg	J	
LL2SS-285M-1245-QA	Benzo(k)fluoranthene	110		LL2SS-285M-1244-SO	382	ug/kg		
LL2SS-285M-1245-QA	Benzoic acid	130	R	LL2SS-285M-1244-SO	356	ug/kg	R	
LL2SS-285M-1245-QA	Benzyl alcohol	82	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Bis(2-chloroethoxy)methane	13	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Bis(2-chloroethyl)ether	12	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Bis(2-chloroisopropyl)ether	14	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Bis(2-ethylhexyl)phthalate	65	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Butylbenzylphthalate	17	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Carbazole	89	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Chrysene	320		LL2SS-285M-1244-SO	477	ug/kg		
LL2SS-285M-1245-QA	Dibenzo(a,h)anthracene	5	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	Major

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-285M-1245-QA	Dibenzofuran	58	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Diethylphthalate	16	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Dimethylphthalate	13	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Di-n-butylphthalate	77	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Di-n-octylphthalate	15	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Fluoranthene	870		LL2SS-285M-1244-SO	1090	ug/kg		
LL2SS-285M-1245-QA	Fluorene	120		LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Hexachlorobenzene	17	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Hexachlorobutadiene	9	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Hexachlorocyclopentadiene	16	U	LL2SS-285M-1244-SO	89.0	ug/kg	R	Major
LL2SS-285M-1245-QA	Hexachloroethane	8	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	Indeno(1,2,3-cd)pyrene	130		LL2SS-285M-1244-SO	201	ug/kg	J	
LL2SS-285M-1245-QA	Isophorone	9	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Naphthalene	76	J	LL2SS-285M-1244-SO	89.0	ug/kg	U	
LL2SS-285M-1245-QA	Nitrobenzene	4	U	LL2SS-285M-1244-SO	89.0	ug/kg	U	Major
LL2SS-285M-1245-QA	Pentachlorophenol	23	U	LL2SS-285M-1244-SO	445	ug/kg	UJ	Major
LL2SS-285M-1245-QA	Phenanthrene	920		LL2SS-285M-1244-SO	885	ug/kg		
LL2SS-285M-1245-QA	Phenol	34	U	LL2SS-285M-1244-SO	89.0	ug/kg	UJ	
LL2SS-285M-1245-QA	Pyrene	730		LL2SS-285M-1244-SO	978	ug/kg		
LL2SS-285M-1245-QA	1,3,5-Trinitrobenzene	0.75		LL2SS-285M-1244-SO	0.821	mg/kg		
LL2SS-285M-1245-QA	1,3-Dinitrobenzene	0.04	U	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	2,4,6-Trinitrotoluene	110		LL2SS-285M-1244-SO	125	mg/kg		
LL2SS-285M-1245-QA	2,4-Dinitrotoluene	0.12	J	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	2,6-Dinitrotoluene	0.06	U	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	2-Amino-4,6-dinitrotoluene	2.5		LL2SS-285M-1244-SO	1.75	mg/kg		
LL2SS-285M-1245-QA	2-Nitrotoluene	0.05	UJ	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	3-Nitrotoluene	0.07	U	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	4-Amino-2,6-dinitrotoluene	4		LL2SS-285M-1244-SO	3.07	mg/kg		
LL2SS-285M-1245-QA	4-Nitrotoluene	0.07	UJ	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	HMX	0.07	U	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	Nitrobenzene	0.05	U	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-285M-1245-QA	Nitroglycerin	0.83	J	LL2SS-285M-1244-SO	0.0996	mg/kg	U	Major
LL2SS-285M-1245-QA	PETN	0.8	U	LL2SS-285M-1244-SO	0.498	mg/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-285M-1245-QA	RDX	0.1	J	LL2SS-285M-1244-SO	0.186	mg/kg	J	
LL2SS-285M-1245-QA	Tetryl	0.2	J	LL2SS-285M-1244-SO	0.0996	mg/kg	U	
LL2SS-297M-1262-QA	Nitroguanidine	0.05	J	LL2SS-297M-1261-SO	0.131	mg/kg	UJ	Minor
LL2SS-297M-1262-QA	Aluminum	9700	J	LL2SS-297M-1261-SO	7360	mg/kg		
LL2SS-297M-1262-QA	Antimony	0.58	R	LL2SS-297M-1261-SO	0.0525	mg/kg	R	Major
LL2SS-297M-1262-QA	Arsenic	11.9	J	LL2SS-297M-1261-SO	17.0	mg/kg	J-	
LL2SS-297M-1262-QA	Barium	45	J	LL2SS-297M-1261-SO	44.7	mg/kg		
LL2SS-297M-1262-QA	Beryllium	0.35	J	LL2SS-297M-1261-SO	0.382	mg/kg		
LL2SS-297M-1262-QA	Cadmium	0.014	U	LL2SS-297M-1261-SO	0.453	mg/kg		Major
LL2SS-297M-1262-QA	Calcium	6000	J	LL2SS-297M-1261-SO	3700	mg/kg	J-	
LL2SS-297M-1262-QA	Chromium	10	J	LL2SS-297M-1261-SO	9.80	mg/kg	J-	
LL2SS-297M-1262-QA	Cobalt	6.3	J	LL2SS-297M-1261-SO	6.44	mg/kg	J-	
LL2SS-297M-1262-QA	Copper	19.5	J	LL2SS-297M-1261-SO	22.6	mg/kg		
LL2SS-297M-1262-QA	Iron	28800	J	LL2SS-297M-1261-SO	21400	mg/kg	J-	
LL2SS-297M-1262-QA	Lead	21.8	J	LL2SS-297M-1261-SO	23.5	mg/kg		
LL2SS-297M-1262-QA	Magnesium	3200	J	LL2SS-297M-1261-SO	2130	mg/kg		
LL2SS-297M-1262-QA	Manganese	635	J	LL2SS-297M-1261-SO	428	mg/kg	J-	
LL2SS-297M-1262-QA	Mercury	0.021	J	LL2SS-297M-1261-SO	0.0106	mg/kg	UJ	
LL2SS-297M-1262-QA	Nickel	19.9	J	LL2SS-297M-1261-SO	20.3	mg/kg	J-	
LL2SS-297M-1262-QA	Potassium	1140		LL2SS-297M-1261-SO	711	mg/kg		
LL2SS-297M-1262-QA	Selenium	0.16	R	LL2SS-297M-1261-SO	0.312	mg/kg	J-	
LL2SS-297M-1262-QA	Silver	0.03	R	LL2SS-297M-1261-SO	0.192	mg/kg	U	Major
LL2SS-297M-1262-QA	Sodium	54.3		LL2SS-297M-1261-SO	48.1	mg/kg		
LL2SS-297M-1262-QA	Thallium	0.12	R	LL2SS-297M-1261-SO	0.125	mg/kg		
LL2SS-297M-1262-QA	Vanadium	11.3	J	LL2SS-297M-1261-SO	12.6	mg/kg		
LL2SS-297M-1262-QA	Zinc	82.5	J	LL2SS-297M-1261-SO	80.9	mg/kg	J-	
LL2SS-297M-1262-QA	1,3,5-Trinitrobenzene	0.06	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	1,3-Dinitrobenzene	0.04	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	2,4,6-Trinitrotoluene	0.08	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	2,4-Dinitrotoluene	0.04	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	2,6-Dinitrotoluene	0.06	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	2-Amino-4,6-dinitrotoluene	0.06	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	2-Nitrotoluene	0.05	UJ	LL2SS-297M-1261-SO	0.0997	mg/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-297M-1262-QA	3-Nitrotoluene	0.07	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	4-Amino-2,6-dinitrotoluene	0.08	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	4-Nitrotoluene	0.07	UJ	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	HMX	0.07	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	Nitrobenzene	0.05	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	Nitroglycerin	0.6	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	PETN	0.8	U	LL2SS-297M-1261-SO	0.499	mg/kg	U	
LL2SS-297M-1262-QA	RDX	0.06	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	Tetryl	0.07	U	LL2SS-297M-1261-SO	0.0997	mg/kg	U	
LL2SS-297M-1262-QA	Nitrocellulose	33.04		LL2SS-297M-1261-SO	2.00	mg/kg	UJ	Major
LL2SS-305M-1274-QA	Aluminum	9230		LL2SS-305M-1273-SO	8280	mg/kg		
LL2SS-305M-1274-QA	Antimony	0.55	R	LL2SS-305M-1273-SO	0.0568	mg/kg	R	Major
LL2SS-305M-1274-QA	Arsenic	9.6	J	LL2SS-305M-1273-SO	11.5	mg/kg		
LL2SS-305M-1274-QA	Barium	50	J	LL2SS-305M-1273-SO	51.5	mg/kg		
LL2SS-305M-1274-QA	Beryllium	0.38	J	LL2SS-305M-1273-SO	0.417	mg/kg		
LL2SS-305M-1274-QA	Cadmium	0.014	U	LL2SS-305M-1273-SO	0.432	mg/kg		Major
LL2SS-305M-1274-QA	Calcium	3750	J	LL2SS-305M-1273-SO	4180	mg/kg		
LL2SS-305M-1274-QA	Chromium	10.8	J	LL2SS-305M-1273-SO	17.5	mg/kg		
LL2SS-305M-1274-QA	Cobalt	6.8	J	LL2SS-305M-1273-SO	5.88	mg/kg	J	
LL2SS-305M-1274-QA	Copper	13.5	J	LL2SS-305M-1273-SO	17.6	mg/kg	J	
LL2SS-305M-1274-QA	Iron	23500	J	LL2SS-305M-1273-SO	18900	mg/kg		
LL2SS-305M-1274-QA	Lead	15.3	J	LL2SS-305M-1273-SO	22.9	mg/kg	J-	
LL2SS-305M-1274-QA	Magnesium	2460		LL2SS-305M-1273-SO	2280	mg/kg		
LL2SS-305M-1274-QA	Manganese	428		LL2SS-305M-1273-SO	345	mg/kg	J-	
LL2SS-305M-1274-QA	Mercury	0.018	J	LL2SS-305M-1273-SO	0.0141	mg/kg	J	
LL2SS-305M-1274-QA	Nickel	47.3		LL2SS-305M-1273-SO	41.9	mg/kg	J+	
LL2SS-305M-1274-QA	Potassium	880		LL2SS-305M-1273-SO	664	mg/kg	J+	
LL2SS-305M-1274-QA	Selenium	0.19	R	LL2SS-305M-1273-SO	0.206	mg/kg	J	
LL2SS-305M-1274-QA	Silver	0.03	R	LL2SS-305M-1273-SO	0.202	mg/kg	UJ	Major
LL2SS-305M-1274-QA	Sodium	33.8		LL2SS-305M-1273-SO	40.8	mg/kg		
LL2SS-305M-1274-QA	Thallium	0.1	R	LL2SS-305M-1273-SO	0.130	mg/kg		
LL2SS-305M-1274-QA	Vanadium	12.8	J	LL2SS-305M-1273-SO	12.7	mg/kg	J-	
LL2SS-305M-1274-QA	Zinc	62.5	J	LL2SS-305M-1273-SO	59.5	mg/kg	J-	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL2SS-305M-1274-QA	1,3,5-Trinitrobenzene	0.076	J	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	1,3-Dinitrobenzene	0.04	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	2,4,6-Trinitrotoluene	9.9		LL2SS-305M-1273-SO	5.81	mg/kg		
LL2SS-305M-1274-QA	2,4-Dinitrotoluene	0.04	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	2,6-Dinitrotoluene	0.06	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	2-Amino-4,6-dinitrotoluene	0.37		LL2SS-305M-1273-SO	0.327	mg/kg		
LL2SS-305M-1274-QA	2-Nitrotoluene	0.05	UJ	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	3-Nitrotoluene	0.07	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	4-Amino-2,6-dinitrotoluene	0.87		LL2SS-305M-1273-SO	0.607	mg/kg		
LL2SS-305M-1274-QA	4-Nitrotoluene	0.07	UJ	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	HMX	0.07	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	Nitrobenzene	0.05	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	Nitroglycerin	0.6	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	PETN	0.8	U	LL2SS-305M-1273-SO	0.497	mg/kg	U	
LL2SS-305M-1274-QA	RDX	0.06	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL2SS-305M-1274-QA	Tetryl	0.07	U	LL2SS-305M-1273-SO	0.0994	mg/kg	U	
LL3SS-249D-1180-QA	1,1,1-Trichloroethane	0.42	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	1,1,2,2-Tetrachloroethane	0.92	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	1,1,2-Trichloroethane	0.5	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	1,1-Dichloroethane	0.25	U	LL3SS-249D-1179-SO	0.848	ug/kg	U	
LL3SS-249D-1180-QA	1,1-Dichloroethene	0.42	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	1,2-Dibromoethane	0.25	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	1,2-Dichloroethane	0.5	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	1,2-Dichloropropane	0.5	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	2-Butanone	5	U	LL3SS-249D-1179-SO	2.12	ug/kg	U	
LL3SS-249D-1180-QA	2-Hexanone	4.2	U	LL3SS-249D-1179-SO	2.12	ug/kg	U	
LL3SS-249D-1180-QA	4-Methyl-2-pentanone	2.4	U	LL3SS-249D-1179-SO	2.12	ug/kg	UJ	
LL3SS-249D-1180-QA	Acetone	5	U	LL3SS-249D-1179-SO	4.24	ug/kg	R	
LL3SS-249D-1180-QA	Benzene	0.25	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Bromochloromethane	0.5	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Bromodichloromethane	0.33	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Bromoform	0.58	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Bromomethane	1	R	LL3SS-249D-1179-SO	0.848	ug/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-249D-1180-QA	Carbon disulfide	0.83	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Carbon tetrachloride	0.58	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Chlorobenzene	0.67	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Chloroethane	0.33	U	LL3SS-249D-1179-SO	0.848	ug/kg	U	
LL3SS-249D-1180-QA	Chloroform	0.33	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Chloromethane	0.42	U	LL3SS-249D-1179-SO	1.70	ug/kg	U	
LL3SS-249D-1180-QA	cis-1,3-Dichloropropene	0.5	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Dibromochloromethane	0.58	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Methylene chloride	1.6	R	LL3SS-249D-1179-SO	0.848	ug/kg	U	
LL3SS-249D-1180-QA	Styrene	0.42	U	LL3SS-249D-1179-SO	0.424	ug/kg	R	
LL3SS-249D-1180-QA	Tetrachloroethene	0.75	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Toluene	0.5	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	trans-1,3-Dichloropropene	0.67	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Trichloroethene	0.42	U	LL3SS-249D-1179-SO	0.424	ug/kg	U	
LL3SS-249D-1180-QA	Vinyl chloride	0.58	U	LL3SS-249D-1179-SO	0.848	ug/kg	U	
LL3SS-256M-1189-QA	Nitroguanidine	0.049		LL3SS-256M-1188-SO	0.127	mg/kg	UJ	Minor
LL3SS-256M-1189-QA	Aluminum	1190	J	LL3SS-256M-1188-SO	9700	mg/kg		Major
LL3SS-256M-1189-QA	Antimony	0.45	R	LL3SS-256M-1188-SO	0.0511	mg/kg	R	Major
LL3SS-256M-1189-QA	Arsenic	9.7	J	LL3SS-256M-1188-SO	9.26	mg/kg	J-	
LL3SS-256M-1189-QA	Barium	77.5	J	LL3SS-256M-1188-SO	65.6	mg/kg		
LL3SS-256M-1189-QA	Beryllium	0.63	J	LL3SS-256M-1188-SO	0.581	mg/kg		
LL3SS-256M-1189-QA	Cadmium	0.25	J	LL3SS-256M-1188-SO	0.837	mg/kg		Major
LL3SS-256M-1189-QA	Calcium	18000	J	LL3SS-256M-1188-SO	10400	mg/kg		
LL3SS-256M-1189-QA	Chromium	13.8	J	LL3SS-256M-1188-SO	13.4	mg/kg		
LL3SS-256M-1189-QA	Cobalt	7	J	LL3SS-256M-1188-SO	6.57	mg/kg		
LL3SS-256M-1189-QA	Copper	18.5	J	LL3SS-256M-1188-SO	24.0	mg/kg		
LL3SS-256M-1189-QA	Iron	2580	J	LL3SS-256M-1188-SO	19600	mg/kg		Major
LL3SS-256M-1189-QA	Lead	35	J	LL3SS-256M-1188-SO	33.7	mg/kg	J-	
LL3SS-256M-1189-QA	Magnesium	413	J	LL3SS-256M-1188-SO	2980	mg/kg		Major
LL3SS-256M-1189-QA	Manganese	59	J	LL3SS-256M-1188-SO	357	mg/kg	J-	Major
LL3SS-256M-1189-QA	Mercury	0.027	J	LL3SS-256M-1188-SO	0.0194	mg/kg	J	
LL3SS-256M-1189-QA	Nickel	2.6	J	LL3SS-256M-1188-SO	18.8	mg/kg	J-	Major
LL3SS-256M-1189-QA	Potassium	880		LL3SS-256M-1188-SO	1040	mg/kg	J+	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-256M-1189-QA	Selenium	0.04	R	LL3SS-256M-1188-SO	0.332	mg/kg	J+	Major
LL3SS-256M-1189-QA	Silver	0.03	R	LL3SS-256M-1188-SO	0.259	mg/kg	J	Major
LL3SS-256M-1189-QA	Sodium	34.5		LL3SS-256M-1188-SO	114	mg/kg		Major
LL3SS-256M-1189-QA	Thallium	0.089	R	LL3SS-256M-1188-SO	0.106	mg/kg		
LL3SS-256M-1189-QA	Vanadium	13	J	LL3SS-256M-1188-SO	14.5	mg/kg		
LL3SS-256M-1189-QA	Zinc	82.5	J	LL3SS-256M-1188-SO	104	mg/kg		
LL3SS-256M-1189-QA	4,4'-DDD	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	4,4'-DDE	9.9	J	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	4,4'-DDT	0.6	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	Aldrin	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	alpha-BHC	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	beta-BHC	10	J+	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	delta-BHC	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	Dieldrin	45	J	LL3SS-256M-1188-SO	3.40	ug/kg	J	Major
LL3SS-256M-1189-QA	Endosulfan I	120	J	LL3SS-256M-1188-SO	3.40	ug/kg	U	Major
LL3SS-256M-1189-QA	Endosulfan II	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	Endosulfan sulfate	4.6	J	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	Endrin	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg		Major
LL3SS-256M-1189-QA	Endrin aldehyde	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg		Major
LL3SS-256M-1189-QA	Endrin ketone	0.5	U	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	Heptachlor	14	J	LL3SS-256M-1188-SO	3.40	ug/kg	U	Minor
LL3SS-256M-1189-QA	Heptachlor epoxide	220	J	LL3SS-256M-1188-SO	3.40	ug/kg	NJ	Major
LL3SS-256M-1189-QA	Methoxychlor	5.8	J	LL3SS-256M-1188-SO	3.40	ug/kg	U	
LL3SS-256M-1189-QA	Toxaphene	7	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Aroclor-1016	9	U	LL3SS-256M-1188-SO	84.3	ug/kg	U	
LL3SS-256M-1189-QA	Aroclor-1221	12	U	LL3SS-256M-1188-SO	84.3	ug/kg	U	
LL3SS-256M-1189-QA	Aroclor-1232	14	U	LL3SS-256M-1188-SO	84.3	ug/kg	U	
LL3SS-256M-1189-QA	Aroclor-1242	10	U	LL3SS-256M-1188-SO	84.3	ug/kg	U	
LL3SS-256M-1189-QA	Aroclor-1248	9	U	LL3SS-256M-1188-SO	84.3	ug/kg	U	
LL3SS-256M-1189-QA	Aroclor-1254	2000		LL3SS-256M-1188-SO	1380	ug/kg		
LL3SS-256M-1189-QA	Aroclor-1260	6	U	LL3SS-256M-1188-SO	84.3	ug/kg	U	Major
LL3SS-256M-1189-QA	1,2,4-Trichlorobenzene	4	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	1,2-Dichlorobenzene	5	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-256M-1189-QA	1,3-Dichlorobenzene	4	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	1,4-Dichlorobenzene	3	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	2,4,5-Trichlorophenol	58	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2,4,6-Trichlorophenol	15	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	2,4-Dichlorophenol	26	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2,4-Dimethylphenol	21	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2,4-Dinitrophenol	52	U	LL3SS-256M-1188-SO	858	ug/kg	U	Major
LL3SS-256M-1189-QA	2,4-Dinitrotoluene	21	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2,6-Dinitrotoluene	26	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2-Chloronaphthalene	4	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	2-Chlorophenol	25	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2-Methylnaphthalene	49	J	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2-Methylphenol	32	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	2-Nitroaniline	6	U	LL3SS-256M-1188-SO	858	ug/kg	U	Major
LL3SS-256M-1189-QA	2-Nitrophenol	35	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	3,3'-Dichlorobenzidine	39	R	LL3SS-256M-1188-SO	344	ug/kg	U	Major
LL3SS-256M-1189-QA	3-Nitroaniline	9	R	LL3SS-256M-1188-SO	858	ug/kg	U	Major
LL3SS-256M-1189-QA	4,6-Dinitro-2-methylphenol	45	U	LL3SS-256M-1188-SO	858	ug/kg	U	Major
LL3SS-256M-1189-QA	4-Chloro-3-methylphenol	48	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	4-Chloroaniline	3	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	4-Chlorophenyl-phenyl ether	4	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	4-Nitroaniline	6	UJ	LL3SS-256M-1188-SO	858	ug/kg	U	Major
LL3SS-256M-1189-QA	4-Nitrophenol	93	U	LL3SS-256M-1188-SO	858	ug/kg	U	
LL3SS-256M-1189-QA	Acenaphthene	45	J	LL3SS-256M-1188-SO	225	ug/kg	J	Minor
LL3SS-256M-1189-QA	Acenaphthylene	3	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Anthracene	100	J	LL3SS-256M-1188-SO	648	ug/kg		Major
LL3SS-256M-1189-QA	Benzo(a)anthracene	180		LL3SS-256M-1188-SO	772	ug/kg		Minor
LL3SS-256M-1189-QA	Benzo(a)pyrene	150		LL3SS-256M-1188-SO	622	ug/kg		Minor
LL3SS-256M-1189-QA	Benzo(b)fluoranthene	250		LL3SS-256M-1188-SO	478	ug/kg		
LL3SS-256M-1189-QA	Benzo(g,h,i)perylene	74	J	LL3SS-256M-1188-SO	218	ug/kg	J	
LL3SS-256M-1189-QA	Benzo(k)fluoranthene	78	J	LL3SS-256M-1188-SO	696	ug/kg		Major
LL3SS-256M-1189-QA	Benzoic acid	130	R	LL3SS-256M-1188-SO	688	ug/kg	U	Major
LL3SS-256M-1189-QA	Benzyl alcohol	82	U	LL3SS-256M-1188-SO	172	ug/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-256M-1189-QA	Bis(2-chloroethoxy)methane	13	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Bis(2-chloroethyl)ether	12	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Bis(2-chloroisopropyl)ether	14	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Bis(2-ethylhexyl)phthalate	110		LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	Butylbenzylphthalate	17	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Carbazole	44	J	LL3SS-256M-1188-SO	289	ug/kg	J	Major
LL3SS-256M-1189-QA	Chrysene	180		LL3SS-256M-1188-SO	753	ug/kg		Minor
LL3SS-256M-1189-QA	Dibenzo(a,h)anthracene	5	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Dibenzofuran	51	J	LL3SS-256M-1188-SO	189	ug/kg	J	
LL3SS-256M-1189-QA	Diethylphthalate	50	J	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	Dimethylphthalate	13	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Di-n-butylphthalate	220		LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	Di-n-octylphthalate	15	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Fluoranthene	440		LL3SS-256M-1188-SO	2030	ug/kg		Minor
LL3SS-256M-1189-QA	Fluorene	66	J	LL3SS-256M-1188-SO	333	ug/kg	J	Major
LL3SS-256M-1189-QA	Hexachlorobenzene	17	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Hexachlorobutadiene	9	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Hexachlorocyclopentadiene	16	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Hexachloroethane	8	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Indeno(1,2,3-cd)pyrene	67	J	LL3SS-256M-1188-SO	231	ug/kg	J	
LL3SS-256M-1189-QA	Isophorone	9	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Naphthalene	69	J	LL3SS-256M-1188-SO	176	ug/kg	J	
LL3SS-256M-1189-QA	Nitrobenzene	4	U	LL3SS-256M-1188-SO	172	ug/kg	U	Major
LL3SS-256M-1189-QA	Pentachlorophenol	23	U	LL3SS-256M-1188-SO	858	ug/kg	U	Major
LL3SS-256M-1189-QA	Phenanthrene	400		LL3SS-256M-1188-SO	2240	ug/kg		Major
LL3SS-256M-1189-QA	Phenol	34	U	LL3SS-256M-1188-SO	172	ug/kg	U	
LL3SS-256M-1189-QA	Pyrene	340		LL3SS-256M-1188-SO	1610	ug/kg		Minor
LL3SS-256M-1189-QA	1,3,5-Trinitrobenzene	0.81		LL3SS-256M-1188-SO	0.863	mg/kg		
LL3SS-256M-1189-QA	1,3-Dinitrobenzene	0.04	U	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	2,4,6-Trinitrotoluene	97		LL3SS-256M-1188-SO	51.0	mg/kg		
LL3SS-256M-1189-QA	2,4-Dinitrotoluene	0.1	J	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	2,6-Dinitrotoluene	0.06	U	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	2-Amino-4,6-dinitrotoluene	0.79		LL3SS-256M-1188-SO	1.00	mg/kg		

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-256M-1189-QA	2-Nitrotoluene	0.05	UJ	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	3-Nitrotoluene	0.07	U	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	4-Amino-2,6-dinitrotoluene	2		LL3SS-256M-1188-SO	2.21	mg/kg		
LL3SS-256M-1189-QA	4-Nitrotoluene	0.07	UJ	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	HMX	0.07	U	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	Nitrobenzene	0.05	U	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	PETN	0.8	U	LL3SS-256M-1188-SO	0.500	mg/kg	U	
LL3SS-256M-1189-QA	RDX	0.06	U	LL3SS-256M-1188-SO	0.100	mg/kg	U	
LL3SS-256M-1189-QA	Tetryl	0.22	J	LL3SS-256M-1188-SO	0.100	mg/kg	UJ	
LL3SS-256M-1189-QA	Nitrocellulose	73.42		LL3SS-256M-1188-SO	16.0	mg/kg		Major
LL3SS-258M-1195-QA	Aluminum	960	J	LL3SS-258M-1194-SO	9340	mg/kg		Major
LL3SS-258M-1195-QA	Antimony	0.4	R	LL3SS-258M-1194-SO	0.0502	mg/kg	R	Major
LL3SS-258M-1195-QA	Arsenic	8.6	J	LL3SS-258M-1194-SO	9.77	mg/kg	J-	
LL3SS-258M-1195-QA	Barium	42.5	J	LL3SS-258M-1194-SO	46.8	mg/kg		
LL3SS-258M-1195-QA	Beryllium	0.38	J	LL3SS-258M-1194-SO	0.534	mg/kg		
LL3SS-258M-1195-QA	Cadmium	0.06	J	LL3SS-258M-1194-SO	0.678	mg/kg		Major
LL3SS-258M-1195-QA	Calcium	5000	J	LL3SS-258M-1194-SO	4790	mg/kg	J	
LL3SS-258M-1195-QA	Chromium	11	J	LL3SS-258M-1194-SO	12.8	mg/kg	J-	
LL3SS-258M-1195-QA	Cobalt	6.3	J	LL3SS-258M-1194-SO	6.56	mg/kg	J-	
LL3SS-258M-1195-QA	Copper	20	J	LL3SS-258M-1194-SO	19.5	mg/kg		
LL3SS-258M-1195-QA	Iron	2470	J	LL3SS-258M-1194-SO	19500	mg/kg	J-	Major
LL3SS-258M-1195-QA	Lead	21.3	J	LL3SS-258M-1194-SO	28.3	mg/kg		
LL3SS-258M-1195-QA	Magnesium	283	J	LL3SS-258M-1194-SO	2530	mg/kg		Major
LL3SS-258M-1195-QA	Manganese	41.8	J	LL3SS-258M-1194-SO	304	mg/kg	J-	Major
LL3SS-258M-1195-QA	Mercury	0.023	J	LL3SS-258M-1194-SO	0.0172	mg/kg	J	
LL3SS-258M-1195-QA	Nickel	2.1	J	LL3SS-258M-1194-SO	21.2	mg/kg	J-	Major
LL3SS-258M-1195-QA	Potassium	820		LL3SS-258M-1194-SO	889	mg/kg	J+	
LL3SS-258M-1195-QA	Selenium	0.16	Q	LL3SS-258M-1194-SO	0.173	mg/kg	J-	
LL3SS-258M-1195-QA	Silver	0.03	R	LL3SS-258M-1194-SO	0.352	mg/kg	J	Major
LL3SS-258M-1195-QA	Sodium	45.8		LL3SS-258M-1194-SO	60.4	mg/kg		
LL3SS-258M-1195-QA	Thallium	0.076	R	LL3SS-258M-1194-SO	0.103	mg/kg		
LL3SS-258M-1195-QA	Vanadium	11.5	J	LL3SS-258M-1194-SO	14.3	mg/kg		
LL3SS-258M-1195-QA	Zinc	77.5	J	LL3SS-258M-1194-SO	74.1	mg/kg	J-	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-258M-1195-QA	1,2,4-Trichlorobenzene	16	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	1,2-Dichlorobenzene	10	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	1,3-Dichlorobenzene	11	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	1,4-Dichlorobenzene	13	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2,4,5-Trichlorophenol	110	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2,4,6-Trichlorophenol	76	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2,4-Dichlorophenol	93	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2,4-Dimethylphenol	77	U	LL3SS-258M-1194-SO	81.0	ug/kg	U	
LL3SS-258M-1195-QA	2,4-Dinitrophenol	220	U	LL3SS-258M-1194-SO	404	ug/kg	U	
LL3SS-258M-1195-QA	2,4-Dinitrotoluene	23	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2,6-Dinitrotoluene	31	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2-Chloronaphthalene	13	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2-Chlorophenol	110	U	LL3SS-258M-1194-SO	81.0	ug/kg	U	
LL3SS-258M-1195-QA	2-Methylnaphthalene	21	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	2-Methylphenol	110	U	LL3SS-258M-1194-SO	81.0	ug/kg	U	
LL3SS-258M-1195-QA	2-Nitroaniline	26	U	LL3SS-258M-1194-SO	404	ug/kg	UJ	Major
LL3SS-258M-1195-QA	2-Nitrophenol	120	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	3,3'-Dichlorobenzidine	280	R	LL3SS-258M-1194-SO	162	ug/kg	UJ	
LL3SS-258M-1195-QA	3-Nitroaniline	32	R	LL3SS-258M-1194-SO	404	ug/kg	UJ	Major
LL3SS-258M-1195-QA	4,6-Dinitro-2-methylphenol	71	U	LL3SS-258M-1194-SO	404	ug/kg	UJ	
LL3SS-258M-1195-QA	4-Chloro-3-methylphenol	91	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	4-Chloroaniline	65	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	4-Chlorophenyl-phenyl ether	31	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	4-Nitroaniline	31	UJ	LL3SS-258M-1194-SO	404	ug/kg	UJ	Major
LL3SS-258M-1195-QA	4-Nitrophenol	330	UJ	LL3SS-258M-1194-SO	404	ug/kg	U	
LL3SS-258M-1195-QA	Acenaphthene	15	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Acenaphthylene	20	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Anthracene	27	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Benzo(a)anthracene	67	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Benzo(a)pyrene	57	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Benzo(b)fluoranthene	100	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Benzo(g,h,i)perylene	31	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Benzo(k)fluoranthene	28	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-258M-1195-QA	Benzoic acid	290	R	LL3SS-258M-1194-SO	324	ug/kg	R	
LL3SS-258M-1195-QA	Benzyl alcohol	78	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Bis(2-chloroethoxy)methane	20	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Bis(2-chloroethyl)ether	14	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Bis(2-chloroisopropyl)ether	11	U	LL3SS-258M-1194-SO	81.0	ug/kg	R	Major
LL3SS-258M-1195-QA	Bis(2-ethylhexyl)phthalate	64	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Butylbenzylphthalate	24	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Carbazole	11	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Chrysene	72	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Dibenzo(a,h)anthracene	11	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Dibenzofuran	37	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Diethylphthalate	38	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Dimethylphthalate	26	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Di-n-butylphthalate	76	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Di-n-octylphthalate	39	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Fluoranthene	160		LL3SS-258M-1194-SO	135	ug/kg	J	
LL3SS-258M-1195-QA	Fluorene	12	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	Major
LL3SS-258M-1195-QA	Hexachlorobenzene	15	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Hexachlorobutadiene	31	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Hexachlorocyclopentadiene	26	U	LL3SS-258M-1194-SO	81.0	ug/kg	R	
LL3SS-258M-1195-QA	Hexachloroethane	17	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Indeno(1,2,3-cd)pyrene	28	J	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Isophorone	27	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Naphthalene	9	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Nitrobenzene	40	U	LL3SS-258M-1194-SO	81.0	ug/kg	UJ	
LL3SS-258M-1195-QA	Pentachlorophenol	70	U	LL3SS-258M-1194-SO	404	ug/kg	U	
LL3SS-258M-1195-QA	Phenanthrene	120		LL3SS-258M-1194-SO	83.5	ug/kg	J	
LL3SS-258M-1195-QA	Phenol	130	U	LL3SS-258M-1194-SO	81.0	ug/kg	U	
LL3SS-258M-1195-QA	Pyrene	120		LL3SS-258M-1194-SO	111	ug/kg	J	
LL3SS-258M-1195-QA	1,3,5-Trinitrobenzene	0.1	J	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	1,3-Dinitrobenzene	0.04	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	2,4,6-Trinitrotoluene	25		LL3SS-258M-1194-SO	40.9	mg/kg		
LL3SS-258M-1195-QA	2,4-Dinitrotoluene	0.04	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-258M-1195-QA	2,6-Dinitrotoluene	0.06	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	2-Amino-4,6-dinitrotoluene	0.46		LL3SS-258M-1194-SO	0.473	mg/kg		
LL3SS-258M-1195-QA	2-Nitrotoluene	0.05	UJ	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	3-Nitrotoluene	0.069	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	4-Amino-2,6-dinitrotoluene	1.6		LL3SS-258M-1194-SO	1.37	mg/kg		
LL3SS-258M-1195-QA	4-Nitrotoluene	0.069	UJ	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	HMX	0.069	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	Nitrobenzene	0.05	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	Nitroglycerin	0.6	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	PETN	0.79	U	LL3SS-258M-1194-SO	0.501	mg/kg	U	
LL3SS-258M-1195-QA	RDX	0.06	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-258M-1195-QA	Tetryl	0.069	U	LL3SS-258M-1194-SO	0.100	mg/kg	U	
LL3SS-268M-1209-QA	Aluminum	14900	J	LL3SS-268M-1208-SO	10900	mg/kg		
LL3SS-268M-1209-QA	Antimony	0.55	R	LL3SS-268M-1208-SO	0.0523	mg/kg	R	Major
LL3SS-268M-1209-QA	Arsenic	9.6	J	LL3SS-268M-1208-SO	9.42	mg/kg	J-	
LL3SS-268M-1209-QA	Barium	60	J	LL3SS-268M-1208-SO	65.6	mg/kg		
LL3SS-268M-1209-QA	Beryllium	0.5	J	LL3SS-268M-1208-SO	0.571	mg/kg		
LL3SS-268M-1209-QA	Cadmium	0.014	U	LL3SS-268M-1208-SO	0.553	mg/kg		Major
LL3SS-268M-1209-QA	Calcium	3750	J	LL3SS-268M-1208-SO	2920	mg/kg		
LL3SS-268M-1209-QA	Chromium	13.8	J	LL3SS-268M-1208-SO	15.6	mg/kg		
LL3SS-268M-1209-QA	Cobalt	8	J	LL3SS-268M-1208-SO	8.16	mg/kg		
LL3SS-268M-1209-QA	Copper	14.5	J	LL3SS-268M-1208-SO	17.6	mg/kg		
LL3SS-268M-1209-QA	Iron	36500	J	LL3SS-268M-1208-SO	21700	mg/kg		
LL3SS-268M-1209-QA	Lead	22.8	J	LL3SS-268M-1208-SO	22.4	mg/kg	J-	
LL3SS-268M-1209-QA	Magnesium	3650	J	LL3SS-268M-1208-SO	2380	mg/kg		
LL3SS-268M-1209-QA	Manganese	825	J	LL3SS-268M-1208-SO	455	mg/kg	J-	
LL3SS-268M-1209-QA	Mercury	0.027	J	LL3SS-268M-1208-SO	0.0360	mg/kg	J	
LL3SS-268M-1209-QA	Nickel	31.8	J	LL3SS-268M-1208-SO	31.2	mg/kg	J-	
LL3SS-268M-1209-QA	Potassium	1040		LL3SS-268M-1208-SO	934	mg/kg	J+	
LL3SS-268M-1209-QA	Selenium	0.23	R	LL3SS-268M-1208-SO	0.384	mg/kg	J+	
LL3SS-268M-1209-QA	Silver	0.03	R	LL3SS-268M-1208-SO	0.360	mg/kg	J	Major
LL3SS-268M-1209-QA	Sodium	30.5		LL3SS-268M-1208-SO	40.1	mg/kg		
LL3SS-268M-1209-QA	Thallium	0.11	R	LL3SS-268M-1208-SO	0.122	mg/kg		

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL3SS-268M-1209-QA	Vanadium	15.3	J	LL3SS-268M-1208-SO	18.4	mg/kg		
LL3SS-268M-1209-QA	Zinc	72.5	J	LL3SS-268M-1208-SO	70.6	mg/kg		
LL3SS-268M-1209-QA	Aroclor-1016	9	U	LL3SS-268M-1208-SO	8.51	ug/kg	U	
LL3SS-268M-1209-QA	Aroclor-1221	12	U	LL3SS-268M-1208-SO	8.51	ug/kg	U	
LL3SS-268M-1209-QA	Aroclor-1232	14	U	LL3SS-268M-1208-SO	8.51	ug/kg	U	
LL3SS-268M-1209-QA	Aroclor-1242	10	U	LL3SS-268M-1208-SO	8.51	ug/kg	U	
LL3SS-268M-1209-QA	Aroclor-1248	9	U	LL3SS-268M-1208-SO	8.51	ug/kg	U	
LL3SS-268M-1209-QA	Aroclor-1254	47		LL3SS-268M-1208-SO	49.8	ug/kg		
LL3SS-268M-1209-QA	Aroclor-1260	6	U	LL3SS-268M-1208-SO	8.51	ug/kg	U	
LL3SS-268M-1209-QA	1,3,5-Trinitrobenzene	0.061	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	1,3-Dinitrobenzene	0.04	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	2,4,6-Trinitrotoluene	0.25		LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	2,4-Dinitrotoluene	0.04	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	2,6-Dinitrotoluene	0.061	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	2-Amino-4,6-dinitrotoluene	0.061	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	2-Nitrotoluene	0.051	UJ	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	3-Nitrotoluene	0.071	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	4-Amino-2,6-dinitrotoluene	0.081	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	4-Nitrotoluene	0.071	UJ	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	HMX	0.071	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	Nitrobenzene	0.051	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	Nitroglycerin	0.61	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	PETN	0.81	U	LL3SS-268M-1208-SO	0.499	mg/kg	U	
LL3SS-268M-1209-QA	RDX	0.061	U	LL3SS-268M-1208-SO	0.0998	mg/kg	U	
LL3SS-268M-1209-QA	Tetryl	0.071	U	LL3SS-268M-1208-SO	0.0998	mg/kg	R	
LL4SS-201D-1186-QA	1,1,1-Trichloroethane	0.45	UJ	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	1,1,2,2-Tetrachloroethane	0.98	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	1,1,2-Trichloroethane	0.54	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	1,1-Dichloroethane	0.27	UJ	LL4SS-201D-1185-SO	1.20	ug/kg	U	
LL4SS-201D-1186-QA	1,1-Dichloroethene	0.45	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	1,2-Dibromoethane	0.27	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	1,2-Dichloroethane	0.54	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	1,2-Dichloropropane	0.54	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-201D-1186-QA	2-Butanone	5.4	U	LL4SS-201D-1185-SO	2.99	ug/kg	UJ	
LL4SS-201D-1186-QA	2-Hexanone	4.5	U	LL4SS-201D-1185-SO	2.99	ug/kg	U	
LL4SS-201D-1186-QA	4-Methyl-2-pentanone	2.6	U	LL4SS-201D-1185-SO	2.99	ug/kg	UJ	
LL4SS-201D-1186-QA	Acetone	5.4	U	LL4SS-201D-1185-SO	5.99	ug/kg	R	
LL4SS-201D-1186-QA	Benzene	0.27	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Bromochloromethane	0.54	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Bromodichloromethane	0.36	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Bromoform	0.62	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Bromomethane	1.1	R	LL4SS-201D-1185-SO	1.20	ug/kg	U	
LL4SS-201D-1186-QA	Carbon disulfide	0.89	U	LL4SS-201D-1185-SO	0.599	ug/kg	R	
LL4SS-201D-1186-QA	Carbon tetrachloride	0.62	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Chlorobenzene	0.71	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Chloroethane	0.36	U	LL4SS-201D-1185-SO	1.20	ug/kg	U	
LL4SS-201D-1186-QA	Chloroform	0.36	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Chloromethane	0.45	U	LL4SS-201D-1185-SO	2.40	ug/kg	U	
LL4SS-201D-1186-QA	cis-1,3-Dichloropropene	0.54	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Dibromochloromethane	0.62	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Methylene chloride	1.7	R	LL4SS-201D-1185-SO	1.20	ug/kg	U	
LL4SS-201D-1186-QA	Styrene	0.45	U	LL4SS-201D-1185-SO	0.599	ug/kg	R	
LL4SS-201D-1186-QA	Tetrachloroethene	0.8	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Toluene	0.54	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	trans-1,3-Dichloropropene	0.71	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Trichloroethene	0.45	U	LL4SS-201D-1185-SO	0.599	ug/kg	U	
LL4SS-201D-1186-QA	Vinyl chloride	0.62	UJ	LL4SS-201D-1185-SO	1.20	ug/kg	U	
LL4SS-209M-1197-QA	Aluminum	11100	J	LL4SS-209M-1196-SO	11000	mg/kg		
LL4SS-209M-1197-QA	Antimony	0.37	J-	LL4SS-209M-1196-SO	0.0494	mg/kg	R	Major
LL4SS-209M-1197-QA	Arsenic	10.9	J	LL4SS-209M-1196-SO	10.7	mg/kg	J	
LL4SS-209M-1197-QA	Barium	77.5	J	LL4SS-209M-1196-SO	73.2	mg/kg		
LL4SS-209M-1197-QA	Beryllium	0.73	J	LL4SS-209M-1196-SO	0.666	mg/kg		
LL4SS-209M-1197-QA	Cadmium	0.1	J	LL4SS-209M-1196-SO	0.543	mg/kg	J+	Major
LL4SS-209M-1197-QA	Calcium	12800	J	LL4SS-209M-1196-SO	9900	mg/kg		
LL4SS-209M-1197-QA	Chromium	14.3	J	LL4SS-209M-1196-SO	14.8	mg/kg	J-	
LL4SS-209M-1197-QA	Cobalt	8.3	J	LL4SS-209M-1196-SO	7.71	mg/kg	J-	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-209M-1197-QA	Copper	21.5	J	LL4SS-209M-1196-SO	22.9	mg/kg		
LL4SS-209M-1197-QA	Iron	24000	J	LL4SS-209M-1196-SO	22200	mg/kg	J-	
LL4SS-209M-1197-QA	Lead	19		LL4SS-209M-1196-SO	17.6	mg/kg		
LL4SS-209M-1197-QA	Magnesium	4000	J	LL4SS-209M-1196-SO	3820	mg/kg		
LL4SS-209M-1197-QA	Manganese	750	J	LL4SS-209M-1196-SO	512	mg/kg	J-	
LL4SS-209M-1197-QA	Mercury	0.019		LL4SS-209M-1196-SO	0.0217	mg/kg	J	
LL4SS-209M-1197-QA	Nickel	30	J	LL4SS-209M-1196-SO	29.2	mg/kg	J	
LL4SS-209M-1197-QA	Potassium	1560		LL4SS-209M-1196-SO	1150	mg/kg	J+	
LL4SS-209M-1197-QA	Selenium	0.16	R	LL4SS-209M-1196-SO	0.265	mg/kg	J-	
LL4SS-209M-1197-QA	Silver	7.1		LL4SS-209M-1196-SO	0.589	mg/kg	J+	Major
LL4SS-209M-1197-QA	Sodium	73.8		LL4SS-209M-1196-SO	71.9	mg/kg	U	
LL4SS-209M-1197-QA	Thallium	0.13	J	LL4SS-209M-1196-SO	0.139	mg/kg		
LL4SS-209M-1197-QA	Vanadium	15.9	J	LL4SS-209M-1196-SO	16.8	mg/kg		
LL4SS-209M-1197-QA	Zinc	75	J	LL4SS-209M-1196-SO	86.8	mg/kg	J-	
LL4SS-209M-1197-QA	4,4'-DDD	14	J	LL4SS-209M-1196-SO	1.64	ug/kg	U	Major
LL4SS-209M-1197-QA	4,4'-DDE	3.2		LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	4,4'-DDT	0.6	U	LL4SS-209M-1196-SO	2.54	ug/kg	J	Minor
LL4SS-209M-1197-QA	Aldrin	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	alpha-BHC	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	beta-BHC	3.1	J	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	delta-BHC	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Dieldrin	0.8	J	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Endosulfan I	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Endosulfan II	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Endosulfan sulfate	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Endrin	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Endrin aldehyde	0.5	UJ	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Endrin ketone	0.5	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Heptachlor	1.4	J	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Heptachlor epoxide	0.8	J	LL4SS-209M-1196-SO	2.80	ug/kg	J	
LL4SS-209M-1197-QA	Methoxychlor	0.6	U	LL4SS-209M-1196-SO	1.64	ug/kg	U	
LL4SS-209M-1197-QA	Toxaphene	7	U	LL4SS-209M-1196-SO	83.1	ug/kg	U	Major
LL4SS-209M-1197-QA	1,3,5-Trinitrobenzene	0.061	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-209M-1197-QA	1,3-Dinitrobenzene	0.041	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	2,4,6-Trinitrotoluene	0.081	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	2,4-Dinitrotoluene	0.041	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	2,6-Dinitrotoluene	0.061	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	2-Amino-4,6-dinitrotoluene	0.061	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	2-Nitrotoluene	0.051	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	3-Nitrotoluene	0.071	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	4-Amino-2,6-dinitrotoluene	0.081	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	4-Nitrotoluene	0.071	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	HMX	0.071	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	Nitrobenzene	0.051	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	Nitroglycerin	0.61	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	PETN	0.81	U	LL4SS-209M-1196-SO	0.502	mg/kg	U	
LL4SS-209M-1197-QA	RDX	0.061	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-209M-1197-QA	Tetryl	0.071	U	LL4SS-209M-1196-SO	0.100	mg/kg	U	
LL4SS-212M-1203-QA	Aluminum	8000	J	LL4SS-212M-1202-SO	6610	mg/kg		
LL4SS-212M-1203-QA	Antimony	1.1	J	LL4SS-212M-1202-SO	0.0496	mg/kg	R	Major
LL4SS-212M-1203-QA	Arsenic	13.6	J	LL4SS-212M-1202-SO	17.2	mg/kg	J	
LL4SS-212M-1203-QA	Barium	42.5	J	LL4SS-212M-1202-SO	37.0	mg/kg		
LL4SS-212M-1203-QA	Beryllium	0.4	J	LL4SS-212M-1202-SO	0.354	mg/kg		
LL4SS-212M-1203-QA	Cadmium	0.078	J	LL4SS-212M-1202-SO	0.474	mg/kg	J+	Major
LL4SS-212M-1203-QA	Calcium	9500	J	LL4SS-212M-1202-SO	6280	mg/kg		
LL4SS-212M-1203-QA	Chromium	11.3	J	LL4SS-212M-1202-SO	10.3	mg/kg	J-	
LL4SS-212M-1203-QA	Cobalt	7.5	J	LL4SS-212M-1202-SO	7.16	mg/kg	J-	
LL4SS-212M-1203-QA	Copper	23.3	J	LL4SS-212M-1202-SO	24.3	mg/kg		
LL4SS-212M-1203-QA	Iron	24000	J	LL4SS-212M-1202-SO	20600	mg/kg	J-	
LL4SS-212M-1203-QA	Lead	20.5	J	LL4SS-212M-1202-SO	24.2	mg/kg		
LL4SS-212M-1203-QA	Magnesium	4500	J	LL4SS-212M-1202-SO	3530	mg/kg		
LL4SS-212M-1203-QA	Manganese	600	J	LL4SS-212M-1202-SO	402	mg/kg	J-	
LL4SS-212M-1203-QA	Mercury	0.017	J	LL4SS-212M-1202-SO	0.0156	mg/kg	J	
LL4SS-212M-1203-QA	Nickel	23.5	J	LL4SS-212M-1202-SO	26.0	mg/kg	J	
LL4SS-212M-1203-QA	Potassium	1100		LL4SS-212M-1202-SO	713	mg/kg	J+	
LL4SS-212M-1203-QA	Selenium	0.04	R	LL4SS-212M-1202-SO	0.230	mg/kg	J-	Major

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-212M-1203-QA	Silver	0.1	J	LL4SS-212M-1202-SO	0.512	mg/kg	J+	Major
LL4SS-212M-1203-QA	Sodium	47.5		LL4SS-212M-1202-SO	32.9	mg/kg	U	
LL4SS-212M-1203-QA	Thallium	0.14	J	LL4SS-212M-1202-SO	0.164	mg/kg		
LL4SS-212M-1203-QA	Vanadium	21	J	LL4SS-212M-1202-SO	11.5	mg/kg		
LL4SS-212M-1203-QA	Zinc	92.5	J	LL4SS-212M-1202-SO	91.2	mg/kg	J-	
LL4SS-212M-1203-QA	Aroclor-1016	9	U	LL4SS-212M-1202-SO	8.17	ug/kg	U	
LL4SS-212M-1203-QA	Aroclor-1221	12	U	LL4SS-212M-1202-SO	8.17	ug/kg	U	
LL4SS-212M-1203-QA	Aroclor-1232	14	U	LL4SS-212M-1202-SO	8.17	ug/kg	U	
LL4SS-212M-1203-QA	Aroclor-1242	10	U	LL4SS-212M-1202-SO	8.17	ug/kg	U	
LL4SS-212M-1203-QA	Aroclor-1248	9	U	LL4SS-212M-1202-SO	8.17	ug/kg	U	
LL4SS-212M-1203-QA	Aroclor-1254	3	U	LL4SS-212M-1202-SO	45.3	ug/kg	J	Major
LL4SS-212M-1203-QA	Aroclor-1260	6	U	LL4SS-212M-1202-SO	51.7	ug/kg	J	Major
LL4SS-212M-1203-QA	1,2,4-Trichlorobenzene	16	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	1,2-Dichlorobenzene	10	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	1,3-Dichlorobenzene	11	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	1,4-Dichlorobenzene	13	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2,4,5-Trichlorophenol	110	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2,4,6-Trichlorophenol	76	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2,4-Dichlorophenol	93	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2,4-Dimethylphenol	77	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2,4-Dinitrophenol	220	R	LL4SS-212M-1202-SO	412	ug/kg	R	
LL4SS-212M-1203-QA	2,4-Dinitrotoluene	23	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2,6-Dinitrotoluene	31	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2-Chloronaphthalene	13	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2-Chlorophenol	110	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2-Methylnaphthalene	19	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2-Methylphenol	110	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	2-Nitroaniline	26	U	LL4SS-212M-1202-SO	412	ug/kg	UJ	Major
LL4SS-212M-1203-QA	2-Nitrophenol	120	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	3,3'-Dichlorobenzidine	280	R	LL4SS-212M-1202-SO	165	ug/kg	UJ	
LL4SS-212M-1203-QA	3-Nitroaniline	32	R	LL4SS-212M-1202-SO	412	ug/kg	UJ	Major
LL4SS-212M-1203-QA	4,6-Dinitro-2-methylphenol	71	UJ	LL4SS-212M-1202-SO	412	ug/kg	R	Major
LL4SS-212M-1203-QA	4-Chloro-3-methylphenol	91	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-212M-1203-QA	4-Chloroaniline	65	UJ	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	4-Chlorophenyl-phenyl ether	31	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	4-Nitroaniline	31	UJ	LL4SS-212M-1202-SO	412	ug/kg	UJ	Major
LL4SS-212M-1203-QA	4-Nitrophenol	330	UJ	LL4SS-212M-1202-SO	412	ug/kg	UJ	
LL4SS-212M-1203-QA	Acenaphthene	15	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Acenaphthylene	20	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Anthracene	44	J	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Benzo(a)anthracene	150		LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Benzo(a)pyrene	150		LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Benzo(b)fluoranthene	220		LL4SS-212M-1202-SO	86.7	ug/kg	J	
LL4SS-212M-1203-QA	Benzo(g,h,i)perylene	110		LL4SS-212M-1202-SO	82.6	ug/kg	R	
LL4SS-212M-1203-QA	Benzo(k)fluoranthene	66	J	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Benzoic acid	290	R	LL4SS-212M-1202-SO	330	ug/kg	R	
LL4SS-212M-1203-QA	Benzyl alcohol	78	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Bis(2-chloroethoxy)methane	20	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Bis(2-chloroethyl)ether	14	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Bis(2-chloroisopropyl)ether	11	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Bis(2-ethylhexyl)phthalate	41	J	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Butylbenzylphthalate	24	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Carbazole	15	J	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	Major
LL4SS-212M-1203-QA	Chrysene	150		LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Dibenzo(a,h)anthracene	11	U	LL4SS-212M-1202-SO	82.6	ug/kg	R	Major
LL4SS-212M-1203-QA	Dibenzofuran	37	U	LL4SS-212M-1202-SO	82.6	ug/kg	R	
LL4SS-212M-1203-QA	Diethylphthalate	49	J	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Dimethylphthalate	26	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Di-n-butylphthalate	190		LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Di-n-octylphthalate	39	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Fluoranthene	340		LL4SS-212M-1202-SO	82.7	ug/kg	J	Minor
LL4SS-212M-1203-QA	Fluorene	16	J	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	Major
LL4SS-212M-1203-QA	Hexachlorobenzene	15	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Hexachlorobutadiene	31	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Hexachlorocyclopentadiene	26	U	LL4SS-212M-1202-SO	82.6	ug/kg	R	
LL4SS-212M-1203-QA	Hexachloroethane	17	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-212M-1203-QA	Indeno(1,2,3-cd)pyrene	96	J	LL4SS-212M-1202-SO	82.6	ug/kg	R	
LL4SS-212M-1203-QA	Isophorone	27	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Naphthalene	9	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Nitrobenzene	40	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Pentachlorophenol	70	U	LL4SS-212M-1202-SO	412	ug/kg	UJ	
LL4SS-212M-1203-QA	Phenanthrene	190		LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Phenol	130	U	LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	Pyrene	260		LL4SS-212M-1202-SO	82.6	ug/kg	UJ	
LL4SS-212M-1203-QA	1,3,5-Trinitrobenzene	0.061	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	1,3-Dinitrobenzene	0.041	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	2,4,6-Trinitrotoluene	0.081	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	2,4-Dinitrotoluene	0.041	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	2,6-Dinitrotoluene	0.061	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	2-Amino-4,6-dinitrotoluene	0.061	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	2-Nitrotoluene	0.051	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	3-Nitrotoluene	0.071	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	4-Amino-2,6-dinitrotoluene	0.081	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	4-Nitrotoluene	0.071	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	HMX	0.071	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	Nitrobenzene	0.051	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	Nitroglycerin	0.61	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	PETN	0.81	U	LL4SS-212M-1202-SO	0.497	mg/kg	U	
LL4SS-212M-1203-QA	RDX	0.061	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-212M-1203-QA	Tetryl	0.071	U	LL4SS-212M-1202-SO	0.0993	mg/kg	U	
LL4SS-220M-1220-QA	Aluminum	5500	J	LL4SS-220M-1217-SO	5330	mg/kg		
LL4SS-220M-1220-QA	Antimony	0.63	J	LL4SS-220M-1217-SO	0.0497	mg/kg	R	Major
LL4SS-220M-1220-QA	Arsenic	8.8	J	LL4SS-220M-1217-SO	7.99	mg/kg	J-	
LL4SS-220M-1220-QA	Barium	21	J	LL4SS-220M-1217-SO	19.0	mg/kg		
LL4SS-220M-1220-QA	Beryllium	0.25	J	LL4SS-220M-1217-SO	0.231	mg/kg		
LL4SS-220M-1220-QA	Cadmium	0.014	U	LL4SS-220M-1217-SO	0.331	mg/kg		Major
LL4SS-220M-1220-QA	Calcium	1130	J	LL4SS-220M-1217-SO	1000	mg/kg		
LL4SS-220M-1220-QA	Chromium	7	J	LL4SS-220M-1217-SO	6.67	mg/kg		
LL4SS-220M-1220-QA	Cobalt	4.3	J	LL4SS-220M-1217-SO	3.23	mg/kg		

QA Sample	Analytes	Result	Qualifier	Primary Sample	Result	Unit	Qualifier	Discrepancy
LL4SS-220M-1220-QA	Copper	17.8	J	LL4SS-220M-1217-SO	16.8	mg/kg		
LL4SS-220M-1220-QA	Iron	15300	J	LL4SS-220M-1217-SO	12900	mg/kg		
LL4SS-220M-1220-QA	Lead	17	J	LL4SS-220M-1217-SO	11.6	mg/kg	J-	
LL4SS-220M-1220-QA	Magnesium	1280	J	LL4SS-220M-1217-SO	1170	mg/kg		
LL4SS-220M-1220-QA	Manganese	200	J	LL4SS-220M-1217-SO	131	mg/kg		
LL4SS-220M-1220-QA	Mercury	0.014	J	LL4SS-220M-1217-SO	0.0100	mg/kg	U	
LL4SS-220M-1220-QA	Nickel	11.8	J	LL4SS-220M-1217-SO	12.4	mg/kg		
LL4SS-220M-1220-QA	Potassium	675		LL4SS-220M-1217-SO	427	mg/kg		
LL4SS-220M-1220-QA	Selenium	0.086	R	LL4SS-220M-1217-SO	0.138	mg/kg	J	
LL4SS-220M-1220-QA	Silver	0.03	R	LL4SS-220M-1217-SO	0.193	mg/kg	U	Major
LL4SS-220M-1220-QA	Sodium	23.3		LL4SS-220M-1217-SO	23.1	mg/kg	U	
LL4SS-220M-1220-QA	Thallium	0.1	J	LL4SS-220M-1217-SO	0.0741	mg/kg		
LL4SS-220M-1220-QA	Vanadium	14.3	J	LL4SS-220M-1217-SO	8.43	mg/kg		
LL4SS-220M-1220-QA	Zinc	60	J	LL4SS-220M-1217-SO	48.7	mg/kg		
LL4SS-220M-1220-QA	1,3,5-Trinitrobenzene	0.06	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	1,3-Dinitrobenzene	0.04	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	2,4,6-Trinitrotoluene	0.08	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	2,4-Dinitrotoluene	0.04	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	2,6-Dinitrotoluene	0.06	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	2-Amino-4,6-dinitrotoluene	0.06	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	2-Nitrotoluene	0.05	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	3-Nitrotoluene	0.07	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	4-Amino-2,6-dinitrotoluene	0.08	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	4-Nitrotoluene	0.07	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	HMX	0.07	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	Nitrobenzene	0.05	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	Nitroglycerin	0.6	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	PETN	0.8	U	LL4SS-220M-1217-SO	0.500	mg/kg	U	
LL4SS-220M-1220-QA	RDX	0.06	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	Tetryl	0.07	U	LL4SS-220M-1217-SO	0.100	mg/kg	U	
LL4SS-220M-1220-QA	Nitrocellulose	5	U	LL4SS-220M-1217-SO	2.00	mg/kg	U	

APPENDIX D

Validator Checklists

NITROAROMATICS & NITRAMINE DATA ANALYSIS (EXPLOSIVE RESIDUES) CHECKLIST

Project Name: U.R.S. Ravenna

Laboratory: CT Laboratories

Batch Number(s): _____

Sample Delivery Group: 67307

	Yes	No
1. Holding Time: Were samples analyzed within holding time? extract 14 days from collection	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did the RSD meet the criteria ≤ 20% for each individual Calibration Compound or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents. N/A Level III	[ ]	[ ]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the percentage "D" for QC/MRL ≤ 30%?	[ ]	[X]
5. Initial Calibration Verification (ICV):	[X]	[ ]

	Yes	No
• Was the ICV made of a 2nd source?	[X]	[ ]
• Was the mid level (2nd source) recovery within 85 - 115%?		
6. Continuing Calibration Verification (CCV): {Daily calibration}		
• Was midpoint calibration standard conducted at the beginning of the day?	[X]	[ ]
• Was midpoint calibration standard conducted every ten samples or every twelve hours?	[X]	[ ]
• Was midpoint calibration standard conducted after the last sample of the day?	[X]	[ ]
• Did the CCV meet the minimum requirements (D ≤ 15% with a maximum D ≤ 20% for a specific compound if the mean D ≤ 15%)?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires? N/A @ level III	[ ]	[ ]
• Were all identified hits, above the initial calibration curve, diluted and reanalyzed?	[X]	[ ]
• Were all identified hits confirmed on a second column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40? qualified by lab w/ "P" flags	[ ]	[X]
• Was there a shoulder on the 2,4,6-TNT peak? N/A @ level III	[ ]	[ ]
If the answer is "Yes", then tetryl decomposition is suspected. Peak height rather than peak area should be used for calculating TNT concentration. If teryl was identified in aqueous samples, was pH adjusted to <3? If the answer is "No", then check for tetryl decomposition, and qualify hits with **"J"** accordingly.	[ ]	[ ]
8. Sample Quality Control:	[X]	[ ]
• Method Blanks: Were target analytes ≤ 1/2 MRL? (no target cpds)	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?		

	Yes	No
• MS/MSD: Were the percent recoveries within limits?	[X]	[ ]
Were the RPDs within control limits?		
• System Monitoring Compounds (Surrogates): Were surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

MRL 07/08/08 (0935) 1,0730 2 ~~2~~ 2nt, 4nt (5 1/2) (40%) ~~quality affected~~ results USIC

Validated/Reviewed by:

Signature: KJ Scudder Date: 03/11/09

Name: Kristin Shadoan

POLY CHLORINATED BIPHENYLS (PCB/AROCLORS) CHECKLIST

Project Name: U.R.S. Ravenna AAP

Laboratory: CT Laboratories

Batch Number(s): 25780, 25849

Sample Delivery Group: 67307

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[X]	[ ]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did Aroclors 1016 and 1260 meet the RSD ≤ 20% or the r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? N/A If the answer is "Yes", check for supporting documents. (Not evaluated at Level III validation)	[ ]	[X]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
3. QCMDL:		
• Was MDL Check performed?	[X]	[ ]
4. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R for all TCs	[X]	[ ]
5. Initial Calibration Verification (ICV):		
Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]

	Yes	No
6. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum %D < 20% for a specific compound?	[X]	[ ]
7. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[ ]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[X]	[ ]
• Were identified Aroclors confirmed on a second GC column?	[X]	[ ]
• Were individual Aroclor standards used to determine the pattern of the peaks? (Individual Aroclors are 1221, 1232, 1242, 1248, and 1254. Both Aroclor 1016, and 1260 can be used from the mixed calibration standards.)	[X]	[ ]
• Was RPD of target analyte conformation ≤ 40?	[X]	[ ]
8. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? all ND	[X]	[X] N/A
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits?	[X]	[ ]
Were the RPDs within control limits?	[X]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[X]	[ ]

9. Comments (attach additional sheets if necessary):

For all data, in instance where the laboratory reported the lower concentration of the two results the reviewer edited the data sheet to ~~per~~ report the higher concentration of the two analyses as per LCG VS.

~~For all samples,~~ In accordance with LCG-VS, the reviewer reported the higher of the two values unless there was an indication of interference with the higher concentration result. In that instance the lower result of the two value was reported. The sample result form was edited by the reviewer to report the high concentration of the two values when applicable

Validated/Reviewed by:

Signature: KTS Chaudhuri Date: 3/19/09

Name: Kristin Shackelford

ORGANOCHLORINE PESTICIDES ANALYSIS CHECKLIST

Project Name: U.R.S. - Ravenna AAP

Laboratory: CT Laboratories

Batch Number(s): 25784, 25852

Sample Delivery Group: 67307

	Yes	No
1. Holding Time:		
(a) Were samples extracted within holding time?	[X]	[ ]
(b) Were samples analyzed within holding time?	[X]	[ ]
2. DDT/Endrin Breakdown:		
• Was breakdown ≤ 15%?	[X]	[ ]
3. Initial Calibration:		
• Did the initial calibration consist of five standards?	[X]	[ ]
• Did all compounds meet the RSD ≤ 20% or r ≥ 0.99?	[X]	[ ]
• Was manual integration "M" performed? If the answer is "Yes", check for supporting documents.	[ ]	[X]
• Was the manual integration necessary? If the answer is "no", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**	[ ]	[X] N/A
4. QCMDL:		
• Was MDL Check performed? (see notes)	[X]	[ ]
5. QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[X]	[ ]
• Was the QC/MRL between 70-130% R (see notes)	[ ]	[X]

	Yes	No
6. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 85 - 115%?	[X]	[ ]
7. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 12 hours?	[X]	[ ]
• Was Drift or D ≤ 15% from the initial calibration with a maximum D ≤ 20% for a specific compound?	[X]	[ ]
8. Sample Analysis:		
• Was the RRT of an identified component within the retention time window created as SW-846 requires?	[X]	[ ]
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed? ~~N/A~~ ICs	[X]	[ ]
• Were identified compounds confirmed on a second GC column?	[X]	[ ]
• Was RPD of target analyte confirmation ≤ 40? applicable results flagged by laboratory w/ "P."	[ ]	[X]
9. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL? ~~N/A~~ TC all ND	[X]	~~[X]~~ ICs
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS/MSD: Were the percent recoveries within limits? (See notes)	[ ]	[X]
Were the RPD within control limits?	[X]	[ ]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[X]	[ ]

10. Comments (attach additional sheets if necessary):

For Batch 25784

- MDL - closing std. methoxychlor not recovered ~~on~~ in 1 column J/C detects no detects R/C batch 25784

- MDL 7/11 (10:06): all target cpds except alpha-BHC exceeded QC limits (70-130%) on one or both columns - qualify any detects J/C batch 25784
- MRL 7/11 (13:40) heptachlor epox, 4,4-DDT, methoxychlor, and aldrin exceeded QC limits on one or more column - qualify applicable detects J/C batch 25784

MS/SD: endrin aldehyde ↓ 10% R/Q parent sample LL25-278M-1232-QA

For Batch 25852

MRL 7/16 (09:02) beta BHC ↓ ≥50%, all other target cpds, except lindane exceeded QC limits (70-130%)
7/16 (17:47) beta-BHC ↓ ≥50%, all other target cpd. exceeded QC limits → Qualify sample detects in batch 25852 J/C

MS/SD: alpha-Chlordane & endrin aldehyde ↓ >10% in MS/SD qualify results J/UJ/Q in parent sample LL45-209M-1197-QA

For both batches 25784 & 25852, ~~any detect that exceeded~~ 40% RPD >40% were denoted w/ "p" flag by laboratory and were qualified as estimated → J/~~UJ~~.

In instances where the lab reported the lower of the two results ~~but~~ the reviewer edited the data sheet to reflect the higher concentration ~~reported~~ (the two analyses) ~~tentatively with~~ all required by LCG VS. in accordance w/ LCG VS.

Validated/Reviewed by:

Signature: KTSlaughter **Date:** 3/15/09

Name: Kristin Slaughter

SEMIVOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: CT

Batch Number(s): 51150, 51176

Sample Delivery Group: 67307 (QA samples)
Level III

		Yes	No
1.	Sample Holding Time:		
	(a) Were samples extracted within holding time?	[✓]	[ ]
	(b) Were samples analyzed within holding time?	[✓]	[ ]
2.	Instrument Tuning:		
	Was the DFTPP tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3.	Ion Mass Assignments:		
	Was mass assignment based on m/z 198?	[✓]	[ ]
4.	Ion Abundance: (2 DFTPPs)		
	Indicate if DFTPP ions abundance relative to m/z 198 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
51	30.0 - 60.0 %	[✓]	[ ]
68	< 2% of mass 69	[✓]	[ ]
70	< 2% of mass 69	[✓]	[ ]
127	40-60%	[✓]	[ ]
197	< 1%	[✓]	[ ]
198	**100%, Base peak**	[✓]	[ ]
199	5-9%	[✓]	[ ]
275	10 - 30%	[✓]	[ ]
365	> 1%	[✓]	[ ]
441	present but < mass 443	[✓]	[ ]
442	> 40%	[✓]	[ ]
443	17-23% of mass 442	[✓]	[ ]

	Yes	No
5.0 Initial Calibration:		
• Did the initial calibration consist of five or more standards?	5-stds [ ] (6-7) more [✓]	[✓] [ ]
If the calibration curve consists of 5-standards, check validity of the calibration model.		
Was the linear model applied?	[✓]	[ ]
• Did the followings System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
RF		
N-nitroso-di-n-propylamine 0.05	[✓]	[ ]
Hexachlorocyclopentadiene 0.05	[✓]	[ ]
2,4-dinitrophenol 0.05	[✓]	[ ]
4-nitrophenol 0.05	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for the followings each individual Calibration Check Compound (CCC)?		
Base/Neutral Fraction:		
Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]
Acid Fraction:		
4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15%?	[ ]	[✓]
• If the answer is "No", are the mean RSDs ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 30%?	[✓]	[ ]
	[✓]	[ ]

	Yes	No
• Was manual integration "M" performed? N/A @ Level III	[ ]	[ ]
If the answer is "Yes", check for supporting documents.		
• Was the manual integration necessary?	[ ]	[ ]

If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**

6. QCMDL:

• Was MDL Check performed? ~~(not provided)~~ Yes, DC	[X]	[ ]

7. QCMRL:

• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[X]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[X]
• For the non-contaminants of concern was the QC/MRL between 50-150% (Sporadic Marginal Failure)? N/A (all considered contaminants of concern)	[ ]	[ ]

8. Initial Calibration Verification (ICV):

• Is the mid level (2nd source) recovery within 70-130% for contaminants of concern ?	[X]	[ ]
• Is the mid level (2nd source) recovery within 50-150% for non-contaminants of concern (Sporadic Marginal Failure)?	[X]	[ ]

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[X]	[ ]
• Did any of SPCC meet the minimum RF values?	[X]	[ ]

		Yes	No
N-nitroso-di-n-propylamine	0.05	[✓]	[ ]
Hexachlorocyclopentadiene	0.05	[✓]	[ ]
2,4-dinitrophenol	0.05	[✓]	[ ]
4-nitrophenol	0.05	[✓]	[ ]

- Did the CCC meet the minimum requirements (D ≤ 20%) for the followings?

Base/Neutral Fraction:

Acenaphthene	[✓]	[ ]
1,4-Dichlorobenzene	[✓]	[ ]
Hexachlorobutadiene	[✓]	[ ]
Diphenylamine	[✓]	[ ]
Di-n-octylphthalate	[✓]	[ ]
Fluoranthene	[✓]	[ ]
Benzo(a)pyrene	[✓]	[ ]

Acid Fraction:

4-Chloro-3-methylphenol	[✓]	[ ]
2,4-Dichlorophenol	[✓]	[ ]
2-Nitrophenol	[✓]	[ ]
Phenol	[✓]	[ ]
Pentachlorophenol	[✓]	[ ]
2,4,6-Trichlorophenol	[✓]	[ ]

- Primary Evaluation: Was Drift or D ≤ 20% calculated from the initial calibration? [✓] [ ] (see comments)
- Alternative Evaluation: Maximum allowable Drift/D for each target analyte is ≤ 30%. N/A [ ] [ ] (all considered contaminants of concern)

10. Sample Analysis:

- Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component? [ ] [ ] N/A @ Level III
- Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra? [ ] [ ]
- Were the internal standard areas within the QC limits (from -50% to +200%)? [✓] [ ]

11. Sample Quality Control:

	Yes	No
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits?	[ ]	[✓]
Were the RPD within control limits?	[ ]	[✓]
• System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits?	[✓]	[ ]

12. Comments (attach additional sheets if necessary):

- QC MRL outliers: beginning – 3-NA 71% (ok in ending - ~~estimate~~) (R/C for CCV) (70-130) 4-NA 65%, 3,3'-DCB 59% (rejected for CCV) ending – benzyl alc 291%, benzoic acid 131%, 4-NP 65%
- ICAL: all compounds w/ %RSD > 15% had $r^2 > 0.990$
- CCV: 3,3'-DCB %D 23% w/ negative bias – all ND (R/C)
- LCS: (two batches) 3,3-DCB, ↑ @ 15 177% & 150% (rejected for CCV) benzoic acid ↓ < 30% @ 27 & 28% (B/L)
- MS/MSD (two) – see attached

CCV: 3-NA 23.9%D – bias (R/C)

Validated/Reviewed by:

Signature: Lynn S Calvin Date: 02.18.09

Name: Lynn S. Calvin

Soil MS/MSDs: (rec limits 45-135% / RPDs 50%)

LL255-278M-1232-QA

(cautions only)	MS %R	compound	MSD %R	RPD	quals
ok	—	1,2-DCB	42		
	—	1,3-DCB	35		
	—	1,4-DCB	37		
	—	2,4-DMP	31		
			~~0~~	200	R/Q
	17	2,4-DNP			UJ/Q
	21	4,6-DN-2-MP	17	dc R	~~UJ~~/Q
	39	4-CA	31	(R/L already)	~~UJ~~/Q
	24	benz. acid	24		
	17	benzyl alc.	3	148	R/Q
ok	—	hexcycl.	35		
↓	—	hex. eth	37		
	44	pent	43		UJ/Q

LL455-212M-1203-QA

18	2,4-DNP	18	prof. judgem.	R/Q
				UJ/Q
21	4,6-DN-2-MP	23		
31	4-CA	35 ~~UJ~~		UJ/Q
29	benz. acid	27	(R/L already)	~~UJ~~/Q
ok —	benzyl alc.	42	no quals	

VOLATILE ORGANIC ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: CT

Batch Number(s): ~~577398~~, 577921, 580188

Sample Delivery Group (SDG): 607307

Levels III and IV

	Yes	No
1. Holding Time:		
(a) Were samples preserved?	[✓]	[ ]
(b) Were samples analyzed within holding time?	[✓]	[ ]
2. Was the BFB tune performed at the beginning of each 12-hour period during which samples were analyzed?	[✓]	[ ]
3. Was mass assignment based on m/z 95?	[✓]	[ ]
4. Indicate if BFB ions abundance relative to m/z 95 base peak met the ions abundance criteria:		

m/z	Acceptance Criteria		
50	15.0 - 40.0 %	[✓]	[ ]
75	30.0 - 66.0 %	[✓]	[ ]
95	**100%, Base Peak**	[✓]	[ ]
96	5.0 - 9.0%	[✓]	[ ]
173	<2.0% of m/z 174	[✓]	[ ]
174	>50%	[✓]	[ ]
175	5.0 - 9.0% of mass 174	[✓]	[ ]
176	95.0 - 101.0% of m/z 174	[✓]	[ ]
177	5.0 - 9.0% of m/z 176	[✓]	[ ]

The relative ion abundance of m/z 95/96, m/z 174/176, and 176/177 are of critical importance.

The relative ion abundance of m/z 50 and 75 are of lower importance.

	Yes	No
5. Initial Calibration:		
• Did the initial calibration consist of five standards?	[✓]	[ ]
• Did the System Performance Check Compounds (SPCC) meet the minimum mean response factor (RF)?		
RF		
Chloromethane 0.1	[✓]	[ ]
1,1-Dichloroethane 0.1	[✓]	[ ]
Bromoform 0.1	[✓]	[ ]
Chlorobenzene 0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane 0.3	[✓]	[ ]
• Did the RSD meet the criteria ≤ 30% for each individual Calibration Check Compound (CCC)?		
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Are the RSDs for the remaining target analytes ≤ 15% or r ≥ 0.99 with a mean RSD ≤ 15% with a maximum RSD ≤ 20%?	[ ]	[✓]
If the answer is "No", are the mean RSDs ≤ 15%?	[✓]	[ ]
• Was manual integration "M" performed?	[ ]	[✓]
If the answer is "Yes", check for supporting documents.	N/A [ ]	[ ]
• Was the manual integration necessary?	[ ]	[ ]
If the answer is "No", contact the laboratory inquiring about the reasons behind the manual integration, and **inform the District Chemist immediately if there were no valid reasons.**		
6. QCMDL:	[✓]	[ ]
• Was MDL Check performed?		
7. QCMRL:	[✓]	[ ]

	Yes	No
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[✓]	[ ]
• Was the QC/MRL between 70-130% R	[ ]	[✓]
• For the non-contaminants of concern was the QC/MRL between 60-140% (Sporadic Marginal Failure) N/A	[ ]	[ ]

8. Initial Calibration Verification (ICV):

	[ ]	[✓]

• Is the mid level (2nd source) recovery within 80 - 120% for contaminants of concern ?
• Is the mid level (2nd source) recovery within 60-140% for non-contaminants of concern (Sporadic Marginal Failure)? N/A

9. Continuing Calibration Verification (CCV):

• Was CCV conducted every 12 hours?	[✓]	[ ]
• Did SPCC meet the RF values?	[✓]	[ ]

RF

Chloromethane	0.1	[✓]	[ ]
1,1-Dichloroethane	0.1	[✓]	[ ]
Bromoform	0.1	[✓]	[ ]
Chlorobenzene	0.3	[✓]	[ ]
1,1,2,2-Tetrachloroethane	0.3	[✓]	[ ]

• Did the CCC meet the minimum requirements (D ≤ 20%)?	[✓]	[ ]
1,1-Dichloroethene	[✓]	[ ]
Chloroform	[✓]	[ ]
1,2-Dichloropropane	[✓]	[ ]
Toluene	[✓]	[ ]
Ethylbenzene	[✓]	[ ]
Vinyl chloride	[✓]	[ ]
• Primary Evaluation: Was the mean, Drift or D ≤ 20% from the initial calibration?	[ ]	[✓]

• Alternative Evaluation: Maximum allowable Drift/D for

	Yes	No
each target analyte is ≤ 30% when mean D ≤ 20%?	[ ]	[✓]

10. Sample Analysis:

• Was the RRT of an identified component within ± 0.06 RRT units of the RRT of the standard component?	[✓]	[ ]
• Did the abundance of ions in the sample spectra agree within 30% of the major ions (> 10% of the base ion) in the standard spectra?	[✓]	[ ]
• Were the internal standard areas within the QC limits (from -50% to +200%)?	[✓]	[ ]

11. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[✓]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[ ]	[✓]
• MS/MSD: Were the percent recoveries within limits? N/A	[ ]	[ ]
Were the RPD within control limits?	[ ]	[ ]
System Monitoring Compounds (Surrogates): are surrogate recoveries within QC limits (50-150%)?	[✓]	[ ]

12. Comments (attach additional sheets if necessary):
(see attached)

Validated/Reviewed by:
Signature: Lynn S Calvin Date: 03.19.09

Name: Lynn S. Calvin

67307 VO

ICAL 6.30.08 MS2 / bromomethane r=0.993 (R/C)
CCV 7.1.08 MS2 / meth chloride %D 31.8 (-bias)
7.10.08 → bromomethane 58.5 (-bias)

MRLs 7.1.08 beg/end — 7.10.08 beg/end (all had ↑ recoveries not affecting sample results)
meth chlor. 1200/ø — 140/ø (R/C)

MBs: m. chlor. 4.10 (280 u/B Δ to R/C as nondetect)
(280, 249) - 517921
acetone 6.70 – no qual's
(201) - 580698

TBs (none validated) had several detects – none affecting assoc sample data

LCS/LCSD bromom. ok/50 (57-153) → already R/C no further quals
(280, 249) - 517921

LCS
(201) - 580698
m-TCA 70 (75-133)
n-DCA 75 (80-120)
bromom. 55 (57-153)
eth. benz. 73 (75-120)
m. chlor 50 (64-131)
vin chlor. 70 (75-134)

ICP METALS ANALYSIS (6010) + GFAA CHECKLIST

Project Name: Ravenna

Laboratory: CT

Batch Number(s): _____

Sample Delivery Group: 67307

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time (6-Months)?	[N]	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	N/A @ Level III
three calibration standards and a blank?	[ ]	[ ]	
• Was $R \geq 0.995$	[ ]	[ ]	
3. QCMDL:			
• Was MDL Check performed? not provided	[ ]	[ ]	
QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	[ ]	[X]	
• Was the QC/MRL between 70-130% R?	[ ]	[X]	
Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	[ ]	[X]	
4. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within 90 - 110%? Failing analytes not reported from run			
5. Initial Calibration Blank (ICP):			

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	[ ]	N

6. Interelement Check Standard:

• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	N	[ ]
• Was ICS-AB results within QC limits (80-120)?	N	[ ]

7. Continuing calibration Blank (CCB):

• Was CCB conducted every 10 samples?	N	[ ]
• Was CCB conducted at end of the analytical sequence?	N	[ ]
• Were analytes ≤ 1/2 MRL?	[ ]	N

8. Continuing Calibration Verification (CCV):

• Was CCV conducted every 10 samples?	N	[ ]
• Was CCV conducted at end of the analytical sequence?	N	[ ]
• Was the %R between 90-110? Most Failing analytes not reported from run; others do not bracket	[ ]	N

9. Sample Analysis:

• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]

10. Sample Quality Control:

• Method Blanks: Were target analytes ≤ 1/2 MRL?	[ ]	N
• LCS: Were the percent recoveries for LCS within the limits?	N	[ ]
• MS: Were the percent recoveries within limits?	[ ]	N
• MD: Were the RPDs within control limits?	[ ]	N

11. Serial Dilution:

• Was serial dilution (1:5) conducted when needed?	N	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[N]

12. Method of Standard Addition (MSA):

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)? Se for 579229 < 0.995	[N]	[ ]

13. Comments (attach additional sheets if necessary):

~~CCV Ca = 1927% 7/14 @ 00:42 brackets now~~
~~QCMRL - Al @ 4x MDL Fe @ 3x MDL~~
MRL 7/3 @ 0945 Be = 135 (574687, 574689, 575164, 576420, 577263, 577264, 577443)
others out but detects >> RL or spike level
MRL 7/14 @ 0106 Sb = 141% (same samples as above) all R/Q
MRL 7/14 @ 1527 Ag = 132% (579229, 579236, 579226re)
MRL 7/15 @ 1201 Sb = 68% (579226re) ~~all results~~
MRL 7/12 @ 1431 Tl = 132% (579226, 579229, 579236) detects >> spike
ICB @ 7/14 1508 Ag = -1.2 µg/L (579229, 579236)
ICB @ 7/12 1425 Tl = 0.36 µg/L (579226)
CCB 7/3 @ 2104 Sb = 8.7 (574687) ⇒ U/B
@ ~~2335~~ Sb = 9.5 (574689, 575164, 576420, 577263, 577264, 577443) ⇒ U/B
~~7/12 @ 1933 Tl = 0.27 (579229, 579236) insufficient to qualify~~
insufficient → ~~7/12 1627 Tl = 0.27 (574687, 574689, 575164, 576420, 577263, 577264, 577443~~
~~MB Tl = 0.012 (579229, 579236) insufficient to qualify~~
Spikes
209M-1197 ~~K+Na~~ Co = 73% , Ag = NR (-76%) , V = 194% , Sb = 14% , Hg = 68% , As = -1% Se = 16%
305M-1274 ~~ICP except Al~~ Co = 73% , Sb = 17% , ~~Mn + B~~ , Ni = 59% (Hg = OK)
Mn, Fe + Al >> 4 * spike As = -1% , Se = 19% , Tl = 58%
All %Solids reported as 100%.

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/24/09

Name: Patti Meeks

Post Digest Spikes
1274 ~~1197~~ : Cd = 71% , Cr = 66% , Co = 66% , Cu = 56% , Zn = 41% , Tl = 60% , Se = 34%

1197 ~~1274~~ : Cr = 71% , Co = 70% , Ni = 74% , Zn = 65% , Ag = 130% , Cd = 74% , Se = 34%

Duplicates
1274 Sb w/in ± MDL , Se w/in ± RL

1197
Fe ~~Al~~ = 26% , Cd > ± RL (117%) , Hg w/in ± RL , Se both ND

Serial Dilution
1197 Ba = , Be = 21, Ca = 30, Cr = 26, Mg = 27, Mn = 22, Zn = 18 , Al = 42, Cu = 33, Fe = 32, V = 34, Tl = 56%
1274 Ba = 15% , Be = 19% , Ca = 17% , Cr = 21% , Cu = 39% , Pb = 14% , V = 22% , Zn = 17% , Fe = 35 , Tl = 57% ~~2382~~ ~~2425~~

Blank quals:

U/B Sb in all analyzed 7/3 (Sb = 8.7 µg/L)

J or UJ Ag in 212M-1203 + ~~220M-1220~~ (Ag = -1.2 µg/L)

CCV

GFAA - Se on 7/13 + 7/16 has no ~~Re~~ ending QC + opening QC analyzed 2 days prev

R/C all samples

Tl on 7/14 same as above R/C all except 209M-1197, 212M-1203 + 220M-1220

QCMRL

Be = 135% (7/3 0945) J all except 209M-1197, 212M-1203, 220M-1220

Ag = 138% (7/14 ~~0101~~ 1532) J 212M-1203

Sb = ~~141~~ 68% (7/14 0106) J 209 1197 if Sb is reported for this sample

MS

1274 Co (73), As (-1), Se (16), Sb (17), Ag (-76), V (194), Hg (68)

1197 Co (73), As (-1), Se (19), Sb (14), Tl (58%), Ni (59%)

Duplicate

1197 Fe (26), Cd (7 RL) J/E detects

Serial Dilution

1274 Ba (15), Be (19), Ca (17), Cu (39), V (22), Zn (22), Fe (35), Tl (57), Pb (14), Cr (21)

1197 Ba (18), Be (21), Ca (30), Cu (35), V (34), Zn (18), Fe (22), Tl (56), Mg (27), Mn (22), Al (42)

GFAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: CT

Batch Number(s): _____

Sample Delivery Group: 67307

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time?	[X]	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	
three calibration standards and a blank?	[ ]	[ ]	N/A @ Level III
• Was $R \geq 0.995$	[ ]	[ ]	
3. QCMDL:			
• Was MDL Check performed? not provided	[ ]	[ ]	
4. QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[ ]	[X]	
• Was the QC/MRL between 70-130% R?	[ ]	[X]	
5. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within 80-120%?	[X]	[ ]	
6. Initial calibration Blank (ICP):			
• Were analytes in the blank ≤ 1/2 MRL?	[ ]	[X]	

	Yes	No
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[N]	[ ]
• Was CCB conducted at end of the analytical sequence?	[ ]	[N]
• Were analytes ≤ 1/2 MRL?	[ ]	[N]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[N]	[ ]
• Was CCV conducted at end of the analytical sequence?	[ ]	[N]
• Was the %R between 80-120?	[N]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[ ]	[N]
• LCS: Were the percent recoveries for LCS within the limits?	[N]	[ ]
• MS: Were the percent recoveries within limits?	[ ]	[N]
• MD: Were the RPDs within control limits?	[ ]	[N]
11. Serial Dilution:		
• Was serial dilution (1:5) conducted when needed?	[N]	[ ]
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[N]

12. Comments (attach additional sheets if necessary): or Se

QCMRL not analyzed w/ Arsenic on 7/11 (AA) but ran a CRDL
* Se from 7/13 - opening ~~QC~~ QC was on 7/11 (574689, 577263, 577264, 574687, 575164, 576420, 577443) & no closing QC
* Tl from 7/14 - opening QC on 7/12 & no closing QC (574687, 574689, 575164, 576420, 577263, 577264, 577443)
* Se from 7/13 & 7/16 - opening QC on 7/11 & no closing QC (579236, 579226, 579229)
1994 NFG allows 10 samples or 20 injections between CCVs

~~MSA~~

See ICP checklist for qualifications & outliers

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/24/09

Name: Patti Meeks

CVAA METALS ANALYSIS CHECKLIST

Project Name: Ravenna

Laboratory: CT

Batch Number(s): _____

Sample Delivery Group: 67307

	Yes	No	
1. Holding Time:			
• Were samples analyzed within holding time?	[X]	[ ]	
2. Initial Calibration:			
• Did the initial calibration consist of			
One calibration standard and a blank?	[ ]	[ ]	N/A @ LEVEL III
five calibration standards and a blank?	[ ]	[ ]	
• Was $R \geq 0.995$	[ ]	[ ]	
3. QCMDL:			
• Was MDL Check performed? not provided	[ ]	[ ]	
4. QCMRL:			
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours?	[X]	[ ]	
• Was the QC/MRL between 70-130% R?	[X]	[ ]	
5. Initial Calibration Verification (ICV):			
• Is the mid level (2nd source) recovery within 80-120%?	[X]	[ ]	
6. Initial calibration Blank (ICP):			
• Were analytes in the blank ≤ 1/2 MRL?	[X]	[ ]	

	Yes	No
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[X]	[ ]
• Was CCB conducted at end of the analytical sequence?	[X]	[ ]
• Were analytes ≤ 1/2 MRL?	[X]	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[X]	[ ]
• Was CCV conducted at end of the analytical sequence?	[X]	[ ]
• Was the %R between 80-120?	[X]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS: Were the percent recoveries within limits?	[ ]	[X]
• MD: Were the RPDs within control limits?	[X]	[ ]

11. Comments (attach additional sheets if necessary):
See ICP checklist for qualifications

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/24/09

Name: Patti Meeks

Hexavalent Chromium 7196A

~~ICP~~ METALS ANALYSIS (~~6010~~)
CHECKLIST

Project Name: Ravenna

Laboratory: CT

Batch Number(s): _____

Sample Delivery Group: 67307

	Yes	No
1. Holding Time: 24 H from ext		
• Were samples analyzed within holding time (~~6 Months~~)?	[ ]	[ ]
2. Initial Calibration:		
• Did the initial calibration consist of		
One calibration standard and a blank? N/A	[ ]	[ ] N/A @ Level III
three calibration standards and a blank?	[ ]	[ ]
• Was $R \geq 0.995$	N	[ ]
3. QCMDL:		
• Was MDL Check performed? not provided	[ ]	[ ]
QCMRL:		
• Were QC/MRL run at the beginning and end of every daily sequence or every 12 hours??	N	[ ] ?
• Was the QC/MRL between 70-130% R? Common Elements can be between the MRL and 2X MRL level (Fe, Al, Mg and Ca)	N	[ ] ?
4. Initial Calibration Verification (ICV):		
• Is the mid level (2nd source) recovery within 90 - 110%?	N	[ ]
5. Initial Calibration Blank (ICP):		

	Yes	No
• Were analytes in the blank ≤ 1/2 MRL?	[X]	[ ]
6. Interelement Check Standard: N/A		
• Was ICS-A (interferents only) conducted at the beginning of analytical sequence?	[ ]	[ ]
• Was ICS-AB results within QC limits (80-120)?	[ ]	[ ]
7. Continuing calibration Blank (CCB):		
• Was CCB conducted every 10 samples?	[X]	[ ]
• Was CCB conducted at end of the analytical sequence?	[X]	[ ]
• Were analytes ≤ 1/2 MRL?	[ ]	[ ]
8. Continuing Calibration Verification (CCV):		
• Was CCV conducted every 10 samples?	[X]	[ ]
• Was CCV conducted at end of the analytical sequence?	[X]	[ ]
• Was the %R between 90-110?	[X]	[ ]
9. Sample Analysis:		
• Were samples with levels higher than the calibration range (E), diluted and re-analyzed?	[ ]	[ ]
10. Sample Quality Control:		
• Method Blanks: Were target analytes ≤ 1/2 MRL?	[X]	[ ]
• LCS: Were the percent recoveries for LCS within the limits?	[X]	[ ]
• MS: Were the percent recoveries within limits? 35-115%	[ ]	[X]
GSM Limits • MD: Were the RPDs within control limits? ±30% soil	[X]	[ ]
11. Serial Dilution: N/A		
• Was serial dilution (1:4) conducted when needed?	[ ]	[ ]

	Yes	No
• Was there an agreement between diluted and undiluted results (<10%)?	[ ]	[ ]

12. Method of Standard Addition (MSA): N/A

• Was MSA performed on samples suspected of matrix effect (R ≥ 0.995)?	[ ]	[ ]

13. Comments (attach additional sheets if necessary):

1274 MS = 20% + 15%

1274 Dup - OK

Raw data in package is for anions
MRL not reported on summary form

Validated/Reviewed by:

Signature: Patti Meeks Date: 2/24/09

Name: Patti Meeks

APPENDIX E

Technical Change Memo #4

URS

Memorandum

SEPTEMBER 29, 2008

Ms. Eileen Mohr
Project Manager
Ohio Environmental Protection Agency
2110 E. Aurora Rd.
Twinsburg, Ohio 44087

SUBJECT REVISION # 1 TECHNICAL CHANGE MEMO #4 - LOAD LINES 2 AND 4 TECHNICAL CHANGE IN SCOPE OF WORK FOR THE SUB-SLAB MULTI-INCREMENT SAMPLING AT THE RAVENNA ARMY AMMUNITION PLANT

Dear Ms. Mohr:

The U S Army Corps of Engineers (USACE) has contracted URS Group, Inc. (URS) to conduct sub-slab sampling and potential removal of earth fill materials at Load Lines 2, 3, and 4 at the Ravenna Army Ammunition Plant (RVAAP). The scope of work includes sub-slab TNT/RDX screening sampling, multi-increment (MI) sub-slab sampling, and earth fill removal (if necessary) to Load Line 4.

The Final Full Work Plan, which included the multi-increment sampling was approved on June 09, 2008. Multi-increment sampling at the building footprints was conducted from June 16, 2008, through July 3, 2008. During that timeframe, samples could not be collected from several footprints on Load Lines 2 and 4 primarily because of standing water. The following technical changes to the approved Work Plan are proposed as a path forward for collecting those samples.

TECHNICAL CHANGES TO THE PROJECT SCOPE OF WORK:
The following changes to the technical work for the sub-slab soil MI sampling are proposed based upon site conditions encountered at Load Lines 2, and 4.

Issue/Technical Changes: The project Scope of Work (USACE) and Work Plan specify that the MI sub-slab samples be collected from each specified building footprint. Several building footprints are covered or partially covered with surface water. The specific buildings are as follows:

- Load Line 2 – DB-4-VP1, DB-4A-VP1, DB-10-VP1, DB-10-VP2 (Building footprints are to be combined for one MI sample as per the approved Work Plan)
- Load Line 2 – DB-4A-WS (concrete and surface water)
- Load Line 2 – DB-802 (south half only)
- Load Line 4 –G-11
- Load Line 4 – G-15

5550 Blazer Parkway
Suite 175
Dublin, Ohio 43017
614.726.3500

It was thought that allowing the building footprints to dry out would resolve the issue. However, during the relatively dry period from July 3 through August, this has not happened. Therefore the following alternative actions are proposed.

1. Load Line 2 Vacuum Pump Houses (DB4-VP1, DB4A-VP1, DB10-VP1, DB10-VP2)

The approved Work Plan called for combining these four footprints into one MI sample. At the end of the MI field event, two of the pump house footprints were under water and have remained so. The water is relatively shallow, however. It is proposed that one MI sample be collected from the two building footprints that have remained dry (DB10-VP1 and DB10-VP-2) and an additional MI sample be collected through the water at each of the two building footprints that remain wet (DB4-VP1 and DB4A-VP1). A recent field inspection was conducted to verify questions regarding the location and condition of the DB4-VP1 footprint. The footprint is difficult to locate due to the rapid growth (approximately 3 feet) of native vegetation. The plastic cover remains and the associated standing water is minimal with a few inches of water in the lowest areas. The adjacent (southeast 40 feet) footprint from the DB-4 basin remains covered with surface water. If surface water is still present in sufficient quantities, a discrete surface water sample will be collected from each of the footprints at DB4-VP1 and DB4A-VP1 prior to accessing the areas for MI soil sampling. The surface water sample will be analyzed for the same analytes as in the MI soil sample. The MI sample through the water would be similar to sediment sampling and would provide useable, representative data for making a remediation decision.

2. Load Line 2 Washout Annex (DB4A-WS)

Based upon field notes, debris present on July 02, 2008, was noted in the footprint that restricted access for MI sampling. MKM indicated that a different type of equipment would be required to clear the debris. MKM responded in a timely manner and the debris was cleared at a later date. Since access was made possible by MKM, the building footprint has been covered with water. This small (300 sq. ft) footprint is, however, located very near the area where pink water was accumulating after the melt pour slab was removed. Additionally, the URS UXO/MEC staff has indicated that based upon field observations at other RVAAP melt pour sumps, sampling through the standing water without visual confirmation that no bulk energetics are present poses an unacceptable risk to the sampling team. Based upon the above issues, it is proposed that this MI sample be delayed until excavation in the immediate area is completed. The MI sample will be collected as the confirmation sample after excavation.

3. Load Line 2 Inert Storage Building (DB-802)

The approved Work Plan called for two MI samples to be collected at this large footprint (approximately 41,000 sq. ft.). The MI sample covering the northern half of the footprint was collected without any difficulty on June 19, 2008. However the southern half was not accessible due to standing water. Based upon field observations documented in the project field work book, the southern half of DB-802 was under water on June 18, 2008, when access was first available. (A first attempt was made on June 17, 2008, however, concrete processing limited access). The southern half of the footprint has continued to maintain a significant amount of water prohibiting sample collection since the initial MI sampling mobilization.

The collection of the MI soil sample from the southern one half of the DB-802 footprint could be collected by one of two means as follows:

1. Pump the analytically approved standing water from the footprint and allow to discharge into an approved vegetated area in Load Line 2 at a controlled rate for soil infiltration. This operation would require between 5 and 11 days to complete based upon water volume (60,000 to 100,000 gallons) and acceptable pumping rate 15 to 20 gallons per minute). After successfully removing the water a crew would complete the MI sample on the remaining soft and wet soil surface by accessing in mud boots or chest waders as required. Significant health and safety issues may be encountered if the sampling crews are stranded in the soft muddy footprint.
2. Access and collect the MI sample and a collocated surface water sample at the south half of building DB-802 by using a boat. The soils would be collected with a soil probe if the water depth allows or a dredge if water depth prohibits collection with the soil probe. Significant health and safety challenges will also be encountered during this sample collection method. Additionally, collection of the 0.0 to 1.0 foot soil interval may be difficult based upon soil saturation or collection method.

On July 31, 2008, URS collected a surface water sample from the standing water within the footprint to provide information regarding whether any contamination may be partitioning from soil to water. The sample was analyzed for the MI analytical suite for the building in the approved Work Plan (i.e., explosives, metals, SVOCs). The chemicals detected and the reported concentrations are shown on the attached table. (Note: no SVOCs were detected). These results were compared with Ohio's surface water criteria, indicating that copper and lead are slightly above the aquatic criteria for outside the mixing zone, average (OMZA). Copper and lead concentrations are also higher than facility-wide background values for surface water.

Based upon a review of the potentially most representative sample to be acquired and health and safety concerns, the second option using a boat is recommended. Additionally, consideration was given to the possibility that the footprint at DB-802 may require multiple pump outs to keep the water out during sampling and backfill operations. Multiple or ongoing footprint pump outs would create potential issues for both URS while sampling and the demolition contractor while backfilling.

4. Load Line 4 Magazine (G-11) and Explosives Preparation Building (G-15)

The approved Work Plan requires an MI sample from each of these building footprints that remain covered with water. Similar to the washout annexes, this water is shallow and an MI sample could be collected through the water. The MI sample through the water would be similar to sediment sampling and would provide useable, representative data for making a remediation decision. A discrete surface water sample will be collected from each building footprint prior to accessing the areas for MI sampling. These samples will be analyzed for the same analytes as in the MI sample.

We are requesting that the Ohio EPA review these proposed changes to the technical work at the Load Lines and inform us of their acceptability.

URS

Should you have any questions or comments regarding these issues, please do not hesitate to call me at 614-787-4711 or Jo Ann Bartsch at 216 622 2229.

Respectfully,
URS Group, Inc.

Stan Levenger
Technical Project Manager

Approval Signature, USACE - Cynthia A. Ries
Cynthia A. Ries

Title - _____Project Engineer_____

Date:_____29-Sep-2008_____

Approval Signature Ohio EPA - _____ Eileen Mohr

Title - **_____**

Date - _____

cc: Cindy Ries, USACE
Mark Patterson, RVAAP BRAC
Jo Ann Bartsch, URS

"Eileen Mohr" <eileen.mohr@epa.state.oh.us>
10/03/2008 01:35 PM

To "Cynthia A LRL Ries" <Cynthia.A.Ries@usace.army.mil>
cc "Eileen Mohr" <eileen.mohr@epa.state.oh.us>, "Todd Fisher" <todd.fisher@epa.state.oh.us>, <Jo_Ann_Bartsch@URSCorp.com>,
bcc
Subject Re: Tech Change Memo #4 revised

Hi Cindy

I have reviewed the attached email and have a few comments:

1. The DB4-VP1 footprint is currently covered with plastic, correct? It is my recollection that the only water that is present is on top of the plastic in a rutted area. Recommend: just discharging the rainwater that is on the plastic to the ground; moving the plastic back;sampling the soil, and re-cover. The rest is fine.

2. According to MKM personnel the area at DB4A-WS almost immediately showed red/pink water. I can understand not sampling through the water into the underlying soil with respect to potential health and safety concerns. Has any thought been given to sampling in the "bank" area of this depression which is visible (as previously mentioned in an email dated 09/03/2008)? Please provide discussion. What benefit is gained from delaying sampling until excavation is completed in the immediate area?

3. DB-802: please compare obtained surface water data with background surface water and groundwater. This has been done at various other AOCs. Okay to keep the OMZA info in the chart. Also: would prefer the sampling of the soil subsequent to discharging the water (if possible/approved).... then the sampling is not being conducted "blind." (I don't understand how collecting through water would result in a more representative sample as the document says.) I understand the potential issues with respect to health and safety..... the contractor needs to figure out how to do it and do it safely. It is hard to fathom that the excavation area would re-fill during the collection of 1 MI sample. Backfilling issues are MKM's issues and should not weigh into this decision. Please clarify the rationale for collection from a boat. I can live with it (if justified better), but it would not be the preferred alternative.

4. G-11/G-15 - agreed.

That's it.

Eileen

Eileen T. Mohr
Project Manager
Division of Emergency and Remedial Response
2110 East Aurora Road
Twinsburg, OH 44087
330-963-1221
330-487-0769 (FAX)
email: Eileen.Mohr@epa.state.oh.us

>>> "Ries, Cynthia A LRL" <Cynthia.A.Ries@usace.army.mil> 9/29/2008 4:18 PM
>>>
Eileen:

Attached is the revised version of Tech Memo #4, along with data table for the water analyses. I understand that we will need to talk about this some more, particularly with respect to management of the water in DB802.

Thanks for taking the time to discuss this more with me.

Cindy

"Eileen Mohr" <eileen.mohr@epa.state.oh.us>
10/14/2008 03:15 PM

To "Derek S LRL Kinder" <Derek.S.Kinder@usace.army.mi
cc "Eileen Mohr" <eileen.mohr@epa.state.oh.us>, "Todd Fisher" <todd.fisher@epa.state.oh.us>, <Jo_Ann_Bartsch@URSCorp.com>,
bcc
Subject Re: FW: RTCs

History: This message has been forwarded.

#1 - Okay

#2 - Option #2 okay

#3 - Boat option okay. RTC did not address issue of comparison of surface water data. Needs to be agreed to

Eileen T. Mohr
Project Manager
Division of Emergency and Remedial Response
2110 East Aurora Road
Twinsburg, OH 44087
330-963-1221
330-487-0769 (FAX)
email: Eileen.Mohr@epa.state.oh.us

>>> "Kinder, Derek S LRL" <Derek.S.Kinder@usace.army.mil> 10/10/2008 9:37 AM >>>
Eileen,

Thanks for your comments. Responses to the comments are presented immediately after each Ohio EPA comment.

Hi Cindy

I have reviewed the attached email and have a few comments:

1. The DB4-VP1 footprint is currently covered with plastic, correct? It is my recollection that the only water that is present is on top of the plastic in a rutted area. Recommend: just discharging the rainwater that is on the plastic to the ground; moving the plastic back;sampling the soil, and re-cover. The rest is fine.

Noted. The cover will be removed and any standing water on the plastic will be discharged to the ground prior to MI sampling. The plastic will be replaced after sampling.

2. According to MKM personnel the area at DB4A-WS almost immediately showed red/pink water. I can understand not sampling through the water into the underlying soil with respect to potential health and safety concerns. Has any thought been given to sampling in the "bank" area of this depression which is visible (as previously mentioned in an email dated 09/03/2008)? Please provide discussion. What benefit is gained from delaying sampling until excavation is completed in the immediate area?

Based upon the Ohio EPA's comments and suggestions (03 Sept and 03 Oct 08), two options with additional detail are offered for consideration at DB-4A-WS

as follows:

1. The first option is to sample the soils contiguous to the former sump structure depression. The soils would be collected in a narrow band around the pit area just above the standing water elevation. This would limit some of the MI randomness due to the narrow width of the sample area that excludes the actual pit bottom and some sidewall area (not representative of current conditions). However, the materials in the proposed narrow band around the pit(i.e., the bank) should be representative of the soils formally immediately associated with the sump due to the method of removal (soils pulled from excavation during concrete removal and cleanup). So this process may be more representative of former conditions and not current conditions. Since this area is being considered for removal, the value of the analytical data taken before remediation is diminished.

2. The second option is to not MI sample the area until the removal action has been completed. This sample would serve as the confirmation sample documenting the after remediation conditions. The potentially impacted soils currently at the site would not be analyzed but this would not affect the project objectives since removal would satisfy the end cleanup level criteria. Although we prefer the second option, we will do the first if you believe the reasoning presented here is not sufficient.

3. DB-802: please compare obtained surface water data with background surface water and groundwater. This has been done at various other AOCs. Okay to keep the OMZA info in the chart. Also: would prefer the sampling of the soil subsequent to discharging the water (if possible/approved).... then the sampling is not being conducted "blind." (I don't understand how collecting through water would result in a more representative sample as the document says.) I understand the potential issues with respect to health and safety..... the contractor needs to figure out how to do it and do it safely. It is hard to fathom that the excavation area would re-fill during the collection of 1 MI sample. Backfilling issues are MKM's issues and should not weigh into this decision. Please clarify the rationale for collection from a boat. I can live with it (if justified better), but it would not be the preferred alternative.

The rationale for the collection of the MI sample at Bldg 802 (south half) from a boat is as follows:

The boat collection option offers better randomness in the sampling scheme that may not be possible in the pump and sample scenario due to the potential for deep muddy conditions. Any difficult conditions may limit the randomness and coverage of the entire area due to degree of difficulty and access. The boat scenario would allow the sampling crew to traverse the entire footprint and sample randomly as per the MI sampling guidance. Additionally, if the boat sample scenario encounters any issues due to boat access in a shallow water condition, the boat can be used as a platform for sampling and equipment maintenance as well as a safety factor if deep muddy conditions are realized.

4. G-11/G-15 - agreed.
Noted and agreed.
That's it.

Eileen

Eileen T. Mohr
Project Manager
Division of Emergency and Remedial Response 2110 East Aurora Road Twinsburg,
OH 44087
330-963-1221
330-487-0769 (FAX)
email: Eileen.Mohr@epa.state.oh.us

APPENDIX F

Comment Response Table

DRAFT OF THE MULTI-INCREMENT SAMPLING AND ANALYSIS OF SOILS BELOW FLOOR SLABS AT RVAAP-09 LOAD LINE 2, RVAAP-10 LOAD LINE 3, AND RVAAP-11 LOAD LINE 4 AT THE RAVENNA ARMY AMMUNITION PLANT, RAVENNA, OHIO
COMMENT RESPONSE TABLE
November 20, 2009

Comment Number	Page No./Line No.	New Page or Sheet	Comment	Recommendation	Response
Ohio EPA(Eileen Mohr)					
1	2-1/ Section 2.2		This section discusses sample collection. All samples were collected from a 0-1 foot interval (unless there was refusal). No subsurface samples were obtained.	The lack of subsurface sampling, hitting refusal at a shallow depth, lack of sample recovery, etc., coupled with the issues identified with the screening sampling effort, results in a significant data gap. Additional discussion regarding how to accurately characterize the subsurface soil at these load lines needs to be discussed. Additionally, this has an impact on the upcoming LL1 project.	The lack of deeper soil data is recognized as a data gap. This issue will require further stake holder discussions; but may be addressed outside of the current URS contract. URS is prepared to provide technical assistance regarding the knowledge base assimilated to date. This data gap has been acknowledged with the additional text provided in the response to Comment 53d.
2	2-1/37	**Pg. 2-11**	The text indicates that by double-bagging the sample that the sample integrity was increased.	Clarify. The integrity of the samples did not increase. The probability that they would arrive intact at the lab most likely increased.	Text has been revised as follows: *The entire sample was placed in a sealable plastic bag, secured, labeled, and then double bagged to increase the probability the sample would arrive at the lab intact.*
3	2-2/21	**Pg. 2-11**	The text indicates that during the field investigations that several unforeseen circumstances occurred.	How many? What type, i.e., were they more than areas being covered by water as currently specified in the text? Be more specific.	The first sentence is the topic sentence. The remaining sentences and the next paragraph explain the unforeseen circumstances. To provide additional clarity, the topic sentence has been revised as follows: *During the field investigation several unforeseen circumstance occurred that included the flooding of footprints and the observation of product on one footprint.*

Comment Number	Page No./Line No.	New Page or Sheet	Comment	Recommendation	Response
4	2-2/22	**Tables 2-1 and 2-2, Pgs. 2-8 and 2-9**	The text indicates that areas covered by water included several locations in LLs 2 and 4. In looking at tables 2-1, 2-2, 2-3, it appears that the water-covered areas are at LL2 and LL3.	Rectify the disconnect.	The text is correct. The NS footnote on the tables has been revised to include the words *with plastic.*
5	2-2/24-26		The text indicates that the samples collected in October 2008 will be appended to subsequent versions of this report.	All data should have been presented in this report. Theoretically, the only other report that should be required for this effort is the final version, once the RTCs are agreed upon. It is unclear how it is expected to append the data to the final version and not expect that there might be additional comments in terms of sample results and proposed future work. I do not want to get into a situation where we have parts of documents hanging out there that need to have additional tracking, so that we ensure that we aren't missing something. Please provide a solution to this issue.	The results of the October sampling were not available when this report was prepared. An addendum has been prepared that presents those results. The addendum will be added to the final report. The last sentence of this paragraph has been removed. All the MI sampling results will also be presented in the Remediation Report, which will be prepared after excavation of the contaminated areas is complete.
6	2-3/8-11		The text indicates that the additional parameters were based upon the actual operations at the individual buildings. That is not entirely correct.	The "additional parameters" along with explosives and TAL metals represent the RVAAP full suite which is analyzed for on 10% of the samples (unless the media is groundwater or surface water which is 100%). Adjust the text to indicate that based upon building operations, the full-suite was targeted to particular buildings, i.e., those where we might find the various constituents.	The full suite was randomly assigned to 10% of the buildings. The additional parameters were assigned based on actual operations at individual buildings. No text changes are necessary.

Comment Number	Page No./Line No.	New Page or Sheet	Comment	Recommendation	Response
7	2-3/8-11		The text indicates the RVAAP full-suite.	Add pesticides.	Lines 8-11 are describing the additional parameters based on building operations and not the full suite of RVAAP parameters. Pesticides were not an additional parameter, only a full suite parameter.
8	Fig 2-1	**Pg. 2-2**	Figure change requested.	Change RR track symbol on map to match key.	The figure key has been changed to match the track symbol.
9	Fig 2-2	**Pg. 2-3**	Figure change requested.	Change RR track symbol on map to match key.	The figure key has been changed to match the track symbol.
10	Fig 2-3	**Pg. 2-4**	Figure change requested.	Change RR track symbol on map to match key.	The figure key has been changed to match the track symbol.
11	Fig 2-4	**Pg. 2-5**	Figure change requested.	a. A change RR track symbol on map to match key. b. Page 2-2 indicates that some samples were taken in October 2008. It also appears that these sample locations are depicted on the map even though there is no sample collected according to Table 2-1 (i.e., footprint covered). Please cross-reference the previous comment on the "addendum report." Documents that are prepared are to be stand-alone in nature. Propose a solution for clarifying what is and is not presented in this report.	a. The figure key has been changed to match the track symbol. b. The sampling locations not sampled on Table 2-1 were covered with plastic because of exceedances of the TNT cleanup goal in the screening samples. The only information not presented in this draft report is the analytical data for the MI samples collected on October 28. Please see the response to Comment 5.
12	Fig 2-5	**Pg. 2-6**	Figure change requested.	a. Change RR track symbol on map to match key. b. Page 2-2 indicates that some samples were taken in October 2008. It also appears that these sample locations are depicted on the map even though there is no sample collected according to	a. The figure key has been changed to match the track symbol. b. The sampling locations not sampled on Table 2-2 were covered with plastic because of exceedances of the TNT cleanup goal in the field screening samples. The only information not presented in this report is the analytical

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				Table 2-2 (i.e., footprint covered). Please cross-reference the previous comment on the "addendum report." Documents that are prepared are to be stand-alone in nature. Propose a solution for clarifying what is and is not presented in this report. c. Provide an explanation for the line trending south from sample location LL3SS-272M-1215-SO that appears to cross through the AOC fence. Remove if necessary.	data for the MI samples collected on October 28. Please see the response to Comment 5. c. This line from the CAD file depicts an overhead steam line to Load Line #3. It has been identified in the legend.
13	Fig 2-6	**Pg. 2-7**	Figure change requested.	a. Change RR track symbol on map to match key. b. Explain the 2 miscellaneous lines that emanate from sample location box LL4SS-22M-1219-SO. Remove if necessary. Check for others on the various figures.	a. The figure key has been changed to match the track symbol. b. This line from the CAD file depicts an overhead steam line to Load Line #4. It has been identified in the legend.
14	Table 2-1	**Pg. 2-8**	Table change requested.	a. Add a footnote which indicates that this sampling table mirrors the table in the approved workplan. b. Add to the footnote describing "NS" what was covering the location (water? construction debris?).	a. A footnote will be added that states: *This table mirrors the sampling table in the approved Work Plan.* b. The location was covered with plastic because of the TNT exceedance(s) detected in the field screening samples. The words *with plastic* have been added to the footnote.

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15	Table 2-2	**Pg. 2-9**	Table change requested.	a. Add a footnote which indicates that this sampling table mirrors the table in the approved workplan. b. Add to the footnote describing "NS" what was covering the location (water? construction debris?).	a. A footnote will be added that states: *This table mirrors the sampling table in the approved Work Plan.* b. The location was covered with plastic because of the TNT exceedance(s) detected in the field screening samples. The words *with plastic* have been added to the footnote.
16	Table 2-3	**Pg. 2-10**	Table change requested.	a. Add a footnote which indicates that this sampling table mirrors the table in the approved workplan. b. It appears as though all samples were collected at this LL (with the exception of the G-14 footprint that is covered by G-13A), yet the text on page 2-2 indicates that some samples at LL4 were collected in October 2008. Rectify the disconnect.	a. A footnote will be added that states: *This table mirrors the sampling table in the approved Work Plan.* b. All MI samples were collected at Load Line 4. This report describes the sample collection in October, 2008, but does not report the analytical data, which were not available at the time this report was prepared. These analytical data will be included in the Final version of the report.
17	3-1/ section 3.1	**App. C**	This section discusses the data verification process and references holding times, etc.	Provide the COCs and any waybills (if shipped). This is a standard part of all RVAAP projects.	Copies of the chain of custody forms and the freight bills will be included in the Final Report.
18	3-1/ section 3.1	**App. D**	This section discusses the data verification process and references holding times, etc.	Provide additional details on the data validation process and when the results of that process are expected to be received.	The Final DVR and CQAR reports have been received and will be included in an appendix to the Final Report. The conclusions of these reports will be summarized in the Final MI Report.
19	3-2/ section 3.1	**Pg. 3-27**	A portion of this text discusses the "relatively small number" of rejected data.	What constitutes a "relatively small number?" Also…please provide clarification as to whether or not the percentages of rejected data fall with what is allowable per the QAPP.	The text, "(*13 out of 455 VOC data points and 3 out of 1696 explosives data points*)" will be added to the text after "relatively small number." Comparison to QAPP criteria is discussed in Section 3.1.2 on page 3-4 under "completeness."

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20	3-3/18-21		This portion of the text discusses blind duplicates. It is stated that not only will they assess the sampling protocol but the laboratory preparation/analysis as well.	Please explain. It is not clear how you intend to tease out the differences that may have resulted from field efforts vs. lab efforts.	Field and lab contributions cannot be separated. The text states that both types of field duplicates assess "aggregate precision," which includes field and lab efforts.
21	3-3/after line 30	**Pg. 3-39**	The text cross-references the summaries of field duplicates in tables 3-4 through 3-13. It goes on to state what is acceptable precision according to the facility wide QAPP, yet does not discuss what the precision is specific to this project.	Add text to the revision that discusses project-specific precision.	Precision (RPDs/AbsDiff) is shown in the tables and summarized on page 3-4. The project-specific precision goal is defined in the FWQ, as it states in the text. The following was added: *"Project-specific precision on a duplicate pair and analysis basis is included in Tables 3-5 through 3-14."*
22	3-4/18	**Pg. 3-39 and 3-40**	The text indicates that holding times were not "grossly exceeded" for any parameters.	a. Define "grossly exceeded." b. Provide an explanation for why any holding times were exceeded. c. Discuss the potential project impact. d. Provide the COCs and waybills (if applicable).	The text, *"(analysis performed beyond twice the holding time)"* will be added after "grossly exceeded." The following additional information was added to the referenced text: *"Three samples for PCB analysis were re-extracted (due to low surrogate recoveries) 4 days after the 14-day holding time. Seventeen samples were digested within 8 days of collection, but were not analyzed for mercury until 8 days after the 28-day holding time due to a laboratory oversight. These holding time exceedances are considered minor and, while the affected samples were qualified as estimated, the effect on the data is considered negligible."*

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23	3-4/20		Definition required.	Define "adequately representative."	Representativeness is qualitative, not directly measurable. Some "indicators" that assist in the evaluation of representativeness are described in the text.
24	3-4/18-20	**Pg. 3-40**	As written, this sentence indicates that other than the blanks that were free from contamination, that other QA/QC indicators were basically acceptable, or not grossly in error…and as a result the data should be adequately representative.	This is not a ringing endorsement of the data upon which we are expected to make decisions. Can the data be trusted or not?	The following was added to the text: *"Blanks were clean, field duplicates were mostly within limits, and holding times were met for all but a small fraction of the analyses."* *"The weight of evidence leads to the conclusion that representativeness was adequate, sufficient, and acceptable (as opposed to inadequate or unsatisfactory).* *The data can be trusted to make remediation decisions."*
25	3-5/2-3	**Pg. 3-40**	The text indicates that the reporting limits were consistent with Appendix A of the QAPP.	Were the RLs achieved?	Yes, the lab achieved the RLs stated in Appendix A "except where affected by sample dilutions"
26	3-5/ section 3.2	**Pg. 3-41**	Text addition requested.	Add in text that indicates that no sub-surface soil samples were obtained. Or, make it very clear that the presented results are from the 0-1' bgs interval only. This is a significant data gap.	The following was added to the first sentence in this section: *"Forty primary MI samples were collected from the 0-1 foot bgs interval at 46 building footprints."* Please see the response to Comment 1.
27	3-5/18	**Pg. 3-41**	Typo.	Change SVOC to SVOCs.	The sentence was revised as follows: *Thirteen SVOCs were detected…*

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28	3-5 -3-6/ section 3.3	**Pg. 3-41**	Text addition requested.	Add in text that indicates that no sub-surface soil samples were obtained. Or, make it very clear that the presented results are from the 0-1' bgs interval only. This is a significant data gap.	The following was added to the first sentence in this section: *"Twenty-seven primary MI samples were collected from the 0-1 foot bgs interval at 33 building footprints."* Please see the response to Comment 1.
29	3-6/ section 3.4	**Pg. 3-42**	Text addition requested.	Add in text that indicates that no sub-surface soil samples were obtained. Or, make it very clear that the presented results are from the 0-1' bgs interval only. This is a significant data gap.	The following was added to the first sentence in this section: *"Twenty-four primary MI samples were collected from the 0-1 foot bgs interval at 28 building footprints."* Please see the response to Comment 1.
30	Table 3-1	**Pg. 3-2**	Table addition requested.	Add a footnote that describes the difference between bolded and un-bolded entries.	The following footnote has been added to the table: *Bold indicates the chemical was detected.*
31	Table 3-2	**Pg. 3-12**	Table addition requested.	Add a footnote that describes the difference between bolded and un-bolded entries.	The following footnote has been added to the table: *Bold indicates the chemical was detected.*
32	Table 3-3	**Pg. 3-20**	Table addition requested.	Add a footnote that describes the difference between bolded and un-bolded entries.	The following footnote has been added to the table: *Bold indicates the chemical was detected.*
33	Table 3-3		Table addition requested.	The text on page 3-6 indicates that there were 22 primary MI samples collected from 26 building footprints. Put all sample location data in the table, even if it is non-detect. There was also rejected explosive data which should be depicted in this table.	The tables are summarizing detections. All data, including nondetects are summarized in Appendix B. Rejected data are depicted in the table by the "R" qualifier.

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34	Table 3-4	**Table 3-5, Pg. 3-29**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable.
35	Table 3-5	**Table 3-6, Pg. 3-30**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
36	Table 3-6	**Table 3-7, Pg. 3-31**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
37	Table 3-7	**Table 3-8, Pg. 3-32**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
38	Table 3-8	**Table 3-9, Pg. 3-33**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
39	Table 3-9	**Table 3-10, Pg. 3-34**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
40	Table 3-10	**Table 3-11, Pg. 3-35**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable

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41	Table 3-11	**Table 3-12, Pg. 3-36**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
42	Table 3-12	**Table 3-13, Pg. 3-37**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
43	Table 3-13	**Table 3-14, Pg. 3-38**	Table addition requested.	a. Add qualifiers to the key. b. Add "NA" to the key.	a. The qualifiers on this table have been defined as they were on the previous tables. The definitions have been repeated on this table. b. NA has been defined as not applicable
44	4-1 and 4-2	**Pgs. 4-1 through 4-34**	FYI.	The sections on these pages will need to be re-written based upon the comments below. A preliminary write-up should be prepared for review and approval prior to re-submitting this document.	USACE Position Paper for the Application and Use of Facility-Wide Human Health Cleanup Goals provided to stakeholders June 2009 states that a HI of 1 and a cancer risk of 1*10^-5 shall be used during remediation and confirmation and that additivity among chemicals must be accounted for when doing so. Also, in the case where an MI sample is being used to characterize a decision unit, that sample result will be the maximum result and will become the EPC. In the event that a duplicate MI sample is taken in that decision unit, the maximum result for each constituent would be the EPC used in the comparison and additivity adjustment. This section was re-written to comply with the white paper and was submitted for review prior to the submission of the final report.

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45	4-1 – 4-2/sections 4.1 and 4.2	**Pgs. 4-1 through 4-34**	The screening values that should have been used for all chemicals that did not have established cleanup numbers should have been 1E-06 or a HI of 0.1. 1E-05 was utilized and, although the text does not specify, the full HI was probably used. If the concentration of any chemical was higher than these values, then it may be a COC. If they were naturally occurring compounds, then these values should also have been screened against RVAAP background. If they were essentially, then they should have been screened above that number.	Discussion of this issue is needed. Guidance from USACE should also be forthcoming shortly.	Please see response to comment #44
46	4-1 – 4-2/sections 4.1 and 4.2	**Pgs. 4-1 through 4-34**	Once it was determined that the compounds were COPCs, then you should also look to see if they were COPCs based upon the OHARNG trainee scenario (i.e., screen based on the SAIC numbers, which we don't believe were modified). If the concentrations are higher than that, then we are now dealing with true COCs and we need to evaluate the ROD numbers accordingly, in order to account for them and establish cleanup numbers for these chemicals.,,	Discussion of this issue is needed. Guidance from USACE should also be forthcoming shortly.	Please see response to comment #44

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47	4-1 – 4-2/sections 4.1 and 4.2	**Pgs. 4-1 through 4-34**	The evaluation of the sampling results against the 0.1 HI and 1E-06 cleanup value is appropriate, because MI sampling was used to determine areas for remediation and will also be used to confirm that residual contamination levels remaining do not pose a potential risk to the OHARNG Trainee. The MI result characterizes the concentration in an exposure unit, whereas a discrete sample really only indicates the exposure at that point. Therefore, if a MI result is higher than the cleanup value, this would be much more likely to equate to a potential risk from exposure than a discrete sample. With discrete sampling, the risk assessor would have to determine the exposure point concentration for the entire exposure unit before it could be determined if the concentration in one location posed a potential risk. As such, if discrete sampling was utilized, it could be argued that the 0.1 HI or the 1E-06 values were overly protective – because the "real" exposure point concentration for a unit would probably be lower than the values being compared. That argument cannot be made here.	Discussion of this issue is needed. Guidance from USACE should also be forthcoming shortly.	Please see response to comment #44

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48	4-2		Text addition requested.	At the appropriate place in the revised text, add a discussion regarding the comparison of the field screening and MI sampling results.	This report summarizes the MI sampling. The discussion in the comment will be presented in the final remediation report.
49	4-2		Text addition requested.	There should be additional notations in this portion of the text that the lack of subsurface sampling is a data gap.	Please see the response to Comment 1.
50	4-2		FYI.	Please note that the confirmation samples (subsequent to excavation) need to be analyzed for all cleanup numbers listed in the IROD.	Agree. The Work Plan Amendment #1 will be revised to reflect that all confirmation samples subsequent to remediation will be analyzed for all analytes listed in the IROD.
51	Table 4-2		Cross-reference.	Cross-reference previous screening comments and adjust accordingly.	Please see response to comment #44
52	Table 4-3	**Table 4-1 Pg. 4-3**	This table lists the SAIC CUGs (2008).	These CUGs are in draft format and are subject to change. Please add a footnote to that effect.	This footnote will be added.
53	5-1	**Pg. 5-1**	The conclusions section of the report needs to be strengthened.	a. There is no discussion/integration of the screening results. b. If MI sampling were the only data that we had to rely upon, it would seemingly indicate that we only need to excavate in one area, which is not the case. Provide additional discussion. c. Before we move onto LL1, we need to make sure that we have a really good comfort level with proposed excavation areas to ensure OHARNG Trainee safety. Right now, there isn't much of a correlation between the screening and the MI sample results. d. A data gaps section needs to be added. e. Recommendations need to be	a. This discussion will be presented in the final remediation report. b. The excavation decisions were based on screening results and the MI results were used to determine if any other areas needed to be excavated. As stated in Section 5.1, only one additional area was identified by the MI samples. c. The screening results for areas where no exceedances were detected correlate almost perfectly with the results of the MI samples. No wrong decisions were made, i.e., no additional areas where excavation was warranted were identified as part of the MI sampling, except for EB-25, and that conclusion was more of a change in conditions rather than an incorrect screening decisions. d. Since this report addressed the MI

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				added.	sampling only, only MI data gaps should be discussed. The only MI data gap recognized is the vertical evaluation of soils 1.0 feet bgs or greater. The following text has been added to the document: *"The MI process provides a means to analytically evaluate soils over a wide area with a single sample and analysis. The analytical results are very reproducible as demonstrated by the QC sampling. However, the inherent issue with MI sampling is that it only addresses the 0.0 to 1.0 foot bgs interval. Based upon field screening data results there may be areas of impact below the 1.0 foot bgs depth that may be due to the natural distribution/migration or disturbance from demolition activities. Therefore there is a recognized data gap at depths below 1.0 foot bgs."* e. Line 6 provides the only recommendation.
54	App A		General.	Make sure that in future efforts that the logs are legible. There are a number of places where (especially) the corrections that are made make the log difficult to read and/or the date and person making the correction cannot be read.	So noted. Field personnel have been instructed to be more diligent when completing or reviewing the forms.
55	App A		General.	In future efforts, please do not have one person logging more than one boring. This can lead to errors in recording field efforts.	So noted. Multi-logging will not be done in any future sampling efforts.

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56	App A	**Pg. 2-1**	General.	There are numerous field logs that indicate that refusal was reached well before the 1' bgs sampling depth, and also that, in a significant number of cases, there was not 100% recovery of the sample aliquots. This is another data gap.	The following was added to Section 2.2: *"The sub slab materials encountered at the load lines were in many cases represented by a large percentage of large cobbles of rock and concrete. These cobbles variably affected the sampling efforts by restricting the depth of sampling and recovery. At locations where refusal was encountered at depths less than 1.0 ft bgs, at least five separate attempts were made to achieve the full sample depth. In all cases multiple attempts were taken to collect each aliquot to depth and for recovery as needed."*
57	App A	**Pg. 2-11**	General.	Refusal was reached at a significant number of sampling locations. There are no notations in the log as to the cause of refusal. Was it a minor piece of debris that by moving over a couple inches, a full sample could be obtained? Was bedrock reached? What?	As noted in response # 56 multiple attempts were conducted at each aliquot location. The following was added to Section 2.2. *"The attempts were generally conducted within close proximity to the intended location but the radius was expanded if refusals continued in an attempt to achieve the intended 1.0 ft bgs".*
58	App A		General.	On the field sampling report, in the analytical parameters section, both metals and explosives have the qualifier "selected" after the listed parameter. Please provide an explanation.	The "selected" term was added to the sample form only as a reminder to the staff that all of the samples were to be analyzed for explosives and metals.
59	App A		General.	In a number of instances, the sample depths recorded do not match the sample description depths. Although the refusal is documented in the description, since the sampling information should reflect the actual sample obtained, the correct	Noted. The sample collection depth listed in the first block of the form was intended to list the proposed sample interval or depth. The actual depths may have varied through the acquisition of the 30 MI aliquots due to refusal. The actual sample depths due and recoveries are listed in the

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				sampling depth should be listed.	third sample form block. In the future the first block will not be filled in and only the actuals will be listed.
60	App A		On many different field logs (see the 1st one in the appendix as an example), there are clearly several different writing styles. Many are labeled as to who added in the information, but (in this case) the location ID, # of sample increments and QA samples are clearly written by a different person with a different implement.	Were data fields partially filled in before you hit the field? If so… they should be typed, or at a minimum, a notation made to the log as to the originator. As it appears now, it is not possible to tell whether the logs were partially filled out beforehand, or altered sometime during the field effort, or during the QA/QC effort after the fact.	The field sampling reports were all completed by one person. Some information could be entered beforehand in the field office before leaving for the load lines. However, the information was written by the same person, who did not always use the same writing implement during the entire event.
61	App A		General.	On many field logs, the date of the "js" QA/QC change is not legible and the change did not follow the proper convention (one line strike-out and initial).	JS has been asked to be more careful in the future and follow the proper convention.
62	App A		Example log: LL2SS-288D-1252-SO	a. Did not follow proper change convention. b. Cannot read some of the dates. c. The year from the change date is missing.	a. Correct. The sample logger did not properly initial and date the corrected sample ID number. The QA check did however correct the omission. The sample crews have been reminded of the proper form change convention.. b. All dates recorded on the URS copy are completely readable. The final copy will be reviewed for readability. c. The URS copy has the year associated with the date. The year is 2008. The final copy will be reviewed for readability.
63	App A		Log # LL2SS-276M-1229-SO	Please clarify the note section. Was the entry corrected by someone and then re-corrected during the QA/QC check? This type of logging is not acceptable. Was it due to trying to	The sample logger added the sample description for LL2SS-304 to the incorrect form (LL2SS-276). The error was corrected at sample time by the sample logger. The sample logger did not

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				log in 2 samples at once?	however date the changes after her initials. The dates to the change initials were added by the QC checker.
64	App A		Log #s: LL2SS-287M-1250-SO and LL2SS-286M-1248-SO	These two samples were collected in (apparently) different locations 5 minutes apart. What is being logged, the start time or end time of the sample? (I am assuming that this is not a blind duplicate, as the sample collection locations do not match.)	Two sampling crews started at different times collecting the two MI samples at Bldg DB-4A. One crew started at 0915 and the other started at 0920. One crew member common to both sample teams recorded the data on the sample collection forms. As previously noted in these responses we will not have one logger recording information for two simultaneous sample collections in the future.
65	App A		Log LL3SS-249D-1181-SO	Fill out log completely. Decon info missing.	The sample form does have the decontamination type circled (dedicated). This was a VOC sample which was directly sampled into a dedicated Terracore VOC sampler
66	App A		Example log: LL4SS-206M-1193-SO	When were the words “recovery” and “refusal” added? The same with sample depth, type, decon location, # of increments taken, etc. Before the field effort began? (Different writing.)	Yes. The field crews fill in as much non sample specific form data as possible in advance to facilitate the recording of field data.

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67	App A		Surface water sample logs appear in this appendix. Yet the text of the report indicates that the data will be presented in an addendum.	Apparently, there is now information related to a single data point that will appear in 2 different documents. Couple this with the fact that the screening results were a separate report, we are looking at 3 different reports to document one effort. We need to talk about this before we move on to LL1.	The remediation report to be completed at the end of the project was added to the scope to address this issue. It will include all the information in all previous reports. Also, at Load Line 1, field screening and MI sampling will be conducted during the same mobilization and results will be included in one report.
68	App B		The cover sheet indicates that "the analytical data tables in this Appendix are not accessible due to their length and complexity."	Provide an explanation. RVAAP reports routinely contain appendices that summarize all analytical data. This project would not be an exception.	This appendix summarizes all the analytical data. Accessibility refers to the Section 508 requirement for the visually handicapped.
69	App B, Table B-3	**App. B Pg. B-6**	Table addition requested.	What is meant by a double dashed line? Add to the footnotes.	A footnote indicating that the dashed line means that analysis for these chemicals was not done was added.