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| 15. SUBJECT TERMS | | | | | | |
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Draft of the
Preliminary Evaluation
of
Pre (Floor Slab Removal) Contamination
Beneath Selected Buildings at Load Lines 2, 3, 4

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

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



**US Army Corps
of Engineers®**

Prepared for:

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April 24, 2008

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Acronyms and Abbreviations

| | | |
|----|----------|--|
| 1 | | |
| 2 | AEC | Army Environmental Command |
| 3 | BRACD | Base Realignment and Closure Division |
| 4 | CLIN | Contract Line Item |
| 5 | MARC | Multiple Award Remediation Contract |
| 6 | MKM | MKM Engineers, Inc. |
| 7 | Ohio EPA | Ohio Environmental Protection Agency |
| 8 | QC | Quality Control |
| 9 | RDX | Royal Demolition Explosive, also hexahydro-1,3,5-trinitro-1,3,5- |
| 10 | | triazine |
| 11 | RVAAP | Ravenna Army Ammunition Plant |
| 12 | SOP | Standard Operating Procedure |
| 13 | TNT | Trinitrotoluene, also 2,4,6-trinitrotoluene |
| 14 | URS | URS Group, Inc. |
| 15 | USACE | United States Army Corps of Engineers |
| 16 | UXO | Unexploded Ordnance |
| 17 | | |

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-D0025, Delivery Order 0006).

The removal of the majority 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 has exercised a Contract Line Item (CLIN) to remove floor slabs and any associated foundation walls to grade at these buildings. Under contract to the Army Environmental Command (AEC), Shaw E & I has completed its remediation of surface soils and dry sediments outside the footprints of the buildings at Load Lines 1, 2, 3, and 4.

Floor slab removal by the BRACD contractor began in March 2008 and will be completed in May 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 from one end of the load line to the other.

URS' Scope of Work is to complete both pre-slab removal sampling at selected buildings and post-slab removal sampling at 105 buildings within Load Lines 2, 3, and 4. Evaluation of the sampling results will be done to determine if any areas require excavation and transportation of earth fill from the load lines to buildings at Load Line 4 (i.e., Buildings G-1, G-1A, and G-3).

The SOW tasks are grouped into five primary tasks:

- Preparation of Plans,
- Pre-Slab Removal Sampling and Evaluation,
- Characterization and Removal of Load Line 4 Piles,
- Post-Slab Removal Sampling and Evaluation, and
- Excavation and Transportation of Material to Load Line 4 Buildings.

This report addresses the field investigation and evaluates the sampling results for the pre-slab removal sampling. This work was done in accordance with the Letter Report Work Plan approved on February 7, 2008 (URS, 2008).

Sampling was conducted at two load lines where recent demolition activity left holes or other damage that allowed safe access to soil below the floor slabs. The purpose of this initial sampling was to provide a preliminary evaluation of the likelihood of explosives contamination beneath the floor slabs prior to the initiation of slab removal.

Field screening sampling was conducted at the following locations:

- Load Line 2, Building DB-4, an area about 10 feet south and 15 feet west of the northeast corner of the building. This area is about 10 feet in diameter.
- Load Line 3, Building EB-10, an area about 40 feet south of the north end of the building, midway east and west. This area is about 20 feet in diameter.

The samples were collected on March 21, 2008. Two discrete surface samples at the top of the earth fill and two samples at a 1-foot depth were collected from the area at Building DB-4. Three discrete samples at the top of the earth fill and three samples at a 1-foot depth were collected from the area at Building EB-10.

The area was observed and cleared by Unexploded Ordnance (UXO) personnel prior to any probing. The samples were collected using a stainless steel scoop and bowl at the top interval and with a step probe, where possible, at the deeper interval. The sampling was conducted in accordance with the *Facility-Wide Sampling and Analysis Plan* for Ravenna (SAIC, 2001). Most of the sampling points contained a large amount of concrete debris that prohibited the use of the step probe. Frozen conditions also hindered soil probe operation. Those areas where the step probe could not be used were sampled by removing the materials with a decontaminated hand mattock to 1 foot, where the sample was collected with a scoop and bowl. The samples were placed in new, sealable plastic bags and transported to the field screening laboratory in Building 1036. Field sampling forms from each location are included in Appendix A.

The ten samples (five surface samples and 5 samples from a 1-foot depth) were analyzed for trinitrotoluene (TNT, or 2,4,6-trinitrotoluene) and Royal Demolition Explosive (RDX, or hexahydro-1,3,5-trinitro-1,3,5-triazine) using EnSys[®] soil test kits. The analyses were conducted in accordance with the manufacturer's instructions and standard operating procedures (SOPs). The analyses also followed the general procedures outlined in the RVAAP SOP for Field Colorimetric Analysis of Explosives (USACE, 2001).

The results of the screening analyses are summarized below:

Table 1
Summary of Field Screening Analyses

| Sample Number | TNT, mg/kg | RDX, mg/kg |
|---------------------------|------------|------------|
| LL2-DB4-SS-001SN-0001-SO | ND | 1.6 |
| LL2-DB4-SS-001SN-0002-SO | 1.5 | ND |
| LL2-DB4-SS-002SN-0001-SO | 1.3 | ND |
| LL2-DB4-SS-002SN-0002-SO | ND | 1.4 |
| LL3-EB10-SS-001SN-0001-SO | ND | ND |
| LL3-EB10-SS-001SN-0002-SO | ND | ND |
| LL3-EB10-SS-002SN-0001-SO | ND | ND |
| LL3-EB10-SS-002SN-0002-SO | ND | ND |
| LL3-EB10-SS-003SN-0001-SO | ND | ND |
| LL3-EB10-SS-003SN-0002-SO | ND | ND |

ND: Nondetect result. The test kit detection limit for TNT is 0.7 mg/kg; the detection limit for RDX is 0.8 mg/kg.

The laboratory bench sheet for the analyses and the concentration calculations are included in Appendix B. All quality control (QC) checks (blanks and standards) were within acceptable ranges for the analyses.

1
2 Trinitrotoluene was detected in only two of the pre-slab removal screening samples. Both
3 detections were at Building DB-4 at levels (1.5 and 1.3 mg/kg) well below the cleanup level of
4 1,636 mg/kg. The two detections of RDX were also at Building DB-4 and were at levels (1.4
5 and 1.6 mg/kg) well below the cleanup level of 838 mg/kg.

6 Based on this limited sampling, no evidence of explosive contamination above cleanup levels
7 beneath the floor slabs was detected.

8

9

SAIC. 2001b. 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.

URS. 2008. URS Group, Inc. Letter 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. February 7, 2008.

USACE. 2001. U.S. Army Corps of Engineers. Standard Operating Procedure for Colorimetric Analysis of Explosives. Final. March 16, 2001.

P:\R\Ravenna AAP\13812319\DOCs\Reports\Pre-Slab_Removal\Draft_text_04-24_08.doc

APPENDIX A
Field Sampling Forms

Field Sampling Report

Location ID: LL3EB10-SS-001SN-0001-SU

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

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: 105 hrs

Sample Type: Composite - MI - Grab

Location: Plotted on Map - Staked in Field

Sample Depth: 0 FT (below surface)

Decon: Dedicated - Each Day - Each Location

Estimated - Measured - Surveyed

| Field Parameters (at time of sample) | Analytical Parameters | | | | Other Parameters | | | |
|---|-----------------------|-------------------------------------|------------------|--|----------------------------|----------|----|--|
| PID / FID Readings: Background: <u>0.0</u> ppm | VOC | | | | Corrosivity | | | |
| | SVOC | | | | Reactivity Sulfide/Cyanide | | | |
| Sample: ppm | Explosives (Selected) | <input checked="" type="checkbox"/> | <u>TAT / RDX</u> | | 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
Loose, moist, Lt brn sandy Gravel trace cobbles

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

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Logged By: Xavier Saleh (Please Print)

Reviewed by: Mike Shoop (Please Print)

Signature: Xavier Saleh

Signature: Mike Shoop Date: 4-2-08

Field Sampling Report

Location ID: LL3EB10-55-0001 SN-0002-53

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

Sampling Information

| Source | Groundwater / Product | Surface Water | Soils / Sediments / Sludge | |
|-------------------|-------------------------------|---------------|--|---------------|
| Method | Bailer | Sample Bottle | Scoop <input checked="" type="checkbox"/> | Trowel |
| | Pump | Bacon Bomb | Bowl | Hand Auger |
| | | | Push Probe | Plastic Liner |
| Type/Construction | | | Mattocks <input checked="" type="checkbox"/> | |
| Miscellaneous | Well Purging Form Yes - No | | | |

Sample Collection: 108 hrs

Sample Type: Composite - MI Grab

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

Sample Depth: 10 FT (below surface)

Decon: Dedicated - Each Day Each Location

| Field Parameters (at time of sample) | Analytical Parameters | Other Parameters |
|---|--|----------------------------|
| PID / FID Readings: Background: <u>0.0</u> ppm | VOC | Corrosivity |
| | SVOC | Reactivity Sulfide/Cyanide |
| Sample: ppm | Explosives (Selected) | Ignitability |
| Water Level: FT | Metals (Selected) <input checked="" type="checkbox"/> <u>TNT/RDX</u> | |
| 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: NT.U. | | Trip Blank ID NA |

Sample Description

Loose, moist, lt brown sandy Gravel trace cobbles

Table 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:

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

Logged By: Xavier Sotelo (Please Print)

Signature: [Signature]

Reviewed by: Mike Shoup (Please Print)

Signature: [Signature] Date: 4-2-08

Location ID: LL3 EB10-S3-002 SN-0001-50

Field Sampling Report

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

Sampling Information

| Source | Groundwater / Product | Surface Water | Soils / Sediments / Sludge | |
|-------------------|-------------------------------|---------------|--|---------------|
| Method | Bailer | Sample Bottle | Scoop <input checked="" type="checkbox"/> | Trowel |
| | Pump | Bacon Bomb | Bowl | Hand Auger |
| | | | Push Probe | Plastic Liner |
| Type/Construction | | | Mattocks <input checked="" type="checkbox"/> | |
| Miscellaneous | Well Purging Form Yes - No | | | |

Sample Collection: 1620 hrsSample Type: Composite - MI - Grab
If MI, # of increments taken:Location: Plotted on Map Staked in Field
Estimated - Measured - SurveyedSample Depth: 0.0 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: <u>0.0</u> ppm | SVOC | | | | Reactivity Sulfide/Cyanide | | | |
| Sample: ppm | Explosives (Selected) | | | | Ignitability | | | |
| Water Level FT | Metals (Selected) | <input checked="" type="checkbox"/> | <u>TNT / RDX</u> | | | | | |
| 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

Loose, moist, lt. brown sandy gravel trace cobbles

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

Soil sample description should include:

Munsell Color Odor Staining Texture Sorting Plasticity Moisture

Water sample description should include:

Color Odor Sheen Turbidity

Logged By: Xavier Sotelo (Please Print)Reviewed by: M. Ke Shoop (Please Print)Signature: Xavier SoteloSignature: M. Ke Shoop Date: 4-2-08

Field Sampling Report

Location ID: LL3EB10-SS-002SW-0002-50

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

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: 1023 hrsSample Type: Composite - MI - Grab
If MI, # of increments taken:Location: Plotted on Map Staked in Field
Estimated - Measured - SurveyedSample Depth: 10 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: <u>0.0</u> ppm | SVOC | | | | Reactivity Sulfide/Cyanide | | | | | | | | | | | | | | | |
| Sample: ppm | Explosives (Selected) | | | | Ignitability | | | | | | | | | | | | | | | |
| Water Level: FT | Metals (Selected) | ✓ | TNT / RDX | | QA Samples <table border="1"> <tr> <td>MS/MSD</td> <td>Yes / No</td> <td>NA</td> </tr> <tr> <td>Duplicate ID</td> <td></td> <td>NA</td> </tr> <tr> <td>Equipment Rinse ID</td> <td></td> <td>NA</td> </tr> <tr> <td>Trip Blank ID</td> <td></td> <td>NA</td> </tr> </table> | | | | MS/MSD | Yes / No | NA | Duplicate ID | | NA | Equipment Rinse ID | | NA | Trip Blank ID | | NA |
| MS/MSD | Yes / No | NA | | | | | | | | | | | | | | | | | | |
| Duplicate ID | | NA | | | | | | | | | | | | | | | | | | |
| Equipment Rinse ID | | NA | | | | | | | | | | | | | | | | | | |
| Trip Blank ID | | NA | | | | | | | | | | | | | | | | | | |
| 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. | | | | | | | | | | | | | | | | | | | | |

Sample Description

Loose, moist, lt. brown sandy GRAVEL trace cobblesTable 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:

QA/QC Provided: MS/MSD Duplicate Trip Blanks Field Blanks
Parameters: Same as Above As ListedLogged By: Xavier Sobelo (Please Print)Reviewed by: Mike Shoop (Please Print)Signature: Xavier SobeloSignature: Mike Shoop Date: 4-2-08

Field Sampling Report

Location ID: LL3 EB10-SS-003 SK-0001-50

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

Sampling Information

| Source | Groundwater / Product | Surface Water | Soils / Sediments / Sludge | |
|-------------------|-------------------------------|---------------|----------------------------|--|
| Method | Bailer | Sample Bottle | Scoop | <input checked="" type="checkbox"/> Trowel |
| | Pump | Bacon Bomb | Bowl | Hand Auger |
| | | | Push Probe | Plastic Liner |
| Type/Construction | | | Mattocks | <input checked="" type="checkbox"/> |
| Miscellaneous | Well Purging Form Yes - No | | | |

Sample Collection: 1025 hrs Sample Type: Composite - MI - Grab Location: Plotted on Map Staked in Field
 If MI, # of increments taken: _____ Estimated - Measured - Surveyed
 Sample Depth: 0.0 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: <u>0.0</u> ppm | SVOC | | | | Reactivity Sulfide/Cyanide | | |
| Sample: _____ ppm | Explosives (Selected) | | | | Ignitability | | |
| Water Level _____ FT | Metals (Selected) | <input checked="" type="checkbox"/> | <u>TNT/RDX</u> | | | | |
| 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

Loose, moist, lt. brown sandy Gravel trace cobbles

Table 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: _____

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

Logged By: Kim Sotelo (Please Print)

Signature: Kim Sotelo

Reviewed by: Miko Sharp (Please Print)

Signature: Miko Sharp Date: 4-2-08

Location ID: LL3EB10-SS-002SU-0002-5

Field Sampling Report

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

Sampling Information

| Source | Groundwater / Product | Surface Water | Soils / Sediments / Sludge | |
|-------------------|-------------------------------|---------------|--|---------------|
| Method | Bailer | Sample Bottle | Scoop <input checked="" type="checkbox"/> | Trowel |
| | Pump | Bacon Bomb | Bowl | Hand Auger |
| | | | Push Probe | Plastic Liner |
| Type/Construction | | | Mattocks <input checked="" type="checkbox"/> | |
| Miscellaneous | Well Purging Form Yes - No | | | |

Sample Collection: 028 hrsSample Type: Composite - MI - Grab
If MI, # of increments taken:Location: Plotted on Map Staked in Field
Estimated - Measured - SurveyedSample Depth: 1.0 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: <u>0.0</u> ppm | SVOC | | | | Reactivity Sulfide/Cyanide | | | |
| Sample: ppm | Explosives (Selected) | | | | Ignitability | | | |
| Water Level: FT | Metals (Selected) | <input checked="" type="checkbox"/> | <u>TOT/RDX</u> | | | | | |
| 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

Loose, moist, Lt. Brown sandy GRAVEL, trace cobblesTable 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:

QA/QC Provided: MS/MSD Duplicate Trip Blanks Field Blanks
Parameters: Same as Above As ListedLogged By: Xavier Sotelo (Please Print)Reviewed by: M. Lopez (Please Print)Signature: Xavier SoteloSignature: [Signature] Date: 4-2-08

Field Sampling Report

Location ID: LL 2 DB-4-SS-001SV-0001-50

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

Sampling Information

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

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 ppm

VOC

SVOC

Sample: 0 ppm

Explosives (Selected)

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.

TNT/ROX

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

Lt Brown moist gravelly sand, trace
cobbles, trace boulders (Sub-Slab)
(As crushed concrete)

Table 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:

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

Logged By: Tom GEURGE (Please Print)

Reviewed by: Mike Shepp (Please Print)

Signature: Tom George

Signature: Mike Shepp Date: 4-2-08

Field Sampling Report

Location ID: LL2DB4-SS-001SN-0002-50

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

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 | <input checked="" type="checkbox"/> |
| Miscellaneous | Well Purging Form Yes - No | | | |

Sample Collection: 1108 hrs

Sample Type: Composite - MI - Grab

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

Sample Depth: 1.0 FT (below surface)

Decon: Dedicated - Each Day - Each Location

| Field Parameters (at time of sample) | Analytical Parameters | Other Parameters |
|---|--|----------------------------|
| PID / FID Readings: Background: <u>0</u> 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 NTU | <u>TNT/ROX</u> <input checked="" type="checkbox"/> | Trip Blank ID NA |

Sample Description

lt Brown, moist, gravelly sand (sn-sm)
fine cobbles, fine debris
in crushed concrete

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

Logged By: Tom GEORGE (Please Print)

Reviewed by: M. Kay Shop (Please Print)

Signature: Tom George

Signature: Michael Shop Date: 4-2-08

Location ID: LL2084-SS-0025N-0001-50

Field Sampling Report

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/2/08

Sampling Information

| Source | Groundwater / Product | Surface Water | Soils / Sediments / Sludge | | |
|-------------------|-------------------------------|---------------|----------------------------|-------------------------------------|---------------|
| Method | Bailer | Sample Bottle | Scoop | <input checked="" type="checkbox"/> | Trowel |
| | Pump | Bacon Bomb | Bowl | | Hand Auger |
| | | | Push Probe | | Plastic Liner |
| Type/Construction | | | Mattocks | | |
| Miscellaneous | Well Purging Form Yes - No | | | | |

Sample Collection: 11:15 hrs 111D Sample Type: Composite - MI - Grab Location: Plotted on Map Staked in Field
 If MI, # of increments taken: 1 Estimated - Measured - Surveyed
 Sample Depth: 0.2 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: <u>0</u> ppm | SVOC | Reactivity Sulfide/Cyanide |
| Sample: <u>0</u> ppm | Explosives (Selected) | Ignitability |
| Water Level: <u>0</u> FT | Metals (Selected) | |
| Temperature: <u>0</u> °C | Perchlorate | |
| Sp. Conductance: <u>0</u> uMHOs | PCBs | QA Samples |
| pH: <u>0</u> units | Nitrate / Nitrite | MS/MSD Yes / No NA |
| Dissolved Oxygen: <u>0</u> Mg / L | TPH DRO / HRO | Duplicate ID NA |
| Redox Potential: <u>0</u> mV | Propellants | Equipment Rinse ID NA |
| Turbidity: <u>0</u> N.T.U. | <u>TNT/ROX</u> <input checked="" type="checkbox"/> | Trip Blank ID NA |

Sample Description

Lt Brown, moist, Gravelly Sand, trace cobalt/cr
fine brick (As crushed concrete)

Table 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:

QA/QC Provided: MS/MSD Duplicate Trip Blank Field Blank
 Parameters: Same as Above AS Listed

Logged By: TOM GEORGE (Please Print)

Reviewed by: M. Ke Shoop (Please Print)

Signature: Tom George

Signature: M. Ke Shoop Date: 4-2-08

Field Sampling Report

Location ID: 76-LL2084
76-LL2084-SS-002SN-0002-S0

RVAAP LL 2, 3, and 4 Sub-Slab Sample, Ravenna, OH

Date: 3/21/08

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 | <input checked="" type="checkbox"/> |
| Miscellaneous | Well Purging Form Yes - No | | | |

Sample Collection: 4-6 hrs 1113 Sample Type: Composite - MI - Grab Location: Plotted on Map - Staked in Field
 If MI, # of increments taken: 1 Estimated - Measured - Surveyed
 Sample Depth: 1.5 FT (below surface) Decon: Dedicated - Each Day Each Location

| Field Parameters (at time of sample) | Analytical Parameters | Other Parameters |
|---|--|----------------------------|
| PID / FID Readings: Background: <u>0</u> ppm | VOC | Corrosivity |
| | SVOC | Reactivity Sulfide/Cyanide |
| Sample: <u>ppm</u> | Explosives (Selected) | Ignitability |
| Water Level: <u>FT</u> | Metals (Selected) | |
| Temperature: <u>°C</u> | Perchlorate | |
| Sp. Conductance: <u>uMHOs</u> | PCBs | QA Samples |
| pH: <u>units</u> | Nitrate / Nitrite | MS/MSD Yes / No NA |
| Dissolved Oxygen: <u>Mg / L</u> | TPH DRO / HRO | Duplicate ID NA |
| Redox Potential: <u>mV</u> | Propellants | Equipment Rinse ID NA |
| Turbidity: <u>N.T.U.</u> | <u>TNT/ROX</u> <input checked="" type="checkbox"/> | Trip Blank ID NA |

Sample Description
lt brown, moist, gravelly sand, trace
cobbles, fr. brkts sw-sm
crushed concrete
table

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: Tom George (Please Print)

Signature: Tom George

Reviewed by: Mike Shoop (Please Print)

Signature: Mike Shoop Date: 4-2-08

APPENDIX B
Screening Laboratory Documentation

**TNT and RDX
Soil Test Worksheet
RVAAP**

Temp (°F) 66
Balance Check ✓

C:\Program Files\Bentley\MapInfo\Bentley\BIN\TNT-RDX Bench Sheet Template

TNT Soil Test Worksheet
RVAAP

| Sample ID | Date Collected | Time Collected | Date Tested | DF | Abs _{initial} | Abs _{sample} | Result | TNT Conc. (ppm) | Comments |
|---------------------------------|----------------|----------------|-------------|----|------------------------|-----------------------|--------|-----------------|---------------------|
| 1 LL4-G5-SS-001SN-0001-SO | 3/14/2008 | 14:30 | 3/14/2008 | 1 | 0.011 | 0.012 | -0.99 | ND | |
| 2 LL4-G5-SS-001SN-0001-SO-DUP | 3/14/2008 | 14:30 | 3/14/2008 | 1 | 0.006 | 0.002 | -0.68 | ND | |
| 3 LL2-DB4-SS-001SN-0001-SO | 3/21/2008 | 11:05 | 3/21/2008 | 1 | 0.209 | 0.537 | -9.26 | ND | |
| 4 LL2-DB4-SS-001SN-0002-SO | 3/21/2008 | 11:08 | 3/21/2008 | 1 | 0.077 | 0.356 | 1.49 | 1.5 | |
| 5 LL2-DB4-SS-002SN-0001-SO | 3/21/2008 | 11:10 | 3/21/2008 | 1 | 0.036 | 0.185 | 1.27 | 1.3 | |
| 6 LL2-DB4-SS-002SN-0002-SO | 3/21/2008 | 11:13 | 3/21/2008 | 1 | 0.031 | 0.132 | 0.25 | ND | |
| 7 LL3-EB10-SS-001SN-0001-SO | 3/21/2008 | 10:15 | 3/21/2008 | 1 | 0.012 | 0.053 | 0.15 | ND | |
| 8 LL3-EB10-SS-001SN-0002-SO | 3/21/2008 | 10:18 | 3/21/2008 | 1 | 0.007 | 0.009 | -0.59 | ND | |
| 9 LL3-EB10-SS-001SN-0002-SO-DUP | 3/21/2008 | 10:18 | 3/21/2008 | 1 | 0.003 | 0.012 | 0.00 | ND | |
| 10 LL3-EB10-SS-002SN-0001-SO | 3/21/2008 | 10:20 | 3/21/2008 | 1 | 0.024 | 0.092 | -0.12 | ND | |
| 11 LL3-EB10-SS-002SN-0002-SO | 3/21/2008 | 10:23 | 3/21/2008 | 1 | 0.010 | 0.025 | -0.46 | ND | |
| 12 LL3-EB10-SS-003SN-0001-SO | 3/21/2008 | 10:25 | 3/21/2008 | 1 | 0.028 | 0.072 | -1.24 | ND | |
| 13 LL3-EB10-SS-003SN-0002-SO | 3/21/2008 | 10:28 | 3/21/2008 | 1 | 0.003 | 0.010 | -0.06 | ND | |
| 14 LL4-G4-SS-002SN-0001-SO | 3/21/2008 | 14:40 | 3/21/2008 | 1 | 0.010 | 0.015 | -0.77 | ND | |
| 15 LL4-G7-SS-003SN-0001-SO | 3/21/2008 | 14:35 | 3/21/2008 | 1 | 0.003 | 0.011 | -0.03 | ND | |
| 16 LL4-G12-SS-016SN-0001-SO | 3/21/2008 | 14:58 | 3/21/2008 | 1 | 0.002 | 0.005 | -0.09 | ND | Sample ID corrected |
| 17 LL4-G13VP1-SS-017SN-0001-SO | 3/21/2008 | | 3/21/2008 | 1 | 0.002 | 0.007 | -0.03 | ND | |
| 18 LL4-G8-SB-004SN-0001-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.003 | 0.029 | 0.53 | ND | |
| 19 LL4-G8-SB-004SN-0002-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.014 | 0.017 | -1.21 | ND | |
| 20 LL4-G8-SB-004SN-0003-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.013 | 0.015 | -1.15 | ND | |
| 21 LL4-G8-SB-004SN-0004-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.011 | 0.013 | -0.96 | ND | |
| 22 LL4-G8-SB-004SN-0005-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.011 | 0.016 | -0.87 | ND | |
| 23 LL4-G8-SB-005SN-0001-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.043 | 0.083 | -2.76 | ND | |
| 24 LL4-G8-SB-005SN-0002-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.273 | 0.541 | -17.06 | ND | |
| 25 LL4-G8-SB-005SN-0003-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.017 | 0.045 | -0.71 | ND | |
| 26 LL4-G8-SB-005SN-0004-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.022 | 0.040 | -1.49 | ND | |
| 27 LL4-G8-SB-005SN-0005-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.054 | 0.099 | -3.62 | ND | |
| 28 LL4-G8-SB-006SN-0001-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.004 | 0.004 | -0.37 | ND | |
| 29 LL4-G8-SB-006SN-0002-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.002 | 0.002 | -0.19 | ND | |
| 30 LL4-G8-SB-006SN-0003-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.003 | 0.003 | -0.28 | ND | |
| 31 LL4-G8-SB-006SN-0004-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.004 | 0.004 | -0.37 | ND | |
| 32 LL4-G8-SB-006SN-0005-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.001 | 0.002 | -0.06 | ND | |
| 33 LL4-G8-SB-007SN-0001-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.002 | 0.006 | -0.06 | ND | |
| 34 LL4-G8-SB-007SN-0002-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.001 | 0.004 | 0.00 | ND | |
| 35 LL4-G8-SB-007SN-0003-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.003 | 0.004 | -0.25 | ND | |
| 36 LL4-G8-SB-007SN-0004-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.003 | 0.004 | -0.25 | ND | |
| 37 LL4-G8-SB-007SN-0005-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.002 | 0.004 | -0.12 | ND | |
| 38 LL4-G8-SB-008SN-0001-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.002 | 0.004 | -0.12 | ND | |
| 39 LL4-G8-SB-008SN-0001-SO-DUP | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.000 | 0.002 | 0.06 | ND | |
| 40 LL4-G8-SB-008SN-0002-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.001 | 0.002 | -0.06 | ND | |
| 41 LL4-G8-SB-008SN-0003-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.003 | 0.002 | -0.31 | ND | |
| 42 LL4-G8-SB-008SN-0004-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.001 | 0.002 | -0.06 | ND | |
| 43 LL4-G8-SB-008SN-0005-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.003 | 0.004 | -0.25 | ND | |
| 44 LL4-G8-SB-009SN-0001-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.002 | 0.007 | -0.03 | ND | |
| 45 LL4-G8-SB-009SN-0002-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.001 | 0.004 | 0.00 | ND | |
| 46 LL4-G8-SB-009SN-0003-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.002 | 0.004 | -0.12 | ND | |
| 47 LL4-G8-SB-009SN-0004-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.002 | 0.004 | -0.12 | ND | |
| 48 LL4-G8-SB-009SN-0005-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.003 | 0.004 | -0.25 | ND | |
| 49 LL4-G8-SB-010SN-0001-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.006 | 0.007 | -0.53 | ND | |
| 50 LL4-G8-SB-010SN-0002-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.006 | 0.008 | -0.50 | ND | |
| 51 LL4-G8-SB-010SN-0003-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.007 | 0.013 | -0.46 | ND | |
| 52 LL4-G8-SB-010SN-0004-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.001 | 0.001 | -0.09 | ND | |
| 53 LL4-G8-SB-010SN-0005-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.000 | 0.000 | 0.00 | ND | |
| 54 LL4-G8-SB-011SN-0001-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.006 | 0.014 | -0.31 | ND | |
| 55 LL4-G8-SB-011SN-0002-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.000 | 0.039 | 1.21 | 1.2 | |
| 56 LL4-G8-SB-011SN-0003-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.005 | 0.017 | -0.09 | ND | |
| 57 LL4-G8-SB-011SN-0004-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.001 | 0.005 | 0.03 | ND | |
| 58 LL4-G8-SB-011SN-0005-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.002 | 0.005 | -0.09 | ND | |
| 59 LL4-G8-SB-012SN-0001-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.002 | 0.004 | -0.12 | ND | |
| 60 LL4-G8-SB-012SN-0001-SO-DUP | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.001 | 0.002 | -0.06 | ND | |
| 61 LL4-G8-SB-012SN-0002-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.008 | 0.023 | -0.28 | ND | |
| 62 LL4-G8-SB-012SN-0003-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.010 | 0.105 | 2.01 | 2.0 | |
| 63 LL4-G8-SB-012SN-0004-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.000 | 0.002 | 0.06 | ND | |

RDV Soil Test Worksheet
RVAAP

| | Sample ID | Date Collected | Time Collected | Date Tested | DF | Abs | Result | RDV Conc. (ppm) | Comments |
|----|------------------------------|----------------|----------------|-------------|----|-------|--------|-----------------|---------------------|
| 1 | LL4G5-SS-001SN-0001-SO | 3/14/2008 | 14:30 | 3/14/2008 | 1 | 0.012 | -0.09 | ND | |
| 2 | LL4G5-SS-001SN-0001-SO-DUP | 3/14/2008 | 14:30 | 3/14/2008 | 1 | 0.012 | -0.09 | ND | |
| 3 | LL2DB4-SS-001SN-0001-SO | 3/21/2008 | 11:05 | 3/21/2008 | 1 | 0.049 | 1.56 | 1.6 | |
| 4 | LL2DB4-SS-001SN-0002-SO | 3/21/2008 | 11:08 | 3/21/2008 | 1 | 0.015 | 0.04 | ND | |
| 5 | LL2DB4-SS-002SN-0001-SO | 3/21/2008 | 11:10 | 3/21/2008 | 1 | 0.023 | 0.40 | ND | |
| 6 | LL2DB4-SS-002SN-0002-SO | 3/21/2008 | 11:13 | 3/21/2008 | 1 | 0.046 | 1.42 | 1.4 | |
| 7 | LL3EB10-SS-001SN-0001-SO | 3/21/2008 | 10:15 | 3/21/2008 | 1 | 0.012 | -0.09 | ND | |
| 8 | LL3EB10-SS-001SN-0002-SO | 3/21/2008 | 10:18 | 3/21/2008 | 1 | 0.016 | 0.09 | ND | |
| 9 | LL3EB10-SS-001SN-0002-SO-DUP | 3/21/2008 | 10:18 | 3/21/2008 | 1 | 0.009 | -0.22 | ND | |
| 10 | LL3EB10-SS-002SN-0001-SO | 3/21/2008 | 10:20 | 3/21/2008 | 1 | 0.013 | -0.04 | ND | |
| 11 | LL3EB10-SS-002SN-0002-SO | 3/21/2008 | 10:23 | 3/21/2008 | 1 | 0.010 | -0.18 | ND | |
| 12 | LL3EB10-SS-003SN-0001-SO | 3/21/2008 | 10:25 | 3/21/2008 | 1 | 0.011 | -0.13 | ND | |
| 13 | LL3EB10-SS-003SN-0002-SO | 3/21/2008 | 10:28 | 3/21/2008 | 1 | 0.006 | -0.36 | ND | |
| 14 | LL4G4-SS-002SN-0001-SO | 3/21/2008 | 14:40 | 3/21/2008 | 1 | 0.019 | 0.22 | ND | |
| 15 | LL4G7-SS-003SN-0001-SO | 3/21/2008 | 14:35 | 3/21/2008 | 1 | 0.014 | 0.00 | ND | |
| 16 | LL4G12-SS-016SN-0001-SO | 3/21/2008 | 14:58 | 3/21/2008 | 1 | 0.020 | 0.27 | ND | Sample ID corrected |
| 17 | LL4G13VP1-SS-017SN-0001-SO | 3/21/2008 | | 3/21/2008 | 1 | 0.025 | 0.49 | ND | |
| 18 | LL4G8-SB-004SN-0001-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.015 | 0.04 | ND | |
| 19 | LL4G8-SB-004SN-0002-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.031 | 0.76 | ND | |
| 20 | LL4G8-SB-004SN-0003-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.016 | 0.09 | ND | |
| 21 | LL4G8-SB-004SN-0004-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.032 | 0.80 | 0.8 | |
| 22 | LL4G8-SB-004SN-0005-SO | 3/21/2008 | 15:15 | 3/21/2008 | 1 | 0.008 | -0.27 | ND | |
| 23 | LL4G8-SB-005SN-0001-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.015 | 0.04 | ND | |
| 24 | LL4G8-SB-005SN-0002-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.031 | 0.76 | ND | |
| 25 | LL4G8-SB-005SN-0003-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.015 | 0.04 | ND | |
| 26 | LL4G8-SB-005SN-0004-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.014 | 0.00 | ND | |
| 27 | LL4G8-SB-005SN-0005-SO | 3/21/2008 | 15:30 | 3/21/2008 | 1 | 0.012 | -0.09 | ND | |
| 28 | LL4G8-SB-006SN-0001-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.018 | 0.18 | ND | |
| 29 | LL4G8-SB-006SN-0002-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.017 | 0.13 | ND | |
| 30 | LL4G8-SB-006SN-0003-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.013 | -0.04 | ND | |
| 31 | LL4G8-SB-006SN-0004-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 32 | LL4G8-SB-006SN-0005-SO | 3/21/2008 | 15:50 | 3/24/2008 | 1 | 0.004 | -0.44 | ND | |
| 33 | LL4G8-SB-007SN-0001-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.018 | 0.18 | ND | |
| 34 | LL4G8-SB-007SN-0002-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.019 | 0.22 | ND | |
| 35 | LL4G8-SB-007SN-0003-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.016 | 0.09 | ND | |
| 36 | LL4G8-SB-007SN-0004-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.017 | 0.13 | ND | |
| 37 | LL4G8-SB-007SN-0005-SO | 3/21/2008 | 18:15 | 3/24/2008 | 1 | 0.003 | -0.49 | ND | |
| 38 | LL4G8-SB-008SN-0001-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.010 | -0.18 | ND | |
| 39 | LL4G8-SB-008SN-0001-SO-DUP | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.013 | -0.04 | ND | |
| 40 | LL4G8-SB-008SN-0002-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.011 | -0.13 | ND | |
| 41 | LL4G8-SB-008SN-0003-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.013 | -0.04 | ND | |
| 42 | LL4G8-SB-008SN-0004-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 43 | LL4G8-SB-008SN-0005-SO | 3/21/2008 | 16:30 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 44 | LL4G8-SB-009SN-0001-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.015 | 0.04 | ND | |
| 45 | LL4G8-SB-009SN-0002-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.016 | 0.09 | ND | |
| 46 | LL4G8-SB-009SN-0003-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.016 | 0.09 | ND | |
| 47 | LL4G8-SB-009SN-0004-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 48 | LL4G8-SB-009SN-0005-SO | 3/21/2008 | 16:45 | 3/24/2008 | 1 | 0.015 | 0.04 | ND | |
| 49 | LL4G8-SB-010SN-0001-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.013 | -0.04 | ND | |
| 50 | LL4G8-SB-010SN-0002-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.013 | -0.04 | ND | |
| 51 | LL4G8-SB-010SN-0003-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.010 | -0.18 | ND | |
| 52 | LL4G8-SB-010SN-0004-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 53 | LL4G8-SB-010SN-0005-SO | 3/21/2008 | 17:05 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 54 | LL4G8-SB-011SN-0001-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.072 | 2.58 | 2.6 | |
| 55 | LL4G8-SB-011SN-0002-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.011 | -0.13 | ND | |
| 56 | LL4G8-SB-011SN-0003-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.009 | -0.22 | ND | |
| 57 | LL4G8-SB-011SN-0004-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.012 | -0.09 | ND | |
| 58 | LL4G8-SB-011SN-0005-SO | 3/21/2008 | | 3/24/2008 | 1 | 0.013 | -0.04 | ND | |
| 59 | LL4G8-SB-012SN-0001-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.016 | 0.09 | ND | |
| 60 | LL4G8-SB-012SN-0001-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.014 | 0.00 | ND | |
| 61 | LL4G8-SB-012SN-0002-SO | 3/21/2008 | 18:35 | 3/24/2008 | 1 | 0.004 | -0.44 | ND | |