317203

URS

Memorandum

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From: Bob Veenstra, URS

Subject: **Principal Threat Wastes Technical Memorandum**

1.0 SUMMARY

This technical memorandum summarizes existing data regarding the presence of non-aqueous phase liquid (NAPL) and buried drums at Sauget Area 2 (SA2) and provides an evaluation of whether the NAPL or buried drums containing liquid waste materials would constitute principal threat wastes.

USEPA requested that results of the Remedial Investigation submitted in 2004 (2004 RI), and the Supplemental Investigation (SI) conducted in 2005 and 2006 be integrated to facilitate an updated evaluation of principal threat wastes at SA2 Sites O, P, Q, R, and S (Sites).

Based on the information presented in this technical memorandum (Tech Memo), there is no evidence of large caches of drums containing liquid wastes or highly mobile source material at the SA2 Sites. (Note: A separate technical memorandum will be prepared evaluating whether waste materials are present which may be considered a principal threat based on toxicity.) Minor quantities of principal threat wastes were observed in the following locations:

- AT-Q-35 in Site Q South: Two intact drums were found where potential NAPL leaked into the trench from one of the drums. Since the two drums were found in close proximity to each other, to be conservative, both were considered to contain liquid and be principal threat waste.
- The NAPL observed in Anomaly Trench AT-P-4 and LEACH-P-1.
- NAPL was observed at 8 locations in Site R and is considered a principal threat waste; however, these locations are within the GMCS barrier wall and already controlled within the GMCS barrier wall (Operable Unit # 2).
- The NAPL observed within Site Q North at Sonic-5 and LEACH-Q-1 is considered a principal threat waste; however, these locations are already controlled within the GMCS barrier wall (Operable Unit # 2).

2.0 SCOPE OF TECHNICAL MEMO

Principal Threat Wastes

USEPA has requested that results of the 2004 RI, and the SI conducted in 2005 and 2006 be integrated to facilitate an updated evaluation of principal threat wastes at Sites O, P, Q, R, and S (Sites). Principal threat wastes are defined in a 1991 USEPA fact sheet as follows:

> *Principal threat wastes are those source materials that are considered to be highly toxic or highly mobile that cannot be reliably contained or would present a significant threat to human health or the environment should exposure occur. They include liquids and other highly mobile materials (e.g., solvents) or materials having high concentrations of toxic compounds. No threshold level of toxicity/risk has been established to equate to principal threat. However, where toxicity and mobility of source material combined to pose a potential risk of 10^{-3} or greater, generally treatment alternatives should be evaluated.*

The USEPA fact sheet presented several examples of principal threat wastes.

> *Wastes that generally will be considered to constitute principal threats include, but are not limited to:*
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> - *Liquids – waste contained in drums, lagoons or tanks, free product (NAPLs) floating on or under groundwater (generally excluding groundwater) containing contaminants of concern.*
> - *Mobile source material – surface soil or subsurface soil containing high concentrations of contaminants of concern that are (or potentially are) mobile due to wind entrainment, volatilization (e.g., VOCs), surface runoff, or subsurface transport.*
> - *Highly toxic source material – buried drummed non-liquid wastes, buried tanks containing non-liquid wastes, or soils containing significant concentrations of highly toxic materials.*

As requested by the SA2 Sites Group, URS has prepared this Tech Memo to summarize existing data regarding the presence of NAPL and buried drums at the SA2 Sites and provide an evaluation of whether or not NAPL, or the buried drums that were found to contain liquid wastes, constitute principal threat wastes. A separate technical memorandum will be prepared evaluating whether waste materials are present which may be considered a principal threat based on toxicity.

This memorandum includes the following:

- Summary of soil gas and magnetometer surveys;
- Summary of test trenching rationale, design, and field procedures;
- Inventory of number and condition of intact, buried drums found at the fill areas;
- Summary of the Phase 3 SI NAPL Investigation; and
- Evaluation of whether the NAPL or drums, that were found to contain liquid wastes, constitute principal threat wastes.

3.0 INVESTIGATION SUMMARIES

Remedial Investigation (2004)

As a part of the 2004 RI, fill area investigations were conducted in 2002 at SA2 Sites O, P, Q, R and S (Sites). The investigations included the following tasks: i) review of aerial photos, topographic maps, and topographic survey data to obtain information regarding fill area boundaries; ii) excavation of boundary trenches to confirm the horizontal limits of the fill areas; iii) a soil gas survey at and near each fill area; iv) waste sampling to characterize the fill materials; iv) a magnetometer survey at each fill area to identify magnetic anomalies potentially indicative of buried tanks or drums; and v) excavation of anomaly trenches at an interior location in each fill area to look for buried tanks or drums. Buried drum remnants and fragments were found in trenches at Sites P, Q, R, and S. Trench locations are shown on the Figure 1. The following is a summary of the magnetometer and soil gas surveys conducted during the 2004 RI.

Magnetometer Survey

Magnetometer surveys were conducted at four of the five SA2 Sites (P, Q, R, and S) to identify magnetic anomalies in the subsurface potentially associated with buried drums. No magnetometer survey was conducted at Site O since site closure records indicated that there were no drums present at this site. Magnetometer measurements were collected at the center points of a 50 by 50-foot grid superimposed on each of the disposal areas. The established survey lines were marked in the field using a pre-marked survey line to maintain straight and precise station locations. Profiles were completed along a straight line with an unobstructed line of sight, and each measurement location was marked with a surveyor’s flag.

The geophysical survey of each site's magnetic field was completed utilizing a Ferex gradeometer magnetometer. Field procedures and operation of the instruments were done in accordance with the recommended manufacturer's field procedure and application manual.

The field magnetometer measured the strength of each site's magnetic field regardless of the orientation of the magnetic lines of force. During the performance of the geophysical survey, data were collected that resulted in contour maps depicting the distribution of magnetic field strength over each site. These maps were compared with the observed field conditions (including the location of known interfering objects such as vehicles, overhead power lines, and surface debris). By comparison, those magnetic anomalies, which could not be explained by observed site conditions, were presumed to be a result of buried subsurface material (e.g., drums, tanks, metal debris, etc.). The results of the magnetometer survey are presented on Figures 2a through 2d.

Soil Gas Survey

A soil gas survey was performed at each of the five SA2 Sites to assist in verifying the boundaries of the disposal areas. Soil gas samples were collected at the center points of a 200 by 200-foot grid, superimposed on each disposal area.

Direct-push technology was used to advance a retractable point holder to 5.5 feet below existing grade. The rods were then pulled back 6 inches to approximately 5 feet below existing grade to disengage the retractable point, thereby exposing the sampling mechanism. Polyethylene tubing (0.125-inch diameter) was then lowered into the rods. The upper end of the polyethylene tubing was connected to a 4-inch section of silicone tubing, which was then attached to a section of polyethylene tubing coming from an active vacuum system and a vacuum was placed on the tubing. A 60cc sample of soil gas was withdrawn from the silicone tubing using a 60cc disposable syringe with a stainless steel needle. The sample was then directly injected into the on-site gas chromatograph (GC). The GC provided a report of the total VOC concentrations.

Following sample collection, sample tubing was removed from the probe and disposed. Probing rods and sampling equipment were removed from the boring and the boring was filled with bentonite to just below existing grade. The bentonite was then hydrated with potable water and the surface was restored to its original condition.

If detectable concentrations of total VOCs were found in the soil gas samples from borings located along a site boundary, then additional borings were advanced off-site along a transect perpendicular to that site boundary. Borings were advanced every 100 feet along the transect until VOC concentrations

fell below the on-site laboratory reporting limits. If no VOCs were detected along a site boundary, no additional borings were advanced.

A total of 339 of the 348 originally proposed soil gas borings were advanced at the five sites. In addition, soil gas samples were collected at 15 step-out locations. The elimination of nine of the originally proposed soil gas sample locations, which could not be collected due to utility hazards, high water table, or unattainable access, was approved in the field by the USEPA's oversight contractor and was recorded on a Field Clarification Log. The results of soil gas survey are presented in Figures 3a through 3e.

The magnetic anomalies and soil gas concentration highs identified during the magnetometer and soil gas investigations conducted as part of the 2004 RI were used to focus the trenching investigation of the potential presence of buried drums or tanks.

Supplemental Investigation (2005)

Additional anomaly trenches were completed during the Phase 1 of the SI in 2005 to investigate the potential presence of buried drums or tanks based on the magnetic anomalies and soil gas concentration highs identified during the magnetometer and soil gas investigations conducted as part of the 2004 RI. The trench locations are summarized as follows:

- Four trenches were installed in Site P.
- Three trenches were installed in Site Q North.
- Eleven trenches were installed in Site Q Central.
- Four trenches were installed in Site Q South.

Soil and waste samples were collected from these anomaly trenches. Buried drum remnants and fragments were found in some of the trenches at Sites P and Q. Two intact drums were found in Site Q South.

SI NAPL Investigation (2005, 2006)

A NAPL Investigation was conducted during Phase 3 of the SI in 2006 to identify the nature and extent of both residual NAPL, which remains in the interstitial spaces of the soil, and pooled NAPL, which sits on the groundwater surface (light non-aqueous phase liquids (LNAPL)) or on the bedrock surface (dense non-aqueous phase liquid (DNAPL)). The NAPL Investigation was focused on two areas based on previous investigation results:

- LEACH-P-1
- Sonic-5

These locations were based on the data collected during the regional survey of the presence or absence of NAPL during the 2005 Phase 1 SI regional groundwater gauging event and on observations made during the course of the 2004 RI and the SI. Observed NAPL or Potential NAPL locations are presented on Figure 3.

4.0 TEST TRENCH RATIONALE, DESIGN, AND FIELD PROCEDURES

4.1 Boundary Trenches (2002)

Boundary trenches (BT) were used to confirm the boundaries of the waste disposal areas identified through the aerial photo and soil gas analyses. One trench was installed on each side of a waste disposal area. Thus, there were a total of four trenches in each of Sites O, P, R, and S. Because of the larger total area and varying types of disposal activities in Site Q, ten boundary trenches were used to assess the site. The trenches were positioned to assess the features identified on the aerial photos, and each location was selected in the field with the concurrence of USEPA's oversight contractor.

Each trench began outside of an assumed disposal area boundary and moved in towards the boundary until waste materials were encountered. If waste materials were encountered initially, the trenching activities proceeded out and away from the boundary until native soils were encountered. The trenching extended vertically to a maximum depth of 40-feet bgs (below ground surface) or to groundwater, whichever was encountered first, and horizontally to a maximum length of 40 feet. Some trenches were terminated before reaching 40-feet bgs due to cave-in conditions in the trench. In order to minimize the generation of investigation-derived wastes (IDW), no accommodations were made to dewater test trenches or manage groundwater during excavation activities.

All excavated soil and fill materials were returned to the trenches. Backfilling was conducted in a manner which minimized ponding of water over the trench. If necessary, a silt fence was installed around the perimeter of the trench to minimize runoff of surface soils during rain events. A test trench at one location was backfilled prior to the initiation of a test trench at another location. After completion of site investigation activities, the SA2 Sites were allowed to vegetate naturally.

A summary of trenching observations is presented in Tables 1a, 1b, and 1c.

4.2 Anomaly Trenches (2002, 2005)

During the 2004 RI, a total of 10 anomaly trenches were completed to investigate the potential presence of buried drums or tanks as identified during the magnetometer survey. One anomaly trench was installed in each of the Sites P, R, and S and seven anomaly trenches were installed in Site Q. No anomaly trenches were performed at Site O since site closure records indicated that there were no drums present. In an effort to reduce the potential risks to the community, on-site workers and the environment, each magnetic anomaly was evaluated against four criteria:

- A soil gas concentration high
- Drum or tank disposal locations identified by historical air photo interpretation
- An area of high groundwater concentrations (greater than 10,000 ppb) as identified by the February 1998 Ecology and Environment Data Report, *Volume 2 Sauget Area 2 Data Tables/Maps*
- Major magnetic anomalies reported in the May 1988 Ecology and Environment Report, *Expanded Site Investigation, Dead Creek Project Sites at Cahokia/Sauget, Illinois*

A total of 22 additional anomaly trenches (AT) were completed as part of Phase 1 of the SI in 2005 to investigate the potential presence of buried drums or tanks based on the magnetic anomalies and soil gas concentration highs identified during the magnetometer and soil gas investigations conducted as part of the 2004 RI.

- Four trenches were installed in Site P
- Three trenches were installed in Site Q North
- Eleven trenches were installed in Site Q Central
- Four trenches were installed in Site Q South

An anomaly trench was installed at the location of the most appropriate magnetic anomaly. Anomaly test trench locations were selected in the field with the concurrence of USEPA's oversight contractor.

Anomaly test trenches were advanced until evidence of buried drums or tanks was encountered or to a maximum length and depth of 40 feet. Infiltrating groundwater was not managed during excavation activities. If groundwater infiltration and/or poor soil stability resulted in the inability to complete a test trench to 40-feet below ground surface (bgs), the trenching was terminated at that location.

Step-Out Trenches

During trenching activities during Phase 1 of the SI in 2005, if drums or drum remnants were encountered during trenching, the length of the trench was extended beyond 40 feet in order to delineate the lateral extent of drums. If the trench extended at least 20 feet into a drum disposal and drums or drum remnants were still present, the lateral boundaries were delineated with boundary trenches at 50 foot increments transecting the perimeter of the disposal area on each side to avoid trenching directly through drums. It was assumed that the area between the step-out trenches and the original trenching area was continuously laden with buried drums. If drums or drum remnants were encountered during step-out trenching, one additional trench perpendicular to the original trench was installed to determine the lateral extent of the buried drums in that direction. The step-out trenches were test trenches excavated only to a length and depth necessary to confirm the presence of drums or similar density of drum remnants. Drums were not removed from the trench in order to delineate vertical extent; however, the locations of drums were documented using GPS and photographs.

Site P Step-Out Trenches

Five step-out trenches were excavated in Site P associated with AT-P-2 to delineate the extent of a significant density of drum remnants (no intact drums were found in Site P). Two step-out trenches were excavated to the north of AT-P-2 at distances of 50 (TT-P-2-N-1) and 100 (TT-P-2-N-2) feet. Metal drum remnants and fragments and industrial waste were present in TT-P-2-N-1; therefore, the step-out process was continued. No metal drums or drum fragments were observed in TT-P-2-N-2 and the density of industrial waste was not as significant as AT-P-2; therefore, further step-out trenches to the north were not excavated.

Three step-out trenches were excavated to the south of AT-P-2 at distances of 50 (TT-P-2-S-1), 100 (TT-P-2-S-2), and 150 (TT-P-2-S-3) feet. Metal drum remnants and fragments and industrial waste were present in all 3 step-out trenches; however, the step-out process was discontinued due to the location of anomaly trench AT-P-1, which was approximately 150 feet to the south of TT-P-2-S-3. Metal drum remnants were present in AT-P-1.

Step-out trenches were not excavated to the east and west of AT-P-2 due to access issues. The central ravine in Site P was less than 50 feet west of AT-P-2 and a high voltage power line prevented step-out trenches to the east of AT-P-2.

Site Q South Step-Out Trenches

Three step-out trenches were excavated in Site Q South associated with AT-Q 35 to delineate the extent of intact drums. Two step-out trenches were excavated to the west of AT-Q-35 at distances of 50 (TT-Q-35-W-1) and 100 (TT-Q-35-W-2) feet. No intact drums were present, but metal drum remnants and fragments and industrial waste were present in TT-Q-35-W-1; therefore, the step-out process was continued to delineate the extent of drum remnants and industrial waste in this area. No industrial waste or metal drums or drum fragments were observed in TT-Q-35-W-2; therefore, further step-out trenches to the west were not excavated. One step-out trench was excavated to the north of AT-Q-35 at a distance of 50 (TT-Q-35-N-1) feet. While ~4 metal drum remnants and fragments were observed in TT-Q-35-N-1, no intact metal drums were present and the density of drum remnants was not as significant as AT-Q-35; therefore, further step-out trenches to the north were not excavated.

Step-out trenches were not excavated to the east and south of AT-Q-35. The orientation of AT-Q-35 was east/west and the eastern edge of AT-Q-35 was located ~5 feet east of the toe of a sloped area assumed to be the edge of a disposal area. Intact drums and drum fragments were not present until the trench was excavated a lateral distance of ~10 feet west of the toe of the slope. In addition, the Corp of Engineers levee is less than ~100 feet east of AT-Q-35; therefore a step-out trench was not excavated to the east of AT-Q-35. A step-out trench was not excavated to the south due to the location of AT-Q-36.

Three step-out trenches were excavated in Site Q South associate with AT-Q-33 to delineate the extent of a significant density of drum remnants and industrial waste (no intact drums were found at AT-Q-33). One step-out trench was excavated to the east of AT-Q-33 at a distance of 50 (TT-Q-33-E-1) feet. While metal drum remnants and fragments were observed in TT-Q-33-E-1, no intact metal drums or industrial waste were present and the density of drum remnants was not as significant as AT-Q-33; therefore, further step-out trenches to the east were not excavated. One step-out trench was excavated to the south of AT-Q-33 at a distance of 50 (TT-Q-33-S-1) feet. Metal drum remnants or fragments and industrial waste were not observed in TT-Q-33-S-1; therefore, further step-out trenches to the south were not excavated. Due to the volume of drum remnants and industrial waste present in AT-Q-33 and the presence of drum remnants in TT-Q-33-E-1, the SA2 Sites Group agreed to excavate one additional trench (TT-Q-33-SE-1) bisecting the two step-out locations. No metal drums or drum fragments or industrial waste were observed in TT-Q-33-SE-1; therefore, further step-out trenches the step-out process was discontinued.

Step-out trenches were not excavated to the north of AT-Q-33 due the location of a buried pipeline and step-out trenches were not excavated to the west due to orientation of AT-Q-33 and the density and location of the industrial waste and drum remnants present. Industrial waste increased in thickness and density as the trench advanced to south.

5.0 DRUM INVENTORY

URS prepared an inventory of intact drums discovered during test trenching based on our review of field notes and photographs. For each trench location, the following provides the number of drums observed, descriptive information regarding drum condition and contents (where available), and URS's interpretation regarding whether or not the observed drums contained liquids constituting principal threat waste.

Site	Total No. of Intact Drums Observed	No. of Drums that Contained Liquids Constituting Principal Threat
Site O	None (only remnants or fragments)	0
Site P	None (only remnants or fragments)	0
Site Q North	None (only remnants or fragments)	0
Site Q Central	None (only remnants or fragments)	0
Site Q South	2 *	2 *
Site R	None (only remnants or fragments)	0
Site S	None (only remnants or fragments)	0

* At Site Q South (AT-Q-35) two intact drums were discovered, one of which was leaking a liquid. Since the two drums were found in close proximity to each other, to be conservative both were considered to contain liquid and be principal threat waste. Four additional drums were partially uncovered; however, it was not determined if the four partially uncovered drums were intact or contained liquid.

See Section 7 for further discussion of the drum observations.

6.0 NAPL INVESTIGATION

A NAPL Investigation was conducted as part of Phase 3 of the SI to identify the nature and extent of both residual NAPL, which remains in the interstitial spaces of the soil, and pooled NAPL, which sits on the groundwater surface (light non-aqueous phase liquids (LNAPL)) or on the bedrock surface (DNAPL). The NAPL Investigation was focused on two areas based on previous investigation results:

- LEACH-P-1
- Sonic-5

Two NAPL samples (one LNAPL, one DNAPL) were collected for laboratory analysis of chemical properties from LEACH-P-1 and one DNAPL sample from Sonic-5 was collected for laboratory analysis of mobility properties. In addition, soil borings were advanced and monitoring wells were installed around Sonic-5. Soil borings and monitoring wells were not advanced or installed adjacent to LEACH-P-1 because other sampling locations have provided a maximum lateral extent of the NAPL observed.

6.1 NAPL Borings/Monitoring Well Installation

Three soil borings were advanced to bedrock using roto-sonic drilling technology at locations approximately 50 feet south of the barrier wall in a general east/west orientation adjacent to location Sonic-5. The presence of NAPL was evaluated based upon both visual evidence and the results of hydrophobic testing (Sudan IV vial test).

Field screening of soil samples utilizing the Sudan IV dye did not indicate the presence of NAPL in any of the three soil borings. Soil samples were collected for geotechnical laboratory analysis and six samples were collected for chemical analysis from each boring advanced during the NAPL investigation.

Monitoring wells were installed at each of the three soil borings advanced as part of the NAPL investigation. NAPL was not observed in any of the wells during the six-month gauging/observation period.

6.2 NAPL Observations

During the 2004 RI, the scope of work did not include collecting samples of NAPL. During the SI, the scope of work included collecting samples of NAPL or potential NAPL for visual and laboratory analysis. If field personnel could verify phase separation was present in any liquid observed or verify the presence of NAPL via oil water interface probe in monitoring wells, the fluid was classified as NAPL. However, if field personnel were unable to collect this data (i.e. liquid flowing into a trench from a drum remnant in the side-wall of a trench) and no other evidence was present, the liquid was classified as “potential NAPL,” and as such, will not be included as principal threat wastes.

Site O

NAPL was not observed in Site O.

Site P

NAPL was observed in Site P at the following locations:

- Anomaly Trench AT-P-4 - During trenching activities, NAPL (thick, brown liquid) was present and sampled from approximately 4 feet bgs and approximately 5 feet from the northern edge of the trench. According to STL-Savannah, there was phase separation in the sample. In addition, after backfilling the trench, potential NAPL seeped out of the top of the backfill material;
- LEACH-P-1 - During sampling on monitoring well LEACH-P-1, both LNAPL and DNAPL were present. This sample was collected from ~ 24 feet bgs.

Based on these observations, the NAPL in Anomaly Trench AT-P-4 and in LEACH-P-1 are considered principal threat wastes.

Potential NAPL was observed in Site P at:

- Anomaly Trench AT-P-1 – "Clear liquid" leaked from drum remnant located approximately 20 feet bgs;
    - In addition, during trenching activities at AT-P-1, a white, cloudy liquid was encountered dripping from drum remnant located on the trenching spoils pile. After a sample was submitted for laboratory analysis, the lab reported there was no phase separation in this liquid.
- Test Trench TT-P-2-S-3 – During trenching activities, a "liquid" was encountered leaking from a 55-gal. drum fragment at ~10 feet bgs.

Liquids which leaked into the trench from drum remnants in Anomaly Trench AT-P-1 and Test Trench TT-P-2-S-3 were classified as potential NAPL; however, they did not fit the definition of NAPL and therefore will not be included as principal threat wastes.

Site Q North

NAPL was observed in five locations within Site Q North at the following locations:

- SONIC-5 - During soil boring advancement and subsequent gauging, greenish-yellow colored NAPL was observed at a depth of approximately 138 to 141 feet bgs;
- LEACH-Q-1 - During the gauging event, all liquid present (~10 feet bgs) within the well at the time of gauging was NAPL;

- PZ-6D - During piezometer installation, product sheen and odor were present from approximately 10 to 17 feet bgs, green staining and odor were present at approximately 27 feet;
- PZ-8U - During piezometer installation, odor was present at approximately 7 feet, odor was present at approximately 12 feet, oil and strong odor were present at approximately 17 feet;
- SA-Q-3 - During monitoring well installation, NAPL was observed at a depth of approximately 7 to 13 feet bgs. However, NAPL was never observed in the monitoring well installed at this boring location.

The NAPL observed within Site Q North at Sonic-5, LEACH-Q-1, PZ-6D, and PZ-8U is considered a principal threat waste; however, these locations are already controlled within the GMCS barrier wall (Operable Unit # 2.). Since NAPL was never observed in the monitoring well SA-Q-3, this location will not be considered to have principal threat waste.

Potential NAPL was observed at one investigation location in Site Q North;

- BT-Q-1 – Potential NAPL was observed at a depth of approximately 15 feet bgs during completion of this boundary trench. The observation of liquid at the bottom of this trench precipitated extensive discussions and led to the definitions of “potential NAPL” and “NAPL.” Although Table 1a describes the liquid as NAPL, based on the current definition this liquid is classified as “potential NAPL.”

Site Q Central

At Anomaly Trench AT-Q-29 in Site Q Central, a crushed drum was encountered with potential NAPL residue on the inside walls of the drum, which was located approximately 16 feet bgs and at the western edge of the trench. In our opinion, tar-like materials or other high viscosity liquids such as was found in AT-Q-29 are not considered liquids constituting principal threat wastes. These materials are not highly mobile and would be expected to be retained in the fine-grained soils that characterize the shallow hydrogeologic unit at SA2. This potential NAPL residue will not be considered principal threat waste.

Site Q South

At Anomaly Trench AT-Q-35 in Site Q South, liquid leaked into the trench (<3 gallons) from a drum located approximately 12 feet bgs and approximately 15 feet from eastern edge of trench. This potential NAPL will not be considered principal threat waste. However, as discussed in Section 7.0, the intact drums observed at this anomaly trench location will be considered principal threat waste.

Site R

NAPL was observed in Site R at the following locations:

- B-25A - During gauging activities, trace amount of DNAPL was present on probe at ~ 30 feet bgs;
- B-25B - During gauging activities, trace amount of DNAPL was present on probe at ~ 35 feet bgs;
- B-28B - During gauging activities, trace amount of DNAPL was present on probe at ~ 35 feet bgs;
- B-29A - During gauging activities, trace amount of DNAPL was present on probe at ~ 32 feet bgs;
- B-29B - During sampling activities, approximately 1.55 feet of DNAPL was present at ~ 38 feet bgs;
- SB-1 - During soil boring installation, "product" located approximately 95 feet bgs;
- SB-3 - During soil boring installation, "yellowish water in drilling fluid" at approximately 15 feet bgs;
- SONIC #3 - During soil boring installation, "NAPL" located approximately 56 feet bgs.

The NAPL observed in Site R is considered a principal threat waste; however, these locations are within the GMCS barrier wall and already controlled by Operable Unit # 2.

Site S

Potential NAPL was observed in two trenches in Site S:

- Anomaly Trench AT-S-1 – “Liquid” was present in the trench near drum remnant at approximately 4 to 5 feet bgs;
- Boundary Trench BT-S-2 – “Liquid” leaked from a partially buried drum remnant located approximately 1.5 feet bgs. Although field notes describe the liquid as NAPL, based on the current definition, this liquid is classified as “potential NAPL.”

Liquids which leaked into the trenches from drum remnants in Anomaly Trench AT-S-1 and Boundary Trench BT-S-2 were classified as potential NAPL; however, they did not fit the definition of NAPL and therefore will not be included as principal threat wastes.

7.0 OBSERVATION OF DRUMS

Site O

No drums were observed in the waste materials in Site O.

Site P

Drum remnants and fragments were observed in the waste material in Site P; however, no intact drums were identified. The drums (many of which were fiber drums), found in the trenches at Site P were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site P contained liquids constituting principal threat waste.

Site Q North

Drum remnants and fragments were observed in the waste material in Site Q North; however, no intact drums were identified. The drums found in the trenches at Site Q North were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site Q North contained liquids constituting principal threat waste.

Site Q Central

Drum remnants and fragments were observed in the waste material in Site Q Central; however, no intact drums were identified. The drums found in the trenches at Site Q Central were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site Q Central contained liquids constituting principal threat waste.

Site Q South

Two intact drums were observed in Anomaly Trench AT-Q-35 in Site Q South. Potential NAPL leaked into the trench (<3 gallons) from one of these drums. In addition, four partially uncovered drums were exposed in the leading face of the trench when the trenching activities were halted. Although no analysis of the drum materials were obtained, the intact 2 drums observed in AT-Q-35 are considered principal threat wastes, while the 4 partially exposed drums (which may or may not be intact) are not considered principal threat waste.

Three step-out trenches were excavated in Site Q South associate with AT-Q 35 to delineate the extent of intact drums. Two step-out trenches were excavated to the west of AT-Q-35 at distances of 50 (TT-Q-35-W-1) and 100 (TT-Q-35-W-2) feet. No intact drums were present, but metal drum remnants and fragments and industrial waste were present in TT-Q-35-W-1; therefore, the step-out process was continued. No metal drums or drum fragments or industrial waste were observed in TT-Q-35-W-2;

therefore, further step-out trenches to the west were not excavated. One step-out trench was excavated to the north of AT-Q-35 at a distance of 50 (TT-Q-35-N-1) feet. While ~4 metal drum remnants and fragments were observed in TT-Q-35-N-1, no intact metal drums were present and the density of drum remnants was not as significant as AT-Q-35; therefore, further step-out trenches to the north were not excavated. Therefore, the extent of property that might contain principal threat drums at AT-Q-35 is limited in extent (~100 square feet).

Site R

Drum remnants and fragments were observed in the waste material in Site R; however, no intact drums were identified. The drums found in the trenches at Site R were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site R contained liquids constituting principal threat waste.

Site S

Drum remnants and fragments were observed in the waste material in Site S; however, no intact drums were identified. The drums found in the trenches at Site S were crushed, split, heavily damaged, or without a lid. It is our opinion that none of the drums found at Site S contained liquids constituting principal threat waste.

8.0 EVALUATION OF NAPL AND BURIED DRUMS AT SAUGET AREA 2

USEPA's expectation is that treatment will be used to address the principal threats posed by a site, wherever practical (USEPA, 1991). For sites where drums of waste are present, the most common treatment option is removal and disposal of the drums. A removal and disposal action is straightforward if the drums are located aboveground, but is much more difficult if the drums are buried in scattered locations within fill deposits or waste materials.

At large fill areas, a removal and disposal action for drums containing principal threat wastes would be practical if caches of such drums were actually present, if the caches could be located, if the drums were found to be intact, and if the drums could be safely removed in a relatively intact condition. Based on the information presented in this Tech Memo, large caches of drums containing liquid wastes or highly mobile source material in the areas previously investigated for principal threat waste at Sites O, P, Q, R, and S were not found. Principal threat wastes were observed in the following locations:

- AT-Q-35 in Site Q South: Two intact drums were found where potential NAPL leaked into the trench from one of the drums. Since the two drums were found in close proximity to each other, to be conservative, both were considered to contain liquid and be principal threat waste.

- The NAPL observed in Anomaly Trench AT-P-4 and LEACH-P-1.
- NAPL was observed at 8 locations in Site R and is considered a principal threat waste; however, these locations are within the GMCS barrier wall and already controlled within the GMCS barrier wall (Operable Unit # 2).
- The NAPL observed within Site Q North at Sonic-5 and LEACH-Q-1 is considered a principal threat waste; however, these locations are already controlled within the GMCS barrier wall (Operable Unit # 2).

9.0 REFERENCES

USEPA, 1991. "A Guide to Principal Threat and Low Level Threat Wastes", Superfund Publication 9380.3-06FS, November 1991.

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Figure 2b Magnetometer Survey Results-Site Q
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Figure 3a Soil Gas Survey Results –Site O
Figure 3b Soil Gas Survey Results –Site P
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Figure 4 Observed NAPL or Potential NAPL Locations
Figure 5 Principal Threat Waste Locations

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Attachment 1 Photographs
Attachment 2 Field Notes

cc: Brandi Higgins, URS

Tables

Table1a
Boundary and Anomaly Trenching Observations
2002
Sauget Area 2

Trench Location	Trench Date	Waste Encountered	Type of Waste Material	Evidence of Industrial Waste	Comments
SITE O					
BT-O-01	6/17/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
BT-O-02	6/17/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
BT-O-03	6/17/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
BT-O-04	6/14/2002	Yes	Native Soil Grading to Lagoon Fill	Lagoon Sludge	Boundary Located, See Field Notebook #2 for Trench Details
SITE P					
BT-P-01	6/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-P-02	6/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-P-03	6/12/2002	Yes	Municipal Waste	Drum Lid	Boundary Not Located
BT-P-04	6/12/2002	Yes	Municipal Waste	No	**Boundary Not Located - Road Present in Step-Out Direction**
AT-P-01	8/14/2002	Yes	Construction Debris	Drum Remnants	None
SITE Q NORTH					
BT-Q-01	6/10/2002	Yes	Municipal Waste	NAPL	**Boundary Not Located - Road/Utilities Present in Step-Out Direction**
BT-Q-02	NA	NA	NA	NA	Boundary Trench in Same Location as BT-R-03
BT-Q-03	6/5/2002	Yes	Municipal Waste	No	**Boundary Not Located - Road Present in Step-Out Direction**
BT-Q-04	NA	NA	NA	NA	Boundary Trench in Same Location as BT-R-04
BT-Q-05	6/21/2002	No	NA	No	Boundary Not Located, Wood Chips and Coal Cinders Observed Over Length of Trench
AT-Q-11	6/5/2002	Yes	Municipal Waste	Drum Remnants	Observed Fiber Drum Remnant with "Monsanto" Printed on Side
SITE Q CENTRAL					
BT-Q-06	6/6/2002	Yes	Municipal Waste	No	Boundary Not Located, Could Not Step Out Full 40' Due to Mulch Piles and Pond
AT-Q-12	6/6/2002	Yes	Construction Debris	No	None
AT-Q-13	6/6/2002	Yes	Construction Debris	No	None
AT-Q-14	6/11/2002	Yes	Construction Debris	No	None
AT-Q-15	6/7/2002	Yes	Municipal Waste	Drum Lid	None
AT-Q-16	6/11/2002	Yes	Construction Debris	No	Encountered Concrete Slab Approx. 3' bgs at 3 Offset Locations
SITE Q SOUTH					
BT-Q-07	6/10/2002	Yes	Municipal Waste	Drum Remnants	Boundary Not Located
BT-Q-08	8/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-Q-09	8/12/2002	Yes	Municipal Waste	No	Boundary Located, See Field Notebook #2 for Trench Details
BT-Q-10	8/12/2002	No	NA	No	Boundary Not Located
AT-Q-18	8/12/2002	Yes	Municipal Waste	Metal Tank ~ 55 gal.	None
SITE R					
BT-R-01	6/19/2002	Yes	Industrial Waste	White Crystalline Material	**Boundary Not Located - Road Present in Step-Out Direction**
BT-R-02	6/20/2002	Yes	Industrial Waste	Drum Remnants	Boundary Located, See Field Notebook #2 for Trench Details
BT-R-03	6/21/2002	Yes	Industrial Waste	Drum Remnants	Boundary Not Located, Trench Location Adjacent to Site Q
BT-R-04	6/20/2002	Yes	Industrial Waste	White Crystalline Material	Boundary Located, See Field Notebook #2 for Trench Details
AT-R-01	8/13/2002	Yes	Industrial Waste	Drum Remnants	None
SITE S					
BT-S-01	6/13/2002	Yes	Industrial Waste	Drum Remnants	Boundary Located, See Field Notebook #2 for Trench Details
BT-S-02	6/14/2002	Yes	Industrial Waste	Drum Remnants, NAPL	**Boundary Not Located - Utilities Present in Step-Out Direction**
BT-S-03	6/13/2002	No	NA	No	Boundary Not Located - Sandy Native Soil Observed Over Length of Trench
BT-S-04	6/14/2002	Yes	Industrial Waste	Drum Remnants	Boundary Located, See Field Notebook #2 for Trench Details
AT-S-01	8/14/2002	Yes	Industrial Waste	Drum Remnants	URS Upgraded to Level B PPE

Notes:
NAPL - Non-Aqueous Phase Liquid
bgs - Below Ground Surface
NA - Not Applicable
Anomaly Trench AT-Q-17 was not advanced due to the placement of approximately 30' of fill material by property owner.

Table1b
Boundary and Anomaly Trenching Observations
2005
Sauget Area 2

Trench Location	Trench Date	Waste Depth (ft bgs)	Groundwater Depth (ft bgs)	Gross Contamination Sample Depth	Magnetic Anomaly Explained	High PID reading (ppm)	Drums/Drum Remnants Encountered	Waste Encountered	NAPL/Liquid	Notes
SITE P										
AT-P-2	5/26/2005	0-TD (21')	~18-20	10 ft bgs Drum remnants present, elevated PID reading (headspace ~181 ppm)	Yes	PID-- 208 ppm at slightly crushed drum with tan grout-like material inside	~7 slighltly crushed to crushed 55-gallon metal drums ~20 fiber drum remnants	Industrial waste-- an orange powdery material, a white powdery material, black staining inside a slightly crushed metal drum, and a tan grout-like material inside a slightly crushed metal drum.	A white, cloudy liquid was encountered dripping from crushed drum. A sample of the white cloudy liquid from drum was submitted to lab for analysis. The lab reported there was no phase separation.	Trench advanced partially in Level C PPE.
AT-P-3	6/13/2005	3-TD (15-16')	~12	10 ft bgs Fiber drum remnants present	Yes	PID-- 506 ppm at small metal containers	1 slightly crushed 55-gallon metal drum ~50-75% of backhoe buckets contained fiber drum remnants/fragments.	Industrial waste-- a crystalline solid, magenta stained soils/waste, an orange powdery material, a yellow, powdery substance, a yellow solid, a white solid, and a tan grout-like material. ~10 small metal containers (some with lime green solids) Municipal waste-- paper, plastic, glass, fabric, cans Construction debris-- concrete slabs, brick, metal debris and rubber		
AT-P-4	5/25/2005	0-17	~8	4 ft bgs Drum remnants and NAPL present	Yes	PID-- ~220 ppm at crushed drum with white crystalline contents	~10-12 slightly crushed to crushed 55-gallon metal drums, ~ ½ of which contained solid wastes ~20-30 fiber drum remnants	Industrial waste-- colored solids / white crystalline materials and rounded brown ball bearing, purple, tan, and green solids, black stained soil in drum remnant	NAPL observed dripping from one bucket of spoils. NAPL on fiberglass gas cylinder	Submitted a sample of the NAPL dripping from bucket for analysis.
AT-P-5	6/9/2005 & 6/10/2005	3-14	~13	12 ft bgs Crushed drum present, elevated PID readings (headspace ~ 98 ppm)	Yes	PID-- 1,072 ppm at metal bucket containing an orange solid	2 slightly crushed 55-gallon metal drums were observed, contained a yellow-orange fibrous material and PPE (with a propylene oxide label) ~4 metal drum remnants,deteriorated ~20 fiber or plastic drum remnants ~2 slightly crushed fiber drums	Industrial waste-- grout-like substance, black staining/oily sheen on plastic drum lids, dried paint and green staining in fiber drum. ~50 1-2 gallon metal crushed or partially crushed buckets/containers		The trench was moved approximately 150 feet west of original location and rotated to a north-south alignment in order to place trench west of the nightclub asphalt parking lot/fence.
SITE Q NORTH										
AT-Q-19	5/16/2005	0.5 - 7-9			Yes			Construction debris-- Concrete, bricks, piece of metal		
AT-Q-20	5/12/2005	3.5-25*	~25		Yes			Construction debris-- Concrete, rebar Municipal waste-- car batteries, tires, wood, plastic, light green crystal material *- At ~18' bgs - TD, waste materials mixed within sands		
AT-Q-21	5/13/2005	1-14.5	~11.5	8 ft bgs Sheen observed on spoils/surface of groundwater within trench	Yes			Industrial waste-- 1 drum lid Municipal waste-- trash, tires, hose, pieces of wood Construction debris-- concrete, rebar		Per field agreement between URS and CH2M HILL, confining clay layer (~15' bgs) was not penetrated during trenching so conduit for perched water table was not created.
SITE Q CENTRAL										
AT-Q-22	6/8/2005	0-3	~20		Yes	.		Construction debris-- 2' piece scrap metal		
AT-Q-23	5/3/2005	0-5	~20		Yes			Construction debris-- concrete slab		
AT-Q-24	5/4/2005	0-20			Yes			Construction debris-- concrete, rebar		Rotated to north-south alignment due to obstructions
AT-Q-25	5/9/2005	2 - 15'		9 ft bgs Drum remnants present	Yes	PID-- 400 ppm at spoils pile from deeper portion of trench	~5 drum remnants observed	Industrial waste-- Yellow crystalline solid in 5-gallon pail, 55-gallon drum remnant containing tan grout-like substance observed, white powdering material, and orange solid material. Municipal waste-- trash, plastic Construction debris-- concrete, rebar		~ 15 ' in length of trench not excavated completely through waste after BZ PID measurements recorded in exceedance of action levels. Subsurface and surface soil samples not collected since soil samples collected from shallow aquifer well, SA-Q-6 (located ~10 feet north of trench) per agreement with USEPA.
AT-Q-26	5/4/2005	0-20	~20		Yes			Construction debris-- Rebar, concrete, man-hole lid, metal		
AT-Q-27	5/5/2005	0-7			Yes			Construction debris-- Rebar, concrete, wood, pipes, bricks,		

Table1b
Boundary and Anomaly Trenching Observations
2005
Sauget Area 2

Trench Location	Trench Date	Waste Depth (ft bgs)	Groundwater Depth (ft bgs)	Gross Contamination Sample Depth	Magnetic Anomaly Explained	High PID reading (ppm)	Drums/Drum Remnants Encountered	Waste Encountered	NAPL/Liquid	Notes
AT-Q-28	5/5/2005	0- 3.5-5.5	~18		Yes			Construction debris-- steel door, table, pieces of metal		
AT-Q-29	5/6/2005 & 6/2/2005	3 - 16.5-23'	~23	16 ft bgs Drum remnants present	Yes	PID-- 53.5 ppm at drum remnant	~6 drum remnants	Industrial waste-- 1 drum remnanat coated with black oily substance on inside, several drum remnants contained paint and fibrous material Municipal waste-- trash, plastic, bottles, Construction debris-- scrap metal Depth of waste tapered deeper toward river	Drum remnanat coated with black oily substance on inside	Trench was excavated on multiple days due to necessity of excavator with greater reach. Mobilized "long-stick" excavator in order to trench through waste to native soils.
AT-Q-30	5/10/2005 5/11/2005 & 6/3/2005	1-24'			Yes			Construction debris-- concrete, rebar, wood, brick Municipal waste-- metal fragments, tires		Moved west due to high voltage power lines. Trench was excavated on multiple days due to necessity of excavator with greater reach. Mobilized "long-stick" excavator in order to trench through waste to native soils.
AT-Q-31	5/2/2005 to 5/3/2005	2-22'		12 ft bgs Drum remnant present	Yes		1 drum remnant	Municipal waste --metal debris, tires, bottles, RR ties Industrial waste --small drum/container (~5-10 gallon), drum lid Construction debris--brick, concrete		
AT-Q-32	5/24/2005	4-8'		6 ft bgs Headspace-342 ppm	Yes	PID-- 342 ppm- Headspace on gross contamination sample		Municipal waste-- trash, plastic, bottles, cans, metal debris, wood/timbers, tires, and shredded rubber Industrial waste-- ~5 drum lids		Trench partially excavated in Level C
SITE Q SOUTH										
AT-Q-33	5/20/2005	0.5-4 to 0-12		5 ft bgs Crushed drum, elevated PID readings (scan of drum (>4000 ppm))	Yes	PID-- 4000 ppm at crushed drum	~4-7 drum remnants at southern end of trench	Northern end of trench-- Construction debris-- brick, rebar, concrete Southern end of trench-- Industrial waste-- potential gas cylinder, tank, chemical solids Municipal waste-- wood debris / timbers		Trench excavated in Level B PPE. Waste increased in thickness and became more industrial / municipal as trench advanced to south. Location moved to south and aligned north-south to investigate northern edge of elevated area in Q South.
AT-Q-34	5/23/2005	0.5-4 to 0-8			Yes		One drum lid	Municipal waste-- wood, metal debris, trash Construction debris-- bricks Industrial waste-- a lab pack containing four 1-gallon bottles of acid in polystyrene pack		Trench excavated in Level B PPE.
AT-Q-35	5/19/2005	0-TD (20')	~18	8 ft bgs Drums present	Yes	PID-- > 600 ppm at yellow solid material (in drum torn in half by trackhoe)	~2 potentially intact 55 gallon metal drums and ~8 drum remnanats	Industrial waste-- Yellow solid material in drum (torn 1/2 by trackhoe) solids, paint, rubber-like pellets, staining, rubber, plastic Construction debris-- brick and wood	Liquid observed draining into trench potentially from drum in side wall of trench.	Trench excavated in Level B PPE. Trench halted after significant number of drums observed, ~ 4 partially uncovered drums exposed in leading face of trench Trench straddled bank / increase in surface elevation of 6-8 ft into trees. Location moved to west across elevated area and aligned east-west.
AT-Q-36	5/18/2005	0-10			Yes			Municipal waste-- tires, plastic, fabric, appliances, glass, and paper		Trench excavated in Level B PPE based on anticipation of drums in area, air monitoring during excavation did not indicate elevated levels of organic vapors. Trench straddled bank / increased surface elevation into trees. Waste thickness remained approximately consistent on both sides of the 6-8 ft bank.

Table 1c
Step-out Test Trenching Observations
2005
Sauget Area 2

Original Trench ID	Step-out Test Trench ID	Location Description	Trench Date	Waste Depth (ft bgs)	Groundwater Depth (ft bgs)	High PID reading (ppm)	Drum/Drum Remnants Encountered	Waste Encountered	Step-out further (in same direction)?	Notes
SITE P										
AT-P-2	**TT-P-2-N-1**	50' north of original trench location	6/6/2005	0-TD (21')	20	PID-- 40 ppm at 5-10 gal metal container	Fiber drums remnants and fragments (>30) in various states of deterioration	Industrial waste-- Small metal pail / containers (2-3) observed, drum lids, bright orange/yellow powder and a white fibrous material. Municipal waste-- wood, cinders, concrete, bricks, rubber boots/gloves, paper, and fabric	Yes	
	TT-P-2-N-2	100' north of original trench location	6/6/2005	3-TD (15')		PID-- 70 ppm at metal pail	~8 fiber drum remnanats and numerous fragments	Industrial waste-- a bright yellow powder and a metal pail with tan solid material Municipal waste-- wood, paper, plastic, trash, empty bags of zinc oxide	No	Test trench excavated in Level C PPE. No metal drums or drum fragments were observed in the trench and the density of industrial was not as significant as AT-P-2, therefore, further step-out to the north was not conducted.
	TT-P-2-S-1	50' south of original trench location	6/7/2005	3-TD	18-20	PID-- 202 ppm at container labeled aryl sulfonamide formaldehyde	1 crushed 55-gallon metal drum ~7-10 fiber drum remnants	Industrial waste-- 5-10 gal metal bucket labeled aryl sulfonamide formaldehyde, fiber drum remnants w/white powder Municipal waste-- bricks, wood, newspaper, and trash bags	Yes	
	TT-P-2-S-2	100' south of original trench location	6/7/2005	3-TD			2 drum remnants ~2 crushed metal 55-gallon drums		Yes	
	TT-P-2-S-3	150' south of original trench location	6/7/2005	0-TD		PID-- 86 ppm at purple staining	~ 2 crushed metal drums ~ 2 remnants or fragments ~3-4 fiber drum fragments, some with purple staining	Industrial waste-- purple staining on fiber drum remnants, crushed drum with black staining and liquid leaking out. Municipal waste-- wood, trash bags, fabric, plastic, and metal debris.	No	Did not step-out due to anomaly trench approx. 150' south, which was previously observed to contain 55-gal. metal drums remnants. (AT-P-1 from RI, August 2002).
SITE Q SOUTH										
AT-Q-35	**TT-Q-35-W-1**	50' west of original trench location	5/31/2005	0.5-12		PID-- 230 ppm at purple/grey material in one drum	Drum remnants and ~2 crushed drums	Industrial waste-- purple/grey rubbery material observed in one drum remnant. Municipal waste-- tires, metal debris, plastic, glass, wood, and fabric Construction debris-- rebar, bricks	Yes	Test trench excavated in Level B PPE.
	TT-Q-35-W-2	100' west of original trench location	5/31/2005	0-8	18			Municipal waste-- plastic, shredded tires, household trash, wood, fabric Construction debris-- concrete & rebar, cinders, and wood	No	Test trench excavated in Level B PPE.
	TT-Q-35-N-1	50' north of original trench location	5/31/2005	0-20	18		~4 drum fragments/ remnants	Municipal waste-- yellow solid, tires, wood, trash (plastic etc.) Construction debris-- concrete, rebar, metal debris	No	Test trench excavated in Level B PPE.
AT-Q-33	**TT-Q-33-E-1**	50' east of original trench location	6/1/2005	0-20			Two crushed metal drum remnants and one plastic	Municipal waste-- wood debris, timbers, scrap metal, insulation, bottles, household trash Construction debris-- concrete	No	Test trench excavated in Level B PPE.
	TT-Q-33-S-1	50' south of original trench location	6/1/2005	0-14				Municipal waste-- tires, fabric, wood, concrete, plastic, metal debris, and trash	No	Test trench excavated in Level B PPE.
	TT-Q-33-SE-1	50' southeast of original trench location (bisecting first 2 step-out trenches)	6/1/2005	0.5-18				Municipal waste-- plastic, tires, wood debris/timbers, bottles, fabric, paper waste, cinders, concrete, glass fragments.	No	Test trench excavated in Level B PPE.

Notes:
NAPL - Non-Aqueous Phase Liquid
bgs - Below Ground Surface

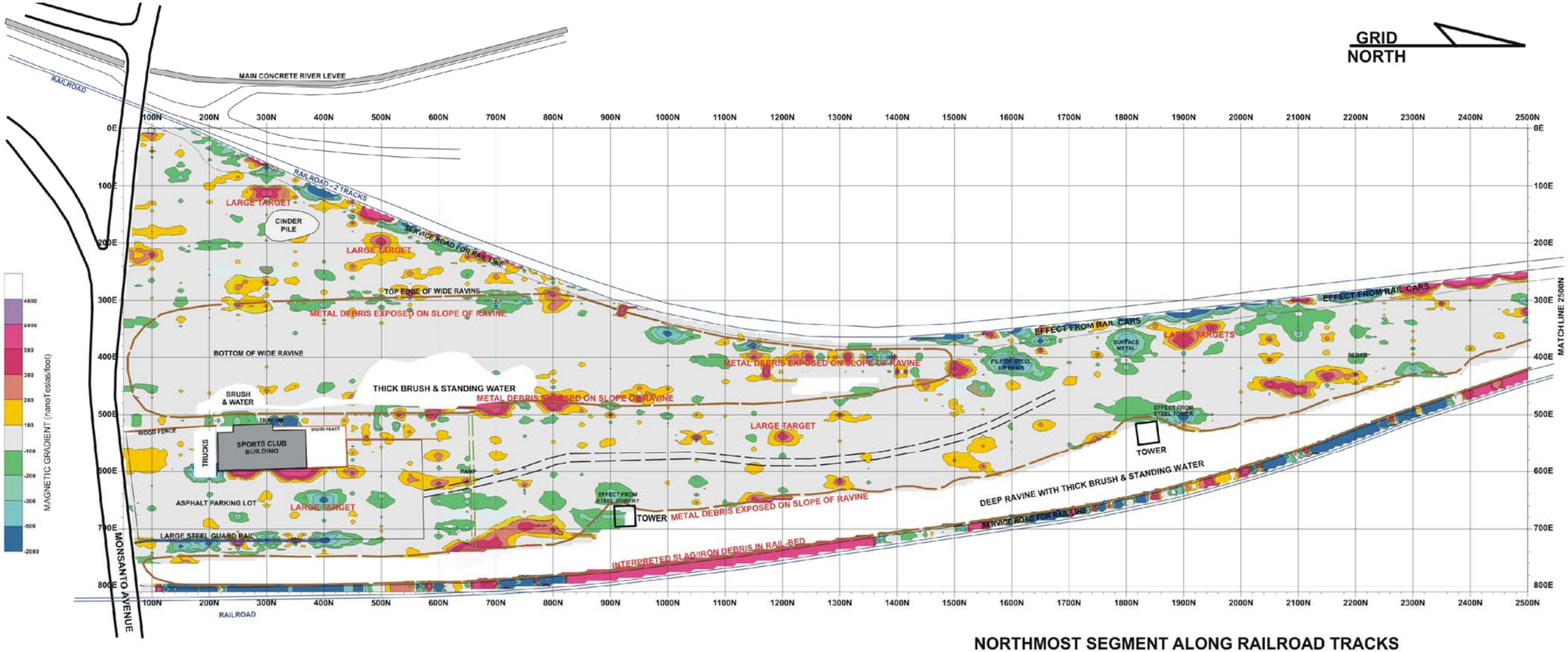
Figures

LEGEND

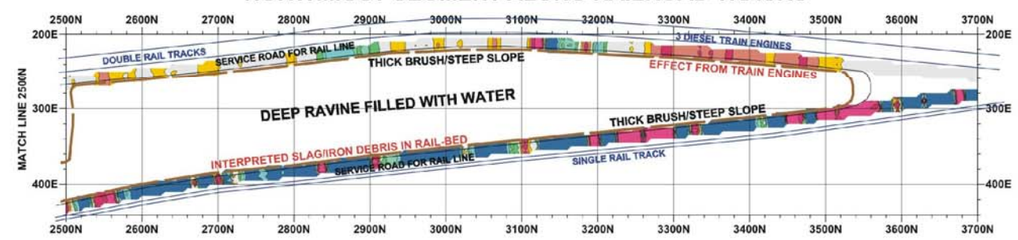
- BOUNDARY TRENCH LOCATION (2004 SA2 RI)
- ANOMALY TRENCH LOCATION (2004 SA2 RI)
- ANOMALY TRENCH LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- TEST TRENCH LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bmh CHKD. BY:	Trench Locations
	FIG. NO. 1

File: X:\DRAWINGS-FINAL REPORT\RI-FS 2007\PT MEMO\FIG 1 TRENCH LOCATIONS.DWG Last edited: 07/11/08 @ 09:25 a.m. WG-ST.LOUIS, MO



NORTHMOST SEGMENT ALONG RAILROAD TRACKS



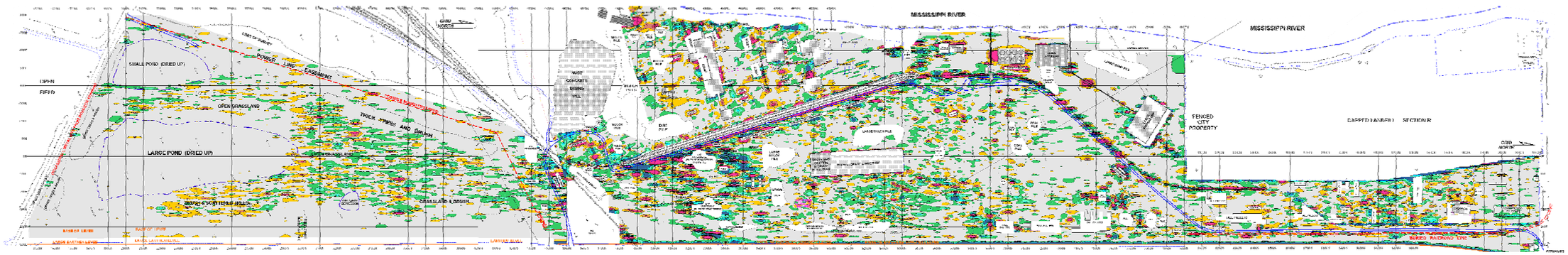
MAP SCALE (feet)

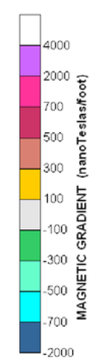
0 50 100 150 200 250 300 350 400 450 500

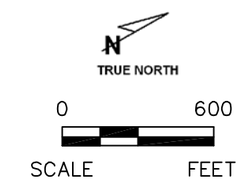
SOURCE:
MAP TAKEN FROM GEOSPHERE, INC. (2002)

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Magnetometer Survey Results Site P
	FIG. NO. 2a

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 2A MAGNETOMETER SURVEY RESULTS-SITE P.DWG Last edited: 07/30/08 @ 12:32 p.m. WC-ST.LOUIS, MO



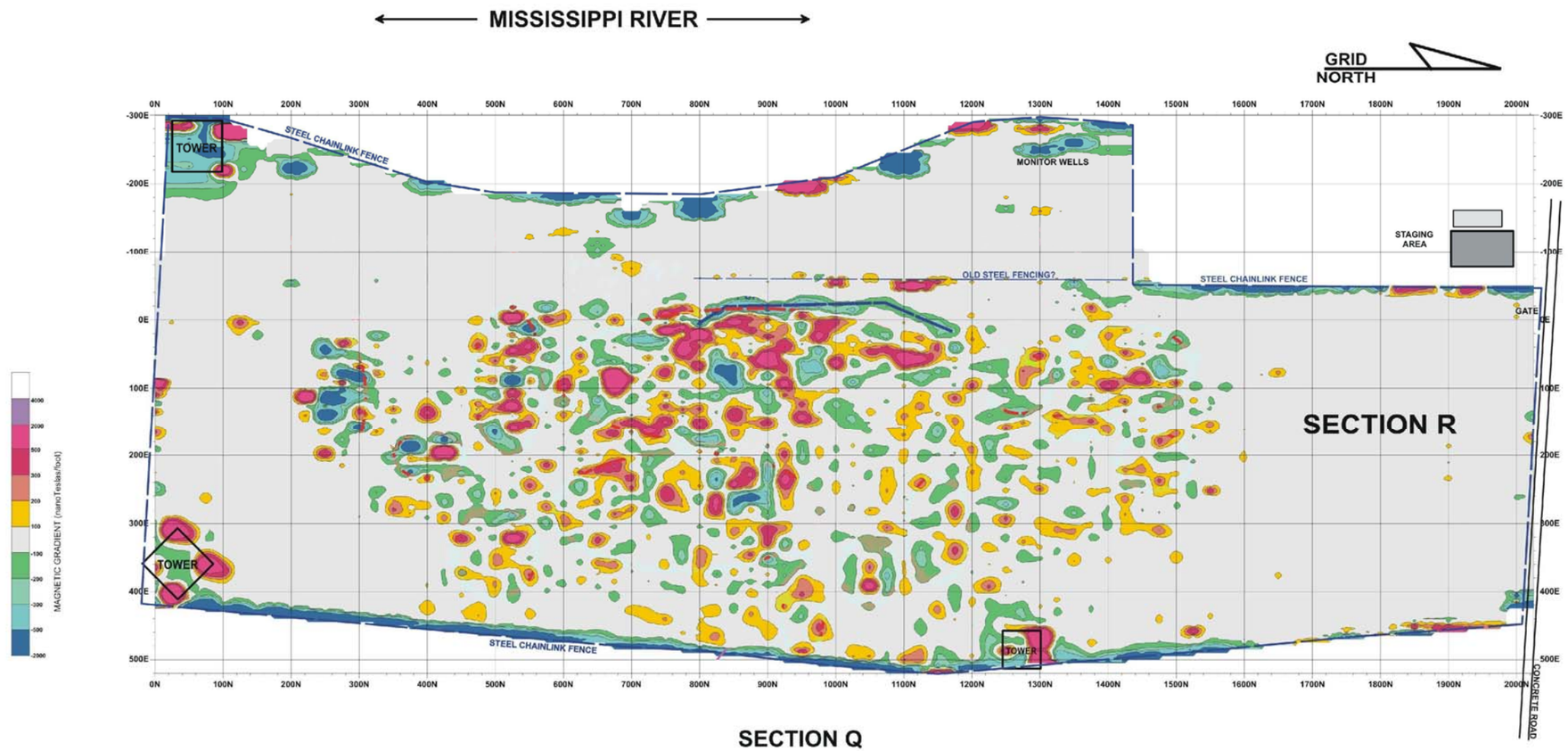




SOURCE:
MAP TAKEN FROM GEOSPHERE, INC. (2002)

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Magnetometer Survey Results Site Q
	FIG. NO. 2b

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 2B MAGNETOMETER SURVEY RESULTS-SITE Q.DWG Last edited: 07/30/08 @ 12:34 p.m. WC-STLOUIS, MO



MAP SCALE (feet)

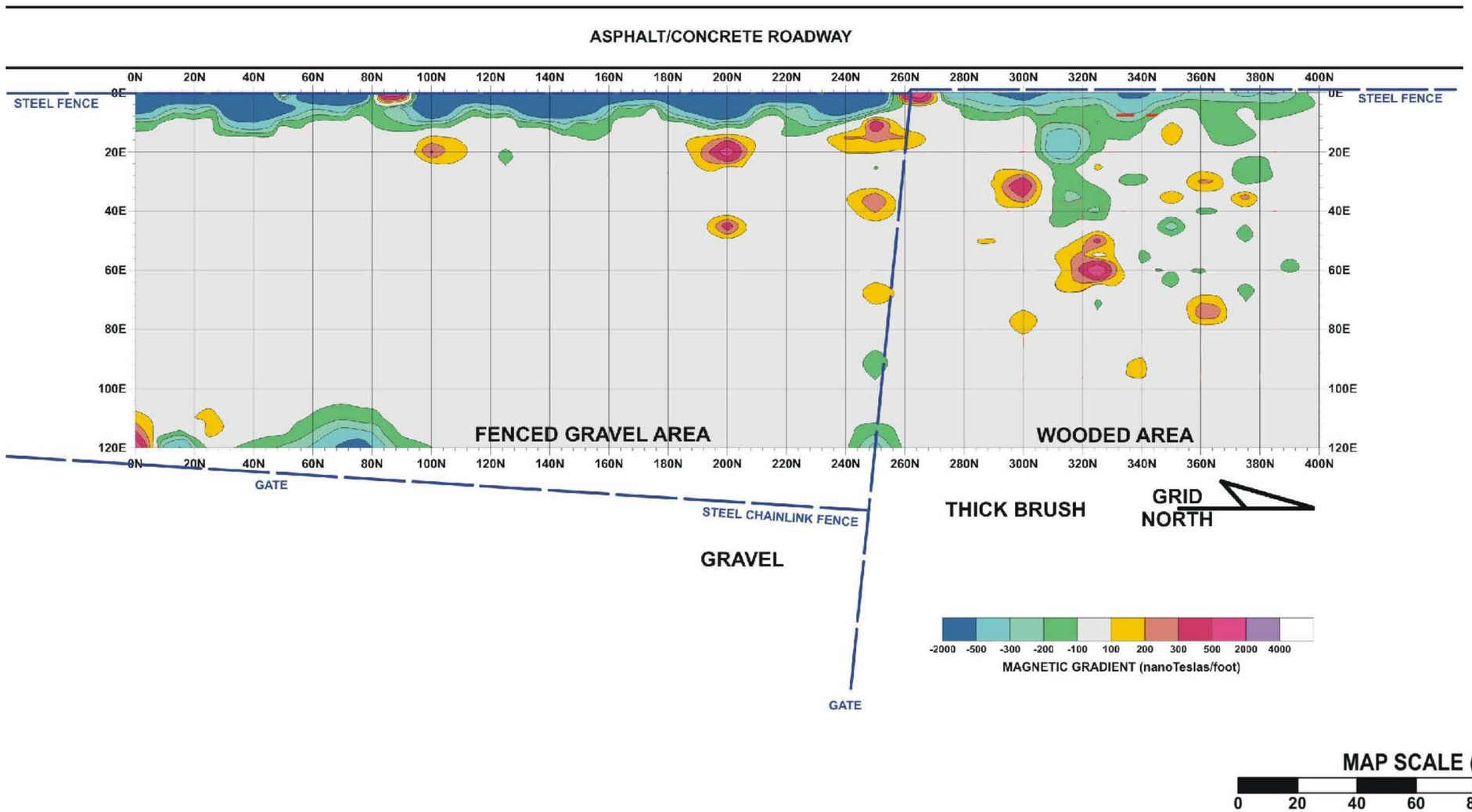
0 50 100 150 200 250 300 350 400 450 500

SOURCE:
MAP TAKEN FROM GEOSPHERE, INC. (2002)

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Magnetometer Survey Results Site R
	FIG. NO. 2c

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 2C MAGNETOMETER SURVEY RESULTS-SITE R.DWG Last edited: 07/30/08 @ 12:37 p.m. WC-ST.LOUIS, MO

WAREHOUSES



SOURCE:
MAP TAKEN FROM GEOSPHERE, INC. (2002)

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Magnetometer Survey Results Site S
	FIG. NO. 2d

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 2D MAGNETOMETER SURVEY RESULTS-SITE S.DWG Last edited: 07/30/08 @ 12:39 p.m. WC-STLOUIS, MO

LEGEND

○ SOIL GAS SCREENING LOCATION (2004 SA2 RI)

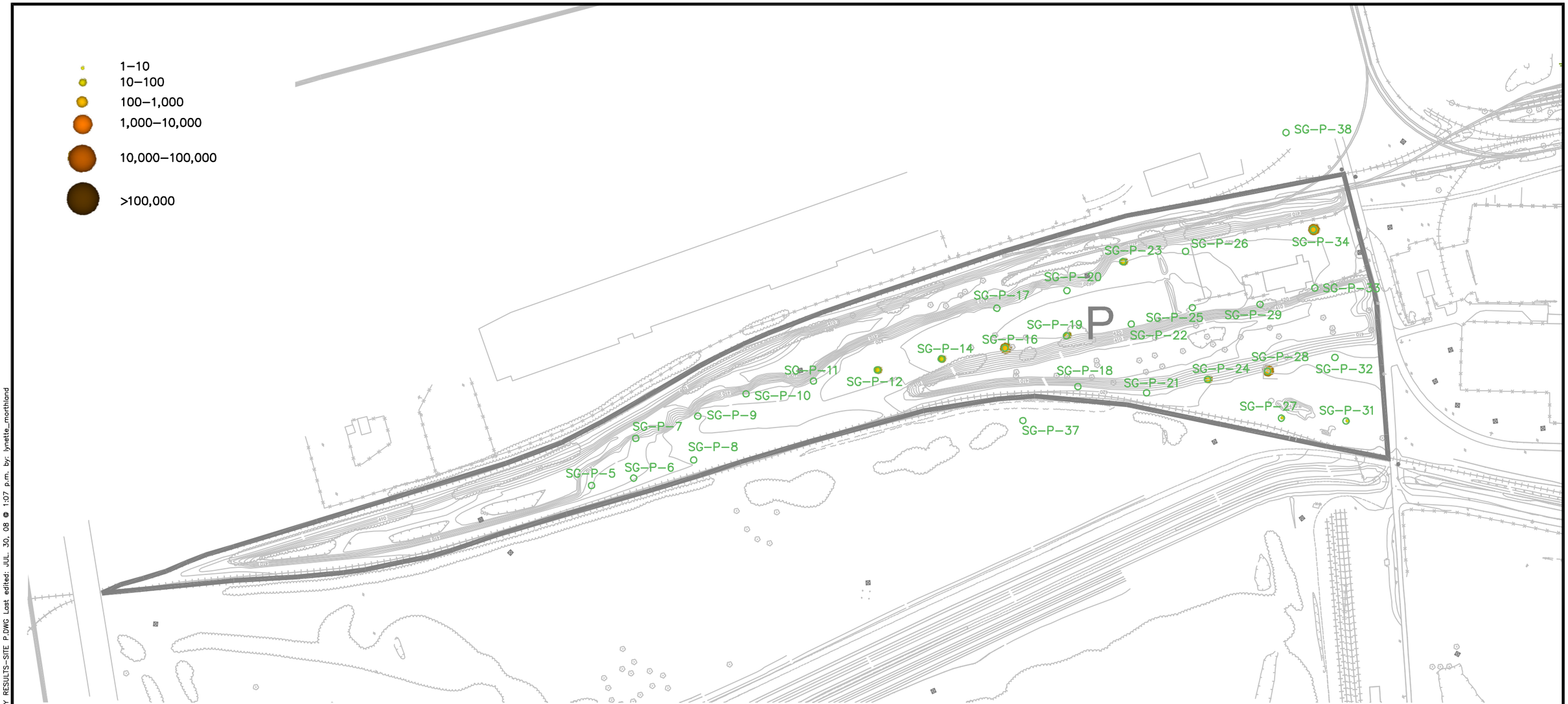
NOTE:
ALL CONCENTRATIONS ARE IN PPB

N

0 300
SCALE FEET

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Soil Gas Sampling Results Site O
	FIG. NO. 3a

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 3A SOIL GAS SURVEY RESULTS-SITE O.DWG Last edited: JUL. 30, 08 @ 1:14 p.m. by: lynette_morthland



LEGEND

○ SOIL GAS SCREENING LOCATION (2004 SA2 RI)

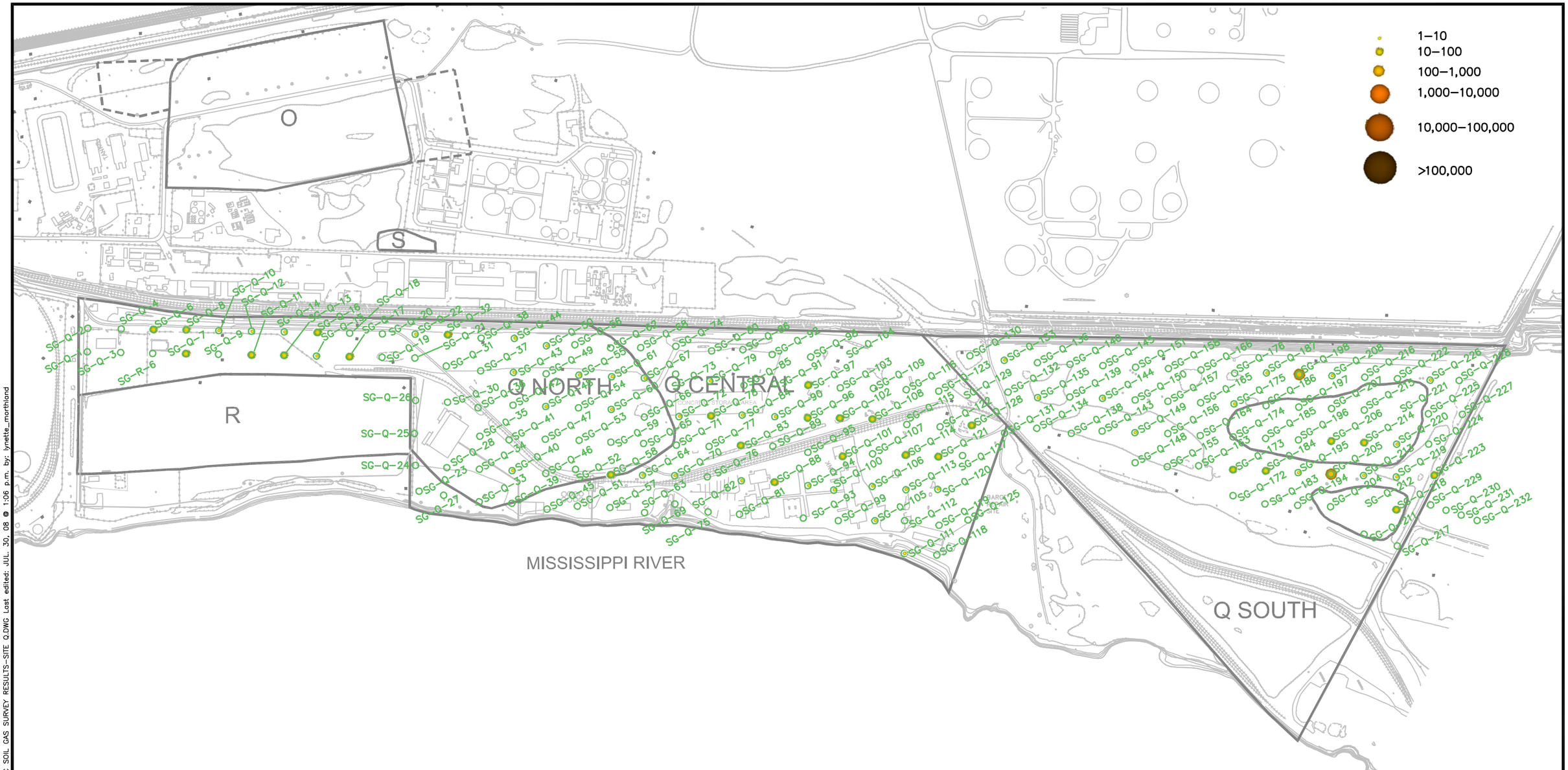
NOTE:
ALL CONCENTRATIONS ARE IN PPB

N

0 300
SCALE FEET

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Soil Gas Sampling Results Site P
	FIG. NO. 3b

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 3B SOIL GAS SURVEY RESULTS-SITE P.DWG Last edited: JUL. 30, 08 @ 1:07 p.m. by: lynette_morthland



LEGEND

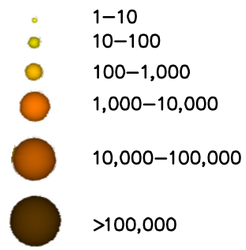
○ SOIL GAS SCREENING LOCATION (2004 SA2 RI)

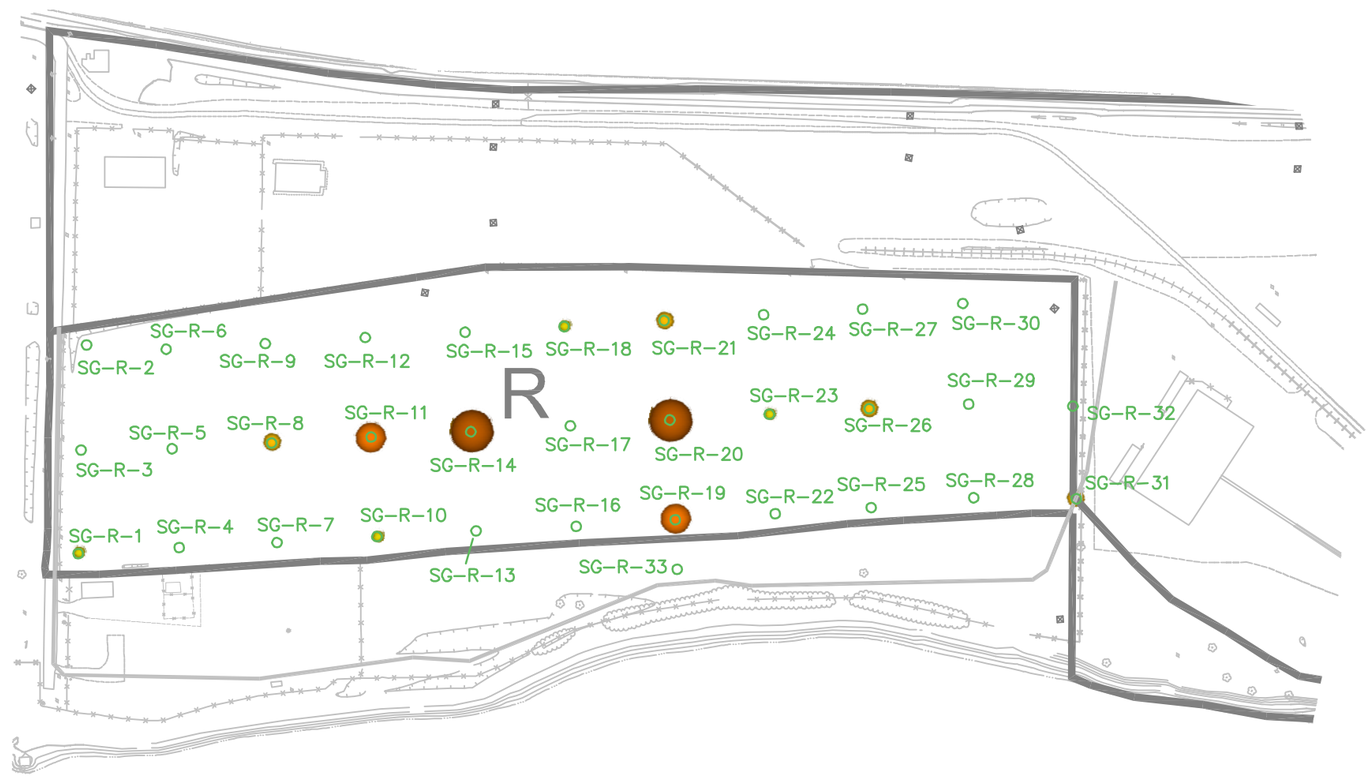
NOTE:
ALL CONCENTRATIONS ARE IN PPB

0 600
SCALE FEET

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Soil Gas Sampling Results Site Q
	FIG. NO. 3c

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 3C SOIL GAS SURVEY RESULTS-SITE Q.DWG Last edited: JUL. 30, 08 @ 1:06 p.m. by: lynette_morthland





LEGEND

○ SOIL GAS SCREENING LOCATION (2004 SA2 RI)

NOTE:
ALL CONCENTRATIONS ARE IN PPB

0 300
SCALE FEET

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: bh CHKD. BY:	Soil Gas Sampling Results Site R
	FIG. NO. 3d

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 3D SOIL GAS SURVEY RESULTS-SITE R.DWG Last edited: JUL. 30, 08 @ 1:05 p.m. by: lynette_morthland

LEGEND

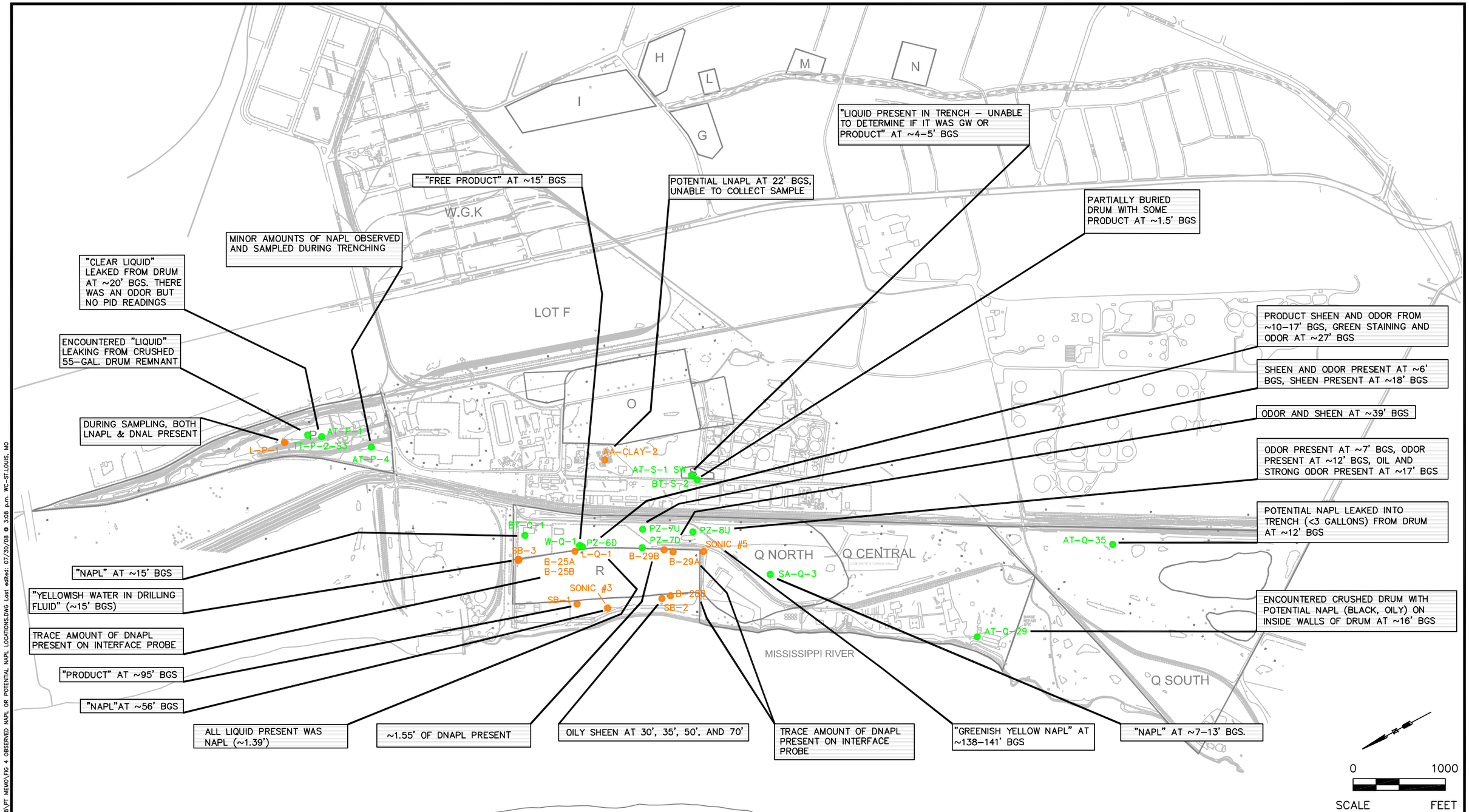
○ SOIL GAS SCREENING LOCATION (2004 SA2 RI)

NOTE:
ALL CONCENTRATIONS ARE IN PPB

0 300
SCALE FEET

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 12/21/07 DSGN. BY: bh CHKD. BY:	Soil Gas Sampling Results Site S
	FIG. NO. 3e

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 3E SOIL GAS SURVEY RESULTS-SITE S.DWG Last edited: JUL. 30, 08 @ 1:15 p.m. by: lynette_morthland



LEGEND

L–P–1 ● LOCATION OF OBSERVED NAPL OR POTENTIAL NAPL ASSOCIATED WITH THE SATURATED ZONE

SA–Q–3 ● LOCATION OF OBSERVED NAPL OR POTENTIAL NAPL ASSOCIATED WITH SOIL/FILL

● ~95' BGS "PRODUCT" DEPTH & DESCRIPTION OF OBSERVATION

NOTE: DESCRIPTIONS ARE TAKEN FROM FIELD DOCUMENTATION (FIELD NOTES/BORING LOGS).

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: djd 6/26/08 DSGN. BY: jr CHKD. BY:	Observed NAPL or Potential NAPL
	FIG. NO. 4

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 4 OBSERVED NAPL OR POTENTIAL NAPL LOCATIONS.DWG Last edited: 07/30/08 @ 3:08 p.m. WC-ST.LOUIS, MO

LEGEND

- OFFSITE SOIL SAMPLING LOCATION (2004 SA2 RI)
- BEDROCK MONITORING WELL (2004 SA2 RI/SA1)
- PIEZOMETER CLUSTER (2004 SA2 RI/SOLUTIA WGK, SA1)
- BOUNDARY TRENCH LOCATION (2004 SA2 RI)
- ANOMALY TRENCH LOCATION (2004 SA2 RI)
- SOIL/WASTE CHARACTERIZATION BORING LOCATION (2004 SA2 RI)
- MONITORING WELL CLUSTER (2006 SA2 SUPPLEMENTAL INVESTIGATION)
- NAPL INVESTIGATION MONITORING WELL (2006 SA2 SUPPLEMENTAL INVESTIGATION)
- WGK PLUME STABILITY MONITORING WELL (2006)
- REGIONAL GROUNDWATER MONITORING WELL
- LEACHATE MONITORING WELL LOCATION (2004 SA2 RI)
- SURFACE WATER/SEDIMENT SAMPLING LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- SURFACE WATER/SEDIMENT SAMPLING LOCATION (SITE R GMCS PERFORMANCE VERIFICATION SAMPLING)
- SHALLOW AQUIFER MONITORING WELL LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- SOIL SAMPLING LOCATION (2005/2006 SA2 SUPPLEMENTAL INVESTIGATION)
- ANOMALY TRENCH LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- TEST TRENCH LOCATION (2005 SA2 SUPPLEMENTAL INVESTIGATION)
- APPROXIMATE AREAS WITH INDUSTRIAL WASTE FILL
- APPROXIMATE AREAS WITH PRINCIPAL THREAT WASTES

SAUGET AREA 2 SAUGET, ILLINOIS	PROJECT NO. 21561683
URS	
DRN. BY: lrm 07/30/08 DSGN. BY: bmh CHKD. BY:	Industrial and Principal Threat Waste Areas
	FIG. NO. 5

File: X:\DRAWINGS-FINAL REPORT\RI-FS-2008\PT MEMO\FIG 5 INDUSTRIAL & PRINCIPAL WASTE AREAS.DWG Last edited: 07/30/08 @ 3:09 p.m. WC-ST.LOUIS, MO

URS

Attachment 1

Photo Log Site P

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
1	8/14/02

Description:
Anomaly Trench-P-1
Before

Direction Photo Taken:
West

Photo No.	Date:
2	8/14/02

Description:
Anomaly Trench -P-1
Before

Direction Photo Taken:
West

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 3

Date: 8/14/02

Description:
Anomaly Trench -P-1

Photo No. 4

Date: 8/14/02

Description:
Anomaly Trench -P-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 5

Date: 8/14/02

Description:
Anomaly Trench-P-1

Photo No. 6

Date: 8/14/02

Description:
Anomaly Trench-P-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 7

Date: 8/14/02

Description:
Anomaly Trench-P-1

Photo No. 8

Date: 8/14/02

Description:
Anomaly Trench-P-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 9

Date: 8/14/02

Description:
Anomaly Trench-P-1

Photo No. 10

Date: 8/14/02

Description:
Anomaly Trench-P-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 11

Date: 8/14/02

Description:
Anomaly Trench-P-1

Photo No. 12

Date: 8/14/02

Description:
Anomaly Trench -P-1

Direction Photo Taken:
Northwest

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 13

Date: 8/14/02

Description:
Anomaly Trench-P-1
After

Direction Photo Taken:
Northwest

Photo No. 14

Date: 8/14/02

Description:
Anomaly Trench-P-1
After

Direction Photo Taken:
West

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
1	5/25/05

Description:
Setting up at AT-P-4

Photo No.	Date:
2	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 3

Date: 5/25/05

Description:
AT-P-4

Photo No. 4

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
5	5/25/05

Description:
AT-P-4

Photo No.	Date:
6	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 7 | **Date:** 5/25/05

Description:
AT-P-4

Photo No. 8 | **Date:** 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
9	5/25/05

Description:
AT-P-4

Photo No.	Date:
10	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 11

Date: 5/25/05

Description:
AT-P-4

Photo No. 12

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 13

Date: 5/25/05

Description:
AT-P-4

Photo No. 14

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 15

Date: 5/25/05

Description:
AT-P-4

Photo No. 16

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
17	5/25/05

Description:
AT-P-4

Photo No.	Date:
18	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
19	5/25/05

Description:
AT-P-4

Photo No.	Date:
20	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 21
Date: 5/25/05
Description:
AT-P-4

Photo No. 22
Date: 5/25/05
Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 23

Date: 5/25/05

Description:
AT-P-4

Photo No. 24

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
25	5/25/05

Description:
AT-P-4

Photo No.	Date:
26	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
27	5/25/05

Description:
AT-P-4

Photo No.	Date:
28	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 29

Date: 5/25/05

Description:
AT-P-4

Photo No. 30

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 31

Date: 5/25/05

Description:
AT-P-4

Photo No. 32

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 33

Date: 5/25/05

Description:
AT-P-4

Photo No. 34

Date: 5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 35

Date: 5/25/05

Description:
AT-P-4

Photo No. 36

Date: 5/25/05

Description:
AT-P-4 after backfilling and trenching activities completed

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
37	5/25/05

Description:
AT-P-4

Photo No.	Date:
38	5/25/05

Description:
AT-P-4

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
1	7/26/06

Description:
Leach-P-1
Bailer covered in NAPL.

Photo No.	Date:
2	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
3	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
4	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
5	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
6	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
7	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
8	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
9	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
10	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
1	7/26/06

Description:
Leach-P-1
Bailer covered in NAPL.

Photo No.	Date:
2	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
3	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
4	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
5	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
6	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
7	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
8	7/26/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
9	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
10	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
11	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL on first attempt to collect a sample.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
12	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL on first attempt to collect a sample.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
13	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL on second attempt to collect sample.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
14	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL, on third attempt to collect sample.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
15	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
16	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
17	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.
Unable to collect sample.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
18	7/27/06

Description:
Leach-P-1
Bailer covered in NAPL.
Unable to collect sample.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
19	7/27/06

Description:
Leach-P-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
20	

Description:
Leach-P-1.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 21

Date: 7/27/06

Description:
Leach-P-1

Photo No. 22

Date: 7/27/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
23	7/27/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

Photo No.	Date:
24	7/27/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
25	7/27/06

Description:
Leach-P-1
Sample jars placed on windowsill near window to attempt to see the separation between L-NAPL and water, and between the water and D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
1	6/7/05

Description:
TT-P-2-S3

Photo No.	Date:
2	6/7/05

Description:
TT-P-2-S3

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
3	6/7/05

Description:
TT-P-2-S3

Photo No.	Date:
4	6/7/05

Description:
TT-P-2-S3

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 5

Date: 6/7/05

Description:
TT-P-2-S3

Photo No. 6

Date: 6/7/05

Description:
TT-P-2-S3

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 7

Date: 6/7/05

Description:
TT-P-2-S3

Photo No. 8

Date: 6/7/05

Description:
TT-P-2-S3

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 9

Date: 6/7/05

Description:
TT-P-2-S3

Photo No. 10

Date: 6/7/05

Description:
TT-P-2-S3

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
11	6/7/05

Description:
TT-P-2-S3

URS

Attachment 1

Photo Log Site Q

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
1	5/6/05

Description:
AT-Q-29

Photo No.	Date:
2	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
3	5/6/05

Description:
AT-Q-29

Photo No.	Date:
4	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
5	5/6/05

Description:
AT-Q-29

Photo No.	Date:
6	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 7

Date: 5/6/05

Description:
AT-Q-29

Photo No. 8

Date: 5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
9	6/2/05

Description:
AT-Q-29
6-2-05, using excavator with longer reach

Photo No.	Date:
10	6/2/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 11

Date: 6/2/05

Description:
AT-Q-29

Photo No. 12

Date: 6/2/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
13	6/2/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 14

Date: 5/6/05

Description:
AT-Q-29 before trenching activities

Photo No. 15

Date: 5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
16	5/6/05

Description:
AT-Q-29

Photo No.	Date:
17	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
18	5/6/05

Description:
AT-Q-29

Photo No.	Date:
19	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
20	5/6/05

Description:
AT-Q-29

Photo No.	Date:
21	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
22	5/6/05

Description:
AT-Q-29

Photo No.	Date:
23	5/6/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
24	6/2/05

Description:
AT-Q-29

Photo No.	Date:
25	6/2/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 26

Date: 6/2/05

Description:
AT-Q-29

Photo No. 27

Date: 6/2/05

Description:
AT-Q-29

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
1	5/19/05

Description:
AT-Q-35

Photo No.	Date:
2	5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 3

Date: 5/19/05

Description:
AT-Q-35

Photo No. 4

Date: 5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 5

Date: 5/19/05

Description:
AT-Q-35

Photo No. 6

Date: 5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
7	5/19/05

Description:
AT-Q-35

Photo No.	Date:
8	5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
9	5/19/05

Description:
AT-Q-35

Photo No.	Date:
10	5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
11	5/19/05

Description:
AT-Q-35

Photo No.	Date:
12	5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 13

Date: 5/19/05

Description:
AT-Q-35

Photo No. 14

Date: 5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 15

Date: 5/19/05

Description:
AT-Q-35

Photo No. 16

Date: 5/19/05

Description:
AT-Q-35

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 17

Date: 5/19/05

Description:
AT-Q-35

Photo No. 18

Date: 5/19/05

Description:
AT-Q-35
After backfilling activity

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 1

Date: 6/4/02

Description:
Boundary Trench-Q-1
Before – 1st Attempt

Direction Photo Taken:
South

Photo No. 2

Date: 6/4/02

Description:
Boundary Trench-Q-1
Before

Direction Photo Taken:
South

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 3

Date: 6/4/02

Description:
Boundary Trench-Q-1
Before

Direction Photo Taken:
Southeast

Photo No. 4

Date: 6/4/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
Northeast

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 5

Date: 6/4/02

Description:
Boundary Trench-Q-1

Photo No. 6

Date: 6/4/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illniois	21560888

Photo No. 7

Date: 6/4/02

Description:
Boundary Trench-Q-1

Photo No. 8

Date: 6/4/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
West

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
9	6/4/02

Description:
Boundary Trench-Q-1

Photo No.	Date:
10	6/4/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 11

Date: 6/4/02

Description:
Boundary Trench-Q-1

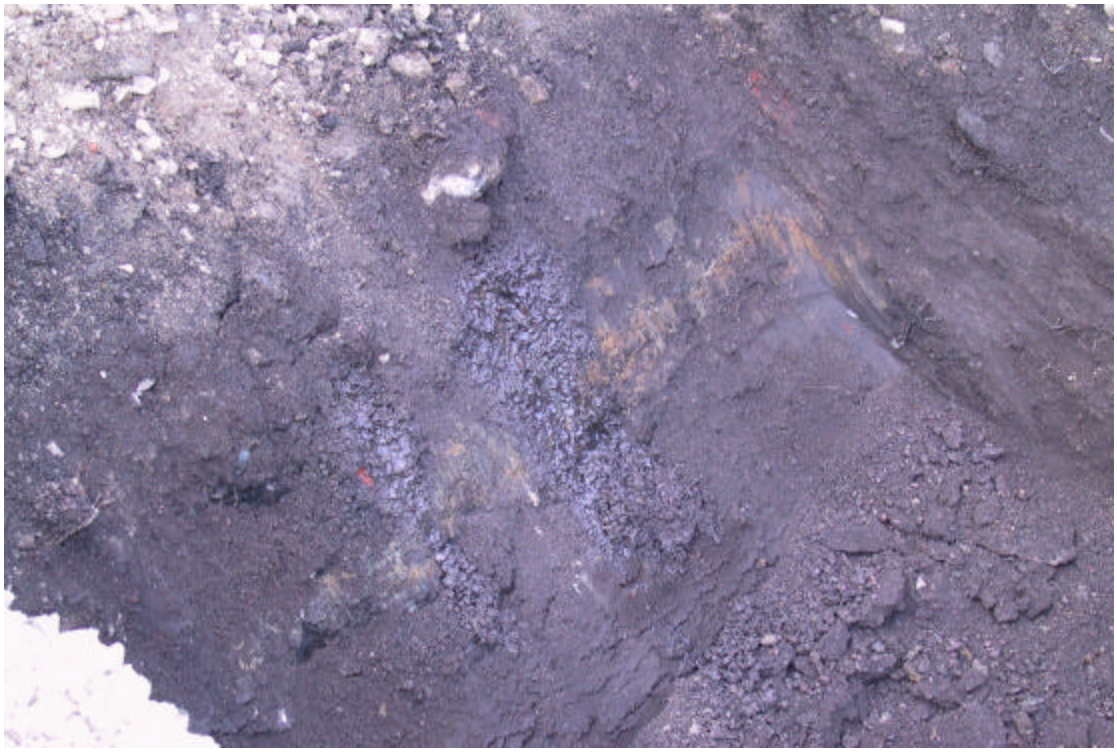


Photo No. 12

Date: 6/4/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 13

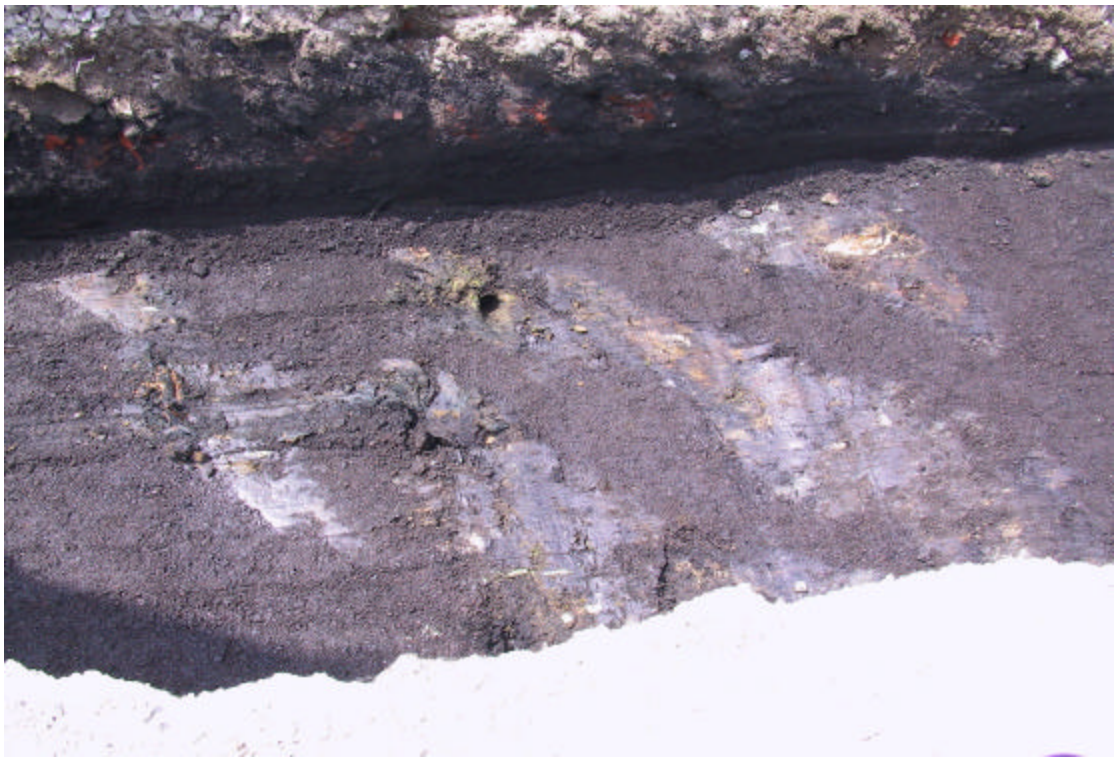
Date: 6/4/02

Description:
Boundary Trench-Q-1

Photo No. 14

Date: 6/4/02

Description:
Boundary Trench-Q-1



URS

PHOTOGRAPHIC LOG

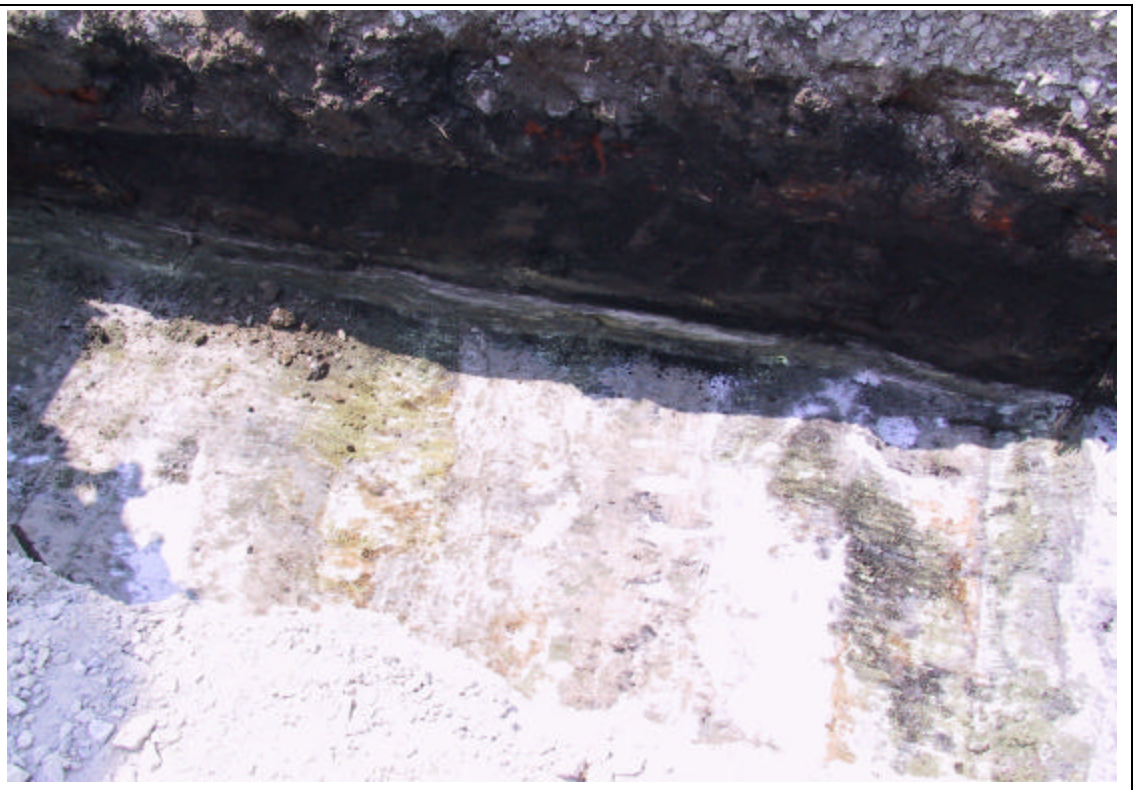
Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
15	6/4/02

Description:
Boundary Trench-Q-1

Photo No.	Date:
16	6/4/02

Description:
Boundary Trench-Q-1



URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 17

Date: 6/4/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
South

Photo No. 18

Date: 6/4/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
West

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
19	6/4/02

Description:
Boundary Trench-Q-1

Photo No.	Date:
20	6/4/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 21

Date: 6/4/02

Description:
Boundary Trench-Q-1 After

Direction Photo Taken:
East

Photo No. 22

Date: 6/4/02

Description:
Boundary Trench-Q-1 After

Direction Photo Taken:
Southeast

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 23

Date: 6/4/02

Description:
Boundary Trench-Q-1 After

Direction Photo Taken:
Southeast

Photo No. 24

Date: 6/4/02

Description:
Boundary Trench-Q-1 After

Direction Photo Taken:

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
25	6/4/02

Description:
Boundary Trench-Q-1 After

Direction Photo Taken:
South

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
26	6/10/02

Description:
Boundary Trench-Q-1 Before – Offset location, 2nd Attempt

Direction Photo Taken:
East

Photo No.	Date:
27	6/10/02

Description:
Boundary Trench-Q-1 Before

Direction Photo Taken:
Southeast

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 28

Date: 6/10/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
Southwest

Photo No. 29

Date: 6/10/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
West

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 30

Date: 6/10/02

Description:
Boundary Trench-Q-1

Photo No. 31

Date: 6/10/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 32

Date: 6/10/02

Description:
Boundary Trench-Q-1

Photo No. 33

Date: 6/10/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 34 | **Date:** 6/10/02

Description:
Boundary Trench-Q-1

Photo No. 35 | **Date:** 6/10/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
36	6/10/02

Description:
Boundary Trench-Q-1

Photo No.	Date:
37	6/10/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 38

Date: 6/10/02

Description:
Boundary Trench-Q-1

Photo No. 39

Date: 6/10/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 40 | **Date:** 6/10/02

Description:
Boundary Trench-Q-1

Photo No. 41 | **Date:** 6/10/02

Description:
Boundary Trench-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 42

Date: 6/10/02

Description:
Boundary Trench-Q-1

Photo No. 43

Date: 6/10/02

Description:
Boundary Trench-Q-1

Direction Photo Taken:
Northwest

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 44

Date: 6/10/02

Description:
Boundary Trench-Q-1
After

Direction Photo Taken:
East

Photo No. 45

Date: 6/10/02

Description:
Boundary Trench-Q-1
After

Direction Photo Taken:
South

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
1	7/26/02

Description:
Well Sampling
Leachate-Q-1

Photo No.	Date:
2	7/26/02

Description:
Well Sampling
Leachate-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No.	Date:
3	7/26/02

Description:
Well Sampling
Leachate-Q-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
1	7/26/06

Description:
Sonic-5
Bailer coated in
D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
2	7/27/06

Description:
Sonic-5
Bailer coated in
D-NAPL.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
1	5/10/06

Description:
NAPL-A (0-5')

Photo No.	Date:
2	5/10/06

Description:
NAPL-A (0-5')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
3	5/10/06

Description:
NAPL-A (5-15')

Photo No.	Date:
4	5/10/06

Description:
NAPL-A (5-15')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
5	5/10/06

Description:
NAPL-A (5-15')

Photo No.	Date:
6	5/10/06

Description:
NAPL-A (15-35')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
7	5/10/06

Description:
NAPL-A (35-55')

Photo No.	Date:
8	5/10/06

Description:
NAPL-A (35-55')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
9	5/10/06

Description:
NAPL-A (55-75')

Photo No.	Date:
10	5/10/06

Description:
NAPL-A (75-95')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
11	5/10/06

Description:
NAPL-A (75-95')

Photo No.	Date:
12	5/10/06

Description:
NAPL-A (95-115')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 13

Date: 5/10/06

Description:
NAPL-A (115-135')

Photo No. 14

Date: 5/10/06

Description:
NAPL-A (115-135')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
15	5/10/06

Description:
NAPL-A (135-140')

Photo No.	Date:
16	5/10/06

Description:
NAPL-A (135-140')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
1	5/9/06

Description:
NAPL-B (0-5')

Photo No.	Date:
2	5/9/06

Description:
NAPL-B (0-5')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
3	5/9/06

Description:
NAPL-B (5-15')

Photo No.	Date:
4	5/9/06

Description:
NAPL-B (5-15')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
5	5/9/06

Description:
NAPL-B (5-15')

Photo No.	Date:
6	5/9/06

Description:
NAPL-B (15-25')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
7	5/9/06

Description:
NAPL-B (25-35')

Photo No.	Date:
8	5/9/06

Description:
NAPL-B (25-35')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 9

Date: 5/9/06

Description:
NAPL-B (35-55')

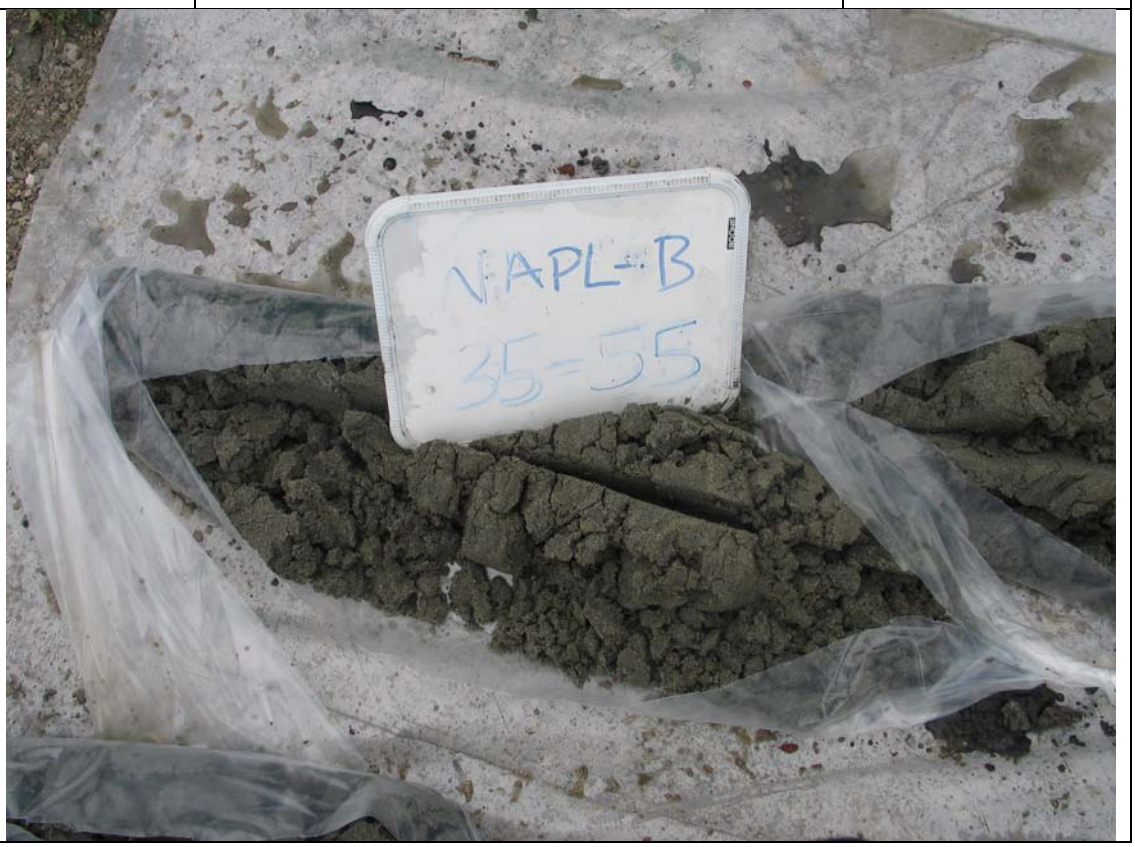


Photo No. 10

Date: 5/9/06

Description:
NAPL-B (35-55')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
11	5/9/06

Description:
NAPL-B (55-75')

Photo No.	Date:
12	5/9/06

Description:
NAPL-B (55-75')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
13	5/9/06

Description:
NAPL-B (75-95')

Photo No.	Date:
14	5/9/06

Description:
NAPL-B (75-95')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
15	5/9/06

Description:
NAPL-B (95-115')

Photo No.	Date:
16	5/9/06

Description:
NAPL-B (95-115')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 17

Date: 5/9/06

Description:
NAPL-B (115-135')

Photo No. 18

Date: 5/9/06

Description:
NAPL-B (115-135')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
19	5/9/06

Description:
NAPL-B

Photo No.	Date:
20	5/9/06

Description:
NAPL-B (135-140')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
21	5/9/06

Description:
NAPL-B (135-140')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
1	5/8/06

Description:
NAPL-C (0-5')

Photo No.	Date:
2	5/8/06

Description:
NAPL-C (0-5')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
3	5/8/06

Description:
NAPL-C (5-10')

Photo No.	Date:
4	5/8/06

Description:
NAPL-C (5-10')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
5	5/8/06

Description:
NAPL-C (5-10')

Photo No.	Date:
6	5/8/06

Description:
NAPL-C (15-25')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
7	5/8/06

Description:
NAPL-C (15-25')

Photo No.	Date:
8	5/8/06

Description:
NAPL-C (15-25')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
9	5/8/06

Description:
NAPL-C (25-35')

Photo No.	Date:
10	5/8/06

Description:
NAPL-C (25-35')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
11	5/8/06

Description:
NAPL-C (25-35')

Photo No.	Date:
12	5/8/06

Description:
NAPL-C (35-55')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
13	5/8/06

Description:
NAPL-C (35-55')

Photo No.	Date:
14	5/8/06

Description:
NAPL-C (55-75')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
15	5/8/06

Description:
NAPL-C (55-75')

Photo No.	Date:
16	5/8/06

Description:
NAPL-C (75-95')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
17	5/8/06

Description:
NAPL-C (75-95')

Photo No.	Date:
18	5/8/06

Description:
NAPL-C (95-115')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 19

Date: 5/8/06

Description:
NAPL-C (95-115')

Photo No. 20

Date: 5/8/06

Description:
NAPL-C (115-135')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No.	Date:
21	5/8/06

Description:
NAPL-C (115-135')

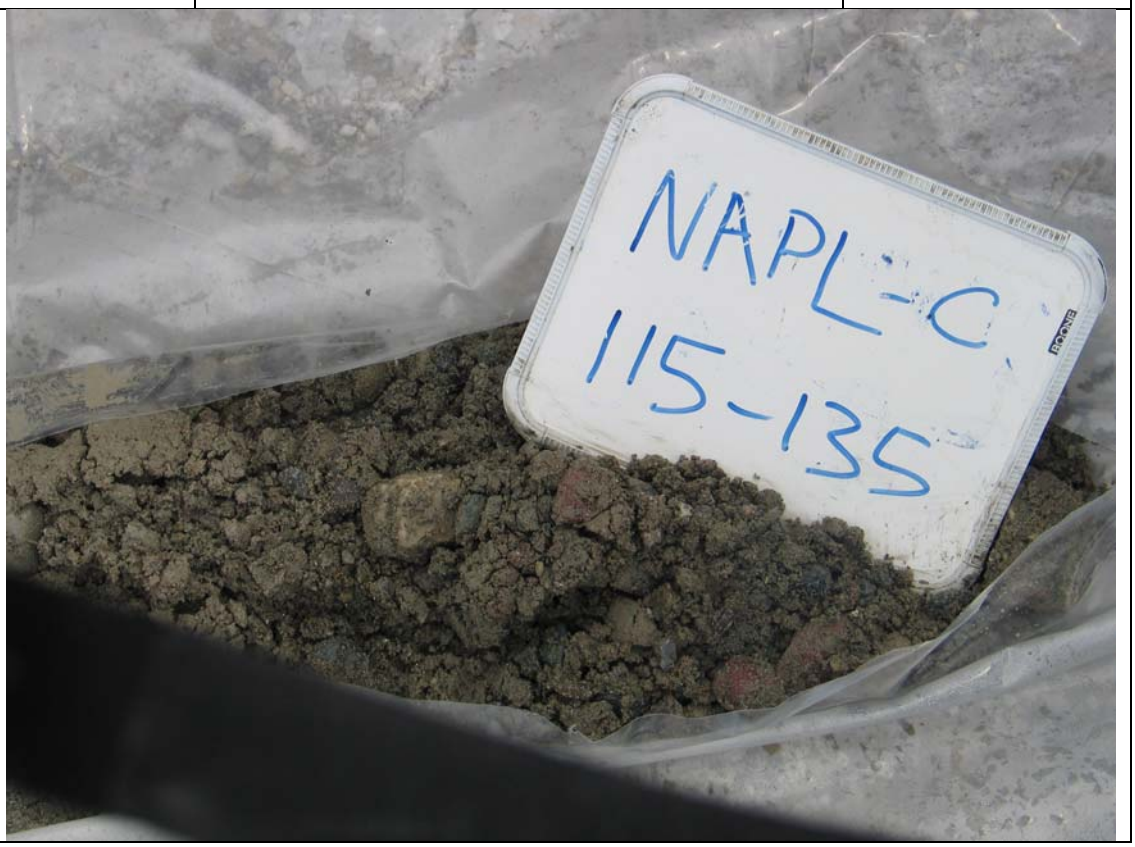


Photo No.	Date:
22	5/8/06

Description:
NAPL-C (135-140')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 23

Date: 5/8/06

Description:
NAPL-C (135-140')

Photo No. 24

Date: 5/8/06

Description:
Mixing grout at NAPL-C.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561683

Photo No. 25

Date: 5/8/06

Description:
Cleaning up at NAPL-C.

Photo No. 26

Date: 5/8/06

Description:
Cleaning up at NAPL-C.

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
1	5/05/05

Description:
SA-Q-3 (0-3')

Photo No.	Date:
2	5/05/05

Description:
SA-Q-3 (3-6')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No. 3

Date: 5/05/05

Description:
SA-Q-3 (12-13')
NAPL present

Photo No. 4

Date: 5/05/05

Description:
SA-Q-3 (13-16')

URS

PHOTOGRAPHIC LOG

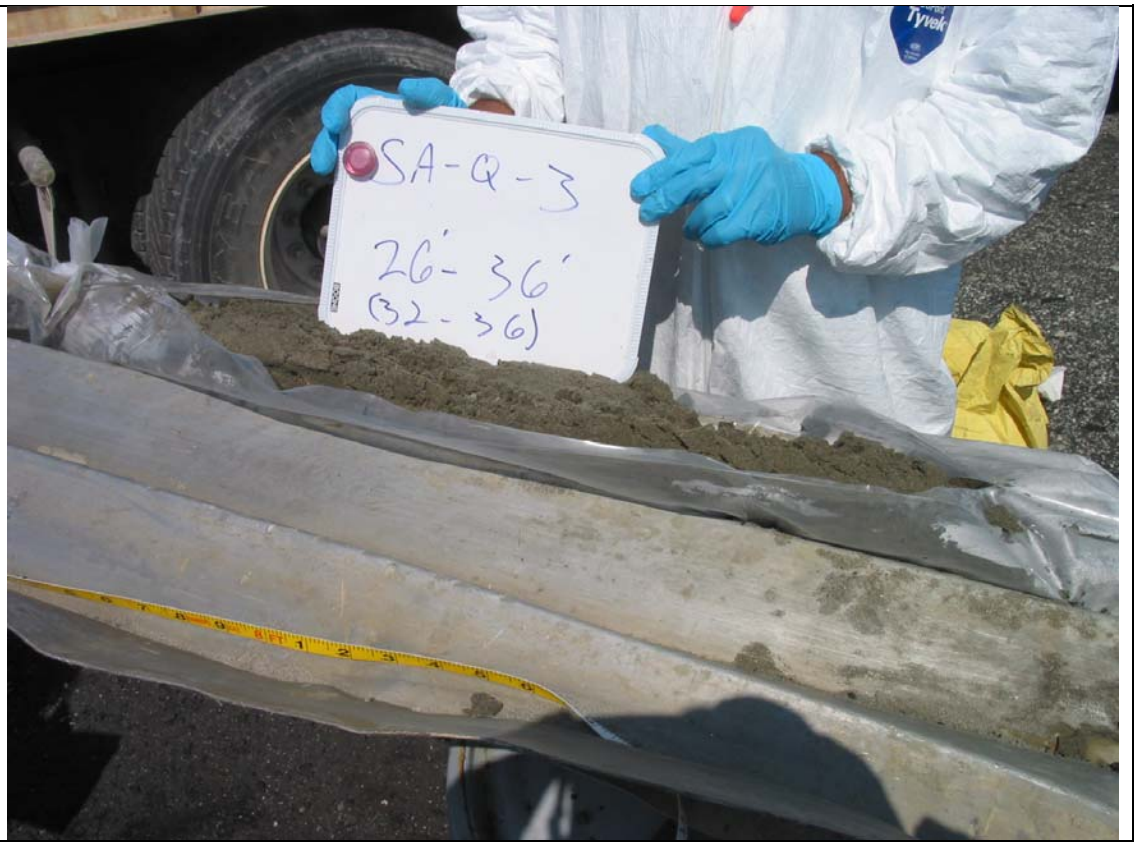
Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
5	5/05/05

Description:
SA-Q-3 (17-22')

Photo No.	Date:
6	5/05/05

Description:
SA-Q-3 (26-36')



URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
7	5/05/05

Description:
SA-Q-3 (36-46')

Photo No.	Date:
8	5/05/05

Description:
SA-Q-3 (46-50')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Sites Group	Sauget, Illinois	21561510

Photo No.	Date:
9	5/05/05

Description:
SA-Q-3
After well installation

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 1

Date: 7/26/02

Description:
Waste-Q-1 (0-7')

Photo No. 2

Date: 7/26/02

Description:
Waste-Q-1 (7-17')

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 3

Date: 7/26/02

Description:
Waste-Q-1 (7-17')

URS

Attachment 1

Photo Log Site S

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 1

Date: 8/14/02

Description:
Anomaly Trench-S-1
Before

Direction Photo Taken:
North

Photo No. 2

Date: 8/14/02

Description:
Anomaly Trench-S-1
Before

Direction Photo Taken:
North

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 3

Date: 8/14/02

Description:
Anomaly Trench-S-1

Photo No. 4

Date: 8/14/02

Description:
Anomaly Trench-S-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 5

Date: 8/14/02

Description:
Anomaly Trench-S-1

Photo No. 6

Date: 8/14/02

Description:
Anomaly Trench-S-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 7

Date: 8/14/02

Description:
Anomaly Trench-S-1

Photo No. 8

Date: 8/14/02

Description:
Anomaly Trench-S-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 9 | **Date:** 8/14/02

Description:
Anomaly Trench-S-1

Photo No. 10 | **Date:** 8/14/02

Description:
Anomaly Trench-S-1

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 11

Date: 8/14/02

Description:
Anomaly Trench-S-1

Photo No. 12

Date: 8/14/02

Description:
AT-S-1 After

Direction Photo Taken:
East

Photo No. 13	Date: 8/14/02	
Description: Anomaly Trench-S-1 After		
Direction Photo Taken: East		

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 1

Date: 6/14/02

Description:
Boundary Trench-S-2
Before

Direction Photo Taken:
South

Photo No. 2

Date: 6/14/02

Description:
Boundary Trench-S-2

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illinois	21560888

Photo No. 3

Date: 6/14/02

Description:
Boundary Trench-S-2

Photo No. 4

Date: 6/14/02

Description:
Boundary Trench-S-2

URS

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Sauget Area 2 Group	Sauget, Illniois	21560888

Photo No.	Date:
5	6/14/02

Description:
Boundary Trench-S-2 After

Direction Photo Taken:
South

URS

Attachment 2

Field Notes Site P

0700 Arrived on-site, Steve held site safety meeting.

0730 Mob to site 3 & P to find trench locations w/ Steve. EMA loading backhoe to mob to Site P.

0750 Calibrate equipment
PID-0 -00-102
LAM-zeroed
CGM- H_2S 0 CO-0 LEL-0 O_2-20.9
H_2S-25 CO-50 LEL-50 O_2-20.9

0810 EMA having trouble w/ low boy & offloading backhoe. Waiting on new truck.

0910 New truck arrives.

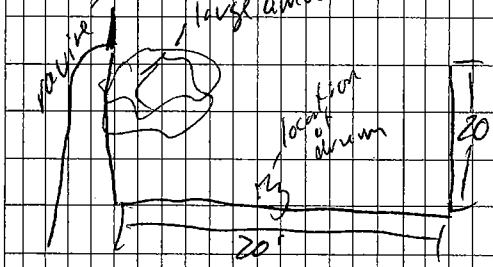
0940 Backhoe unloaded @ Site P, mobbing to location.

0945 Setting up exclusion zone @ AT-P-1.

0955 Began trenching AT-P-1
0-4-Black cinders w/ large amount of rebar + concrete
4 → Cinders w/ concrete, rubble
At ~ 20' deep, encountered rusted drum, As soon as George placed it on

stockpile, clear liquid began leaking (possibly OW) out of rusted areas - odor present - nothing on PID or CGM. Leaked for ~30 sec. Drum found mid trench (lengthwise) +- 20' deep surrounded by light brown clay rather than black cinders.

large amount of concrete/rebar.



1010 Discussed drum w/ John R & John B., both comfortable. Anomaly was found in concrete + rebar at top 4' of trench → 4 drum @ ~20'. Began backfilling.

1035 Finished backfilling.

1045 Began loading backhoe on lowboy to transport to Site S.

1110 Mobbing to Site S

5-25-05

0640 Arrived on-site, loading equipment
Calibrating equipment.
PID 0 - 0.2 CGM 1 | 0
100 - 101 1 | 20.9
Weather - 70's, Sunny 54 | 26
PPE - Level - Modified D 51 | 20.5
Personnel - Bottiggins, Kowins - URS
EMH - Andy Cameron, Budhicks, Alvin, Leo
CH2M Hill - Claire Morris
0700 H+S meeting.
0730 Mobbing to Site P.
0740 Setting up on AT-P-4, setting up exclusion zone
on AT-P-4 Photo 49 - AT-P-4 - before
0755 Began trenching AT-P-4 - trench
runs N/S - began trenching 20'
N of stalked location
In 1st 10' of N 20' section, encountered
BH 43 drum lids
Photo - 50 - Drum lid
51 - 3-5 gal. metal pail
Encountered another drum lid
0810 Preparing to collect subsurface sample -
(gross contamination sample) from ~5'
S of N edge of trench + from a depth of

BH

~4' bgs
AT-P-4-SD-4'-D
0835 Collected AT-P-4-SB-4' from bucket
for VOCs, SVOCs, herbicides, metals, ammonia,
PCBs, Pesticides, + TCLP analysis, Dioxin
Thick brown liquid dripping from
bucket - collected in pool. Headspace - 45 ppm
0850 Collected AT-P-4-NAPL - was able
to collect ~2/3 of 1 VOA vile - no
preservative. Analyze chemical footprint
Photo # 52 - Purple material ~~SB sa~~
53 - Pool of possible NAPL
54 - List of chemicals
55 - Monsanto safety report
56 - "Sodium acetate"
57 - Drum Lid
0920 at beginning of trench, depth of 6'
find a newspaper with 4/22/83 date
also find Monsanto + Queeny -
job results analysis, near miss accident
investigation - 83.
Photo 58 - Queeny investigation report
59 - Monsanto - job results analysis
0925 Encountered plastic drum lid
Photo 60 - Spoils pile

BH

(93)

5-25-05

1125 ½ of drum w/ white solid material inside - PID spike - 220 ppm
CO - 13 ppm
BH ~~Upgrading to Level C due to strong odor.~~
BZ PID - below 3 still
Photo # 75 - Drum w/ white material
76 - piece of drum
1135 Liquid slowing into trench from ~ 8' bgs.
1145 At ~40' in length, ~21' in depth
Photo 77 - Blue metal drum w/ tubing + plastic
78 - Brown resin beads in drum
Waste - 0-17
1200 Lunch
1300 Began backfilling
1520 Finished backfilling - a slight mound present. - Photo # 79
Decommed pump.
1600 Back @ trailer, unloading equipment
1630 Left site

BH

BH

(94)

5-26-05

0640 Arrived on site, loaded equipment - Calibrated equipment
PID 0 - 0
100 - 104
Ultrarae 0 - 0
PID 100 - 100

CCM	0	0
	0	20.9
	49	24
	49	20.9

VOC - 0
VOC
100

0700 H + S meeting
0735 Mobbing to next location - AT-P-2
PPE - Modified D
Weather - 60's, Overcast
Personnel - B Higgins, R Owings - URS
EMA - Andy Cameron, Bud Hicks, Alvin, Leo
CH_2MHill - C Morriss
URS Field Audit - C Johnson, A. Turnell
0745 A Turnell + C Johnson on-site for field audit
Setting up exclusion zone @ AT-P-2
AT-P-2 - runs east/west, staked location is center of trench.
0805 Began trenching @ W end - 20' W of stake
Photo # 86 - Piece of metal 55 gal drum (fiber)
PID - 30 ppm
Encountered fiber drum - ~8'
Encountered - Monsanto shop drawings
At ~10' @ W end of trench, bright

BH

5-25-05

0930 Encountered crushed drum
Photo # 61 - crushed drum
PID - 5.7 ppm
Waste - Black cinders w/ industrial waste - drum lids, concrete + rebar, RR ties, trash - Very strong odor - PID in BZ - below 3 ppm
Photo #62 Piece of metal w/ black staining
0940 Encountered 3 crushed drums.
Photo #63 - Crushed drum
1 of drums contained oily black soil + what appears to be some sort of salt (with softening salt
Photo # 64 - Salt-like material in drum.
0946 Another crushed drum
Photo # 65 - crushed drum w/ green + tan material inside
PID reading - 1.5 ppm
Photo # 66 - 0 - ~72'
0955 Encountered most of drum, crushed, black staining, possible ball bearings inside -
- yellow fiberglass cylinder w/ NAPL
Photo 67 - NAPL on fiberglass
68 - yellow fiberglass container

BH

5-25-05

Photo 69 - Crushed drum
1020 1st 20' section of trench (N) →
TD - ~~23.5~~ 21.5'
Waste - 0 - 17' At ~17' sandy clay
Extending trench south for full 40' - will be able to better see if we are completely out of waste
Photo # 70 - Perched water trickling in from waste/clay interface
1044 Encountered crushed metal drum
Photo #71 - crushed drum
" 72 - Oil container
1050 Crushed drum - PID reading - 5.5 ppm
Photo # 73 - Crushed drum
Encountered dot matrix computer printout - Computer programming - WGK file names. 1983
1100 Encountered slightly crushed drum, PID - 5 ppm
Photo # 74 - Drum.
Metal drums ~~all~~ BH all b/t 0 - ~5' bgs.
Newspaper - May 10, 83
1110 Drum remnant, box of screws w/ Monsanto label

BH

5-26-05

Finished trenching.
Photo-109-TD, total length.
1230 Lunch
1330 Began backfilling.
1500 Preparing to collect surface sample @ AT-P-4-will collect adjacent to area AT-P-4-SB - 5' south of N edge.
1515 Collected AT-P-4-SS-0.5' + AT-P-4-SS-0.5'-MS + AT-P-4-SS-0.5-MSD w/ trowel for VOCs, SVOCs, herbicides, metals & ammonia.
Finished backfilling AT-P-2.
M Miller picked up trowel used to sample AT-P-4-SS-0.5 - will B/H do.
Field blank on trowel, Headspace - 0.2ppm
(1600) Collected AT-P-4-SS-0.5'-EB for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, & Pesticides. ~~Headspace~~ B/H
1555 Preparing to collect surface sample @ AT-P-2 - will collect sample adjacent to location of SB sample - 30' E of W edge of trench
1600 Collected AT-P-2-SS-0.5' + AT-P-2-SS-0.5-D w/ trowel for VOCs, SVOCs, herbicides, metals, + ammonia.

BA

5-26-05

Photo 110 - AT-P-4 - After
Headspace - 0.0ppm
1630 Moving back to facility, unloading equipment.
1730 Off site.

BH

Location Sauget, IL Date 05/26/05

Project / Client SA 2 SI

0515 Arrive on site (M Miller)
Work on gINT logs
0615 Calibrate MiniRAE 2000 and QRAE+
0700 Safety Meeting led by B Higgins
0720 Mob Clayton to let Oiland get their air tanks
0740 Mob to site Q South w/ Wendy to mark UAA-10
0800 Mob to Site P to drop off supplies for trenching crew
0815 Mob to Q South to check for clearing crew with Wendy and check on Prosonic pad completion
0930 Mob to Site R to get truck
0935 Mob to Site P to get shovel for field blank AT-P-2-WS-10-FB
1015 Sample AT-P-2-WS-10-FB
1045 Return shovel to trenching crew
1100 Mob to office at site R
1130 Work on GINT logs
1300 Mob to UAA-10
1325 Return to Site R
1330 Walmart trip w/ Wendy
1430 Return to site

PM

Location Sauget, IL Date 05/26/05

Project / Client SA 2 SI

1440 Finish unloading supplies
1445 Mob to American Bottoms to let Prosonic into site S
1500 Mob to Site P to trade shovels with Brandi
1530 Mob to Site R to get Trenching crew ice
1535 Return to site P for Travel
1540 Return to site R to perform field Blank
1600 Sample AT-P-4-SS-0.5-FB
1645 Staff meeting led by S Shroff regarding Field Audit
1700 Leave site

Location Sauget, IL Date 5-26-05

Project / Client SA-2

0605 Arrive on site for the day.
0700 Safety meeting
0710 Wait for Oilind to show up to pick up the airline tanks they dropped off the other day.
0720 Oilind arrives. Lead Oilind to AA-Clay-2 to pick up tanks.
0740 Head to Q-South to mark UAA-10 offset from the property E of the levee to the W side of the levee, staying as close to the levee as possible (Andrea is making calls to find out how close we can get).
0755 UAA-10 marked ~410 ft W of its original planned location.
0800 Take supplies to Kurt & Brandi at AT-P-2
0815 Head back to Q-South to check on clearing crew (supposed to be brush hogging areas cleared yesterday.)
0830 Clearing not at Q-South yet. Bobcat still dressing up the trench location on the barge ramp in Q-Central.

Location Sauget, IL Date 5-26-05

Project / Client SA-2

0930 Clearing crew arrives at Q-South with brush hog to finish clearing new trench locations around AT-Q-35 and AT-Q-33.
1100 Clearing crew finished in Q-South. They are heading back to the trench on the barge ramp to see if more rock arrived for them to finish dressing it up.
1105 Check on Justin and Brian and the profiling crew at UAA-10.
1135 Back at trailer.
1200 LUNCH
1215 Help Andrea around trailer/pole barn.
1330 Run errands for Andrea.
1440 Return to trailer/pole barn and unload.
1445 Talk to Jack & Kevin. Send them home for the day
1450 Head to American Bottoms to get the gate unlocked for Adam (Prosonic) so they can finish SA-S-1.
1500 Meet Brandi & Kurt at AT-P-4 and wait for them to finish gathering a surface sample.

Location Sauget, IL Date 5-26-05

Project / Client SA-2

1545 Head back to pole barn to perform ~~a~~ ~~fit~~ field blank sampling on the trowel used by Brandi and Kurt.

1625 Finished performing field blank sampling on the trowel used for the surface sample at AT-P-4

1640 Meeting about the results of the field audit performed today on-site.

1700 Leave site for the day.

Location Sauget, IL Date 5-27-05

Project / Client SA-2

0600 Arrive on site for the day.

0710 Safety meeting

0715 Small URS meeting in trailer ~~with~~ regarding Andrea's and Brian's absence today due to their mom's death, and how we are going to cover the day-to-day stuff.

0725 Wait for Walter (STL) to come to pick up sample coolers.

0730 Walter arrives to sign the COCs and pick up the sample coolers from yesterday.

0755 Copies of COCs faxed to Craig Johnson in the URS-Omaha office.

0800 FedEx arrived for drop off/pickup. Took care of labels, etc. to get everyone started this morning.

0820 Head to site O with clearing crew to clear Soil-O-4.

0835 Head ~~SA~~ to SA-Q-5 with Adam (Prosonic) because the well pipe ~~at~~ was observed to be broken/bent at the ground surface. (observed by Adam)

0855 Observation of SA-Q-5 with a water level indicator showed the well depth to be

6-1-05

trash, tires
Photo #41 - 0-4' bgs
At ~13-14' bgs, encountered light grey sand. - Photo 42
Photo #43 - grey sand.
Photo #44 - "
TD - 18' bgs - No drums, drum remnants
Total length @ depth - 6-7' bgs
Total length @ surface - ~15' bgs
1055 Finished trench, began backfilling
~~1145 1115~~ 2nd.
1230 Photo #45 - AT-P-4 - Dark green material
" 46 - AT-P-4 - "
Setting up on TT-Q-33-SE1
1345 Began trending TT-Q-33-SE1 - 50' from both AT-Q-33 step-outs - trench runs @ SE angle.
Photo #47 - TT-Q-33-SE1
At ~0.5' bgs, encountered brown silt w/ municipal waste - plastic, wood, cans
Photo #49 - Spoils pile
Waste - ~0.5-12' bgs, at ~12' bgs - brown silt w/ some waste
At ~18' bgs, grey sand

BH

6-1-05

Photo #50 - TD, light grey sand.
1415 TD - ~20' bgs - into ~2' grey sand.
Total length @ depth - ~8' bgs
" " @ surface - ~15' bgs
~0.5-12' bgs - brown silt w/ waste
At ~12'-18' bgs - brown silt, little waste.
At ~18' - grey sand
Finished trench, began backfilling.
1440 B Higgins & S Shroff to Central Q to look @ tomorrow's trending locations - AT-Q-29, AT-Q-30
Spoke w/ Dan of Eagle Marine - going to move crane - OK if we trench @ AT-Q-29 tomorrow.
1450 Finished backfilling trench.
1510 At trailer, unloading equipment, discussing tomorrow's plan.
1600 Left site

B Higgins

BH

Location Sunset, IL Date 06/02/05

Project / Client SA 2 SI

1020 Stop at [illegible] to get key for Lot F

1035 Get key from B Hiller

Mob to Lot F

1050 Locate MPM GM-31 A, B, & C and GM-59. GM-31 wells have combo lock with code 1944. GM-59 may be in back corner by Drum or with 31 cluster. We think it is the corner well. Lock is rusted

1055 Locate GM-8. Lock appears rusted. GM-31 A, B, & C, GM-59, and GM-8 are all in the Drum containment lot of Lot F

1100 Mob to lot F

1110 Locate GM-18 A & B: No locks. Locate GM-58 (maybe) to help confirm GM-59 location

1114 Locate GM-7: 1944 lock

1116 Locate MW-7B & C. 7B has a 1944 lock. 7C has no lock. Hornets present. Sprayed casing

1119 Locate GM-5 and MW 5 B and C. Master locks on all 3. No key

1123 Locate MW-3B B and C:

MPM

Location Sunset, IL Date 06/02/05

Project / Client SA 2 SI

MW 3B & C have MPM Master locks. No key at present

1125 Locate GM-3. No lock, but it has a monitoring box

1128 Locate GM-4, A B & C: 1944 locks on all 3 wells

1131 Locate GM-17 A, B, & C: 1944 locks on all 3 wells

1133 Locate TRA 3-P & B: No locks

1130 Locate GM 6 A & B. 6A has no lock. GM 6B has a 1944 lock

1139 Locate Piez-6: No lock

1145 Leave Lot F

1146 Locate GM-2: No lock, but it has a monitoring box

1148 Locate area for GM-33

1155 Drop off Lot F key

1200 Stop at AT-P-2 to check dirt work. PID readings 0.0 ppm

1205 Stop at AT-P-4 to check dirt work. PID readings 0.3 in SW corner, otherwise 0.0 ppm.

1210 Check in with S Smith at trailer

MPM

Location Sauget, IL Date 6-2-05

Project / Client SA-2

0835 Head to trailer to talk to Steve about what we are supposed to be doing. We are supposed to locate the wells previously installed and determine access.

0855 Head out again with Mike Miller. See Mike's book for location and access notes.

1200 Check on AT-P-2, which was dressed up with soil brought from off site. Some debris still visible. PID readings = 0.0

1205 Check on AT-P-4, which was dressed up with soil brought from offsite. Little to no debris visible. PID readings = 0.3 or less. 72°, overcast, looks like it wants to rain.

1210 Back to trailer to talk to Steve

1220 Lunch

1245 Out to locate previous wells. See Mike Miller's field book for notes.

1500 Back at trailer/pole barn to talk to Steve. Miscellaneous work.

1600 Leave site for the day.

Location Sauget, IL Date 6-3-05

Project / Client SA-2

0605 Arrive on site. Timesheet and miscellaneous duties around trailer/pole barn

0705 Safety meeting

0710 Load up for the day. Wait for Walter (STL) to pick up sample coolers from yesterday. Miscellaneous duties around trailer/pole barn.

0730 Walter arrives and picks up sample coolers from yesterday and signs COCs.

0735 Fax COCs to Craig Johnson (URS-Omaha) Miscellaneous paper ~~stuffing~~ filing in trailer.

0745 Begin locating previous wells again. See Mike Miller's (URS) field book for location and access notes.

0930 Check on clearing crew dressing up trenches in Q-south with additional dirt while locating previous wells. Trenches so far (AT-Q-35) look good — the exposed debris is covered.

1230 Lunch and various office duties

25 July 2002

7:00 Arrive on site ≈ 70°F
Clear, humid. Forecast high is 95°F

7:05 Steve Shroff conduct daily health and safety meeting

7:10 Calibrate air monitoring instruments (See daily calibration logs)

7:30 Mobe to location of LEACH-P-1

7:45 Setting up at LEACH-P-1

7:55 Start Drilling LEACH-P-1

8:30 Encounter native material (silty clay) at 22' bgs. Call Steve Shroff to inform him. Steve checks w/ Brad Higgins and Oscar (other Geosonic driller) as to why her boring log had was to 30' bgs. Steve calls back with explanation. EKF, John Reagan & Jeff of CH2M Hill are present. Apparently, Oscar re-sampled an interval which had already been sampled, thus giving the impression of

being deeper than the actual depth. Decide to set the well at 22' bgs with 1' cushion of sand beneath the well screen. Remainder of the hole filled with bentonite chips. Chips will be allowed to hydrate for a minimum of 30' prior to installing the well.

8:45 to 9:15 Waiting for bentonite chips to hydrate. Placed from 23' to 30' bgs

9:16 Install PVC screen and riser.

9:17 Start installing filter sand pack around the screen

9:30 Installing Bentonite chips above the sand pack

9:40 Finish installing well. Clean up area and prepare to de-mobe back to trailer for decon

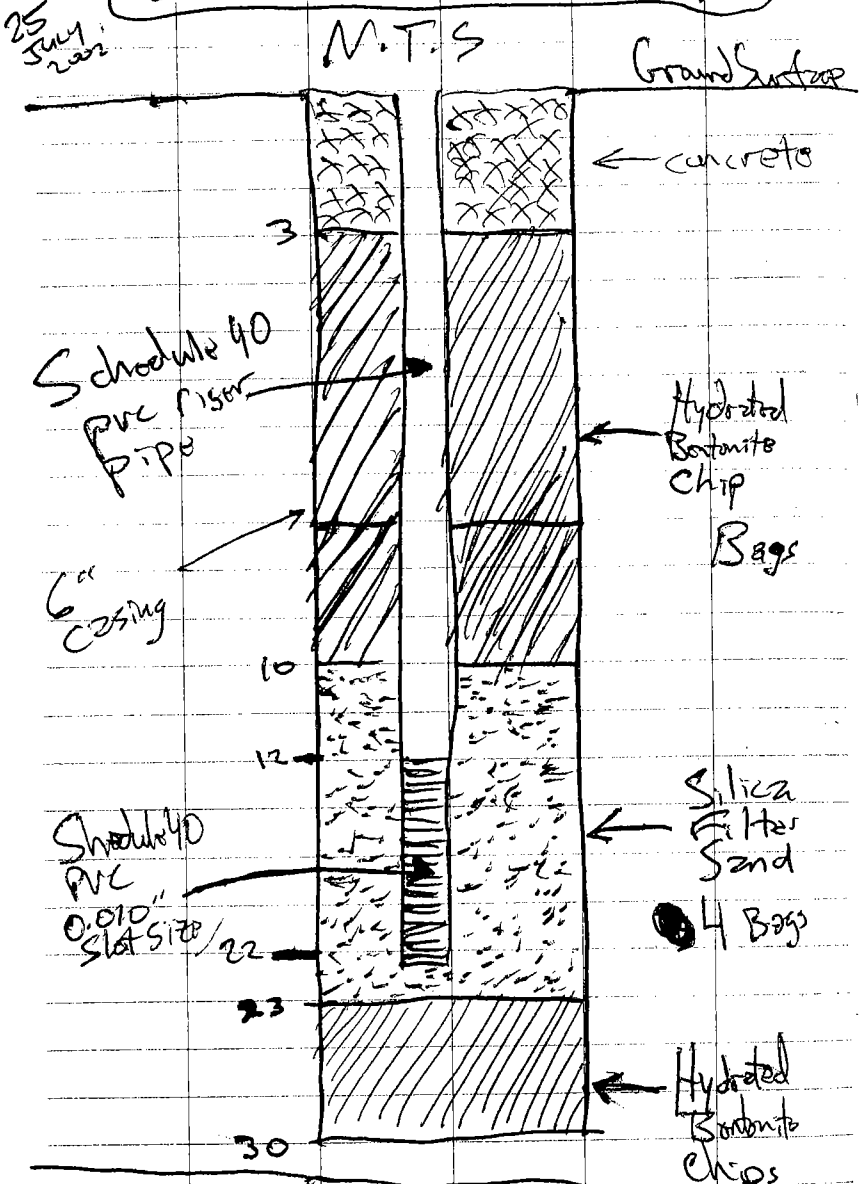
10:00 Geosonic decanning rig and tub

10:45 Setting up at location of LEACH-O-1

10:50 Start drilling LEACH-O-1

25 July 2002

WELL CONSTRUCTION LEACH-P-1

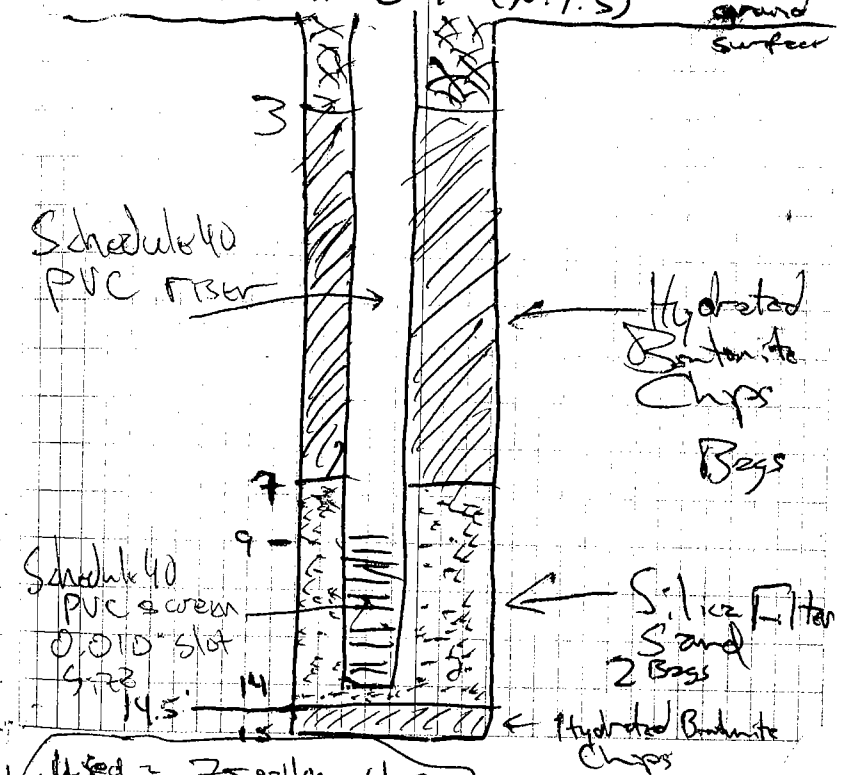


Used ≈ 200 gallon of H_2O during drilling/installation

25 July 2002

11:05 Hit silty clay at 14' bgs. Discuss w/ Steve Shroff, John Reagan, and Jeff of CH2M Hill. Decide to set well @ 14' bgs. Back fill 14' to 15' w/ bentonite chips (6") and sand (6"). Will let chips hydrate for 30 minutes prior to installing sand.

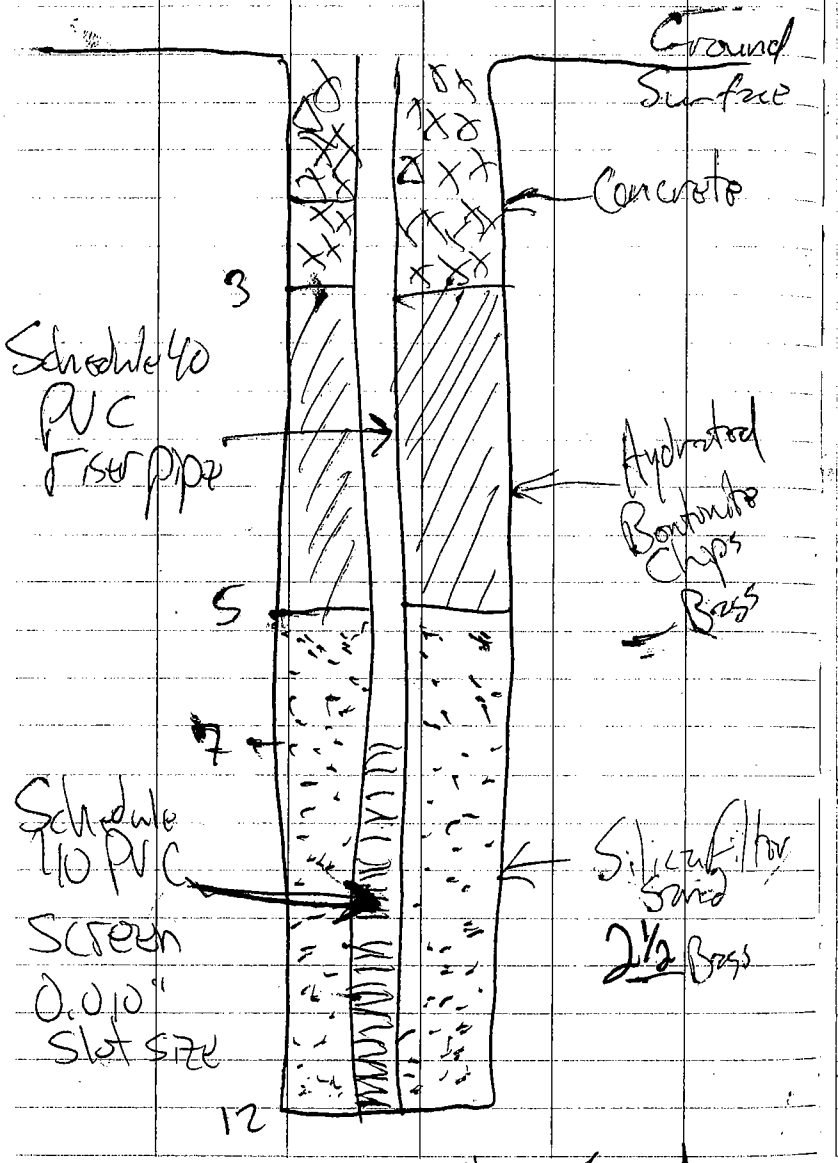
LEACH-O-1 (N.T.S)



Used ≈ 75 gallon H_2O during drilling/installation

26 July 2002

WELL CONSTRUCTION LEACH - Q-1 (N.T.S)



Used 750 gallons of water

LOCKED Q-2 Q-1 Q-3 P-1 O-1

26 July 2002

16:50 Lock LEACHATE WELLS LEACH Q-1, Q-2, Q-3, P-1 and O-1. Did not lock S-1 and R-1 however, the wells are located within a fenced secure area.

17:30 Leave site for the day

E.O.D

7-26-02

8-19-02 (D)
BMH

Projects (continued)

0700 Arrive on-site, steve held site safety meeting. 80s Overcast.

0705 Robert calibrated equipment -
PID - 0-0.4 200-110
RAM - zeroed
CGM - H_2S-0 CO-0 LEL-0 O_2-20.9
H_2S-25 CO-50 LEL-50

0730 Began taking well caps off of all leachate + bedrock monitoring wells.

0900 Finished opening all wells

0910 Began taking water level readings + interface probe.

0920 At BDRK-P-1.

		DTW		TD	
	BDRK-P-1	15.86		159.86	Soft
0940	Leach-P-1	Dry		25.50	odor present
0951	Leach-Q-1 Product - 15.08	15.09		17.35	hard, odor
1000	~~Leach-BDRK-S-1~~ BDRK Leach Product - 9.96		DTW 9.97	10.38	hard, odor
	Do lock				
1012	BDRK-O-1 Product 18.50	18.51		154.11	Soft, odor
1025	BDRK-S-1 Product 21.56	21.57		165.72	Soft
1050	Leach-Q-3	dry		11.79	
1055	BDRK-Q-2 Product 18.48	18.485		145.41	Soft
1023	Leach-Q-1 Product 11.15	11.16		12.73	odor, hard
1030	BDRK-Q-1	36.25	36.26	161.85	Soft

(61) BMH 9-20-02

0700 Arrived on-site, Raining. continued clearing trails.
0930 Collected last dioxin 1L-amber for Leach-O-1.
0945 continues demobing.

BH

BMH 9-23-02 (62)

0930 Arrived on-site, BMH, KH.
0940 Began opening all wells/piez.
1230 Finished opening all wells.
1350 Began gauging all wells/piez.

		DTW	TD	3H
BDRK-R-1		31.31	166.30	soft
Leach-P-1		24.82	25.12	hard
Piez-3	s	27.91	38.47	hard
	m	27.89	78.34	hard
	d	27.76	114.97	soft
Piez-2	s	26.26	26.45	hard
	m	30.31	77.51	soft
	d	30.29	137.00	
Piez-1	s	dry	23.12	soft
	m	31.26	79.51	soft
	d	31.37	128.75	soft
BDRK-P-1		139.23	161.57	soft
Leach-O-1		17.02	17.06	hard
Leach-S-1		9.51	9.91	hard
Piez-5	s	16.81	24.90	S
	M	16.77	69.58	soft
	D	17.06	108.52	soft
Piez-8	s	9.89	27.11	S
	M	10.71	68.85	h
	D	10.61	110.85	S

(65) 1-22-03

	PID	DTW	
Leach-P-1	0.0	23.18	bottom (no water)
BDRK-P-1	0.3	53.44	
BDRK-O-1	0.0	25.06	
Leach-O-1	0.0	17.11	bottom (no water)
Q PIEZ-4D	0.4	42.39	
PIEZ-4M	0.7	42.99	
Q PIEZ-4S	0.0	42.90	
BDRK-Q-1	0.8	43.58	

LEACH-Q-1 inaccessible - pallets on top

1700 Quit for day

KH

THURSDAY 1-23-03 (66)

0720 Arrive at Site

Personnel: K. Hoskins and M. Swanson of URS

Weather: ~0°F, wind chill -10 - -20°F Sunny

Level of PPE: Modified Level D except as noted

Equipment: PID & Interface probe

PID checked calibration:

fresh air 0 ppm

Isobut 101 ppm

7:35 continue from yesterday

	PID	DTW
LEACH-R-1	0.0	21.10
LEACH-S-1	403	9.55
PIEZ-5S	0.0	22.02
PIEZ-5M	0.0	21.95
PIEZ-5D	0.0	22.30
BDRK-Q-2	50.6	25.09
LEACH-Q-3	0.0	10.90
PIEZ-9S	0.0	10.71
PIEZ-9M	0.0	10.77
PIEZ-9D	0.0	10.64

mailer

KH

4/21/03

1120-1200 Lunch

WELL/PIEZ NO.	PID READING	COMMENTS
PIEZ-3S	0 ppm	
PIEZ-3M	0 ppm	
PIEZ-3D	0 ppm	
LEACH-P-1	0 ppm	
BDRK-S-1	0 ppm	
LEACH-S-1	NA	Cannot get open because the lock is broken + will not unlock
PIEZ-5S	0 ppm	
PIEZ-5M	0 ppm	
PIEZ-5D	0 ppm	
LEACH-O-1	43.8 ppm	
BDRK-O-1	0 ppm	
BDRK-R-1	0 ppm	
LEACH-R-1	3422	

1400 Begin moving drums to bedrock monitoring well locations. Need to locate good drums first.

1520 Finish moving drums. ~~for~~ Talk to Metro East Sanitary District - they are closing the locks to the levee. He said to

4-21-03
MF

1520 (cont) call his boss Jerry Duff of MESD @ (618) 274-4800.

1525 Return to Pole Barn. Close up IDW pad. Talk to Rock Hill Mechanical who is on site. They will lock up gate when they leave since they will be here after we leave.

1535 All off site for day. K. Hoskins returns to office to get supplies + M. Felton goes to store for supplies.

4-21-03

4/22/03

Well No.	Water Level	Total Depth	Comments
PIEZ-9S	11.38	Not obtained	
PIEZ-9M	11.45	Not obtained	
PIEZ-9D	11.32	Not obtained	
PIEZ-7S	DRY	27.69	
PIEZ-7M	32.91	Not obtained	
PIEZ-7D	32.62	Not obtained	
BDRK-Q-2	23.78	145.0	soft bottom
LEACH-Q-3	10.83	11.32	Hard Bottom

1605 Return key to Solutia. Return to Pole Barn.

1630 Leave site for evening.

M. Felton

4-22-03

WEDNESDAY 4/23/03

0700 K. HOSKINS ON SITE
CALIBRATE PID.

0705 M. FELTON ON SITE. H+S MEETING.
PERSONNEL: M. FELTON - URS
K. HOSKINS - URS

WEATHER: SUNNY, LT. WIND, 50°F, VERY HUMID

LEVEL OF PPE: MODIFIED LEVEL D.

0715 PACK UP VEHICLE

0730 MOBILIZE TO SITE P TO CONTINUE WATER LEVELS FOR LEACHATE WELLS.

WELL NO.	WATER LEVEL (Ft BTOC)	TOTAL DEPTH (Ft BTOC)	COMMENTS
LEACH-P-1	24.84	25.13	HARD BOTTOM
LEACH-S-1	9.49	9.91	hard bottom
LEACH-O-1	17.02	17.06	Hard bottom
LEACH-Q-1	10.03	11.67	Hard bottom
LEACH-Q-2	DRY	15.80	5 gpm coming out of open manhole HARD BOTTOM

THIS WELL IS LOCATED 80 FT SOUTH (PERPENDICULAR TO WALL IN SOUTHERLY DIRECTION) OF END OF CONCRETE RETAINING WALL (CONCRETE BLOCK WALL) (western side of end of wall)

0900 SWITCH TO LEVEL C TO COLLECT WATER LEVEL + TOTAL DEPTH FOR LEACH-R-1.

LEACH-R-1	21.37	25.55	product @23.74

PID READINGS 50-100pm during readings

MF 4/23/03

(143) Monday 6-9-03

0700 BHiggins + MSwanson on site. Held site safety meeting
Personnel - BHiggins - URS
MSwanson - URS
Weather - 60's, Sunny
Level of PPE - Modified Level D

0715 Calibrating PID
0-0 100-100

0730 Began opening all wells + piezometers

Well/Piez No	PID	Comments
BDRK-R-1	2.0	No lock
~~BDRK~~ Leach-Q-1	0.0	No lock
Piez-4-S	0.0	
Piez-4-M	0.2	
Piez-4-D	0.3	
BDRK-Q-1	0.0	Cut lock off
Piez-1-S	0	
Piez-1-M	0	
Piez-1-D	0	
Piez-2-S	0	
Piez-2-M	0	
Piez-2-D	0	
Piez-3-S	0	
Piez-3-M	0	
Piez-3-D	0	

6-9-03 (144)

Piez/Well No	PID	Comments
Leach-P-1	11.0	
BDRK-P-1	0	
Leach-Q-2 needs new lock	0	Filled w/ sediment/removal
Leach-S-1	130	Wasps in protective casing
Piez-5-S	0	
Piez-5-M	0	
Piez-5-D	0	
Leach-O-1	50	
BDRK-O-1	0	
BDRK-S-1	0	
Piez-9-S	0	
Piez-9-M	3.5	
Piez-9-D	0	
Leach-Q-3	54	
BDRK-Q-2	0	
Piez 7-S	0	
Piez-7-M	0	
Piez-7-D	0	
Piez 8-S	0	
Piez-8-M	0	
Piez-8-D	0	

1140 Lunch
1220 At Solution getting hot & key.
1240 Turning in key to Solution - guard.

6-9-03

Piez/well No.	PID
Piez-6s	0
Piez-6m	0
Piez-6D	0
Leach-R-1	100

1300 Drove to ponds in Southern Site Q to access water levels for Sed/surface water sampling.

1330 Begin gauging all wells/piez.

well/Piez. No.	DTW
BDRK-R-1	27.90
BDRK-P-1	124.41
Piez 1-S	Dry
Piez 1-m	26.54
Piez 1-D	26.54
Piez-2-S	26.22
Piez-2-m	26.59
Piez-2-D	26.51
Piez-3-S	25.96
Piez-3-m	25.94
Piez-3 D	25.83
Leach-P-1	24.90
Piez-5-S	15.88
Piez-5-m	15.79
Piez-5-D	15.90

6-9-03

well/Piez. No.	DTW
Leach-Q-1	17.03
BDRK-Q-1	17.86
BDRK-S-1	19.25
Piez-4-S	32.13
Piez-4-m	32.16
Piez-4-D	31.84
BDRK-Q-1	32.71
Piez-9-S	8.09
Piez-9-m	8.14
Piez-9-D	8.02
Piez-7-S	22.46
Piez-7-m	28.04
Piez-7-D	22.59
Leach-Q-3	10.86
BDRK-Q-2	17.54

1645 Mobilize back to pole barn

1700 Unpacked equipment, left site for day.

(M) Weather 90's, Sunny
PPE-Modified D 6-6-05

0640 Arrived on-site, loading equipment.
Calibrated instruments
PID 0-0
100-100
Ultrarae 0-0
100-100

Multirae

0	0
0	20.9

VOC-0

51	24
50	20.9

VOC-96

0700 H+S meeting
0720 Waiting on low boy to move excavator to Site P.
0800 Low-boy on-site, moving both excavators.
0840 S Shroff gave us ok to start - CH2M Hill is running step-out plan up ladder to EPA, but Clair Morris said she does not think there should be any issues w/ step-out plan.
0900 Began clearing around north step out - TT-P-2-N1
Photo #9 - TT-P-2-N1 - Before
0920 PID not working properly, recalibrating.
1000 Began trenching TT-P-2-N1 - step-out location 50' N of AT-P-2 - beginning @ stake (50' N) & trenching to the north.
1005 Encountered possible fiber drum, crushed w/ Monsanto - Formaldehyde (flake) PID-30 ppm

BH

6-6-05

(118)

Photo #10 - Monsanto fiberdrum
" 11 - fiberdrum
0 - ~4' - brown silt w/ construction debris.
At ~4' bgs - encountered industrial waste, plastic, trash, fiberdrums - w/ black cinders.
Photo #12 - Fiber drum w/ lid
1010 Strong odor from trench + spoils pile - B2 @ ~1-2 ppm
Photo #13 - Drum lid metal
" 14 - Piece of Fiberdrum w/ white mat
" 15 - "
" 16 - "
1020 Encountered fiberdrum w/ white powder-like substance - PID-32 ppm
- Encountered Monsanto shipping documents
1022 - More pieces of fiberdrums
- Metal lid to ~~55~~ 30 gal - Photo #17
1025 Pieces of fiberdrum, lids
1030 Piece of fiberdrum w/ hose, trash inside
Photo #17 - Possible paint cans
18 - Fiberdrum piece w/ trash
1032 Metal container - "MEK" - Flammable liquid label - Photo #19

BH

6-6-05

Photo 20 - Piece of fiber drum w/ formaldehyde label.
- More fiber drums - crushed
Photo #21 - Fiber drum w/ fibrous material inside, "Monsanto" label, "Poison"
- 1 gal metal container w/ "resin" label.
1046 Pt ~15' bgs
Photo # 22 - 0 - ~15'
- ~~M~~ 3-55-gal metal drum lids - PID - 32 ppm
Photo # 23 - Stack of lids.
Photo # 24 - Possible 5-10 gal metal drum
- PID - 40 ppm
- Piece of fiber drum
1100 - Encountered soil - reddish yellow soil -
fiber drum w/ yellow on walls - wet
Photo 25 - reddish yellow material
26 - yellow powder material on drum.
1105 Finished w/ TT - TD - 20.5' BH
Total length @ depth - ~5-6' 6-8'
Total length @ surface - 20' BH
Encountered GW @ ~ 20' bgs.
- We will step-out 50' more feet per S. Shroff.
Began backfilling.

BA

6-6-05

1145 Lunch
1200 Began storming - lightening present.
1310 Storm stopped, mobbing to next location.
Photo # 27 - TT-P-2-N2
1325 Getting up on TT-P-2-N2 -
50' N of 1st step-out - will trend south from stacked location.
1330 Began trenching
Encountered waste @ ~3' bgs -
Black cinders w/ plastic, wood, cardboard, fiber drums
Photo 28 - Fiber drum w/ plastic inside
- Fiber drum, crushed -
Photo 29 - ~ 0-5'
Photo 30 - Bag w/ Monsanto Pentachlorophenol.
- Fiber drum, bags
Photo 30 - 0-8' bgs
1350 Encountered 5-gal metal pail, crushed
PID - 70 ppm - w/ some tan soil inside.
Photo #31 metal pail.
Upgrading to Level C - BZ near spoils pile > 3 ppm.

BA

6-6-05

Calibrating PID.
1430 Continued trenching
Photo #2 - Eagle Pitcher "Zinc".
Photo #33 - Metal drum lid
1436 Photo #37 - 0-10' bgs
- Encountered "Taylor Chemical Co" label.
BH - Fiber drum - PID - 14 ppm, crushed
1442 Paper bags - label Benzoic Acid
- Encountered - yellow powder like substance
Photo #38 - Yellow material
Photo #39 - ~~0.5~~ BH 0-15' bgs
1500 TD - ~15' bgs, Finished trench
Total length @ depth - ~5'
" " @ surface - ~20'
Per S Shroff, finished, trench - seeing fiber drums in almost every bucket -
In 2-3, encountered yellow or white powder like substance
Will step out ~~on~~ BH 50' more feet to north
1505 Began backfilling.
1530 Finished backfilling
1700 Left out

BH

BH

6-7-05

0645 Arrived - on-site, loading equipment.
Calibrated instruments
PID 0 - 0
100 - 99
Ultrasonic - 0 - 0
100 - 100

PID 0 -
100 -

Multirae

0	0
0	20.9

51	26
49	20.9

0700 H+S meeting
Weather - 80's, Sunny
PPE - Modified D
Personnel - B Higgins, K Owings - URS
EMA - Andy Cameron, Bud Hicks, Alvin, Leo
CH2M Hill - Clair Morriss, Emily
0730 S Shroff meeting C Morris to discuss step-outs in Site P - decided not to go further north, step-outs - the fiber drums do not represent a "principle threat".
0815 Mobbing to Site P
0820 Setting up on ~~TT-Q~~ BH TT-P-2-51 - 50' S of AT-P-2 - Excavator clearing area - Will start trenching 50' S of AT-P-2 + trench south.
0845 Began trenching - TT-P-2-51

BH

Photo #42 - TT-P-2-S1-0-3
Photo #43 - Piece of metal
0850 At ~6' bgs, 55-gal metal drum, crushed, most of drum - Newspaper stuck to it - 1970s??
Photo #44 - Drum
0-4 - Brown silt w/ black cinders
At ~4' - Waste - wood, trash, - municipal waste, drum
Photo #45 - Monsanto paperwork
Photo #46 - 0 - ~10' bgs
Photo #47 - 0 - 40'
0900 Encountered crushed, rusted metal drum - ~~5~~ gal - w/ plastic. Montansa - Sulfonamide formaldehyde
Photo #48 - Crushed drum
gross Wt - 64 lbs, - tare wt - 4 lbs, ~ 15-30 gal
PID - 202 ppm @ drum
- Drum lid
Photo #49 - Drum lid
- Piece of fiber drum lid
0907 - 5-gal metal container - crushed - labeled "Shell"
Photo #50 - Metal container
0910 - Bucket w/ white material
Photo #51 - White material

BH

- Piece of metal - PID - 20.7 ppm
0914 - Fiber drum w/ white powder substance inside
Photo #52 - Fiber drum w/ white powder
0917 - Paper bags "Maleic Anhydride"
0919 - Piece of fiber drum
0920 Encountered GW @ ~18-20' bgs.
Photo #53 - GW @ ~18-20
0925 B Higgins spoke w/ S Shroff - based on what we encountered in trench - is not a clear "no" in our yes/no approach. Will step out an additional 50' to North
0940 Began backfilling.
1010 Finished backfilling, clearing next location to the south
TT-P-2-S2 - 50' south of southern edge of TT-P-2-S1.
Will begin trenching @ this point going south.
1030 Setting up exclusion zone @ TT-P-2-S2
1040 Began trenching

BH

(125)

6-7-05

1045 At ~4' bgs, encounter 2 drum remnants - ~~7~~ greater than 50% - + 2 whole drums, 1 - fragment. - 5 pieces total, 2 w/ liquid leaking out
Photo 54 - whole drum, crushed, black staining
" 55 - " " "
" 56 - Drum remnant
" 57 - "
" 58 - Drum fragment.
PID - 10 ppm on 2 pieces, 2 leaking liquid
- 0 - ~3' bgs - Brown silt w/ black cinders.
At ~3' - encounter waste - drums & drum remnants.

1050 Spoke w/ S Shroff - he said to stop trenching @ this location & step out again, Emily is discussing this trench w/ Clair.
Clair ok w/ step out.
Began backfilling

1130 Finish backfilling

1230 Clearing area for next step out - TT-P-2-S3 - will start 50' south of southern edge of TT-P-2-S2 - trench to south.

BH

6-7-05

(126)

1245 Setting up exclusion zone @ TT-P-2-S3
Began trenching.
Photo # 59 - TT-P-2-S3 - Before
- Encountered 4-5 fiber drum lids.
Photo # 60 - lids - Fiber drum

1310 Encountered rusted, crushed 55 gal drum - some brown silt inside - PID - 0 ppm
Photo # 61 - Crushed drum

1314 - 2 drum remnants - PID - 0
Photo # 62 - 2 remnants from ~ 6-8' bgs.

1318 - Fiber drum w/ purple material. PID - 86 ppm
Photo # 63 - Fiber drum
- Fiber drum

1322 - Encountered most of 55 gal metal drum - w/ black staining & some liquid leaking out.
~~Ld~~ Also ~10 gal metal container w/ purple staining
Photo 64 -
" 65 - leaking liquid
" 66 - metal container → purple
" staining & solid content
PID - ~~0.6~~ 4.7 drum

BH

(127) 6-7-05

- ~~2-3~~ 5 gal metal pail PID - 0
Photo # 67 - metal pail
1333 Crushed drum w/ black staining w/ black hose inside.
Photo # 68 - Crushed drum
1335 Per S Shroff, finished trench @ ~10' bgs - will step out 50' to south, began backfilling.
1345 S. Smith on-site discussing site P w/ S Shroff - decide to stop stepping - out + concede south of this area is similar to what we have seen in test trenches - will speak to CH2MHill about this back at trailer.
1530 Center call w/ Clair - will set up call w/ SAJSG + EPA, IEPA.
1615 Left site

BH

BH

6-8-05 (128)

0650 Arrived on-site, loading equipment. Calibrated instruments
PID 0 - 0 (PID 0-0) | 0 | 0 Multiral (BH 0) | 0 | 0
100 - 100 (BH 107) 100 | 0 | 20.9 | 0 | 20.9
Ultrarae 0 - 0 | 50 | 25 | 49 | 25
100 - 100 | 49 | 20.4 | 50 | 20.9
0700 H+S meeting.
Weather - Raining, 80s
PPE - Modified D
Personnel - B Higgins, K Owings - URS
EMA - Andy Cameron, Bud Hicks, Alvin Leo
CH2MHill - Emily, Clair Morris
0710 Waiting on lowbay to move excavator to Q Central - AT-Q-22.
0820 Lowbay on-site moving excavators.
0845 Excavators moved, now instruments on-site, calibrating.
0915 Mobbing to AT-Q-22.
0935 Setting up exclusion zone @ AT-Q-22.
Photo # 70 - AT-Q-22 - Before
0950 Began trenching AT-Q-22 - trench runs E/W - Starting ~5' S of staked location & trenching to East
Photo #71 - Off Set.

BH

URS

Attachment 2

Field Notes Site Q

5-5-05

Check on utility issues in Site O.

1600 Collected AT-Q-28-SS-1.5' for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, Pesticides, & dioxin (Excavator scraped on ~1.5" of rock)

Headspace - 1.5' sample - 0 ppm.

1630 Finishing grade @ AT-Q-28 4 bobcats using excavator @ AT-Q-27 to compact soil - still very soft - Kept location blocked off overnight.

Photo #25 - Finished grade. AT-Q-28.

1750 Mob to trailer to pack cooler, unload equipment.

1810 Left site

BH

5-6-05

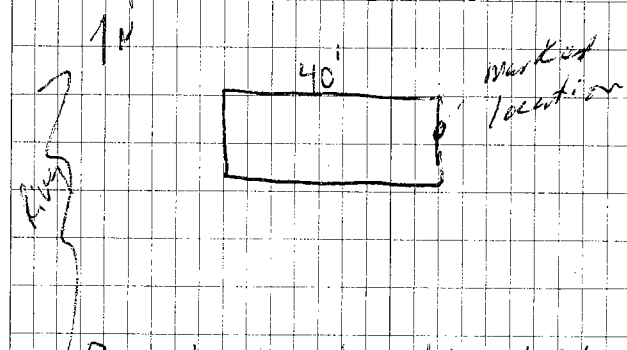
0640 Arrived on-site, packing equipment.
Weather - 70's, Sunny
PPE - Modified D
Personnel - B Higgins URS
K Owing URS
Emmcrew
CEL, M Hillovers, SWT

0654 Calibrating PID, CGM
PID 0 - 0
100 - 101
CGM - 0.55 | 0.25
207.605 | 0.50

0740 Mobbing to next location - AT-Q-29.

0750 Setting up on AT-Q 29, setting up BH exclusion zone.
Photo #1 - AT-Q 29 - Before

0800 Scrapping on top of BH rock.
Trench runs east-west.



Began trench eastern end @ marked location

BH

due to large pieces of metal (barge operations).

0820 Began trenching AT-Q-29 at eastern end.

0-3 - (MS rock

At ~3' bgs = black silt w/ construction debris, brick, concrete

At ~5' bgs - black silt w/ some grey clay w/ plastic, bottles, pieces of metal.

Photo 2 - Plastic

" 3 - Metal pieces

" 4 - At ~5' bgs

BH " 5 - Drum lid

~~0840 Collected~~

0835 Encountered metal drum lid -

0840 Collected waste sample from just below BH ~~lid~~ where lid was found - @ 8' bgs - ~ 10' from eastern end of trench.

Collected AT-Q-29-WS-8' for VOCs, SVOCs, herbicides, metals, ammonia, dioxin, & TCLP analysis.

Continued trenching

Photo #6 - possible refrigerator @ 12-15'

0850 Headspace on 8' sample = 18.7 ppm

BH

0900 Encountered bottom of drum BH (very bottom plus ~2-3" of side)

Did a headspace reading on this zone (~15' bgs + ~10' from eastern end of trench) - 18 ppm.

Will keep 8' waste sample & continue trenching.

0910 Photo #7 - ~18' bgs

0930 Collected AT-Q-29-SB-6' from ~ 8' east of western edge of trench.

Collected sample from bucket. To be analyzed for VOCs, SVOCs, herbicides, metals, ammonia.

Collected AT-Q-29-SB-6' MS/MSD

Continued trenching

0937 Headspace reading of 6' sample - 4.7 ppm

0953 Operator has extended trench in length so that he can't get any deeper @ eastern edge - we will extend trench length ~ 8-10' west

TD ~ 8' BH ~~east~~ west of eastern edge - ~22' - will try to get a few feet deeper, possible

0956 Encountered drum lid or manhole cover

BH

~12' from eastern edge of trench.
Photo #8 (BH) - Man-hole cover or tanker car lid
Not a drum lid
1030 Photo #11 - 1st 20' length of trench
Finish 1st 20' section of trench to
a TD - 21.5'; waste - 0-16.5'
grey silt - 16.5 - 21.5'
1035 Began backfilling 1st half of trench -
Clavis ok w/ TD.
1110 Finished backfilling 1st ½ of trench.
1120 Lunch
1230 Continued trenching - starting on
2nd ~20' section (western section) of
trench.
0-3 - LMS rock
At ~3' bgs - black silt w/ construction debris, bricks,
concrete
1315 Encountered drum lid @ ~10' bgs.
Headspace reading - BH 34.6 ppm
1337 Encountered crushed drum w/ possible Napl
inside ~~on~~ PH walls of drum, newspaper - 1971-12-10
Photo #12 - Drum
Photo #13 - "
1341 Preparing to collect sample from area underneath

BH

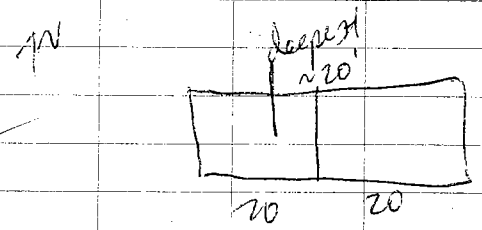
Crushed drum - from very W edge
1355 Collected AT-Q-~~28~~ 29 BH - WS-16 from
bucket from under area of drum -
will discard waste sample from
this morning.
Headspace on soil from drum - 53.5
1404 Encountered a small piece of drum filled
w/ dried orange paint.
Photo #14 - Drum w/ dried paint
1409 Encountered another drum lid @
W end of trench
Photo #15 - Drum lid
Also possible yellow paint in spoils
pile + on excavator bucket
1415 Bottom or top of drum w/ orange paint +
a fibrous material
Photo 16 - Drum w/ paint
17 - "
1430 Another drum, crushed.
Photo #18 - Drum
1445 At ~20' deep at western edge of
trench, cannot go any deeper, still
in waste.
Talk to Claire - she states me

BH

(41) 5-6-05

need to delineate depth of waste - extend trench.

1500 SSh off on site discussion situation. Eagle Marine needs to bring a bigger excavator out soon for large activities soon



- 2nd half of trench, still in waste @ 20'

1500 BH ~~Eagle Marine needs to~~ Began backfilling existing trench. Going to come back to this trench at a later time w/ a bigger excavator to delineate depth & lateral extent of trench.

699962.8
2288405.6

GPS coordinates BH center of trench - starting point for future trench →

1600 BHiggins headed back to trailer to unload equipment, pack samples. & Quinn's watching EMA crew finish up backfilling.

1630 Finished backfilling

1700 Left site

BH

Weather Overcast, 70's
PPE - Modified B 5-9-05

(42)

0640 Arrived on-site, loading equipment; Calibrating PID, CGM
PID 0 - 0
100 - 103
CGM 0 | 0 54 / 25
0 | 0 20.4 / 49

0700 Held H & S meeting

0730 Mobbing to AT-Q-25
Photo #1 - AT-Q-25 - Before
Setting up exclusion zone.

0800 Began scrapping rock + segregating it to 1 side.

0815 Began trenching. Trench runs E/W, started on west 20'
0 - 2 LMS rock
At ~2' bgs - black silt/cinders w/ concrete, rebar.
Photo #2 - ~4' bgs

0826 Encountered 1/3 of drum, crushed, filled w/ tan silty clay. PID - 12 ppm
Spoke w/ Steve - he said to collect soil from around drum, not what is in the drum - Claire concurs. Upgraded to level C to collect sample. Photo #3 - Drum

0855 Collected waste sample - AT-Q-25-WS-9' for VOCs, SVOCs, herbicides, metals, PCPs,

BH

6-1-05

trash, tires
Photo #41 - 0-4' bgs
At ~13-14' bgs, encountered light grey sand. - Photo 42
Photo #43 - grey sand.
Photo #44 - "
TD - 18' bgs - No drums, drum remnants
Total length @ depth - 6-7' bgs
Total length @ surface - ~15' bgs
1055 Finished trench, began backfilling
1145 ~~1115~~ 2nd.
1230 Photo #45 - AT-P-4 - Dark green material
" 46 - AT-P-4 - "
Setting up on TT-Q-33-SE1
1345 Began trending TT-Q-33-SE1 - 50' from both AT-Q-33 step-outs - trench runs @ SE angle.
Photo #47 - TT-Q-33-SE1
At ~0.5' bgs, encountered brown silt w/ municipal waste - plastic, wood, cans
Photo #49 - Spoils pile
Waste - ~0.5-12' bgs, at ~12' bgs - brown silt w/ some waste
At ~18' bgs, grey sand

BH

6-1-05

Photo #50 - TD, light grey sand.
1415 TD - ~20' bgs - into ~2' grey sand.
Total length @ depth - ~8' bgs
" " @ surface - ~15' bgs
~0.5-12' bgs - brown silt w/ waste
At ~12'-18' bgs - brown silt, little waste.
At ~18' - grey sand
Finished trench, began backfilling.
1440 BHiggins & S Shroff to Central Q to look @ tomorrow's trending locations - AT-Q-29, AT-Q-30
Spoke w/ Dan of Eagle Marine - going to move crane - OK if we trench @ AT-Q-29 tomorrow.
1450 Finished backfilling trench.
1510 At trailer, unloading equipment, discussing tomorrow's plan.
1600 Left site

BHiggins

BH

6-2-05

0640 Arrived on-site, loading equipment. Calibrating instrument.

PID 0 - 0 Multirae 0 | 0

100 - 96 0 | 20.9 VOC-0

Ultrarae 0 - 0 54 | 24

PID 100 - 115 47 | 20.9 VOC-95

~~multirae~~

~~BH~~

0700 H&S meeting

0800 Mobbing to Southern Q - AT-Q-29.

PPE - Modified D

Weather - 80's, Overcast

Personnel - B Higgins, K Owings - URS

EMA - Andy Cameron, Bud Hicks, Alvin, Leo

UG McKill - Emily, Clair Morris

0805 Setting up exclusion zone @ AT-Q-29 - will start @ center of previously BH trench based on GPS coordinates (see page 36-41). Will dig trench length - ~20' bgs, will use Volvo excavator to get as deep as possible (was able to get to 21.5' the 1st time), then use long-stick to get through waste. We have already submitted the subsurface + waste samples.

BH

6-2-05

Will only collect samples if get higher PID readings.

0840 Began trenching AT-Q-29 - began @ "center", trenching west. - Using Volvo to excavate 0 - ~20' - what we have already excavated once.

A1 ~ 0.5', brown silt w/ waste.

0905 Photo #50 - 0 - ~20-22'

0907 Switching to long-stick - Volvo as deep as possible. TD - 24' bgs

0925 Began trenching w/ long-stick

Photo #51 - Long stick

0936 Encountered grey silt @ ~22-23' bgs BH

Photo #52 - grey silt

Photo #53 - TD - 27' bgs

Waste - 0 - ~23-24' bgs BH

Grey wet silt @ ~23-23' bgs BH

1000 Finished trench.

Total length - ~20' bgs

Total depth - ~27' bgs.

Began backfilling.

1130 Finished backfilling, decon bucket.

1135 Break for lunch

BH

6-8-05

for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, Pesticides, + dioxin
Headspace – 192 ppm, Also collect MS/MSD.
Strong ammonia-like odor.
1530 Preparing to collect surface sample @ AT-Q-30, will collect adjacent to trench, ~5' from S edge of trench
1545 Collected AT-Q-30-SS-1' w/ trowel for VOCs, SVOCs, herbicides, metals, ammonia. Also collected AT-Q-30-SS-1'-D.
Headspace – 0
1630 Mobbing to trailer
1700 Left site

BH

6-9-05

0645 Arrived on-site, loading equipment.
0700 H+S meeting
Weather – 80's, Overcast
PPE – Modified D
Personell – URS – B Higgins, K Owings
EMA – Andy Cameron, Bud Hicks, Alvin Leo
CH2M Hill – Emily Malander, Clair Morris
0705 Waiting on utility clearance + extenda-excavator/backhoe for work in Site P (W of PT's parking Lot)
0720 Preparing to collect Field Blank on trowel – ~~associated~~ BH used to collect surface sample @ AT-Q-30-SS-1'.
0740 Collected AT-Q-30-SS-1'-FB for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, + Pesticides.
0830 Preparing to collect surface sample @ AT-Q-30-29, will collect adjacent to trench, 8' E of W edge of trench.
0850 Collected AT-Q-29-SS-1' w/ trowel for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, Pesticides, + dioxin
Headspace – 0 ppm
0900 Met w/ B. Hillary of Solution to

BH

Location Sauget, IL Date 5-13-05

Project / Client SA 2

1345 Go with Jack, Kevin & Charlie to start collecting drums left by the Prosonic crew. Pick up drums from SA-P-3, SA-P-1, SA-P-2.

1440 Take drums from site P to rolloff and dump.

1605 Finish dumping drums into rolloff. Wait for Walter (STL) to show up for sample coolers.

1635 Walter arrived and picked up coolers.

1700 Left site for the day.

Location Sauget, IL Date 5-16-05

Project / Client SA 2

0605 Arrive on site.

0615 Help Mike load up for the day

0700 Safety meeting

0725 Head for Q-south.

0735 Meet Jack & Kevin at Q-south. Show Jack what is needed around the power lines along the E. side of Q-south.

0750 Prosonic arrives at Q-south to start on locations on berm between the two lagoons.

0800 Wait for charlie (Bobcat) to show up.

0850 Drive to pole barn and Q-central to look for Charlie.

0905 Found Charlie on the way back to Q-south.

0910 Clearing crew starts clearing around SA-Q-9.

0935 Clearing crew starts clearing around SA-Q-10 and AT-Q-35. Clearing at SA-Q-9 finished.

1010 Finished clearing around SA-Q-10 and AT-Q-35. Begin clearing pathway to

Location Sauget, IL Date 5-19-05

Project / Client SA-2

0605 Arrive on site for the day. Help get loaded and ready for the day.

0700 Safety meeting.

0710 Head to Onyx to check on UAA-9.

0755 UAA-9 location found. A little bit more clearing still needed. Head back to pole barn / trailer.

0805 Back to Onyx to talk to Dennis Warchol.

0810 ~~Steve~~ Dennis said accessing UAA-7 (other side of American Bottoms) from the wooded area (Onyx property) South of the Onyx facility (near UAA-9) is not a problem. Accessing UAA-7 from here will involve clearing on Onyx property and into Village of Sauget property. Steve (URS) says we have permission from Village of Sauget already.

0825 Talk to clearing crew at UAA-9 about clearing to UAA-7

0840 Head to Q-south for level B work.

0845 Arrive at AT-Q-35. Level B work about to begin.

Location Sauget, IL Date 5-19-05

Project / Client SA-2

1205 Trenching stops for lunch. Everyone beginning to decon.

1225 Head to Onyx to check on clearing crew and to get GPS back from Julie.

1250 Clearing crew almost to UAA-7. Jack left around noon for an eye doctor apt.

1305 Clearing crew will finish up this afternoon.

1320 Head back to Q-south for more Level B work (AT-Q-35).

1330 Back at AT-Q-35. Waiting for everyone else to arrive.

1405 Steve calls and tells me to dress in Level B as a backup during backfilling. Everyone shows up and starts dressing

1450 Brandi & Kurt come out of contaminated zone and undress (finished). Bud (operator) backfilling the trench.

1505 Help packup while Bud finishes backfilling.

1520 Head to Onyx to check on clearing crew.

5-18-05

depth of ~15'. CH2MHill ok w/ length & depth - nothing of significance was found no drums or drum remnant. Finished trench.

1230 Lunch.

1330 Began backfilling trench - modified Level D.

~~1520~~ 1430 SShroff & BHiggins met w/ K Smith of ABTF to see if an access road existed for profiling location. None exists.

1520 Finished backfilling. Preparing to collect surface sample from AT-Q-36 - from ~5' from northern end of trench.

1533 Recovering bucket

1540 Collected AT-Q-36-SS-0.5 using trowel for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, pesticides, & dioxin. Offset ~20' from edge of trench to collect sample due to soil disturbance due to excavator.

1610 Back to trailer to discuss tomorrow.

1730 Left site

BHS

BH

5-19-05

0630 Arrived on-site, loading equipment. Calibrated instruments.

PID 0 - 0 PID - 0 - 0

100 - 101 Ultrarad 100 - 97.2

PID 0 - 0.1 CGM - see Justins log.

100 - 101

Weather - Overcast, 80's.

PPE - Level B

Personnel - BHiggins, KOvings, SShroff, BWilliamson, W Scheiny - URS

EMA - Alvin, Leo, Andy Lamont

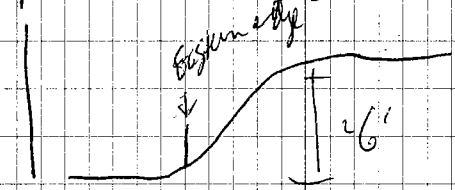
CH2MHill - ~~[illegible]~~ BH, Claire Morris, Emily

0720 Mobbing to next location. - AT-Q-35

0725 Setting up exclusion zone

0900 Began trenching AT-Q-35 - trench runs E/W, began trenching @ eastern edge of trench & trench west - beginning @ toe of slope.

Photo #25 - AT-Q-35 - Slope



BH

(21) 5-19-05

0-5' - Encountered municipal fill - bricks, tires, trash, some wood
Photo # 26 - fill material
0910 At ~10' from E edge, encountered metal drum lid, very deteriorated.
Photo # 27 - Drum lid
0915 Encountered 25% of bottom of drum, crush, deteriorated
Photo # 28 - Pail of drum
" 29 - Model model + orange paint
Preparing to collect waste sample from bottom of trench (E end (close to where drum was encountered). ~ 10' bgs, 5' from E edge of trench.
0935 Collected AT-Q-38-WS-10' from bucket for VOCs, SVOCs, herbicides, metals, ammonia, PCBs, Pesticides, dioxin, + TCLP analysis.
Continued trenching
0950 Headspace - 161.7 ppm
Encountered another part of a drum - ~ 1/4, crushed - PID reading - 20 ppm
1000 ~12' bgs, ~15' from E edge encountered what appears to be intact drum - bucket punctured drum - clear liquid

BH

5-19-05 (22)

leaked out for a few minutes, ~ 2-3 gallons. BH
Attempting to scrap material from top of drum + removed another intact drum - bucket + intact drum w/ 2 pieces - yellow solid material in drum - PID - ~600 ppm
Photo 30
" 31
" 32-38
1015 Taking a break to discuss plan
1055 Going to continue trenching - clean out bottom of trench, then gently scrape back - walls by teeth.
1115 Collected AT-Q-39-WS-8' from bucket w/ the intact drum (until ripped apart) + yellow solid.
Analyze for VOCs, SVOCs, herbicides, metals, ammonia, PCB, Pesticides, dioxin + TCLP analysis.
Collected from ~20' W of E edge of trench. Headspace - 75.8 ppm
1130 Encountered piece of drum ~ 25%, crushed, ~~Photo~~ BH

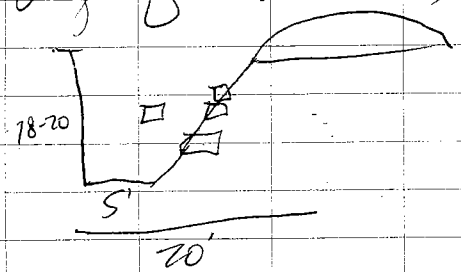
BH

5-19-05

1145 ~~Sewer~~ Cave-in issues in trench, liquid flowing in, 4-5 drums exposed in walls.

1200 Stopped for lunch - finished ½ trench.

Length of trench - ~20',



1430 Preparing to collect subsurface sample @ AT-Q-35.

1440 Collected AT-Q-35-SB-6' from bucket - collected sample from ~6' bgs from W wall. Analyzed for VOCs, SVOCs, herbicides, metals, + ammonia. Headspace - 258 ppm

~~Began backfilling AT-Q-35, packing equipment.~~

After lunch, bottoming trench, fill & GW.

Began backfilling AT-Q-35, packing equipment.

1530 Decomm bucket

1610 Collected AT-Q-35-SS-0.5' from wall

BH

5-19-05

Subsurface sample was collected. Analyzed for VOCs, SVOCs, herbicides, metals, & ammonia.

Photo - AT-Q-35 - After

1630 Hobbs back to trailer to unload equipment.

1800 Left site

BH

Location Sauget, IL Date 5-24-05

Project / Client SA-2

the trench location on the barge ramp in Q-Central. (Kurt called)

1000 Get the Geotextile loaded on the bobcat to take to the trenching crew.

1020 Head to Q-south with Jack & Kevin to mark the 4 new trench locations as follows:

50' S of AT-Q-33
50' E of AT-Q-33 *
50' N of AT-Q-35 *
50' W of AT-Q-35

* points not marked now because of brush in the way.

1110 Head back to pole barn/trailer.

1115 At trailer to talk to Steve.

1130 Leave site for the day

Location Sauget, IL Date 5-25-05

Project / Client SA-2

0600 Arrive on site for the day. Help load up for Level B profiling work today.

0700 Safety meeting

0715 Meeting with URS people about the tentative schedule for the remainder of the SA-2 project.

0725 Take a load of trash (NON-PPE) to the dumpster.

0730 Head to Q-south to check on the progress the clearing crew made yesterday.

0740 Jack and Kevin arrived at Q-south. They said Charlie was getting fuel and would then head over here. Brandi called and asked for Charlie (bobcat) to dress up the trench location on the barge ramp in Q-Central. Jack and Kevin went to relay the message to Charlie.

0820 Jack and Kevin return to Q-south. Continue clearing areas marked yesterday.

1030 Finish clearing for the trenches 50' S of AT-Q-33 and 50' W of AT-Q-33.

Location Sauget, IL Date 5-25-05

Project / Client SA-2

1035 I realized the trench is supposed to be 50' E (not W) of AT-Q-33. We will go back and clear in the correct direction (E) of AT-Q-33 when finished ~~at~~ clearing the new trench locations 50' N and 50' W of AT-Q-35.

1040 Begin clearing new trenches around AT-Q-35.

1145 Clearing crew breaks for lunch.

1150 Head for trailer to talk to Steve about clearing.

1230 Back at AT-Q-35 in Q-South. Clearing back from lunch.

1400 Finished clearing the new trench locations near AT-Q-35. Back to AT-Q-33 to clear for the trench to the E of the trench already dug.

1500 Clearing crew done for the day. Some brush hogging left to finish up tomorrow mornig.

1510 Check on Level B work at AA-Clay-2. Finishing up. I help them load up.

Location Sauget ~~#~~ IL Date 5-25-05

Project / Client SA-2

Oland will come pick up their air line tanks tomorrow morning

1545 Head back to pole barn to unload.

1555 Talk to Steve at the trailer.

1630 Leave site for the day.

Location Sauget, IL Date 5-26-05

Project / Client SA-2

0605 Arrive on site for the day.
0700 Safety meeting
0710 Wait for Oilind to show up to pick up the airline tanks they dropped off the other day.
0720 Oilind arrives. Lead Oilind to AA-Clay-2 to pick up tanks.
0740 Head to Q-South to mark UAA-10 offset from the property E of the levee to the W side of the levee, staying as close to the levee as possible (Andrea is making calls to find out how close we can get).
0755 UAA-10 marked ~410 ft W of its original planned location.
0800 Take supplies to Kurt & Brandi at AT-P-2
0815 Head back to Q-South to check on clearing crew (supposed to be brush hogging areas cleared yesterday.)
0830 Clearing not at Q-South yet. Bobcat still dressing up the trench location on the barge ramp in Q-Central.

Location Sauget, IL Date 5-26-05

Project / Client SA-2

0930 Clearing crew arrives at Q-South with brush hog to finish clearing new trench locations around AT-Q-35 and AT-Q-33.
1100 Clearing crew finished in Q-South. They are heading back to the trench on the barge ramp to see if more rock arrived for them to finish dressing it up.
1105 Check on Justin and Brian and the profiling crew at UAA-10.
1135 Back at trailer.
1200 LUNCH
1215 Help Andrea around trailer/pole barn.
1330 Run errands for Andrea.
1440 Return to trailer/pole barn and unload.
1445 Talk to Jack & Kevin. Send them home for the day
1450 Head to American Bottoms to get the gate unlocked for Adam (Prosonic) so they can finish SA-S-1.
1500 Meet Brandi & Kurt at AT-P-4 and wait for them to finish gathering a surface sample.

Location Sauget, IL Date 5-27-05

Project / Client SA-2

1245 Head to UAA-5 to check on clearing crew

1455 UAA-5 marked ~220' E of the RR tracks and ~370' S of the RR trusses (~145' S of its location on the sampling locations drawing). This places UAA-5 within E. St. Louis property (not RR property). The path to and area around UAA-5 is mostly cleared and will be completed on Tuesday. ~~EE~~ UAA-5 was moved because we only have permission to clear through RR property (NOT to drill). We have permission to drill on E. St. Louis property.

1500 Back to pole barn/trailer

1515 Leave site for the day.

Location Sauget, IL Date 5-31-05

Project / Client SA-2

0610 Arrive on site for the day. Work on sample tracking and printing labels needed for the day.

0640 Load up for Level B trenching work today.

0705 Safety meeting

0710 Finish loading up for Level B work.

0720 Miscellaneous duties around trailer. Fax COCs from 5/27/05 to Craig Johnson in the URS-Omaha office.

0800 Arrive in Q-South to help set up for level B work in the vicinity of AT-Q-35.

0830 Begin setting up and helping others dress for Level B work. I am serving as the life line (with phone and vehicle). We are doing the additional test trench ~50' W of AT-Q-35 first.

1115 LUNCH

1130 Sample tracking, supply ordering, etc. around trailer

1200 Back to Q-South for more Level B work ~50' further W from

Location Sauget, IL Date 5-31-05

Project / Client SA-2

AT-Q-35.

1420 Begin the test trench located ~50' N of AT-Q-35.

1600 Return to pole barn to unload

1620 Miscellaneous around trailer

1630 Leave site for the day.

Location Sauget, IL Date 6-1-05

Project / Client SA-2

0625 Arrive on site for the day. Help load up for Level B trench work in Q-south.

0700 Safety meeting

0705 Continue getting ready for Level B work today.

0720 Wait for Walter (STL) to show up for yesterday's sample cooler and for Fed Ex to show up with supplies ordered.

0745 Head to Q-south to help set up for Level B test trenching

0830 Help with Level B test trenching (Life Line)

0840 Dan Geisler (EMA) shows up.

1040 Justin (URS) arrives so I run some errands.

1145 Back at trailer/pole barn. Miscellaneous.

1245 Head to Q-south for more Level B work this afternoon.

1320 Back to pole barn to meet with Oilind picking up empty tanks.

1330 Oilind arrives and says they will have the tanks back around 0830 tomorrow

Location Sauget, IL Date 6-2-05

Project / Client SA-2

0835 Head to trailer to talk to Steve about what we are supposed to be doing. We are supposed to locate the wells previously installed and determine access.

0855 Head out again with Mike Miller. See Mike's book for location and access notes.

1200 Check on AT-P-2, which was dressed up with soil brought from off site. Some debris still visible. PID readings = 0.0

1205 Check on AT-P-4, which was dressed up with soil brought from offsite. Little to no debris visible. PID readings = 0.3 or less. 72°, overcast, looks like it wants to rain.

1210 Back to trailer to talk to Steve

1220 Lunch

1245 Out to locate previous wells. See Mike Miller's field book for notes.

1500 Back at trailer/pole barn to talk to Steve. Miscellaneous work.

1600 Leave site for the day.

Location Sauget, IL Date 6-3-05

Project / Client SA-2

0605 Arrive on site. Timesheet and miscellaneous duties around trailer/pole barn

0705 Safety meeting

0710 Load up for the day. Wait for Walter (STL) to pick up sample coolers from yesterday. Miscellaneous duties around trailer/pole barn.

0730 Walter arrives and picks up sample coolers from yesterday and signs COCs.

0735 Fax COCs to Craig Johnson (URS-Omaha) Miscellaneous paper ~~stuffing~~ filing in trailer.

0745 Begin locating previous wells again. See Mike Miller's (URS) field book for location and access notes.

0930 Check on clearing crew dressing up trenches in Q-south with additional dirt while locating previous wells. Trenches so far (AT-Q-35) look good — the exposed debris is covered.

1230 Lunch and various office duties

Location Sauget, IL Date 6-20-05

Project / Client SA-2

0635 Arrive on site.

0745 Head out with Brandi to sound wells for GW sampling. SEE Brandi's field book (URS) for notes.

0845 Return to trailer; talk to Steve and Andrea about what to do next/what needs to be done.

1035 Head to office to do expense report and other paperwork

1140 Back at job trailer

1145 Lunch

1200 Miscellaneous around trailer

1240 Head to Lot F to meet Wetzel (Roberts) at GM-17-C. See other field book for notes.

1645 Leave site for the day.

Location Sauget, IL Date 6-22-05

Project / Client SA-2

0630 Arrive on site. Miscellaneous paperwork, etc. around trailer.

0730 Discuss plan for Today and upcoming events

0810 Head out to Q-South with Brandi (URS) to measure distance (linear) between SA-Q-10 and AT-Q-35

0830 76 ft measured between SA-Q-10 and AT-Q-35

0840 Back to trailer

0910 Head out with Brandi (URS) to sound more wells. See Brandi's log book for notes.

1045 Return to trailer. Miscellaneous paperwork.

1315 Mob to Onyx to get GPS coordinates for UAA-8

1335 Coordinates for UAA-8 stored in GPS

1345 Back at trailer.

1350 Take paper towels to Brian W. (URS) in Site O.

1405 Back at trailer. Head to Lot F to measure height of casing above

Projects (continued)

Na

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Ph

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sp
wa

D

6-4-02

1

80-90's Sunny

0700 Arrived on-site, held site safety meeting.

0720 Began calibrating equipment - PID - 00 - 0.0 ppm
CGM - Regulator broken,
RAM - zeroed

0800 Began preparing equipment, waiting for CH2MHill to begin trenching

0900 CH2MHill on-site, discussing alluvial aquifer installation - cancelled.

0930 At Bound Trench-Q-1 w/ EMS

1000 Waiting on agreement from CH2MHill on definition of "waste"

1010 Acquired approval from CH2MHill to begin @ Bound Trench-Q-1.

1020 Began setting up on Bound Trench d/ Placed polysheeting down - 20x20' section. In level C - tyvek, respirator.

1030 Began excavating rock layer, placing on sheeting

1045 1st foot - minus LMS, at ~ 1' in 4" rock

1050 At ~ 2' - out of LMS 4" rock &

(2)

6-4-02
BMH

in brick, concrete debris
1110 At ~ 3.5', in black contaminated soil w brick, concrete, cinders.
1140 At ~ 5.5' - hit a slab of concrete
1200 Broke for lunch.
1300 Back @ Bound Trench Q-1, continue excavating, moved excavation area to ~5' N of original trench due to concrete slab obstruction.
1345 ~0-2-LMS rock
1400 ~2-3' - Brick & concrete debris
At ~3' - cinders w brick & concrete
1430 Encountered same slab of concrete in this 2nd trench. Integrity good in most places; towards N end of trench impacted soil (yellowish).
Spoke w Steve (URS) Reagan (Hearst), & CH2M Hill.
Decided to backfill existing trench & clear utilities for a wider corridor & come back at some point.
1500 Began backfilling current trench (in reverse order).

6-4-02
BMH (3)

Steve (URS) ok'ed downgrade to level D - w tyvek.
1700 Finished backfilling cinders & debris - put plastic sheeting in drums, began placing rock
1720 Finish backfilling, left equipment @ trench location, put drums in pad.
1740 2 of 1 site

BMH

(13) BMH
6-7-02

on Saturday morning Melissa checked w/ Eagle Marine - that is OK.

BMH

6-10-02 (13)
BMH

0700 Arrive on-site, overcast - 80s, held site safety meeting.
0720 Began calibrating equipment
PID-0-0 100-100
CGM-10-50 H_2S-25 LEL-0 O_2-20.9
RAM - zeroed
0750 Backhoe not fixed over weekend, waiting for new backhoe to be delivered or for existing hoe to be fixed.
0930 New backhoe delivered, began setting up on BT-Q-1.
1015 Began trenching bound trench Q-1, offset ~15' to west from original location trenched on 6-4-02 (encountered intact concrete pad)
0-2 - LMS rock
2> Black cinders 4 brick & concrete debris, odor present
~6-7' Encountered municipal waste (bags, tires)
1030 Reagan said since we are obviously in waste, move trench to north to find boundary - not going to attempt to get through concrete pad, TD ~ 10'
1040 2nd 10' section, no waste, encountered

(14) BMH 6-10-02

concrete pad again @ ~5.5-6'
Pad is 3' thick - 1st ten'
section was edge (s)

1050 Steve spotted lightning across river, sky very ominous, shut down until it passes over.

1130 Broke for lunch

1205 Sky has cleared up, begin finishing up on BT-Q-7
Reagan said complete the trench by finishing out 40' in length, down to concrete.

1230 In last 10' of 40' trench (to N), concrete pad appears to drop. yellowish green color of concrete (similar to 1st Q-1 trench)

1235 At @ ~10' deep encountered free product - no hits on PID. Steve said to backfill trench in order to keep extending out to north - to determine edge of boundary.
Began backfilling.

1300 Finished backfilling all but top 2-2.5'.
As Ricky finished backfilling, George is going to begin trenching the last

BMH 6-10-02 (15)

section.

1305 Q-2 - LMS rock
2 - Black cinders w/ brick & concrete debris

1310 At ~3' - encountered brown thick liquid - very small amt. - continued per Steve.

1312 Encountered concrete pad @ ~5'

1315 Free waste @ southern end of last 20' section of trench Q-1 -
No waste in northern most 15' - pad @ 5'

1320 At ~15' - thru weak section of concrete pad - still in waste. End of trench ~10' from fence line. Grayish black material under concrete. Began backfilling.

1400 Began moving backhoe up to next location as Ricky finishes up backfilling.

1410 Left Q-1 to find next location for George.

1430 Left Bound trench Q-7 Selling up. Sky dark, holding off until it looks better

1500 Sky cleared up a bit - Melox stand

26 July 2002

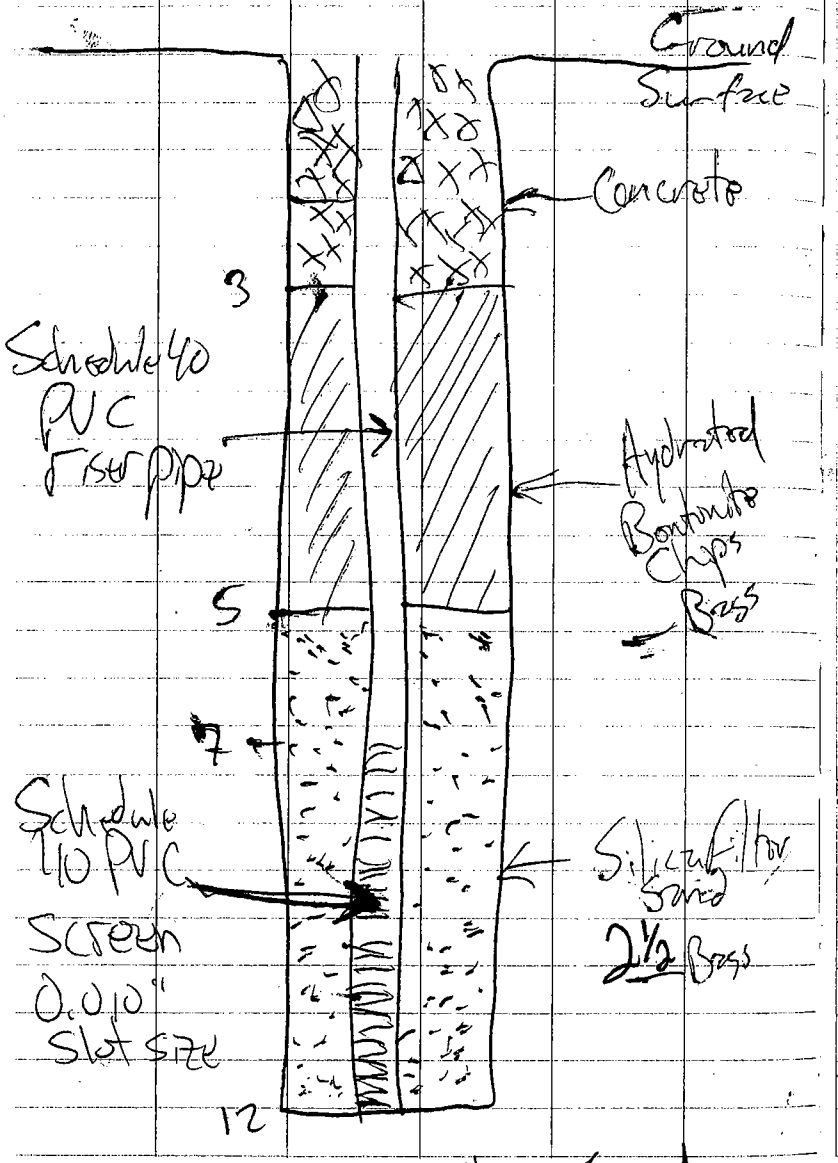
12:35 Prosonic installing well
12:45 Prosonic cleaning up and preparing to demobe back to trailer for decon. EKF going to put locking cap on LEACH-Q-3
13:35 Prosonic to lunch. Also waiting for CH2M, Reagan & URS to determine location of next leachate well.
EKF filling out drum log
14:00 Decide to put leachate well at location of Q-1 waste boring. This hole had free product in it. To save a decon stop I will work with the Phoenix rig of this location and my crew will do the remaining waste boring.
14:31 Setting up for LEACH-Q-1
14:45 Start drilling LEACH-Q-1. Using respirators to drill w/ and check samples
15:15 Down to 12' bgs. Did not encounter native material beneath the Fill. However a

26 July 2002

large piece of concrete blocked the core bit at 10½' bgs. This concrete prevented any additional material from entering the core bit below that depth. Discuss with John Reagan and Jeff of CH2M Hill. John states that he is confident that we reached the bottom of fill based on our close proximity (5 feet) to WASTE Q-1. Bottom of fill was 12' bgs in WASTE Q-1. Jeff agrees and everyone involved agrees to set the well at 12' bgs
15:30 Prosonic installing well material
16:00 Cleaning up around LEACH Q-1. One of the drums has a hole in it, punctured while EMA was unloading previous contents likely. I tell Oscar to just put the drum inside one of the 80 gallon overpacks.
16:10 EKF Locking up leachate wells and labeling drums @ each location

26 July 2002

WELL CONSTRUCTION LEACH - Q-1 (N.T.S)



Used 750 gallons of water

LOCKED Q-2 Q-1 Q-3 P-1 O-1

26 July 2002

16:50 Lock LEACHATE WELLS LEACH Q-1, Q-2, Q-3, P-1 and O-1. Did not lock S-1 and R-1 however, the wells are located within a fenced secure area.

17:30 Leave site for the day

E.O.D

7-26-02

vaults. EKF labeling sections of rock core which are to be submitted for thin section analysis.

11:45 EKF # drums at site Q and PZ-8

Examine LEACH-Q-3. Surface protector is too high (≈ 4½ feet) above grade and the PVC riser is too deep (≈ 2') down into the casing. Steve Shroff is coming over to pick me up for lunch. I call him to alert him of the situation He comes over to look at LEACH-Q-3. We also look at BORK-Q-2 It is also too high and the riser too deep.

12:10 We go over to the Prosonic crew working on the above ground completion of PZ-8 to alert them They are finishing up and we meet them on the way out of the gate. Tell them these wells must be fixed.

Either by cutting the protective casing off lower rewelding the hinge and hasp on or by extending the PVC riser higher Preferred method would be to cut of the protective casing. This would make the riser closer to the top of the protective casing and make the casing lower allowing for easier access

12:30 Checking other wells and parameters for height

13:20 Leave for lunch

13:45 EKF labeling drums in site Q and checking height of well/piezometer completions in site P. Prosonic decanning

14:30 Prosonic still decanning

15:30 Prosonic finishing decon EKF labeling drums

16:00 Prosonic crew begin work to install the traffic vault at LEACH-Q-1

17:00 Prosonic still working on LEACH-Q-1

18:30 Prosonic finish LEACH Q-1 vault. Leave site for the day

E.O.D

8-19-02 (D)
BMH

Projects (continued)

0700 Arrive on-site, steve held site safety meeting. 80s Overcast.

0705 Robert calibrated equipment -
PID - 0-0.4 200-110
RAM - zeroed
CGM - H_2S-0 CO-0 LEL-0 O_2-20.9
H_2S-25 CO-50 LEL-50

0730 Began taking well caps off of all leachate + bedrock monitoring wells.

0900 Finished opening all wells

0910 Began taking water level readings + interface probe.

0920 At BDRK-P-1.

		DTW		TD	
	BDRK-P-1	15.86		159.86	Soft
0940	Leach-P-1	Dry		25.50	odor present
0951	Leach-Q-1 Product - 15.08	15.09		17.35	hard, odor
1000	~~Leach-BDRK-S-1~~ BDRK Leach Product - 9.96		DTW 9.97	10.38	hard, odor
	Do lock				
1012	BDRK-O-1 Product 18.50	18.51		154.11	Soft, odor
1025	BDRK-S-1 product 21.56	21.57		165.72	soft
1050	Leach-Q-3	dry		11.79	
1055	BDRK-Q-2 product 18.48	18.485		145.41	Soft
1023	Leach-Q-1 Product 11.15	11.16		12.73	odor, hard
1030	BDRK-Q-1	36.25	36.26	161.85	soft

② BMH

8-19-02		Product	DTW	TD	
1144	Leach-Q-2 No lock	16.49	16.495	16.80	odor, hard
1201	BDRK-R-1	24.29	24.30	164.49	odor, soft
1210	Leach-R-1	21.07	21.075	26.02	hard, odor
1030	Quad				
1330	Preparing to develop wells. Steve called John R. to get ok to go ahead.				
1345	Mob to Leach-Q-1 to develop w/ 1½" polyethylene bailer by removing 5 well volumes. – 1.84 gal.				
1350	Began purging.				
1358	Finished purging – well dry after purging 1 gal. Began picking up equipment.				
1410	Mobbing to Leach-Q-1. Steve going to call John R. again about small volume of water in most leachate wells				
1435	Began purging Leach-Q-1 using bailer.				
1444	Finished developing Leach-Q-1 by purging 5 well volumes – 1.5 gal.				
1500	Mobbing to Site R				
1520	Setting up on Leach-R-1.				

③

Leach-Q-1

Time	pH	Cond ~~(mmhos/cm)~~	Temp °C	TDO	Vol	odor	Turb	ORP	odor
1350	7.07	1.35 mg/cm	21.0	6.3	0	yes		-18.7	yellow
1353	6.4	1.35	17.3	6.53	.3	yes	100	-46.5	Brown
1358	dry				1 gal.				

Leach-Q-1

1435	8.19	1.945	20.87	9.3	0	yes		-86.6	yellow
1437	7.10	1.810	18.68	19.5	0.5	yes	1000	-99.2	Brown
1440	6.32	1.851	18.08	20.4	1	"	"	-112.9	"
1444	6.00	1.803	17.8	19.5	1.5	"	"	-125.1	"

BMH 8-29-02

Time	pH	Cond	Temp	BDRK-R-1 TOD	gal	odor	Turb	odor	ORP
0846	11.58	0.846	19.20	11.42	1	yes	9997	gray	21.3
0858	9.18	1.352	18.55	25.5	72	yes	9997	gray	-134.0

8-29-02 (29)
BMH

0854 Flow rate - ~1 gal/min
0905 Dry - pumped ~15 gals - well developed
Began packing up equipment.
0940 Began opening up all well caps.
1120 Finished opening all wells.
1255 Began gauging water level in all wells.

	DTW	TD
BDRK-P-1	153.75	159.88
BDRK-Q-1	32.02	166.70
Leach-Q-2	15.57	15.75 Strong odor
Leach-Q-1	10.15	11.62 "
Leach-S-1	9.52	9.86
Leach-O-1	15.25	16.97
BDRK-O-1	17.56	156.25
BDRK-S-1	19.58	166.95
Leach-P-1	24.84	25.06
Bdrk-Q-2	17.95	144.7
Leach-Q-3	10.90	11.30
BDRK-R-1	not recovered	162.35

1645 Finished gauging wells.
1700 Left site

BH

(5) 9-10-02
BMH

sample w/ peristaltic pump -
PPE - Level D.
1130 Water level - 16.30
1200 Sample Leach-O-1
VOCs, SVOCs/Pest/Herb/PCBs
~~(4 ambers), Dioxin and Metals~~
(1 Amber)
1205 Leach-O-1 - dry.
1345 Back @ Leach-O-1, finished
1st 1L Amber & began 2nd 1L.
Mobbing to site R to collect
sample w/ bailer.
1430 Began collecting Leach-R-1
w/ bailer - sample time labeled as
0745. Sampled for VOC, dioxin,
SVOC/PCB/Pest/Herb & Metals.
1630 Finished collecting sample -
Also collected Leach-R-1-MS +
Leach-R-1-MSD.
1635 Mob to Leach-O-1 to
continue filling 1L Ambers.
Weren't able to fill ~~last~~ any full -
only pumped ~3".
1650 Back to barn to pack samples.
1830 Fed-x arrives to take coolers, left site

ZBD

9-11-02
BMH (52)

0700 Arrived on-site, Steve held site
safety meeting.
0710 Calibrate equipment -
PID - 0 - 0 100 - 102
RAM - Zeroed
CGM - H_2S 0 CO-0 LCL-0 O_2-20.9
H_2S-24 CO-49 LEL-49 O_2-20.9
0730 Load truck w/ equipment.
0745 Mob to Leach-O-1 to continue
sampling - Almost have 2nd
Amber full.
0800 Mob to Leach-Q-1, began
setting up.
Water level - 10.26
0850 Began purging 3 well volumes
w/ peristaltic pump
0930 Sample LEACH-Q-1 and DUP
VOCs, SVOCs/PCBs/Pest/Herb(4)
Dioxin, Metals
Leachate ~~well~~ is a dark yellow
color
Note: Actual sample time ~ 9:00.
0935 Pack up Leach-Q-1
0940 Mobbing to trailer to pack
to samples.

9-23-02

water levels con't

	Bdrk-S-1		22.67	166.17	
	BDRK-D-1		19.55	158.05	
ADM	Piez-7	S	24.87	27.65	
		M	32.84	75.~~59~~	
		D	32.51	118.91	soft
trailer	Piez-9	S	7.79	19.41	hard
		M	7.84	64.56	hard
		D	7.71	105.45	soft
	Piez-6	S	19.37	30.72	S
		M	19.28	74.41	S
		D	19.34	114.90	S
	BDRK-Q-2		20.11	143.28	
	Leach-Q-3		10.88	11.32	h
	Leach-Q-2		15.56	15.86	S
	Bdrk-Q-1		37.06	165.80	S
Q	Piez-4	S	36.27	52.50	
		M	36.35	94.54	
		D	35.83	~~154.30~~ 134.31	
	Leach-Q-1		10.33	11.68	h
	Leach-R-1		20.53	25.55	h
1850	Left site				

BH

WEDNESDAY 1-22-03

Quarterly groundwater monitoring.
1300 Calibrate PID-MiniRae
Fresh air. 0ppm
Isobut: 101 ppm
1409 Arrive at site
PERSONNEL: Kim Hoskins and
Martin Swanson of URS
WEATHER: ~17°F, cold, snowy ~½"
LEVEL of PPE. Modified Level D
Equipment: Interface probe, PID

1415 Start opening

	PID	DTW
BDRK-R-1	0.8	37.61
(Ambient air		0.5)
BDRK-S-1	0.2	28.64
PIEZ-8S	0.0	13.25
PIEZ-8M	0.0	14.84
PIEZ-8D	0.0	14.48
PIEZ-2S	0.0	26.50
PIEZ-2M	0.1	36.33
PIEZ-2D	0.0	36.22
PIEZ-3S	0.0	32.99
PIEZ-3M	0.0	32.95
PIEZ-3D	0.0	32.85

(65) 1-22-03

	PID	DTW	
Leach-P-1	0.0	23.18	bottom (no water)
BDRK-P-1	0.3	53.44	
BDRK-O-1	0.0	25.06	
Leach-O-1	0.0	17.11	bottom (no water)
Q PIEZ-4D	0.4	42.39	
PIEZ-4M	0.7	42.99	
Q PIEZ-4S	0.0	42.90	
BDRK-Q-1	0.8	43.58	

LEACH-Q-1 inaccessible - pallets on top

1700 Quit for day

KH

THURSDAY 1-23-03 (66)

0720 Arrive at Site

Personnel: K. Hoskins and M. Swanson of URS

Weather: ~0°F, wind chill -10 - -20°F Sunny

Level of PPE: Modified Level D except as noted

Equipment: PID & Interface probe

PID checked calibration:

fresh air 0 ppm

Isobut 101 ppm

7:35 continue from yesterday

	PID	DTW
LEACH-R-1	0.0	21.10
LEACH-S-1	403	9.55
PIEZ-5S	0.0	22.02
PIEZ-5M	0.0	21.95
PIEZ-5D	0.0	22.30
BDRK-Q-2	50.6	25.09
LEACH-Q-3	0.0	10.90
PIEZ-9S	0.0	10.71
PIEZ-9M	0.0	10.77
PIEZ-9D	0.0	10.64

mailer

KH

1-23-03

	PID	DTW
ADM PIEZ-7S	0.0	27.72-bottom (no water)
PIEZ-7M	0.0	37.72
PIEZ-7D	0.0	38.95
LOTP PIEZ-6S	0.0	23.72
PIEZ-6M	0.0	23.60
PIEZ-6D	0.0	23.59
Leach-Q-1	1.0	~~23.40-bottom~~ 10.42
Piez-1S	0.3	23.40--bottom (no water)
Piez-1M	1.6	37.98
Piez-1D	1.9	38.05
Leach-Q-2	see note	

note: After using UTM coordinates and Garmin GPS III Plus, unable to locate - shoveled ~ 15'x15' area, but "hard" gravel prevented finding

11:45 Water levels

1405 Completed checking water levels.

Leach-S-1: lock is broken - needs replaced

Leach-Q-1: flagged pallet of mulch adjacent to well. Could not get bar to slide into place to secure/lock well. Took lock with me.

Piez-6: Key did not work (locks

KH

1-23-03

are being changed and Solutia Security doesn't have new key yet.

1630 left site

KH

(69) 2-5-03 WEDNESDAY

0700 Arrive @ SA2
Personnel: K. Hoskins & S. Shroff of URS
Level of PPE: Modified level D
Equipment: waterra, turbidity, YSI, MultiRAE
0730 Calibrated YSI & turbidity
YSI. Conductivity 1.475; 1.409
DO: 106.5%, 100.0%
pH 7: 6.54; 7.00
10: 10.32; ~~7~~ 9.99
4: 4.49; 4.09
Turbidity: 1ntu: 1.06; 1.02
10ntu: 10.92; 10.02
0815 Talked with Tommy Seals of Eagle Marine - would like for us to sample Leach-Q-1 today so they can move pallets back.
0830 Picked up drums for BDRK-P-1
~~0H~~ M. Foresman @ trailer - told him URS ~~in~~ is missing mouse/adapter. Will bring over later.
0841 Start purging BDRK-P-1 with waterra. (5/3 gal) - pg 72
0925 Dry w/ 18 gal → KH

2-5-03 (70)

1000 Set up @ Leach-Q-1
1023 Start purging (0.6 gal)
Flow rate = 0.5 L/min
no parameters
1045 SAMPLE LEACH-Q-1
LEACH-Q-1-MS
LEACH-Q-1-MSD

	Q-1	Q-1-MS	Q-1-MSD	
VOCs	3	3	2	HCL
Ambers*	4	4	4	none
Dioxin	2	2	2	none
Metals	1	1	1	HNO_3

*SVOCs, PCBs, Pest, Herb

11:30 Still filling ambers → run Steve to his car to leave for therapy. Return to collecting ambers
11:47 continue sampling
12:15 Finished sampling/pack up.
12:40 Informed Eagle Marine that we're finished.
12:45 @ barn to unload/go to Wal-Mart, ice etc.
1400 Back from Wal-Mart
1430 Go to BDRK-P1 to retrieve tubing that fell down hole. KH

4/22/03 TUESDAY

0700 M. FELTON + K. HOSKINS ON SITE. CALIBRATE EQUIPMENT UNPACK SUPPLIES. DAILY H+S MEET

0735 MOBILIZE TO SEE IF PIEZ-1 IS ACCESSIBLE YET. IT IS NOT, GATE IS STILL ~~SH~~ LOCKED

0740 GO TO EAGLE MARINE + LET TIM KNOW WE ARE GOING TO BE ON THEIR PROPERTY. WE FIND LEACH-Q-1. IT IS NOT WHERE WE ORIGINALLY THOUGHT IT WAS. WE WILL MARK THE NEAREST FENCE POST WITH DUCT TAPE, SO WE CAN RELOCATE THE WELL AGAIN IN THE FUTURE.

0750 GET LEACH-Q-1 OPEN. IT IS FULL OF WATER. DRILLERS DID NOT PUT A HOLE IN THE BOTTOM (WHICH IS CONCRETE) TO ALLOW DRAINAGE OF SURFACE WATER THAT INFILTRATES THE WELL COVER. THIS NEEDS TO BE DONE, SINCE THE WATER WAS ABOVE THE TOP OF THE WELL. IT DOES

MF 4-22-03

NOT APPEAR TO HAVE INFILTRATED THE WELL. WE BAIL WATER OUT OF THE VAULT BOX + EXPOSE THE WELL HEAD.

~~0840~~ WELL NO. PID READING COMMENTS
LEACH-Q-1 0 ppm ODOR

0840 MOBILIZE TO LOCATE LEACH-Q-2. WE WILL USE A METAL DETECTOR TO ATTEMPT THIS.

0915 WE FIND THIS WELL WITH HELP OF PEOPLE WHO WORK HERE.

0920 TAKE READINGS.

WELL NO.	PID READINGS	COMMENTS
LEACH-Q-2	12.6 ppm	well was covered with gravel - no water inside of it though

0930 Check PIEZ-1. It is still not open, so we call Steve and let him know. He will call them + arrange it.

0935 Stop by American Bottoms + get keys. mobilize to LEACH-S-1

WELL NO.	PID READING	COMMENT
LEACH-S-1	358 ppm	Replaced lock

MF 4-22-03

4/22/03

Well No.	Water Level	Total Depth	Comments
PIEZ-9S	11.38	Not obtained	
PIEZ-9M	11.45	Not obtained	
PIEZ-9D	11.32	Not obtained	
PIEZ-7S	DRY	27.69	
PIEZ-7M	32.91	Not obtained	
PIEZ-7D	32.62	Not obtained	
BDRK-Q-2	23.78	145.0	soft bottom
LEACH-Q-3	10.83	11.32	Hard Bottom

1605 Return key to Solutia. Return to Pole Barn.

1630 Leave site for evening.

M. Felton

4-22-03

WEDNESDAY 4/23/03

0700 K. HOSKINS ON SITE
CALIBRATE PID.

0705 M. FELTON ON SITE. H+S MEETING.
PERSONNEL: M. FELTON - URS
K. HOSKINS - URS

WEATHER: SUNNY, LT. WIND, 50°F, VERY HUMID

LEVEL OF PPE: MODIFIED LEVEL D.

0715 PACK UP VEHICLE

0730 MOBILIZE TO SITE P TO CONTINUE WATER LEVELS FOR LEACHATE WELLS.

WELL NO.	WATER LEVEL (Ft BTOC)	TOTAL DEPTH (Ft BTOC)	COMMENTS
LEACH-P-1	24.84	25.13	HARD BOTTOM
LEACH-S-1	9.49	9.91	hard bottom
LEACH-O-1	17.02	17.06	Hard bottom
LEACH-Q-1	10.03	11.67	Hard bottom
LEACH-Q-2	DRY	15.80	5 gpm coming out of open manhole HARD BOTTOM

THIS WELL IS LOCATED 80 FT SOUTH (PERPENDICULAR TO WALL IN SOUTHERLY DIRECTION) OF END OF CONCRETE RETAINING WALL (CONCRETE BLOCK WALL) (western side of end of wall)

0900 SWITCH TO LEVEL C TO COLLECT WATER LEVEL + TOTAL DEPTH FOR LEACH-R-1.

LEACH-R-1	21.37	25.55	product @23.74

PID READINGS 50-100pm during readings

MF 4/23/03

4/24/03

0700 K. Hoskins on site. Calibrate PID.

0715 M. Felton on site. Have daily H+S Meeting. Weather is bad. It is raining fairly hard.

PERSONNEL: M. FELTON - URS
K. HOSKINS - URS

WEATHER: RAINING HARD, ≈50°F

LEVEL OF PPE: MODIFIED LEVEL D

0745 Check email + check weather on internet. It appears that it will be raining for quite a while.

0815 Still raining. We will go to Walmart + get some supplies.

0915 Return from Walmart. Rain has reduced to a sprinkle. Prepare for sampling BDRK-R-1.

0925 Mobilize to BDRK-R-1 to sample if water level has recovered in well.

BDRK-R-1 Water level ≈ 79ft btoc
We will sample now

1045 Sample BDRK-R-1 for VOCs,

4/24/03

1045 (cont) SVOCs, Pesticides, PCBs, Herbicides, Dioxin, Metals, Ferrous Iron, Nitrate, Sulfate, Alkalinity, + CO_2. All analyses were sent to STL-Savannah except for the Dioxin which go to STL-Sacramento and except for ferrous iron which will be analyzed on site. This will be the case for all remaining samples during the course of this field effort (during this round of groundwater sampling).

1100 Return to Pole Barn dump trash + check weather. K. Hoskins will stay to do run ferrous iron test and M. Felton will go get ice.

1106 Ferrous Iron w/ Accu Vac Ampuls
BDRK-R-1 = 1.0 mg/L Fe^{2+}
Instrument: HACH DR/2000

1130 Go get ice.

1140-1200 LUNCH + check email + weather.

1200 Begin ~~pa~~ taping sample bottles to LEACH-Q-1

1220 Mobilize to LEACH-Q-1 for purging and sampling

4/24/03

LEACH-Q-1

Total Depth = 11.67 ft btoc
Water Level = 10.03 ft btoc
Diam of Well = 2"
One Well Volume = (11.67-10.03) x 0.163 = 0.27 gallons
Total Volume to Be Removed = 3 x 0.27 = 0.80 gallons
(3 Well Volumes to be Removed)
Purge Rate =

1400 We cannot get the peristaltic pump to work here. Called Field Env. They will send us another peristaltic pump for delivery tomorrow

1415 Return to Pole Barn to package up sample. We do not know what method numbers to use for the analyses. We call Steve Shroff to find out. He is not sure - he will call us back.

1505 Steve calls us back. This is the list of method numbers that he gave to us:

VOCs → 8260B
SVOCs → 8270C
Pest → 8081A

4/24/03

1505 (cont.) PCBs → 680
Herbicides → 815A
Metals → 6010/7471 or 7470 - he was unsure
Dioxin → 8290 - Bedrock Wells
8280 - Leachate
Methane → RSK-175
Nitrate → 353.2
Sulfate → 375.4
Alkalinity → 310.1
CO_2 → 310.1

1530 All off site for day. M. Felton goes to drop samples at Fed Ex pick up supplies from office.

[illegible] 4-24-03

4/29/03 TUESDAY

0655 M. FELTON & K. HOSKINS ON SITE. CALIBRATE PID + CGI

0715 HAVE DAILY SITE HEALTH + SAFETY MEETING.

PERSONNEL: M. FELTON - URS
K. HOSKINS - URS

WEATHER: FOGGY, VERY HUMID, NO WIND ≈55°F

LEVEL OF PPE: MODIFIED LEVEL D EXCEPT AS NOTED.

0725 BEGIN PACKING UP VEHICLE. WE WILL CONTINUE SAMPLING AT LEACH-R-1, SINCE IT WILL HAVE RECOVERED BY NOW.

0740 MOBILIZE TO LEACH-R-1 SET UP FOR SAMPLING. SAMPLING DONE IN LEVEL C.

0800 Collect LEACH-R-1 sample for Pesticides, PCBs, SVOCs, Herbicides and ~~Dioxin~~ MF. Only 2 amber jars were collected for Pesticides, PCBs, SVOCs + Herbicides since the other four were collected ~~on~~ yesterday.

0800 Collect LEACH-R-1-DUP for Pesticides, Herbicides, PCBs, SVOCs + ~~Dioxin~~ MF

MF 4-29-03

4/29/03

0830 MF ~~0845~~ NOTE: A 30-minute break was taken halfway through collecting these samples to allow the well to recharge. During this time we ~~labe~~ labeled jars and organized equipment.
NOTE: All samples were sent to STL-Savannah ~~except for Dioxin which were sent to STL-Sacramento~~ MF.

0900 Continue sampling. We collect remaining amber bottles for SVOCs, Pesticides, PCBs + Herbacides. There is still not enough fluid for Dioxin samples so we will collect those at a later time.

0925 Return to Pole Barn to drop off samples.

0930 Leave for Southern Site Q. Steve Shroff wanted us to go down there & check to see if there is any water in the ponds. There is no water in the ponds. We let Steve know this.

1000 Return to Pole Barn + pick up truck for LEACH-Q-1.

1015 Arrive at LEACH-Q-1 for purging + sampling

4/29/03

LEACH-Q-1

Amount to Be Removed = 0.80 gallons
(as previously calculated on 4/24/03)

(~~Lid of~~ Outer casing of well is full of water again, even though we put down plastic to try to prevent this. It was over top of the well

1020 We will attempt purging + sampling using the peristaltic pump, after getting the water out of the outer casing.

1100 Peristaltic did not work, so we proceeded with bailing the well

1300 Sampled LEACH-Q-1 for VOCs, SVOCs, Pesticides, PCBs, Herbicides, Metals + Dioxin

1300 Sampled MS/MSD Sample at LEACH-Q-1 location (LEACH-Q-1-MS + LEACH-Q-1-MSD) for same parameters as sample was analyzed for.

Note: All samples will be sent to STL-Savannah except for Dioxin which will be sent to STL-Sacramento.

(3 Sample volumes were collected ⇒ 9 VOAs, ~~18~~ 24 Ambers + 3 500mL plastics)

4/29/03

1315 Return to Pole Barn

1345 Go to Wal-Mart to buy more coolers per Steve and to buy ice.

1415 At pole barn to pack samples

1630 M.F. left for day.

1645 KH leave for Fed Ex.

1725 Leave Fed Ex.

[signature] 4-29-03

(143) Monday 6-9-03

0700 BHiggins + MSwanson on site. Held site safety meeting
Personnel - BHiggins - URS
MSwanson - URS
Weather - 60's, Sunny
Level of PPE - Modified Level D

0715 Calibrating PID
0-0 100-100

0730 Began opening all wells + piezometers

Well/Piez No	PID	Comments
BDRK-R-1	2.0	No lock
~~BDRK~~ Leach-Q-1	0.0	No lock
Piez-4-S	0.0	
Piez-4-M	0.2	
Piez-4-D	0.3	
BDRK-Q-1	0.0	Cut lock off
Piez-1-S	0	
Piez-1-M	0	
Piez-1-D	0	
Piez-2-S	0	
Piez-2-M	0	
Piez-2-D	0	
Piez-3-S	0	
Piez-3-M	0	
Piez-3-D	0	

6-9-03 (144)

Piez/Well No	PID	Comments
Leach-P-1	11.0	
BDRK-P-1	0	
Leach-Q-2 needs new lock	0	Filled w/ sediment/removal
Leach-S-1	130	Wasps in protective casing
Piez-5-S	0	
Piez-5-M	0	
Piez-5-D	0	
Leach-O-1	50	
BDRK-O-1	0	
BDRK-S-1	0	
Piez-9-S	0	
Piez-9-M	3.5	
Piez-9-D	0	
Leach-Q-3	54	
BDRK-Q-2	0	
Piez 7-S	0	
Piez-7-M	0	
Piez-7-D	0	
Piez 8-S	0	
Piez-8-M	0	
Piez-8-D	0	

1140 2 unch
1220 At solution getting hot & key.
1240 Turning in key to solution - guard.

Tuesday 6-10-03

0700 Arrive on site - BHiggins & MSwanson
Personnel - BHiggins - URS
MSwanson - URS
Weather - Heavy rain
PPE - Modified Level D
0705 Heavy rain, mob to 2 leachate wells in northern site Q - concerned might be taking on water since caps were removed for well gauging/stabilization yesterday.
0710 At Leach-Q-1 - after removing vault lid, well is taking on rainwater/runoff. - put cap back on & mob to Leach-Q-2
0715 At Leach-Q-2, well is covered in rainwater/runoff. Mob back to pole barn to get broom/shovel.
0720 Back @ Leach-Q-2 - after removing water & vault lid, put cap on - well was taking on water.

6-10-03

0815 Left for office - picking up sed/surface water sample containers
1030 Back on-site, unloading coolers
1035 At Leach-Q-1 - after removing water from vault, checked water level - 9.67' - going to keep open & check again in a few hours
1050 At Leach-Q-2 - after removing water from vault, checked water level - 14.89' - will come back in a few hours - cap is off
1100 Continuing gauging of wells

Well/Piez No.	DTW	Comments
Leach-S-1	Dry	WASPS
Piez-6-S	20.56	
Piez-6-M	20.37	
Piez-6-D	20.38	
Piez-8-S	9.10	
Piez-8-M	9.87	
Piez-8-D	9.83	
Leach-Q-1	9.67	
Leach-Q-2	15.02	DTP
Leach-R-1	21.26	24.90

1130 Mobbing to Solutia to pick up lot F key
1145 Returning lot F key

6-17-03

nitrate, nitrate, Sulfate alk, CO_2, ferrous iron, dioxin, SVOC/PCB/Pest/Herb.

1045 Packing up equipment - during sampling pump seemed to be varying the flow rate significantly - need to call Waterra.

1115 Back @ trailer packing up samples/pump.

Ferrous Iron.

BDRK-R-1 - 0.55 mg/L

BDRK-R-1 0.32 mg/L

1230 Left site for office

0700 KFletcher and BHiggins meet @ office.

0730 Arrive on site. Calibrate equipment, load truck, health and safety meeting.

Personnel: BHiggins
K. Fletcher

PPE: Modified Level D

Weather: 70s, Sunny

0800 Prepare sample bottles for leachate sampling.

0900 Moving to Leach-Q-1 to sample.

0920 Begin purging Leach-Q-1 w/ disposable bailer - 3 well volumes - 1 gal.

0930 Sampled Leach-Q-1 & Leach-Q-1-Dup w/ disposable bailer for VOC, metals, dioxin, SVOC/PCB/Pest/Herb, TOC, TSS/TDS, COD - all shipped to STL Savannah except dioxin - shipped to STL-Sacramento

1030 At trailer unloading equipment/samples.

Location Sauget, IL Date 05/04/05

Project / Client SA2 SI

1650 Decision to mob to SA-Q-3 to setup on well to start first thing on 05/05/05.

1655 Prosonic setup, leave for the night

1658 Labourers leave

1700 Setup exclusion zone

1705 Discussion, with Emily about delays this afternoon.

1710 Leave to mob to ~~SA-2~~ MPM Pole Barn

1715 Return to Site R

~~17~~ MPM Talk to S Shroff

1730 Unload equipment, fill out COC

1805 Leave site

Location Sauget, IL Date 05/05/05

Project / Client SA2 SI

0605 M Miller arrive at site

0610 Calibrate Microdust Pro, Mini Pro 2000, and QRAE +

0630 Load equipment and coolers

0650 Photocopy photolog for A Williams

0700 Safety Meeting led by S. Shroff

Sonic crew: M Miller URS

E Fritsch URS

A Marshall Prosonic

S Marshall Prosonic

J Ascu Prosonic

E Molander CH2M Hill oversight

Weather 70's Sunny

PPE: Modified PPE

0710 URS staff meeting w/ S Shroff

0730 Mob to Site Q North and SA-Q-3

0745 Start drilling

0800 Sample SA-Q-3-SS-0.5 for vocs, svocs metals, ammonia, and herbicide: PCBs, pesticides, and Dioxin for hold

0815 Sample SA-Q-3-SB-6 and SA-Q-3-SB-6-D for vocs, svocs, metals, ammonia, herbicides pesticides, and pcbs

Location _____ Date _____

Project / Client _____

0835 Continue Drilling

0845 Sheen detected from 7 - 13'

Sample SA-Q-3-WS-12 for VOCs, SVOCs, metals, ammonia, Dioxin, herbicides, pesticides, PCBs, and TCLP

0926 Resume Drilling

0945 Depth 36' on hold

waiting for decision about well due to NAPL at 7-13' but no shallow aquifer at 36' yet.

Steve Shroff arrived at site to discuss

1010 Resume Drilling to 46'

Also observed metal fragments @ ≈ 10' bgs. Emily of CH2M inquires if this could be a potential drum fragment. I discuss with her and we jointly come to conclusion this is some other type of metal fragment and NOT a drum fragment

10:15 Emily informs me that she has discussed potential product and impact at 12' bgs with Chris CPM (for CH2M Hill) & Claire (CH2M Hill)

Location _____ Date _____

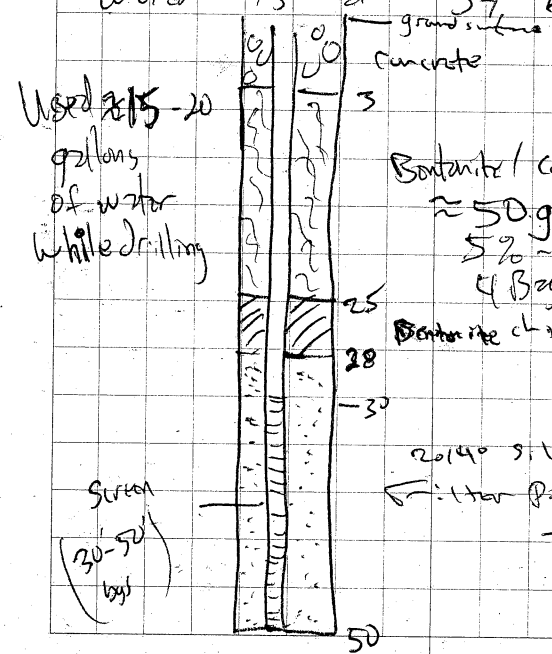
Project / Client _____

and that our (URS) plan of setting the well in the SHU is fine and that likely the shallow water will not have to be addressed by another well. They agree with the URS stance that the perched potentially impacted should not be within the same screened interval as the SHU.

1041 Begin Setting well at 50' bgs

water is at 37' bgs

SA-Q-3 Well construction



Location Sauget, IL Date 05/05/05

Project / Client SA2 - SI

Photolog 05/05/05 (part 1)

0685	SA-Q-3	0-3'
0686	SA-Q-3	3-6'
0687	SA-Q-3	12-13' NAPL present
0688	SA-Q-3	13-16'
0689	SA-Q-3	17-22' silt seam in sand
0690	SA-Q-3	26-36 (32-36)
0691	SA-Q-3	36-46 (42-46)
0692	SA-Q-3	46-50 gravelly sand w/ river rocks
0693	SA-Q-3	After well install
0694	SA-Q-4	Before drilling - facing S
0695	SA-Q-4	0-2
0696	SA-Q-4	2-6
0697	SA-Q-4	plastic & metal at 5'
0698	SA-Q-4	metal at 5'
0699	SA-Q-4	brass tubing at 5'
0700	SA-Q-4	6-9
0701	SA-Q-4	6-9 plastic (7')
0702	SA-Q-4	9-12
0703	SA-Q-4	19-22
0704	SA-Q-4	26-36 (32-36)
0705	SA-Q-4	36-48 (40-44)

[signature]

Location Sauget IL Date 5/5/05

Project / Client SA2 - SI

1118 Bentonite seal set to hydrate
1120 break for lunch
1150 Discussion with S Shroff
about Union issues regarding lunch break and time charged at end of the day.
Our operating engineer (Tim) who is/appears to be extremely flexible and willing to work as needed alerted me to the laborers contract with regard to lunch and end of day time. He stated that they must take a 1/2 hour lunch which starts between 11:00 and 12:00. If it starts after 12:00 they will charge through lunch. Also, they charge in 1/2 hour increments. So, at the end of the day quitting at 5:01 means we get charged to 5:30, quitting at 5:31 means we get charged to 6:00, etc

Location Sauget IL Date 5/5/05

Project / Client SA2 - SI

Discuss these issues with Steve and how that at times it may be extremely difficult to break between 11:00-12:00 for lunch based on the status of our drilling. At times the work dictates lunch be taken later than 12:00 Steve agrees and is going to call Dan Giesler of EMA about the status of this issue EMA is the contractor which hired the Union employees.

1205 Back at location of SA-Q-3 Union arrives at same time as us. Start grouting well

1235 Well cleanup done. Pro Source removing water from drum before mobilizing to SA-Q-4

1245 Drillers go to get water Mob to Site R for distilled water and COCs

1310 Return to Q-North SA-Q-4

1315 Begin drilling SA-Q-4

Location Sauget IL Date 5/5/05

Project / Client SA2 - SI

14:00 6-9 bgs and 9-12 had slight creosote-like odor and screened PID reading of 30.6 ppm and 24.8 ppm respectively. Collect headspace and readings were 4.4 ppm and 20.8 ppm respectively. Discuss with Claire of CH2M Hill and we decide that the definition of "gross" contamination is not met. Do not collect additional samples at this time

1330 Sample SA-Q-4-SS-0.5 for VOCs, SVOCs, metals, ammonia, and herbicides

1340 Sample SA-Q-4-SB-6 for VOCs, SVOCs, metals, ammonia, herbicides, pesticides, and PCBs

15:00 Water @ 35' bgs. Drill to 48' bgs to set well.

15:05 Start setting well

Location Sauget, IL Date 5-20-05

Project / Client SA-2

1230 LUNCH

1245 Check on Jack, Kevin & Charlie who are drums into the new roll off container.

1315 Pick up drums from SA-Q-3 and SA-Q-4.

1400 Back to IDW pad to dump drums into roll off.

1440 Finished dumping drums. Jack and Kevin try to get the lid of the first rolloff back on its tracks.

1500 Help Andrea get samples & COCs ready for Walter (STL)

1515 Discuss plan for Monday/next week with Steve, Brandi, Justin, Andrea.

1600 Leave site for the day.

Location Sauget, IL Date 5-23-05

Project / Client SA-2

0610 Arrive on site for the day. Help load up for level B work today.

0700 Safety Meeting

0705 File safety meeting sign-in sheet and print labels for everyone (Justin, and Kurt and Brandi) since Andrea is not here today.

0715 Wait for everyone doing Level B trench work to move over to AT-Q-34. Mike Miller and I will be dressing out as back up today. Brian is not on site today and Steve needs to make some calls.

0730 Head over to AT-Q-34

0820 Start setting up for level B work at AT-Q-34

0830 Start getting dressed in Level B.

0900 Start trenching

1045 Finished digging. Start undressing and loading up.

1125 Head back to pole barn/trailer

1145 Unload Mike's and my trucks.

1200 Talk to Jack (EMA) about picking up drums. The last of the drums from

Location _____ Date 6/13

Project / Client _____

1037 Stopped purging and pulled tubing, marked drum and picked up to head to next site.

1109 Left + headed to SA-Q-6

1120 Found SA-Q-6 + decided to break for lunch

1220 Arrived back at SA-Q-6 + told Brian from Roberts to decon his tubing. Brian left to decon tubing

1301 Packed up + moved to SA-Q-2 b/c when cap of well was removed LEL reading were high around 13 + 18 so I capped hole + until further decisions are made hole will be left alone.

1332 When arrived at SA-Q-2 we took cap off but as we took cap off it popped off as if under pressure The LEL readings went extremely high on QRae

BW

Location _____ Date 6/13

Project / Client _____

so we put cap back on hole. a couple min later we tried to take cap off again + it popped off again + LEL readings were high again. We are currently shut down until Wendy brings her QRae over to verify our readings: As soon as Wendy arrives we will approach well to see what readings we get + then move on to SA-Q-3 or SA-Q-4.

1355 Wendy arrived and took her Qrae + went to shut cap tight

1400 left SA-Q-2

1407 Arrived at SA-Q-3 removed cap + took reading

QRae = $\frac{2}{3}$ | $\frac{0}{20.9}$ PID = 0.0

Start measuring water + well depth

BW

Location _____ Date 6/13

Project / Client _____

1452 Started hydra pu
pumping will surge
then purge
1503 Started purging
1538 Purging ended + began
to pickup. Emily stopped
by
1618 Everything is done + headed
back to pull barn
1645 Left SA2 for the day

Location SA2 Date 6/14

Project / Client _____

0635 Showed up at SA2 Pullborn
to start calibrating equip.
0800 met up with Roberts at
Gas station (Phillips) for safety
meeting with Wendy
0840 Brian from Roberts + I
arrived at SA-P-1
0844 When cap removed PID
spiked so I put cover
back on. PID continued
to read high, so I went
back to pullborn to
recaliberate + change
filter
0920 arrived back at SA-P-1
to set up for purging
Once cap removed PID
didn't have any spikes.
Reading = 0.1 ppm
1000 Started purging
1035 Stopped purging

BW

Location Sauget, IL Date 6-16-05

Project / Client SA-2

1445 Mob. to Q-Central to collect purge water drums.

1515 Mob. back to Mod Tank with drums collected.

1540 Begin dumping drums into mod tank.
PID 0.0 when lid removed
SA-Q-6 purge water drum

1548 PID 0.0
SA-Q-8 purge water drum

1555 PID 0.0
SA-Q-7 purge water drum

1603 PID 0.0
SA-Q-8 purge water drum (2 of 2)

1610 PID 0.0
SA-Q-5 purge water drum

1615 PID 0.0
SA-Q-2 purge water drum

1620 PID 0.0
SA-Q-1 purge water drum
slight odor

1625 PID 0.0
SA-Q-3 purge water drum

1637 PID 0.0 SA-Q-1 purge water drum (2 of 2)

WD

Location Sauget, IL Date 6-16-05

Project / Client SA-2

1642 PID 0.0
SA-Q-4 purge water drum

1648 PID 0.0
SA-Q-2 purge water drum (2nd drum)

1652 PID 0.0
SA-Q-3 decon water drum

WD

1700 Drums staged in IDW area.

1710 Left site for the day

WD

7-7-05

0700 Arrived on-site – Sec B Williamsons
look for calibration.
PPE – Mosquito Repellent
Weather – 90's Sunny.
Personnel – BHiggins, BWilliamson – LKS
0715 Motoring to Site Q (to begin sampling wells)
0830 TRA5-P2C – all piez full of yellowjackets –
20 armed – take w/ S Shotgun – okay
to use Rand. Will purchase Rand e
lunch.
1024 Begin gauging wells in Site Q.

ID	DTP	DTW	TD	Comments
~~TRA5-5M~~		29.52'	67.68'	Soft
TRA5-P2BM	—			
TRA5 P2BD	—	29.61'	95.35	Soft
L-Q-1	—	10.31'	11.70	Hard
SA-Q-1	35.46	29.03	40.86	Hard
SA-Q-2	—	31.53	59.29	Hard
Piez 4S	—	31.59	52.22	Soft
Piez 4M	—	31.61	93.34	Soft
Piez 4D	—	31.60	131.42	Soft
Brk Q-1	—	31.79	163.31	Soft
SA-Q-3	—	27.70'	49.84	Hard

7-7-05

ID	DTP	DTW	TD	Comments
SA Q-4	—	25.42'	47.94	Hard
SA Q-6	—	27.04'	39.85	Hard
L-Q-2	—	15.55'	15.72	Soft
SA-Q-7	—	29.36	45.21	Hard
SA-Q-8	—	23.02'	44.64	Hard
SA-Q-9	—	24.11'	35.31	Hard
Piez 7D	—	27.15'	118.48	Soft
Piez 7S	—	23.55	27.90	Soft
Piez 7M	—	27.21	75.56	Hard
SA Q16	—	18.03	27.58'	Hard
BDRK-Q-2	—	17.82	143.21	Hardish
L-Q3	—	10.87	11.53	Hard
SA Q14	—	21.55	38.11	Hard
SA Q-15	—	19.52	32.11	Hard
SA Q-12	—	22.31'	35.39	Hard
SA-Q-13	—	13.21	28.31	Hard
SA Q-10	—	13.79	27.41	Hard
SA-Q-9	—	12.69	28.05	Hard
SA-Q-11		22.07	33.80	Hard
BdrKQ-1	—	8.79	165.70	Soft

1400 B. Williamson arrived at B-28M to purge for a 3rd time while

7/15/05

0645 KO on site - cal troll
PH 6.99 DO 8.38
Cond 8147 ORP 224

0725 arrive at SA-Q-3
DTW 29.95
TD 49.82

0755 start purging SA-Q-3

0828 start sampling

0900 Ferrous Iron sample: Overrange

0942 leave SA-Q-3 to dump water

1012 Arrive at SA-Q-2
DTW 34.90
TD 59.22

1040 Begin purging SAQ2

1148 Begin Sampling SA-Q-2

1430 Leave site for day

Kevin Quinn
7/15/05

7/15/05

SA-Q-3

TIME	DTW	color/odor	pH	Temp	Cond.	Turb.	DO	ORP
0759	30.00	gray, cloudy	6.52	18.94	1060	122.4	1.40	-71
0805		slightly organic	6.70	18.92	1049	96.1	0.84	-112
0810			6.75	19.24	1060	41.5	0.89	-123
0815	30.00	lt. gray,	6.77	19.46	1062	44.3	0.82	-129
0820		slightly cloudy	6.78	19.60	1071	36.4	0.78	-132
0825			6.79	19.64	1082	28.6	0.75	-134

SA-Q-2

TIME	DTW	color/odor	pH	Temp	Cond.	Turb.	DO	ORP
1050		slight yel.	6.73	18.76	1586	41.7	1.21	-99
1055	34.98	clear	6.76	18.82	1586	30.0	1.10	-109
1100	34.98	slight	6.79	18.84	1576	20.5	1.10	-117
1105		undefined odor	6.82	18.87	1564	14.8	0.95	-122
1110			6.84	18.85	1554	15.0	0.90	-124
1115			6.85	18.62	1556	9.8	0.83	-128
1120			6.85	18.93	1542	9.3	0.79	-130
1125			6.86	18.81	1579	7.7	0.75	-131
1130			6.86	18.86	1576	5.8	0.75	-132
1135			6.86	18.87	1520	5.4	0.72	-133

Location SAZ Phase 2/3 Date 7-12-06

Project / Client

No indication of NAPL on ±1
[illegible]
NAPL-C [illegible]
[illegible] TD 109.71
[illegible]
[illegible] indication of NAPL on
±1 bailer or cotton string
Left site

Location SAZ Phase 2/3 Date 7-26-06

Project / Client

1330 Arrived on-site.
Packed on-site to level
trailer after storm pushed
off concrete blocks.
1350 Roberts - CH2M Hill on-site
Preparing to collect NAPL
samples from Leach-P-1
+ Sonic 5.
Loading equipment.
Will collect NAPL samples
w/ disposable bailers.
1430 At Leach-P-1 to collect sample.
PTD - 23.42
TD - 25.15
1445 Collected sample @ L-P-1 -
was able to collect 2 -
250 ml containers -
will come back tomorrow for
the rest of the bottles
(Will analyze for VOC, SVOC,
PCB, Pest, Herb, metals, Dioxin
+ Mobility characteristics -
dynamic viscosity + fluid
density.

Location SA2 Phase 2/3 Date 7-26-06

Project / Client

1505 At Sonic 5 to collect DNAPL sample w/ disposable bailer for Mobility characteristics - dynamic viscosity + fluid density
DTPL No tone
TD - 50.3
1545 Unable to collect sample - will come back tomorrow w/ weighted bailer + whale pump
1645 left site

[signature]

Location SA2 - Phase 2/3 Date 7-27-06

Project / Client

07:15: Arrived on site
Calibrate instruments
PID: 0.1 -0.0-100
CGM: 0/0 0-49/0-25
0/20.9 0-50/20.9-20.4

07:40 Loaded equipment into truck
0800 - left to get ice to pack new cooler - held up by train
0830: Headed to Leach - PV-1
0900: Sampled 125ml amber jar and 125ml plastic jar
0915 Attempted to sample 1L amber, but the well did not have enough product, or water, to attain a full sampler.
Samples - J. Kypta and N. McMurley placed bailer down in well and tied off to return later today
1089.5: Headed to Sonic-5
1030: Arrived @ Sonic-5 and began setting up
10:45: Sampled Sonic-5
11:00: Cleared up @ Sonic-5 and headed back to CP-1

(80) BMH
7-18-02

TCLP SVOC/PCB/Pest/Herb.
Sampled WASTE-Q-2-COMP-7 MS/MSD for
SVOC/PCB/Pest/Herb/Metals.
Prosonic grouting boring.
1145 After 2 drums of grout, hole
still not filling, think it is
oozing into "waste" material from
7-18. Use bentonite chip for
rest of hole. Grouted top 2'.
1200 Lunch - Raining.
1300 Prosonic decoring ~~hole~~ BH rig.
1305 Setting up on WASTE-Q-1,
Raining.
1500 Cleared up, began getting drillers
set up on WASTE-Q-7.
1615 Left site
BHS

7-19-02
BMH
(81)

0650 Arrive on site.
0700 Steve held site safety meeting.
0715 Calibrate equipment
PID - 0-0 20-105
RAM - zeroed
CGM - H_2S-0 CO-0 LEL-0 O_2 20.7
H_2S-25 CO-50 LEL-50
Weather - Sunny, 90's
Personal - URS - BMH, Melissa Moore
Prosonic - Osca - Mahlon
Don Youngblood
George Rainey
Equipment - PID, RAM, CGM,
Rotosonic drill rig.
0730 At WASTE-Q-7, began drilling
0740 Sampled SOIL-Q-7-0.5 for VOC,
Dioxin, SVOC/PCB/Pest/Herb & Metals
0745 Sampled SOIL-Q-7-0.5-DUP for VOC,
0750 Dioxin, SVOC/PCB/Pest/Herb & Metals.
~~0750~~ BH Sampled WASTE-Q-7-9 for VOC,
Dioxin, TCLP VOC, TCLP Dioxin. @
BH 9' - no PID readings in boring.
0750 Sampled SOIL-Q-7-6 for VOC, dioxin,
SVOC/PCB/Pest/Herb & Metals @ 4' (no PID
readings in Oile interval - only 4' of recovery

(90) 7-26-02
BMH

Collect WASTE-Q-10-8-MS/MSD for TCLP VOC + TCLP Dioxin.
1035 Collect WASTE-Q-10-8-DUP for VOC + dioxin.
1050 Collect WASTE-Q-10-COMP for SVOC/PCB/Pest/Herb + metals
Collect WASTE-Q-10-COMP-T for TCLP SVOC/PCB/Pest/Herb/Metals.
Collect WASTE-Q-10-COMP-T-MS/MSD for TCLP SVOC/PCB/Pest/Herb/metals
1055 Collect WASTE-Q-10-COMP-DUP for SVOC/PCB/Pest/Herb/ + Metals.
Prosonic grouting borehole, packing up rig.
1115 Began mobbing back to pole barn to decon rig.
1130 Began decon rig.
1215 Finished decon rig, mob to WASTE Q-1
1225 setting up on Q-1
1230 Began drilling
1245 Collect SOIL-Q-1-0.5 for VOC, dioxin, metals, SVOC/PCB/Pest/Herb
1300 Collect SOIL-Q-1-6 for VOC, dioxin, metals, SVOC/PCB/Pest/Herb.

7-26-02 (91)
BMH

Collect SOIL-Q-1-6-MS/MSD for VOC, dioxin, metals, SVOC/PCB/Pest/Herb.
1315 Collect WASTE-Q-1-5 for VOC, dioxin, TCLP VOC, TCLP dioxin.
Collect WASTE-Q-1-5-MS/MSD for VOC + dioxin.
1320 Finished boring @ 22', end of waste @ 12'. ~~Pre~~ BH Free product present.
1350 Collect WASTE-Q-1-COMP for Metals + SVOC/PCB/Pest/Herb.
Collect WASTE-Q-1-COMP-MS/MSD for metals + SVOC/PCB/Pest/Herb.
Collect WASTE-Q-1-COMP-T for TCLP SVOC/PCB/Pest/Herb/metals.
1400 Back to trailer to pack samples, lunch.
1500 Mobbing to southern site Q to set up on WASTE-Q-9.
1550 Began drilling 0-5', Josh using water. Told him to stop + offset, we can't use water on waste borings. Offset ~2' to S.
1600 Collect SOIL-Q-9-0.5 for VOC, dioxin, metals, + SVOC/PCB/Pest/Herb

26 July 2002

12:35 Prosonic installing well
12:45 Prosonic cleaning up and preparing to demobe back to trailer for decon. EKF going to put locking cap on LEACH-Q-3
13:35 Prosonic to lunch. Also waiting for CH2M, Reagan & URS to determine location of next leachate well.
EKF filling out drum log
14:00 Decide to put leachate well at location of Q-1 waste boring. This hole had free product in it. To save a decon stop I will work with the Phoenix rig of this location and my crew will do the remaining waste boring.
14:31 Setting up for LEACH-Q-1
14:45 Start drilling LEACH-Q-1. Using respirators to drill w/ and check samples
15:15 Down to 12' bgs. Did not encounter native material beneath the Fill. However a

26 July 2002

large piece of concrete blocked the core bit at 10½' bgs. This concrete prevented any additional material from entering the core bit below that depth. Discuss with John Reagan and Jeff of CH2M Hill. John states that he is confident that we reached the bottom of fill based on our close proximity (5 feet) to WASTE Q-1. Bottom of fill was 12' bgs in WASTE Q-1. Jeff agrees and everyone involved agrees to set the well at 12' bgs
15:30 Prosonic installing well material
16:00 Cleaning up around LEACH Q-1. One of the drums has a hole in it, punctured while EMA was unloading previous contents likely. I tell Oscar to just put the drum inside one of the 80 gallon overpacks.
16:10 EKF Locking up leachate wells and labeling drums @ each location

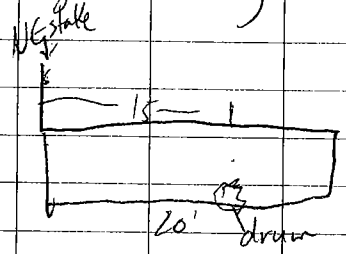
URS

Attachment 2

Field Notes Site S

(102) BMH
8-14-02

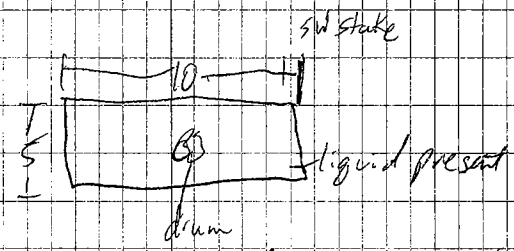
1120 Began unloading & setting up @ AT-S-1.
1230 At AT-S-1, preparing exclusion zone.
1245 Began trenching.
1250 At ~4' deep, 15' from NE stake, found drum piece & drum lid. ↑ PID peaks. Began backfilling 1st 20' section.



~~Began backfilling~~ BMH
~~Began trenching next section~~ BM
Spoke w/ Steve, decided for Brade to Level B left for pole barn to set equipment.
1330 At Site 5, waiting for ok from John.
1340 Began trenching 2nd section, John R. said as soon as we encounter drum, stop. Began @ SW stake. 1st 10' section — D
1350 At ~5' from SW stake, encountered drum, 4' deep. At edge of trench, liquid

BMH
8-14-02
(103)

present. Unable to tell whether free product or water.

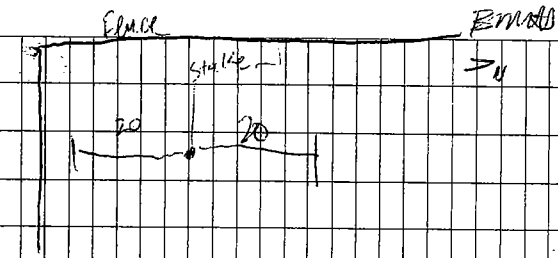


Began backfilling trench.
1400 Finished backfilling
1430 Back @ trailer
1700 Left site
BM

(30) 6-14-02
EMA

0700 Arrived on-site, Stoneheld site
safety meeting 70s, Sunny, Level C.
Calibrated equipment
PID 0- 100-
RAM zeroed
CGM - H_2S 0 CO-0 LEL-0 O_2-20.9
H_2S 25 CO-50 LEL-50 O_2 20.9
0730 EMA leaving for Site S
to begin setting up on
next trend.
0805 Began trenching BT-S-~~4~~ 2
At ~1.5' deep, encountered
drum, rusted w/ liquid (HC)
on outside + around it
in the soil. Drum ~7'
East of fence-line.
0810 Began backfilling
55 gal - drum - partially intact,
rusted w/ liquid on outside +
around it - black HC.
0825 Finished backfilling, began mobbing
to next location
0835 Began setting up exclusion zone
on BT-S-4
0855 Began trenching BT-S-4, continuing in Level C.

6-14-02 (31)



Began 20' south of stake.
~1'- LMS gravel
~0.5- Brown silty clay w/ no waste
At ~1'- Gray + black soil (impacted)
~5'- Brown sand.
0910 At ~20', cave-ins becoming an issue,
stopped this 1st 20' section of trench
+ began backfilling
0915 Began trenching 2nd 20' section
to north of 1st.
0920 ~10' from stake, 10' into 2nd section
of trench encountered remnants
of drum, rusted. Depth ~12'.
Began backfilling.
During trenching, no ↑ sustained
PID reading - alot of spikes.
1030 Finished backfilling, began
mobbing to next location in
Site 0. EMA transporting
drums for plastic sheeting to