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SECONDARY INVESTIGATION
LOVINGTON 66
424 SOUTH MAIN STREET
LOVINGTON, LEA COUNTY,
NEW MEXICO

Prepared for:

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January 25, 2008

073-80008

EXECUTIVE SUMMARY

On behalf of Jack Walstad Oil Company Inc. (Walstad), Golder Associates Inc. (Golder) has completed the Secondary Investigation (SI) at the former Lovington 66 site located at 424 South Main Street, Lovington, Lea County, New Mexico. The Secondary Investigation was completed to satisfy the requirements stated in the New Mexico Administrative Code, Title 20, Chapter 5, Section 12 and the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) Guidelines for Corrective Action (GCA).

AEI Tank Incorporated removed five underground storage tanks (USTs) from the Lovington 66 in November 1991. Soil samples were collected beneath the tanks and dispensers that indicated that a release had occurred at the facility. As a result, the NMED Underground Storage Tank Bureau (USTB) issued a confirmed release and requested that a 7-Day report and a Minimum Site Assessment be completed. AEI Tank Incorporated completed and submitted to the USTB a Minimum Site Assessment in April 1992, indicating that groundwater beneath the site had been impacted by the release. Billings and Associates then completed three interim Hydrogeologic Investigation Reports in 1992 and 1993 to further delineate the dissolved phase plume. From 1993 to 2006 the dissolved phase concentration increased in the downgradient wells. Well W-17, located in a key downgradient position, was destroyed sometime between 1993 and 2005.

This Secondary Investigation was completed to delineate the downgradient extent of the dissolved phase plume and to perform a non-aqueous phase liquid (NAPL) bail down test. As part of the investigation, the following activities were completed at the site:

- NMED files were reviewed and tables were updated with historical information;
- Updates were completed to the receptor survey and land use map;
- Three monitor wells W-19, W-20, and W-21 were installed to delineate the downgradient portion of the plume;
- Bail down tests were completed on wells W-2 and W-3; and
- One quarter of groundwater monitoring was completed.

Subsurface soil encountered during this investigation consisted of up to ten feet of clayey or silty sand followed by a 15 to 25 foot thick interval of caliche. Beneath the caliche are interbedded layers of well graded sand, clayey sand, silty sand with thin layers of sandstone to the total depth of the borings of 65 feet below ground surface. Groundwater was observed while drilling at approximately 60 feet bgs.

The investigation determined the following with regard to soil and groundwater contamination:

- Heated headspace measurements and analytical results from soil samples indicated that hydrocarbon contamination was not present in the vicinity of the new borings W-19, W-20 and W-21.
- The depth to groundwater ranged from 53 to 57 feet bgs. The groundwater flow direction is southeast.
- Non-aqueous phase liquid (NAPL) was present in four wells - W-1, W-2, W-3, and V-1 with apparent NAPL thicknesses ranging from 3.03 to 4.58 feet.
- The bail down test on wells W-2 and W-3 indicated that the actual product thickness at the site is approximately 0.15 feet.
- Of the nine wells sampled, six wells (W-5, W-8, W-9, W-11, W-16, and W-19) had dissolved-phase hydrocarbon concentrations above the New Mexico Water Quality Control Commission (NMWQCC) standards.
- The new monitoring wells have delineated the downgradient extent of the dissolved phase plume.

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1.0 INTRODUCTION

1.1 Objectives

On behalf of Jack Walstad Oil Company Inc., Golder Associates Inc. (Golder) has completed the Secondary Investigation (SI) of the former Walstad 66 site located at 424 South Main Street, Lovington, Lea County, New Mexico (subject property or site, Figure 1). The Secondary Investigation was completed in accordance with the *Work Plan for Phase 1 Secondary Investigation activities consisting of monitoring well installation, bail down test and quarterly groundwater monitoring at the Lovington 66 site, Lovington, New Mexico* prepared by Golder to satisfy the requirements stated in the New Mexico Administrative Code, Title 20, Chapter 5, Section 12 and the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) Guidelines for Corrective Action (GCA). The work plan was approved by the NMED PSTB on July 30, 2007 under work plan identification number (WPID #) 14975. The work completed in association with this report is under WPID # 14975-1 and 14975-2.

1.2 Scope of Work

The scope of work proposed by Golder included completing a secondary investigation to delineate the downgradient extent of the dissolved phase hydrocarbon plume and to complete a bail down test to determine the volume of NAPL present beneath the site.

The following work was performed:

- NMED files were reviewed and tables were updated with historical information;
- Updates were completed to the receptor survey and land use map;
- Three monitor wells W-19, W-20, and W-21 were installed to delineate the downgradient portion of the plume;
- Bail down tests were completed on wells W-2 and W-3; and
- One quarter of groundwater monitoring was completed.

2.0 SITE DESCRIPTION

The former Lovington 66 site is located in Lovington, New Mexico within Township 16 South, Range 36 East, Section 3 of the Lovington Quadrangle (Figure 1). The site is located on a rectangular shaped lot with Avenue D (Highway 83) located to the south and Main Street to the west. North of the site is Avenue C and west of the site is commercial property. As shown on the land use map, Figure 2, residential property is located southwest and northwest of the site.

The site is currently a McDonald's restaurant. The former Lovington 66 was located on the southern portion of the property that now is a parking lot associated with McDonald's. Figure 3 and Figure 4 illustrate the locations of the former service station building, tanks and dispenser islands.

The receptor survey was updated that included a water well search within a one mile radius of the site (Figure 1). No operating municipal supply wells were found within a one-mile radius of the site. The city of Lovington does have a municipal supply well located within its city yard at Love Street and Avenue E; however, the well casing has been damaged and the well has not been in use for sometime. No domestic wells were found with in a 1,000 foot radius of the site.

2.1 Site History

The following details the previous work performed at the Lovington 66 site:

- July 1991 – AEI Tank, Inc. (AEI) conducted a site assessment where seven soil borings were advanced within the UST backfill or UST perimeter, and five borings were placed in or near product pipe trenches. Hydrocarbon contamination was observed.
- November 1991 – AEI removed five USTs that contained diesel, unleaded fuels, and used oil and the associated product piping and fuel dispensers. Hydrocarbon contamination was observed in the location of the dispensers and the location of the diesel tank. It was determined that a release likely occurred from overfilling the USTs and from the dispensers and product lines (a large section of product piping had been replaced).
- November and December 1991 – AEI excavated approximately 600 cubic yards of contaminated soil from product line trenches, dispenser islands and tank excavations.
- December 1991 – AEI attempted to delineate the vertical extent of contamination by installing one soil boring. The location of this soil boring was never documented. During the drilling of the boring auger refusal was encountered at 40 feet below ground surface (bgs).

- February 1992 – AEI installed one groundwater monitoring well. Groundwater sample results indicated that groundwater contamination was present above the New Mexico Water Quality Control Commission (NMWQCC) standards.

- March 1992 – AEI installed two additional monitor wells to determine the extent of dissolved phase hydrocarbon contamination. Both wells had dissolved phase hydrocarbon concentrations well above the NMWQCC standards.

- June 1992 – Billings & Associates, Inc (BAI) completed an Interim Hydrogeologic Investigation Report (On-site). During this investigation six soil borings (B-4 through B-9) were advanced at the site to a depth of 40 feet bgs. Heated headspace measurements above action levels were present in all borings except B-8. NAPL was present in the three monitor wells installed by AEI. Three additional monitor wells W-4, W-5, and W-6 were installed. The three new wells exceeded the NMWQCC standards.

- September 1993 – BAI completed a 2nd Interim Hydrogeologic Investigation Report. During this investigation free product recovery efforts commenced using BAI's Product Recovery Filter system. In addition six new monitor wells (W-7 through W-12) and one vertical extent well, V-1, were installed.

- June 1993 – BAI submitted the 3rd Interim Hydrogeologic Investigation Report. Five wells (W-13 through W-17) were installed to delineate the dissolved phase plume. NAPL was present in the vertical extent well V-1, which Billings attributed to leaking casing.

- August 2006 – Golder sampled the Lovington 66 wells as part of an investigation conducted at the Allsup's 109 located downgradient from the Lovington 66 site.

2.2 Regional Geology

The city of Lovington is located in north central Lea County. Regional topography is essentially flat with a slight southeastward slope. The Mescalero Ridge is located west of Lovington, representing the southern limit of the High Plains. The Mescalero Ridge is represented by a cliff that is formed by a thick layer of caliche, known as the Caprock (New Mexico Office of State Engineer (OSE), 1999).

Soil within the region is part of the southern High Plains, which consists of Kimbrough, Kimbrough-Lea, Amarillo-Arvana, and Brownfield-Patricia-Tivoli (OSE, 1999). The soils are comprised of shallow to deep gravelly and loamy soils or deep sandy soils that were formed by aeolian or fluvial environments during the Quaternary to late Tertiary periods (OSE, 1999). Caliche is prominent within the region.

Groundwater in the region is within the Lea County Underground Water Basin, which is comprised of the Ogallala aquifer. It is estimated that the Ogallala aquifer has a saturated thickness of 250 feet (OSE, 1999). Groundwater flow within the Ogallala aquifer is to the southeast. The City of Lovington obtains its municipal water supply from the Ogallala aquifer.

2.3 Site Specific Geology

The subsurface conditions beneath the site were determined during this investigation with the installation of three soil borings. On November 8, 2007 three soil borings were advanced at the site and converted into monitor wells W-19, W-20, and W-21. All wells were completed in the City of Lovington right–of–way within grass or dirt.

During drilling brown clayey sand or silty sand was encountered from the surface to approximately 10 feet bgs in borings W-19 and W-21. In boring W-20 a caliche layer was encountered from the surface to 15 feet bgs followed by well graded sand to 30 feet bgs. Caliche was present in borings W-19 and W-21 from 10 feet to 30 or 35 feet bgs. In all three borings from 30 to 35 feet bgs to 65 feet bgs (the total depth of the borings), interbedded layers of silty sand, well graded sand and clayey sand with thin layers of hard sandstone was encountered. Groundwater was observed during drilling at approximately 55 to 60 feet bgs. Soil boring logs are included in Appendix A.

3.0 SECONDARY INVESTIGATION ACTIVITIES

3.1 Drilling and Monitor Well Installation

Prior to performing any fieldwork, Golder obtained access from the City of Lovington and prepared a site-specific health and safety plan. The NMED PSTB project manager, Mr. TC Shapard, was contacted prior to conducting any field work.

On November 8, 2007, three monitoring wells (W-19, W-20, and W-21) were installed at the site to delineate the downgradient extent of the dissolved phase hydrocarbon contamination (Figure 5). Drilling was completed by Harrison and Cooper with an Ingersoll Rand air rotary drill rig. Soil borings were advanced to 65 feet bgs and monitor wells were installed. Monitor wells were constructed with 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 15 feet of Schedule 40 PVC, 0.010-inch machine slotted screen. The monitoring wells were completed with 20-40 mesh sand filter pack to at least 2 feet above the screen interval, followed by hydrated bentonite seal to the surface. The surface was completed with 8-inch steel well vaults placed in 2-foot by 2-foot concrete pads. Well completion diagrams are included in Appendix A. Photographs showing the location and surface completion of each well are presented in Appendix B.

3.2 Soil Sampling

During drilling, Golder collected grab soil samples from cuttings at approximately five foot intervals. Soil samples were described using the Unified Soil Classification System (USCS). Grab samples were collected at approximately five foot intervals and placed in a glass jar covered with aluminum foil and field analyzed by the heated headspace method (GCA 2000). One soil sample was collected with a two foot decontaminated split spoon sampling device from the air water interface (53 to 54 feet bgs) in each boring. These soil samples were labeled, immediately placed on ice, and submitted to Hall Environmental Analysis Laboratory (HEAL) for analysis. Soil samples were analyzed for VOCs, including BTEX, MTBE, EDC, EDB and total naphthalenes by EPA Method 8260. Soil descriptions and heated headspace measurements are listed on the boring logs in Appendix A. Soil analytical results are summarized in Table 1.

All investigation-derived waste was drummed in 55 gallon drums. One waste characterization soil sample was collected from the waste analyzed for BTEX and MTBE by EPA Method 8021, total

petroleum hydrocarbons full range by EPA Method 8015, and total lead by EPA Method 6010. Analytical laboratory results are included in Appendix C.

3.3 Groundwater Sampling

On November 7 and 8, 2007, all previously installed monitor wells associated with the Lovington 66 site and the Allsups 109 site were gauged with a water level probe or an interface probe. The three newly installed monitoring wells (W-19, W-20, and W-21) were gauged and developed by hand bailing on November 8, 2007. The new wells were regauged on November 9, 2007 after the wells had stabilized from development. Table 2 provides a summary of the groundwater gauging data collected from the monitoring network. A potentiometric surface map (Figure 6) was constructed based on the data.

On November 7 and 8, 2007, nine wells - W-5, W-7, W-8, W-9, W-11, W-16, W-19, W-20, and W-21 - were sampled. Well W-10 was scheduled to be sampled; however, this well is located within the middle of Main Street. Due to health and safety concerns regarding the sampling of this well, W-7 was sampled instead. Groundwater samples were collected from the wells with disposable polyethylene bailers. Sampling was accomplished by carefully pouring groundwater from the bailer into the sample containers. Golder measured field parameters with Hanna HI 991300 water quality meter prior to sampling. Specific conductance, pH, and temperature were monitored and recorded on monitoring well sampling field forms. The meter was calibrated and/or checked against a standard in accordance with manufacturer's specifications prior to use. pH measurements were not obtained because the pH meter malfunctioned. Monitoring well sampling field forms are provided in Appendix D. Table 3 summarizes the field parameter measurements.

Sample containers, preservatives, analytical methods, and holding times are specified in Table 4. Samples for VOC analysis were collected such that no headspace existed in the sample vial. All samples were preserved in accordance with method requirements, then immediately cooled to 4°C with ice and delivered under chain-of-custody to HEAL in Albuquerque, New Mexico. The analytical laboratory report is provided in Appendix C.

3.4 Well Repair

During previous sampling events and during this investigation it was noted that several monitor wells were in need of repair, well caps, and a manway cover. Wells W-7, W-15, and W-18 are located

within the street. As a result of traffic the surface completion has subsided causing the manway cover to rest directly on the top of the well casing, leaving no room for a well cap. On November 8, 2007, Harrison Cooper cut the top two to three inches of the well casing from these wells to provide room for well caps. New well caps were placed on the wells and the well vault was bolted down. W-1 was missing a 4-inch well cap. A new well cap was placed on W-1. W-9 located within Love Street was missing a manway cover. The manway cover from W-11 (located in a low traffic area) was relocated to W-9 and new bolts were installed. W-11 was fitted with a used manway cover provided by Harrison Cooper. The bolt holes did not match up; therefore it was not bolted down. Because of the low traffic location of W-11 the unsecured manway cover should be more than sufficient.

It was noted that there is 2-inch steel piping running below ground surface connecting W-1, W-2, and W-3 together. A photograph was taken of this piping and is provided in Appendix B. There are no records in the NMED files regarding the origin or use of this piping. The piping was likely installed by Billings as conduit fro their NAPL recovery system.

3.6 Surveying

The three new monitoring wells (W-19, W-20, and W-21) and the three adjusted wells (W-7, W-15, and W-18) were surveyed by Basin Surveys, a New Mexico Licensed Surveyor, located in Hobbs, New Mexico. All wells were surveyed to New Mexico State Plane Coordinates using NAD-83 reference to existing monitor wells W-9 and W-12. Wells were located to within 0.01 foot horizontal and 0.01 foot vertical. The survey results are attached in Appendix E. It should be noted that Table 2 - Summary of Fluid Gauging does not reflect the new casing elevations for W-7, W-15, and W-18, because the water levels were measured prior to cutting the well casing.

3.7 Bail Down Test

Beginning on November 7, 2007, a three step bail down test was completed on two wells, W-2 and W-3. Prior to conducting the bail down tests, NAPL depth to product (DTP) and depth to water (DTW) was measured to within 0.01 feet in each well using an interface probe. The corrected potentiometric surface elevation was calculated. NAPL was rapidly hand bailed from the wells. The wells were periodically gauged and the potentiometric surface elevation was calculated. Bailing of product ceased once the potentiometric surface elevation was within 0.10 feet of the initial corrected potentiometric surface elevation.

Depth to product (DTP) and depth to water (DTW) were measured as NAPL and water recovered in the wells. Initial measurements were recorded at 1 minute intervals for a minimum of 10 minutes, 10 minute intervals for a minimum of 50 minutes, 1 hour intervals for three hours, 3 hour intervals for 8 to 10 hours and finally the next morning. DTP measurements, DTW measurements and corresponding time intervals were recorded on product bail down test field forms (Appendix F). The bail down test was repeated on wells W-2 and W-3 on November 8 and 9, 2007. Extracted and separated PSH and incidental groundwater (containing dissolved NAPL) was temporarily stored in a 55-gallon drum pending off-site removal and appropriate disposal or recycling.

4.0 INVESTIGATION RESULTS

4.1 Soil Investigation Results

Heated headspace measurements of soil samples collected from W-19, W-20 and W-21 ranged from 0.0 to 0.6 ppm. Although the boreholes were drilled via air rotary, which volatilizes soil samples headspace measurements were low enough to indicate that soil contamination was not present in the vadose zone. Heated headspace measurements are shown on the boring logs in Appendix A.

Analytical results for soil samples collected from the air water interface in all three borings and the waste characterization soil sample were below method detection limits for all constituents analyzed. A summary of the laboratory results can be found in Table 1. The analytical laboratory reports are provided in Appendix C

As indicated by the heated headspace measurements and soil analytical results, soil contamination is not present in the vadose zone in the vicinity of wells W-19, W-20 and W-21.

4.2 Groundwater Investigation Results

Groundwater is present beneath the site at depths ranging from 53 to 57 feet bgs. The groundwater flow direction is toward the southeast; the hydraulic gradient is 0.003 foot per foot (Figure 6). Water levels have risen compared to the previous monitoring event completed in August 2006.

NAPL was observed in wells W-1, W-2, W-3 and V-1. NAPL thicknesses ranged from 3.03 feet in W-3 to 4.58 feet in V-1. V-1 is a vertical extent well. Billings reported that NAPL first appeared in this well after the second sampling event, indicating that V-1 may not have been properly installed. Billings suggested (BAI, 1993) that NAPL enters the well through a well casing joint, and recommended that the well be plugged and abandoned. Golder concurs with BAI's recommendation; V-1 should be properly plugged and abandoned.

Dissolved phase hydrocarbon concentrations are above the NMWQCC standards in six of the nine wells sampled. Wells W-7, W-20, and W-21 were below the NMWQCC standards for all compounds sampled. W-8 had the highest hydrocarbon concentrations with benzene at 20,000 µg/L, MTBE at 5,900 µg/L, EDB at 440 µg/L, EDC at 4,100 µg/L, and naphthalenes at 770 µg/L. The newly installed well W-19 had an EDC concentration of 23 µg/L, which is above the EDC standard of 10 µg/L. Concentrations decreased slightly in wells W-8 and W-9 and increased in W-5, W-11,

and W-16. Benzene concentrations increased significantly in W-16 from 1.3 µg/L in August 2006 to 640 µg/L. Laboratory analytical results are summarized in Table 5. The distribution of organic contaminants in groundwater is shown on Figure 7.

4.3 Bail Down Test Results

The bail down tests on W-2 and W-3 were conducted over three days starting on November 7, 2007 and ending on November 9, 2007. Each day NAPL was hand bailed from W-2 and W-3 until the static corrected potentiometric surface elevation was within 0.10 foot of the final non-corrected potentiometric surface elevation.

Day 1

Approximately 4.5 gallons of NAPL and 1 gallon of water was hand bailed from W-2 and approximately 5 gallons of NAPL and 2.5 gallons of water were recovered from W-3. The initial product level in W-2 was 3.32 feet and 0.12 feet of NAPL remained after bailing was completed for the start of the recovery test. The initial product level in W-3 was 3.03 feet and 0.11 feet of NAPL remained after bailing. In W-2 after approximately 21 hours the product thickness in the well was 0.25 feet indicating recovery of 0.13 feet of product. In W-3 after approximately 22 hours the product thickness was 0.20 feet for a net recovery 0.09 feet of NAPL.

Day 2

Approximately 0.5 gallons of NAPL and a trace of water was hand bailed from both W-2 and W-3. NAPL thickness after bailing in both W-2 and W-3 was 0.01 feet. Product thickness in W-2 after approximately 21 hours of recovery was 0.16 feet for a net recovery of 0.15 feet of product. In W-3 the product thickness was 0.14 feet after approximately 23 hours for a net recovery of 0.13 feet of product. In both tests the greatest amount of product was recovered within the first ten minutes of the test.

Day 3

Approximately 0.10 gallons of NAPL was hand bailed from each wells along with ⅛ and ¼ gallon of water from W-2 and W-3, respectively. After approximately 5 to 6 hours product thickness had recovered to 0.07 feet in each of the wells.

Bail down test field forms are presented in Appendix F.

Results

The NAPL recovery data collected at the site was graphed to determine the actual product thickness at the site. These graphs are included in Appendix F. The true thickness of the mobile NAPL layer is the distance from the inflection point to the top of the hydrocarbon under static conditions (EPA, 1998). Based on the collected data the actual product thickness at the site ranges from 0.12 to 0.19 feet. The ratio of "true" to apparent NAPL ranges at the site from 3.61% to 5.94%.

Approximately 0.10 feet to 0.13 feet of NAPL recovered in each well on each day of the test. Although day 3 tests were not as long as the other two tests, the trends indicate that the product thickness would increase by at least 0.09 to 0.10 feet in both wells, a result similar to that observed on days 1 and 2.

Based on the bail down tests the NAPL volume and mass were calculated for the site. The NAPL volume ranges from 1,460 to 3,266 gallons and the NAPL mass ranges from 9,743 to 21,797 pounds. Calculations of the NAPL volume and mass are provided in Appendix F.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The secondary investigation included the installation of three monitor wells to delineate the downgradient extent of the dissolved phase plume and a bail down test on two wells to determine the amount of NAPL present at the site. Based on the data collected the following conclusions are presented:

- Heated headspace measurements and analytical results indicate that soil contamination was not present in the vicinity of the three newly installed wells W-19, W-20, and W-21;
- The depth to water ranged from 53 to 57 feet bgs. The groundwater flow direction is toward the southeast;
- Non-aqueous phase liquid (NAPL) was present in W-1, W-2, W-3 and V-1 with thicknesses ranging from 3.03 to 4.58 feet.
- The downgradient extent of the dissolved phase plume has been delineated with only W-19 having EDC above NMWQCC standards. Both wells W-20 and W-21 were below NMWQCC standards for all constituents analyzed.
- Dissolved phase hydrocarbon concentrations are above the NMWQCC standards in W-5, W-8, W-9, W-11 and W-16.
- The bail down test indicated that the ratio of "true" to apparent NAPL ranges from 3.61% to 5.94% with the volume of NAPL estimated at 1,460 to 3,266 gallons.

Golder recommends that the following additional work be completed:

- Plug and abandon vertical extent well V-1. This well was improperly constructed and NAPL has infiltrated the casing through the joint and has entered the well.
- Perform a soil vapor extraction pilot test. The pilot test will determine SVE parameters to design a Phase 2 SVE NAPL recovery system. In addition the piping that is present below ground surface between W-1, W-2, and W-3 can be tested to determine its viability for use as SVE conveyance lines.
- Continue groundwater monitoring.

6.0 REFERENCES

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TABLES

TABLE 1
SUMMARY OF SOIL SAMPLE RESULTS
LOVINGTON 66, LOVINGTON, NEW MEXICO

Boring	Date Sampled	Sample Depth (feet)	Benzene	Toluene	Ethyl Benzene	Xylenes	Total BTEX	MTBE	EDB	EDC	Total Naphthalenes	TPH Gasoline Range	Lead
W-19	8-Nov-07	53 - 54	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.050	<0.10	NA	NA
W-20	8-Nov-07	53 - 54	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.050	<0.10	NA	NA
W-21	8-Nov-07	53 - 54	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.050	<0.10	NA	NA
Waste Characterization	8-Nov-07	-	<0.050	<0.050	<0.050	<0.10	<0.050	<0.10	NA	NA	NA	<5.0	1.2

Notes:

All concentrations in milligrams per kilogram (mg/kg)

Volatile Organic Compound data are by EPA Method 8260 and Total Naphthalenes by EPA Method 8260

Waste Characterization data for volatiles are by EPA Method 8021, for TPH by EPA Method 8015, and for Lead by EPA Method 6010

TPH = Total Petroleum Hydrocarbon

MTBE = methyl tertiary butyl ether

NA = not analyzed

TABLE 2
SUMMARY OF FLUID GAUGING DATA
LOVINGTON 66, LOVINGTON, NEW MEXICO

Monitor Well	Date Measured	Northing[1]	Easting[1]	Casing Elevation[2]	Depth to Product[3]	Product Thickness[4]	Depth to Water[3]	Groundwater Elevation[2]
Allsup's # 109								
MW-1	7-Nov-2007	708392.73	843467.49	3909.74			53.93	3855.81
	8-Aug-2006						54.36	3855.38
	6-Aug-2005						55.07	3854.67
MW-2	7-Nov-2007	708398.53	843584.18	3910.05			54.58	3855.47
	8-Aug-2006						55.04	3855.01
	6-Aug-2005						55.74	3854.31
MW-3	7-Nov-2007	708484.61	843518.13	3910.14			54.22	3855.92
	8-Aug-2006						54.65	3855.49
	6-Aug-2005						55.33	3854.81
Walstad 66								
V-1	7-Nov-2007	708614.74	843348.54	3910.67	53.01	4.58	57.59	3856.52
	8-Aug-2006				53.32	4.59	57.91	3856.20
	25-May-1993			99.37			56.74	42.63
	29-Aug-1992						56.68	42.69
W-1	7-Nov-2007	708649.18	843347.81	3911.33	53.91	3.11	57.02	3856.64
	8-Aug-2006				54.23	3.15	57.38	3856.31
	24-May-1993				NAPL Present			
	28-Aug-1993				NAPL Present			
	24-Jun-1992				>30" of NAPL Present			
	8-Jun-1992				>30" of NAPL Present			
	12-Feb-1992				0.125" of NAPL Present			
W-2	7-Nov-2007	708625.02	843381.13	3910.19	52.88	3.32	56.20	3856.48
	8-Aug-2006				53.21	5.34	58.55	3855.65
	24-May-1993				NAPL Present			
	28-Aug-1992				NAPL Present			
	24-Jun-1992				>30" of NAPL Present			
	8-Jun-1992				>30" of NAPL Present			
	13-Mar-1992				0.125" of NAPL Present			
W-3	7-Nov-2007	708597.90	843348.60	3910.29	53.01	3.03	56.04	3856.52
	8-Aug-2006				53.30	3.20	56.50	3856.19
	24-May-1993				NAPL Present			
	28-Aug-1992				NAPL Present			
	24-Jun-1992				>30" of NAPL Present			
	8-Jun-1992				>30" of NAPL Present			
	13-Mar-1992				0.125" of NAPL Present			

TABLE 2
SUMMARY OF FLUID GAUGING DATA
LOVINGTON 66, LOVINGTON, NEW MEXICO

Monitor Well	Date Measured	Northing[1]	Easting[1]	Casing Elevation[2]	Depth to Product[3]	Product Thickness[4]	Depth to Water[3]	Groundwater Elevation[2]
W-4	8-Aug-2006	Well Destroyed						
	25-May-1993			99.62			56.48	43.14
	28-Aug-1992						56.69	42.93
	24-Jun-1992						57.04	42.58
W-5	7-Nov-2007	708759.72	843252.39	3911.71			54.61	3857.10
	8-Aug-2006						54.88	3856.83
	26-May-1993			100.41			57.02	43.39
	28-Aug-1992						57.24	43.17
	24-Jun-1992						57.59	42.82
W-6	8-Aug-2006	Well Destroyed						
	26-May-1993			99.48			56.49	42.99
	28-Aug-1992						56.64	42.84
	24-Jun-1992						56.97	42.51
W-7	7-Nov-2007	708911.67	843120.56	3911.35			53.48	3857.87
	8-Aug-2006						53.74	3857.61
	25-May-1993			100.07			55.96	44.11
	28-Aug-1992						56.29	43.78
W-8	7-Nov-2007	708389.76	843640.62	3909.92			54.65	3855.27
	8-Aug-2006						55.11	3854.81
	25-May-1993			98.69			57.20	41.49
	28-Aug-1992						57.24	41.45
W-9	7-Nov-2007	708267.18	843790.26	3908.72			54.12	3854.60
	8-Aug-2006						54.66	3854.06
	25-May-1993			97.47			56.74	40.73
	28-Aug-1992						56.76	40.71
W-10	8-Aug-2006	708254.54	843452.92	3908.89			53.79	3855.10
	26-May-1993			97.85			55.80	42.05
	28-Aug-1992						56.18	41.67
W-11	7-Nov-2007	708600.95	843650.96	3909.96			54.26	3855.70
	8-Aug-2006						54.70	3855.26
	26-May-1993			98.66			56.85	41.81
	28-Aug-1992						56.82	41.84
W-12	7-Nov-2007	708435.38	843045.85	3910.59			53.72	3856.87
	8-Aug-2006						53.55	3857.04
	26-May-1993			99.34			55.96	43.38
	29-Aug-1992						56.28	43.06

TABLE 2
SUMMARY OF FLUID GAUGING DATA
LOVINGTON 66, LOVINGTON, NEW MEXICO

Monitor Well	Date Measured	Northing[1]	Easting[1]	Casing Elevation[2]	Depth to Product[3]	Product Thickness[4]	Depth to Water[3]	Groundwater Elevation[2]
W-13	7-Nov-2007	708915.13	843525.37	3910.36			53.70	3856.66
	8-Aug-2006						54.01	3856.35
	26-May-1993			99.07			56.25	42.82
	29-Aug-1992						56.36	42.71
W-14	7-Nov-2007	708504.99	843463.76	3909.73			53.72	3856.01
	8-Aug-2006						54.15	3855.58
	26-May-1993			98.54			56.26	42.28
W-15	7-Nov-2007	708195.85	843053.51	3909.71			53.11	3856.60
	8-Aug-2006						53.41	3856.30
	26-May-1993			98.49			55.40	43.09
W-16	7-Nov-2007	708153.28	843364.45	3908.67			53.06	3855.61
	8-Aug-2006						53.49	3855.18
	26-May-1993			97.44			55.52	41.92
W-17	8-Aug-2006	Well Destroyed						
	26-May-1993			96.94			56.86	40.08
W-18	7-Nov-2007	708698.11	843818.96	3909.50			54.19	3855.31
	8-Aug-2006						54.60	3854.90
	26-May-1993			98.26			56.79	41.48
W-19	7-Nov-2007	708148.94	843934.18	3908.36			54.23	3854.13
W-20	7-Nov-2007	707780.85	844187.25	3907.45			54.29	3853.16
W-21	7-Nov-2007	707988.79	843841.61	3908.49			54.19	3854.30

[1] Horizontal control to NM State Plane Coordinates Central NAD83 Grid Coordinates (in feet)

[2] Vertical Control to NAVD88 Datum in feet above mean sea level

[3] Measured in feet below the top of casing at survey point on north side of well

[4] Measured in feet

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
INORGANIC COMPOUNDS AND GEOCHEMICAL INDICATORS, LOVINGTON 66 LOVINGTON, NEW MEXICO

Well Number	Date Sampled	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	pH	SpC (uS/cm)	Temp	DO (mg/L)	ORP (mV)
V-1	7-Nov-07	NAPL Present							
	8-Aug-06	NAPL Present							
W-1	7-Nov-07	NAPL Present							
	8-Aug-06	NAPL Present							
W-2	7-Nov-07	NAPL Present							
	8-Aug-06	NAPL Present							
W-3	7-Nov-07	NAPL Present							
	8-Aug-06	NAPL Present							
W-5	7-Nov-07	NA	NA	NA	NA	2,454	19.7	0.15	NA
	9-Aug-06	NA	NA	NA	6.34	2,110	21.8	0.47	-88
W-7	7-Nov-07	NA	NA	NA	NA	1,200	19.7	5.30	NA
	8-Aug-06	NA	NA	NA	6.78	1,475	19.3	2.43	226
W-8	7-Nov-07	NA	NA	NA	NA	1,235	19.7	1.26	NA
	9-Aug-06	NA	NA	NA	6.63	1,260	22.9	0.60	-311
	6-Aug-05	NA	NA	NA	6.78	1,090	20.23	3.13	234
W-9	7-Nov-07	NA	NA	NA	NA	1,183	19.5	1.12	NA
	9-Aug-06	NA	NA	NA	6.42	1,230	22.5	0.44	-218
	6-Aug-05	NA	NA	NA	6.77	1,050	20.20	3.29	211
W-10	7-Nov-07	Well Not Sampled Due to Location							
	9-Aug-06	NA	NA	NA	6.50	2,400	22.1	0.00	-175
	6-Aug-05	NA	NA	NA	6.87	1,610	20.76	3.74	201
W-11	7-Nov-07	NA	NA	NA	NA	1,592	21	0.28	NA
	9-Aug-06	NA	NA	NA	6.38	1,760	22.2	0.17	-97

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
INORGANIC COMPOUNDS AND GEOCHEMICAL INDICATORS, LOVINGTON 66 LOVINGTON, NEW MEXICO

Well Number	Date Sampled	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	pH	SpC (uS/cm)	Temp	DO (mg/L)	ORP (mV)
W-12	7-Nov-07	NA	NA	NA	NA	NA	NA	NA	NA
	8-Aug-06	NA	NA	NA	7.20	880	21.8	2.22	168
W-13	7-Nov-07	NA	NA	NA	NA	NA	NA	NA	NA
	8-Aug-06	NA	NA	NA	5.4	1,111	15.9	1.85	219
W-14	7-Nov-07	NA	NA	NA	NA	NA	NA	NA	NA
	9-Aug-06	NA	NA	NA	6.6	1,850	23.4	0.00	-290
W-15	7-Nov-07	NA	NA	NA	NA	NA	NA	NA	NA
	8-Aug-06	NA	NA	NA	6.41	1,240	18.5	3.96	267
W-16	7-Nov-07	NA	NA	NA	NA	2,072	20.7	0.11	NA
	8-Aug-06	NA	NA	NA	6.33	2,080	22.4	1.20	-113
W-18	7-Nov-07	NA	NA	NA	NA	NA	NA	NA	NA
	8-Aug-06	NA	NA	NA	6.24	1,090	21.1	1.20	186
W-19	7-Nov-07	NA	NA	NA	NA	1,214	19.5	NA	NA
W-20	7-Nov-07	NA	NA	NA	NA	1,185	19.5	NA	NA
W-21	7-Nov-07	NA	NA	NA	NA	2,544	20.2	NA	NA

Notes:

DO = Dissolved oxygen

mg/L = Milligrams per liter

mV = Millivolts

NA = Not analyzed

ORP = Oxidation-reduction potential in milli volts (mV)

SpC = Specific conductance measured in micro siemens per centimeter (uS/cm)

Temp = Temperature in degrees Celsius

uS/cm = Microsiemens per centimeter

TABLE 4
SUMMARY OF SAMPLE ANALYTICAL AND QUALITY CONTROL REQUIREMENTS
LOVINGTON 66, LOVINGTON, NEW MEXICO

Target Analytes	Matrix	Analytical Method	Sample Container	Preservative	Holding Time
VOCs	Water	EPA 8260	3 x 40- mL glass vials	Mercuric Chloride; Cool to 4°C	14 days
BTEX/TPH	Soil	EPA 8021/8015	20-mL glass vials	Methanol Extraction; Cool to 4°C	14 days
VOCs	Soil	EPA 8260	20-ml glass vials	Methanol Extraction; Cool to 4°C	14 days

Notes:
BTEX = Benzene, toluene, ethylbenzene, and xylenes
TPH = Total Petroleum Hydrocarbon
EPA = U.S. Environmental Protection Agency

TABLE 5
SUMMARY OF GROUNDWATER SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS
LOVINGTON 66, LOVINGTON, NEW MEXICO

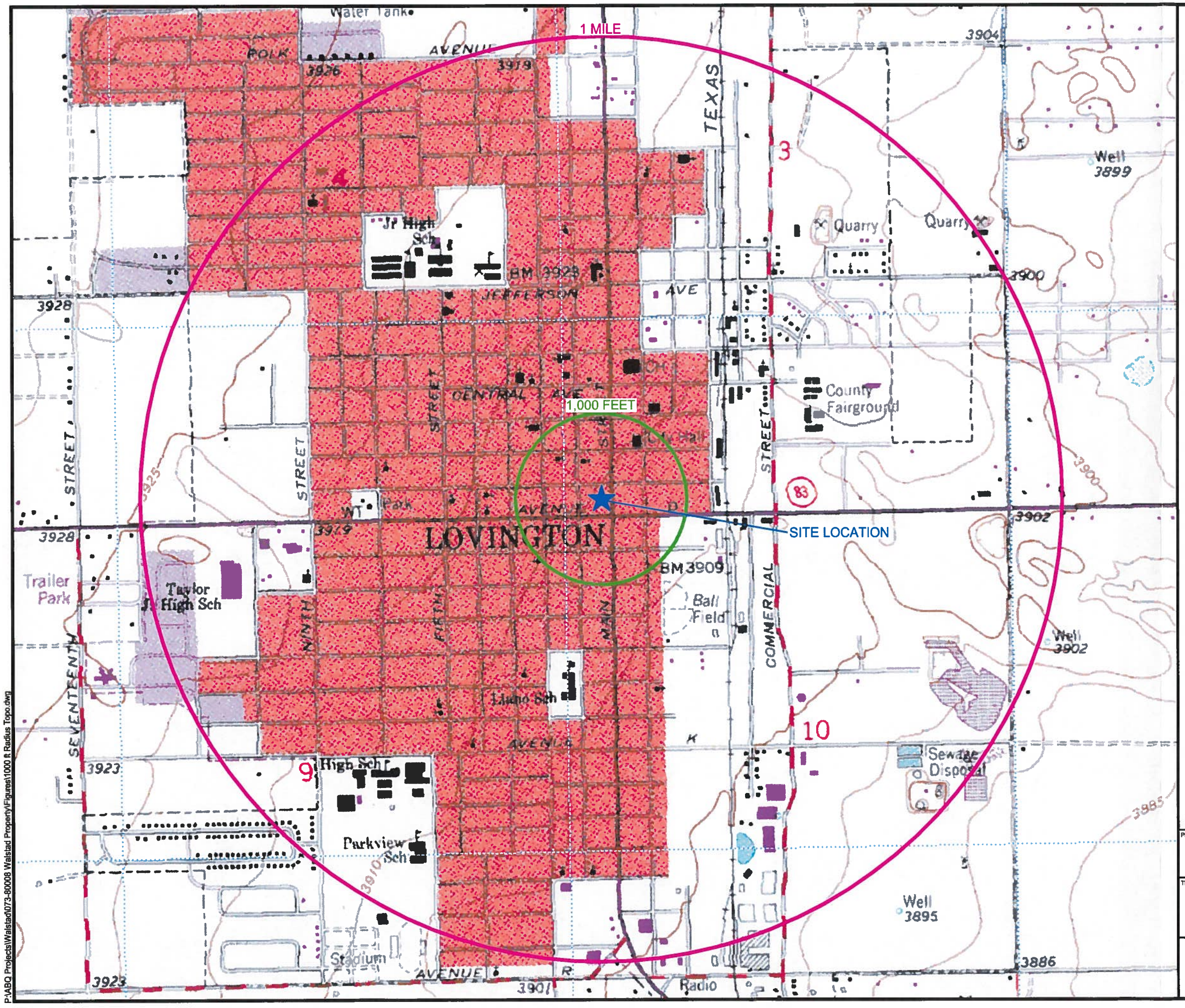
Monitor Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	EDB	EDC	Total Naphthalenes
W-2	13-Mar-92	29,878	28,953	3,874	13,109	5,921	NA	NA	NA
W-3	13-Mar-92	10,493	8,961	1,253	5,320	5,150	NA	NA	NA
W-4	25-May-93	2,500	980	310	470	<63	NA	NA	NA
	28-Aug-92	1,400	430	95	300	<2.5	NA	NA	NA
	24-Jun-92	200	53	21	40	<5.0	NA	NA	NA
W-5	7-Nov-07	45	8.5	29	15	170	<1.0	<1.0	4.9
	9-Aug-06	2.0	<1.0	3.7	<3.0	22	<1.0	<1.0	<2.0
	28-Aug-92	850	400	58	450	3.3	NA	NA	NA
	24-Jun-92	470	250	41	290	<10	NA	NA	NA
W-6	28-Aug-92	3,000	2,700	93	860	<2.5	NA	NA	NA
	24-Jun-92	1,400	1,200	48	500	<25	NA	NA	NA
W-7	7-Nov-07	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<2.0
	8-Aug-06	<1.0	<1.0	<1.0	<3.0	<1.5	<1.0	<1.0	<2.0
	25-May-93	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA
	28-Aug-92	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA
W-8	7-Nov-07	20,000	27,000	3,200	15,000	5,900	440	4,100	770
	9-Aug-06	21,000	29,000	2,600	13,000	6,300	<500	3,700	1,100
	4-Aug-05	27,000	35,000	3,800	18,000	3,700	1,100	4,300	622
	25-May-93	12,000	8,300	1,500	8,800	<250	NA	NA	NA
	28-Aug-92	8,000	9,500	690	5,200	<2.5	NA	NA	NA
W-9	7-Nov-07	6,500	120	620	450	<10	<10	360	51
	9-Aug-06	6,700	560	1,200	1,400	<150	<100	650	250
	4-Aug-05	4,300	180	850	830	<1.0	<0.01	320	28.5
	25-May-93	100	6.3	2.5	170	<5.0	NA	NA	NA
	28-Aug-92	130	8.2	16	140	<2.5	NA	NA	NA
W-10*	9-Aug-06	420	<1.0	31	<3.0	22	<1.0	12	121
	4-Aug-05	940	2.6	930	140	2,400	0.11	48	27.1
	28-Aug-92	1,100	11.0	120	440	<2.5	NA	NA	NA
W-11	7-Nov-07	18	<1.0	38	13	540	<1.0	35	<2.0
	9-Aug-06	5.0	<1.0	62	44	88	<1.0	33	<2.0
	28-Aug-92	770	13	13	280	<2.5	NA	NA	NA
W-12	8-Aug-06	<1.0	<1.0	<1.0	<3.0	<1.5	<1.0	<1.0	<2.0
	29-Aug-92	87	6.1	2.6	180	<2.5	NA	NA	NA
W-13	8-Aug-06	<1.0	<1.0	<1.0	<3.0	<1.5	<1.0	<1.0	<2.0
	29-Aug-92	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NAA

TABLE 5
SUMMARY OF GROUNDWATER SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS
LOVINGTON 66, LOVINGTON, NEW MEXICO

Monitor Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	EDB	EDC	Total Naphthalenes
W-14	9-Aug-06	25,000	23,000	4,000	9,500	4,700	<500	<500	1,200
	5-Aug-05	27,000	26,000	4,900	9,500	7,600	3.3	120	413
	26-May-93	6,600	4,300	1,200	4,000	<125	NA	NA	NA
W-15	8-Aug-06	<1.0	<1.0	<1.0	<3.0	<1.5	<1.0	<1.0	<2.0
	26-May-93	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA
W-16	7-Nov-07	640	<1.0	22	12	55	<1.0	23	363
	8-Aug-06	1.3	14	2.9	<3	<1.5	<1.0	<1.0	<2.0
	26-May-93	52	<0.5	7.9	15	<2.5	NA	NA	NA
W-17	26-May-93	<0.5	<0.5	<0.5	<0.5	<2.5	NA	NA	NA
W-18	8-Aug-06	<1.0	<1.0	<1.0	<3.0	<1.5	<1.0	<1.0	<2.0
	26-May-93	1.6	1.8	<0.5	2.0	<2.5	NA	NA	NA
W-19	8-Nov-07	4.3	<1.0	<1.0	<1.5	<1.5	<1.0	23	<2.0
W-20	8-Nov-07	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<2.0
W-21	8-Nov-07	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<2.0
V-1	25-May-93	5,000	14,000	3,000	10,000	600	NA	NA	NA
	29-Aug-92	250	680	240	810	<2.5	NA	NA	NA

Notes:
All concentrations in micrograms per liter (parts per billion)
MTBE = Methyl tertiary butyl ether
EDB = Ethylene dibromide
EDC = Ethylene dichloride
W-10 and W-16 sample containers were labeled incorrectly, therefore results reported for August 8 and 9, 2006 have been switched.

FIGURES



LEGEND:

1,000 FOOT RADIUS

1 MILE RADIUS

1,100 0 1,100 2,200

SCALE IN FEET

PROJECT

LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

TITLE

SITE LOCATION AND WELL RECEPTOR SURVEY

Golder Associates
ALBUQUERQUE, NEW MEXICO

PROJECT No.		073-80008	FILE No. 1000 ft Radius Topo.dwg
DESIGN	TM	12/14/07	
CADD	RLO	01/17/08	
CHECK	TM	01/17/08	
REVIEW	JS	01/17/08	

FIGURE 1

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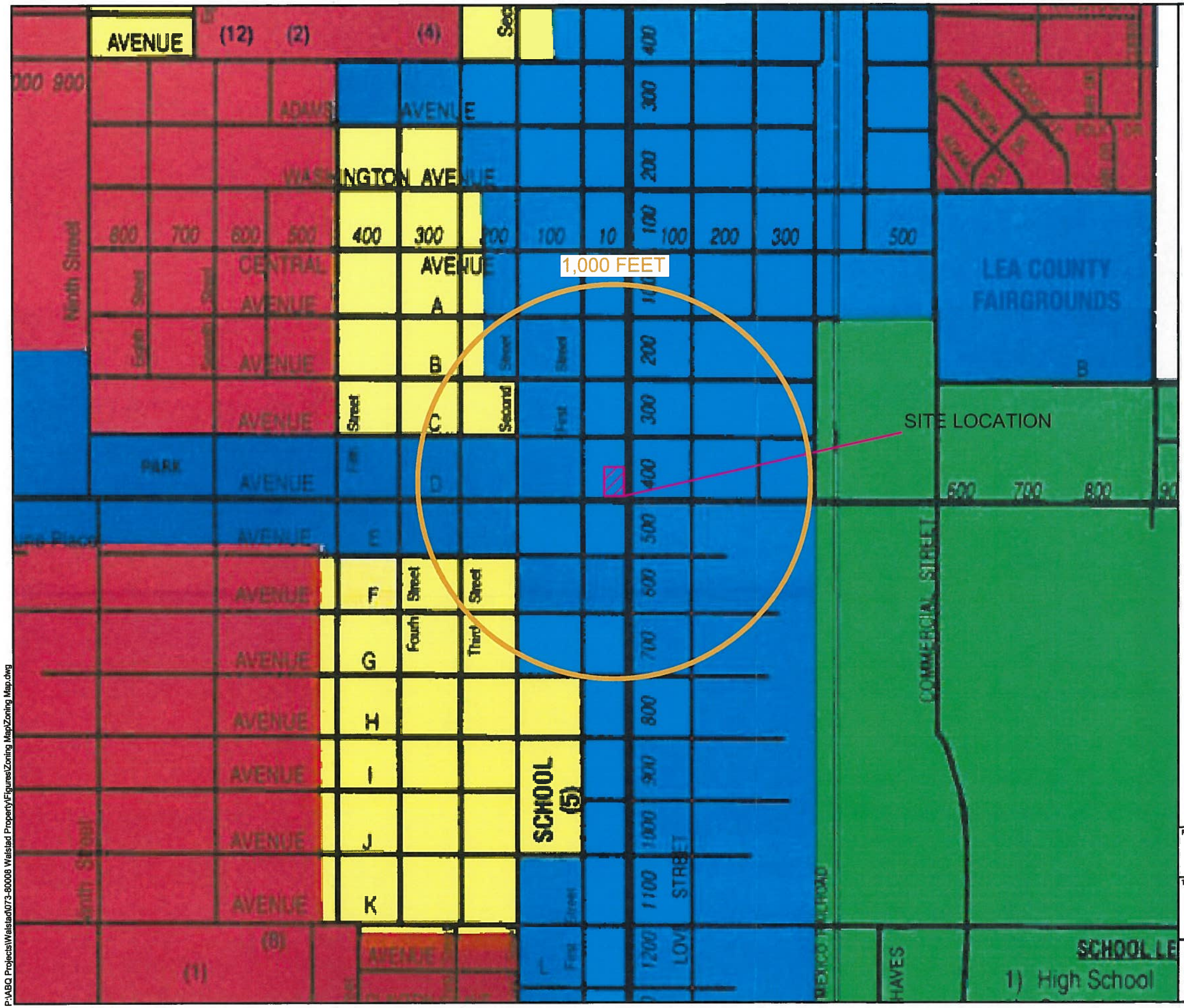

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LEGEND:

WALSTAD 66

1,000 FOOT RADIUS

LAND USE LEGEND

- A Single Family Residential Zone (Red)
- B Multi-Family Residential Zone (Yellow)
- C Commercial Zone (Blue)
- D Industrial Zone (Green)

500 0 250 500

B SIZE: 1" = 500' FEET

PROJECT

LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

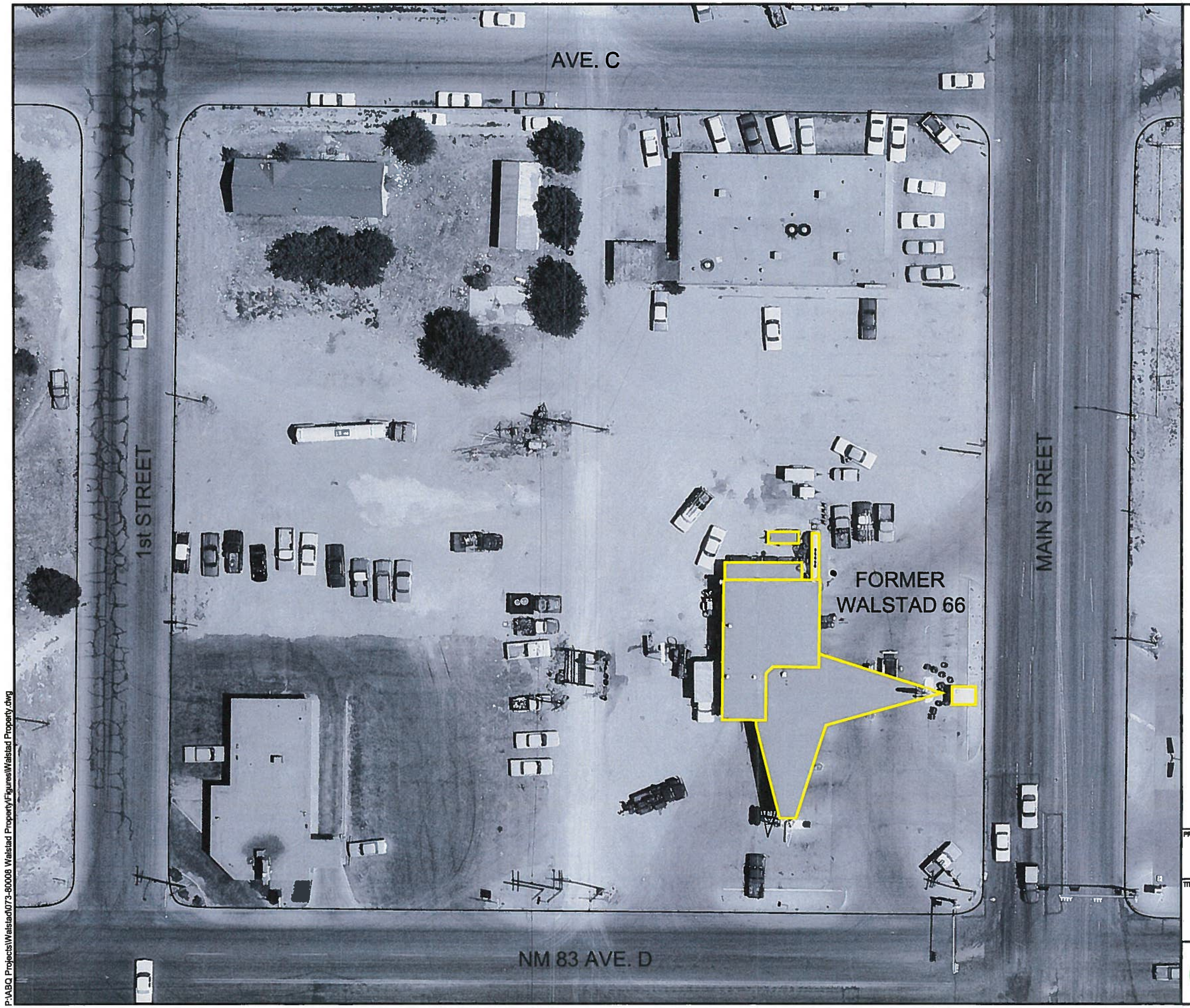
TITLE

LAND USE

Golder Associates
Albuquerque, New Mexico

PROJECT No.		073-80008	FILE No.		Zoning Map.dwg
DESIGN	TM	08/31/06	SCALE	AS SHOWN	REV. A
CADD	RLO	11/30/07			
CHECK	TM	11/30/07			
REVIEW	JS	11/30/07			

FIGURE 2



20 0 20 40
B SIZE: 1" = 40' FEET

AERIAL SOURCE: NMDOT DATE 1969

PROJECT
LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

TITLE
1969 AERIAL PHOTOGRAPH
LOVINGTON 66

Golder Associates
Albuquerque, New Mexico

PROJECT No.		073-80008	FILE No. Walstad Property.dwg	
DESIGN	TM	01/04/08	SCALE AS SHOWN	REV. A
CADD	RLO	01/04/08		
CHECK	TM	01/04/08		
REVIEW	JS	01/04/08		

FIGURE 3

P:\ABQ Projects\Walstad\073-80008 Walstad Property\Figures\Walstad Property.dwg

LEGEND:

W-1 WALSTAD MONITORING WELL

20 0 20 40
B SIZE: 1" = 40' FEET

PROJECT
LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

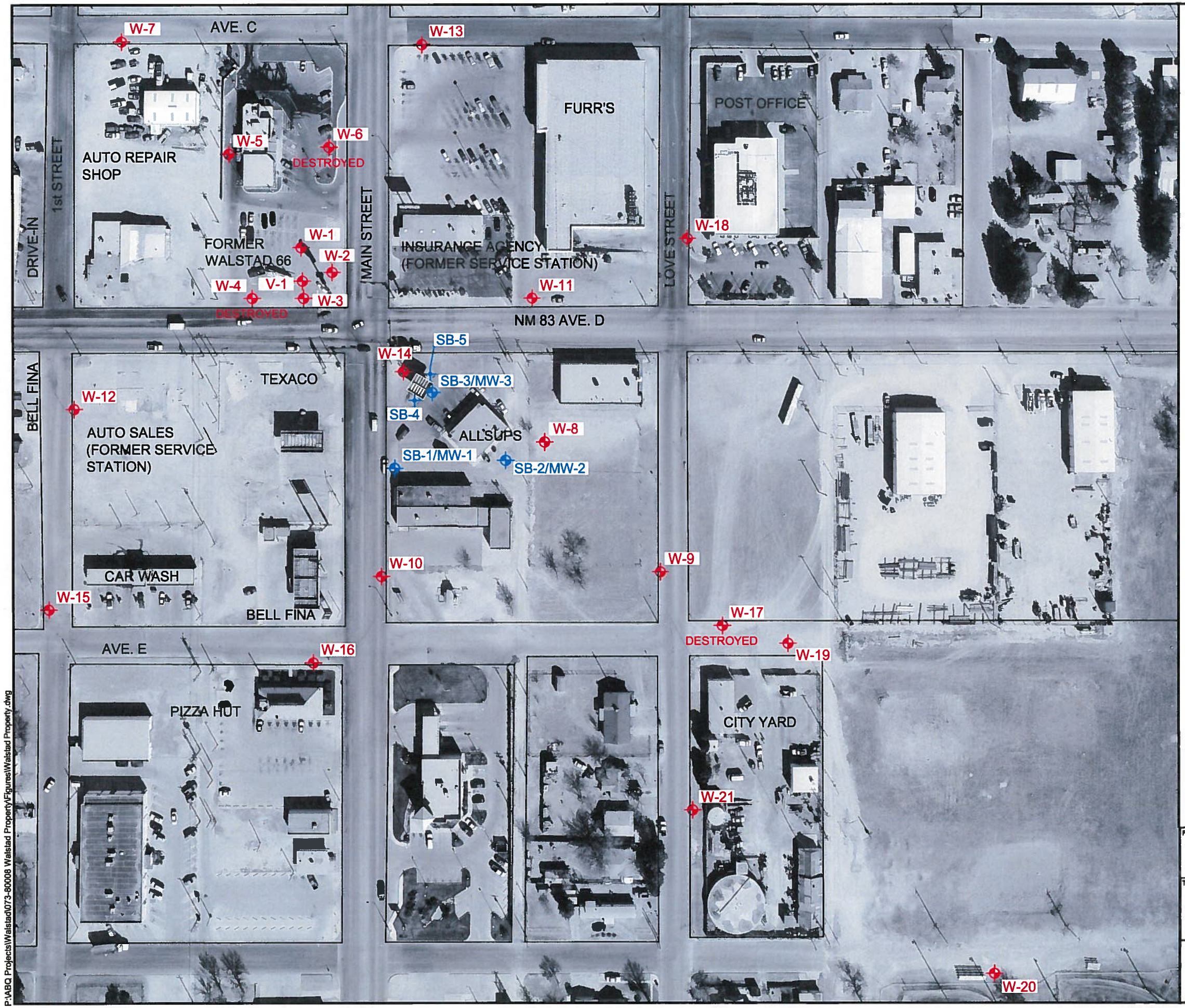
TITLE
2000 AERIAL PHOTOGRAPH
LOVINGTON 66

Golder Associates
Albuquerque, New Mexico

PROJECT No.		073-80008	FILE No.	Walstad Property.dwg
DESIGN	TM	01/04/08	SCALE	AS SHOWN REV. A
CADD	RLO	01/17/08		
CHECK	TM	01/17/08		
REVIEW	JS	01/17/08		

FIGURE 4

P:\ABQ Projects\Walstad\073-80008 Walstad Property\Figures\Walstad Property.dwg



LEGEND:

- W-1 — WALSTAD MONITORING WELL
- SB-1/MW-1 — ALLSUPS SOIL BORING/ MONITORING WELL
- SB-1 — ALLSUPS SOIL BORING

60 0 60 120
B SIZE: 1" = 120' FEET

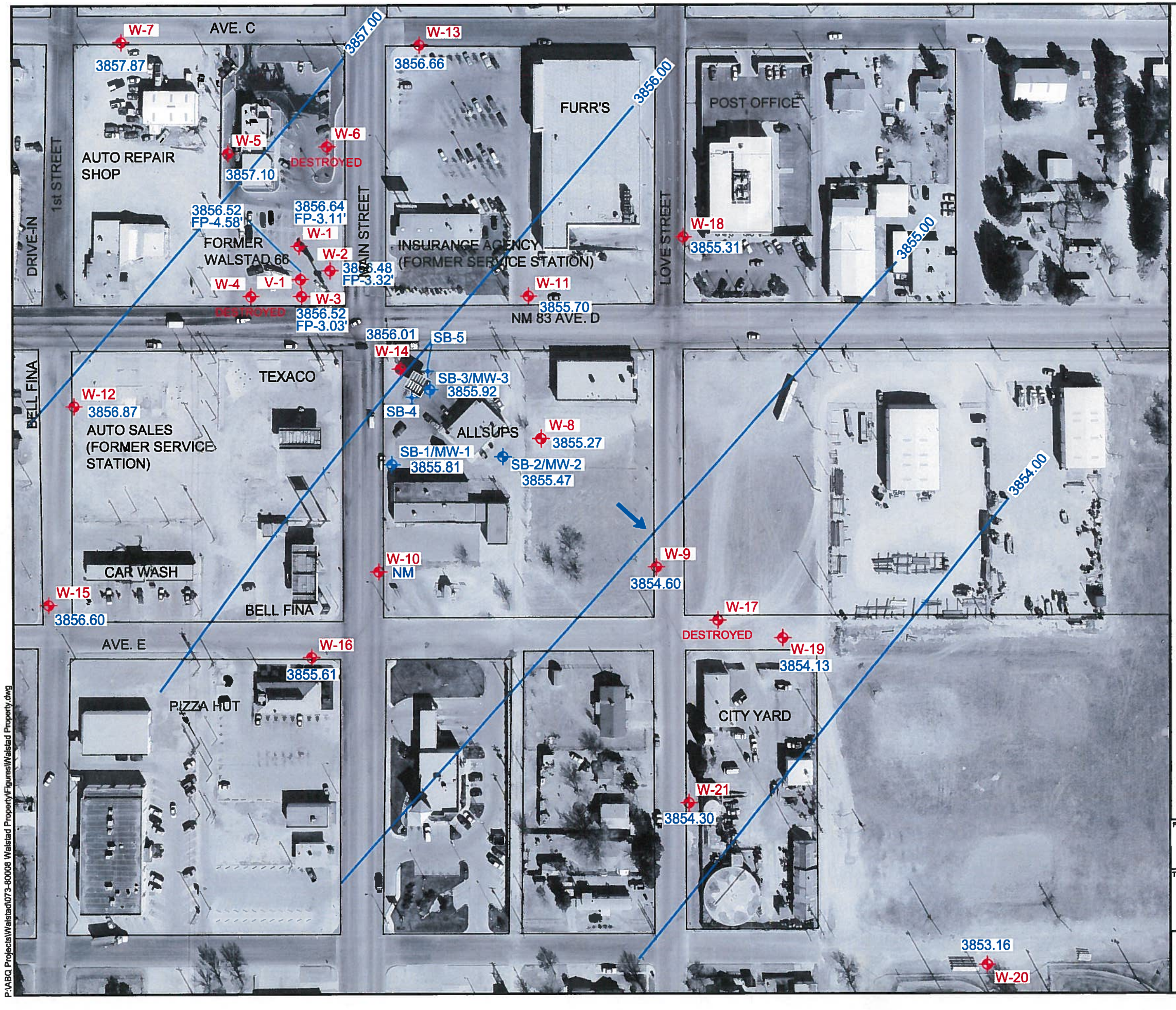
PROJECT
LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

TITLE
SITE MAP

Golder Associates
Albuquerque, New Mexico

PROJECT No.		073-80008	FILE No. Walstad Property.dwg	
DESIGN	TM	08/31/08	SCALE AS SHOWN	REV. A
CADD	RLD	01/17/08	**FIGURE 5**	
CHECK	TM	01/17/08		
REVIEW	JS	01/17/08		

P:\ABQ Projects\Walstad\073-80008 Walstad Property\Figures\Walstad Property.dwg



LEGEND:

- W-1 / 3856.64 — WALSTAD MONITORING WELL WITH GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- SB-1/MW-1 — ALLSUPS SOIL BORING/ MONITORING WELL LOCATION
- SB-1 — ALLSUPS SOIL BORING
- 3855.00 — POTENTIOMETRIC GROUNDWATER SURFACE ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION

* DATA NOT USED FOR CONTOURING

PROJECT
LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

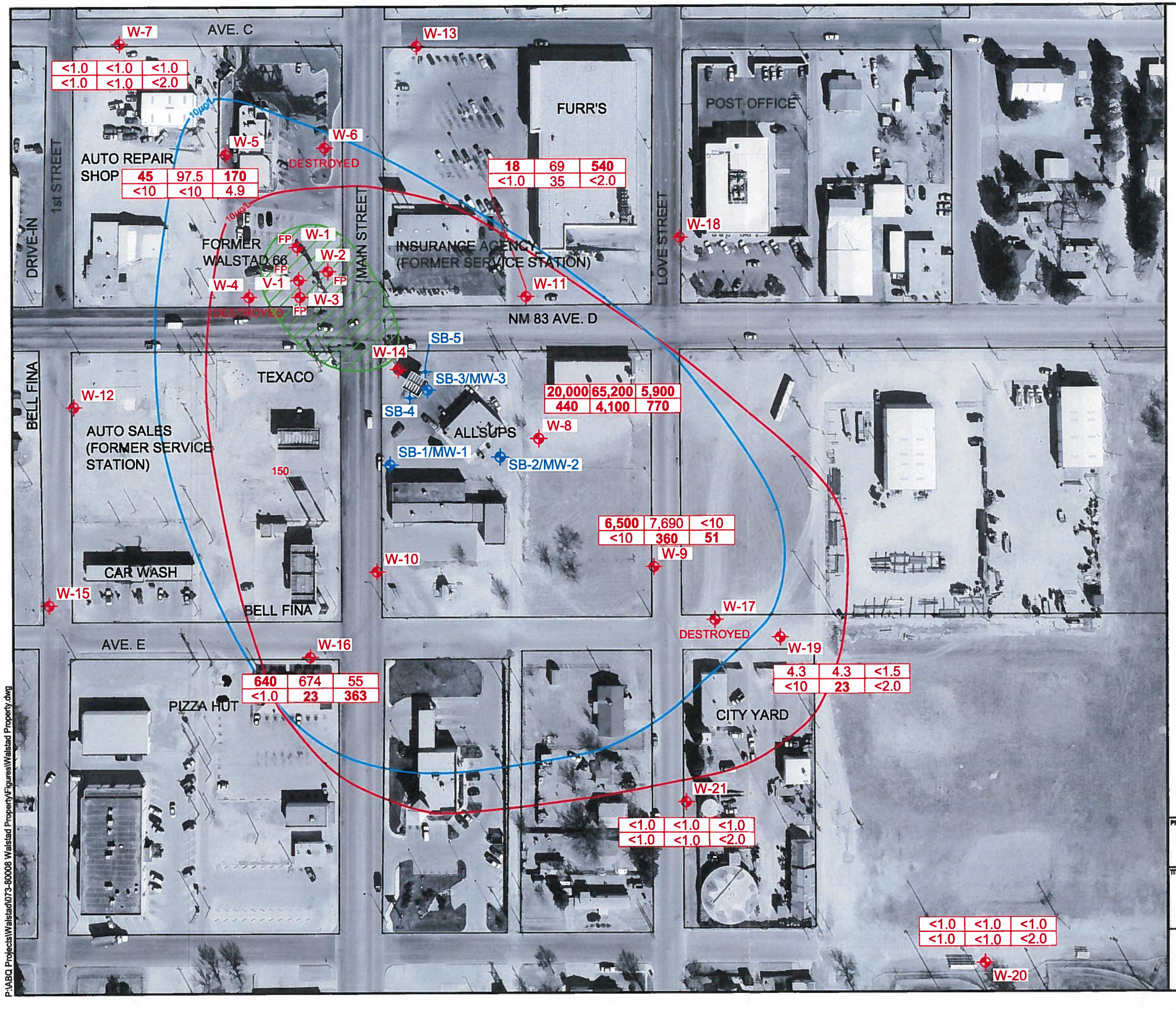
TITLE
POTENTIOMETRIC SURFACE MAP NOVEMBER 2007

Golder Associates
Albuquerque, New Mexico

PROJECT No.		073-80008	FILE No.	Walstad Property.dwg
DESIGN	TM	08/31/08	SCALE	AS SHOWN
CADD	RLO	01/17/08	REV.	A
CHECK	TM	01/17/08		
REVIEW	JS	01/17/08		

FIGURE 6

P:\ABQ Projects\Walstad\073-80008 Walstad Property\Figures\Walstad Property.dwg



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LEGEND:

- W-1 — WALSTAD MONITORING WELL
- SB-1/MW-1 — ALLSUPS SOIL BORING/ MONITORING WELL
- SB-1 — ALLSUPS SOIL BORING
- 10 µg/L — ESTIMATED EXTENT OF BENZENE ABOVE STANDARD
- 10 µg/L — ESTIMATED EXTENT OF EDC ABOVE STANDARD
- ESTIMATED EXTENT OF NAPL

BENZENE	BTEX	MTBE
EDB	EDC	TOTAL NAPHTHALENE

ALL CONCENTRATIONS ARE µg/L (ppb)

BOLD INDICATES THAT CONCENTRATION EXCEEDS NMWQCC GROUNDWATER STANDARD OR EIB STANDARD

80 0 80 120
B SIZE: 1" = 120' FEET

PROJECT
LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

TITLE
DISTRIBUTION OF ORGANIC CONTAMINANTS IN GROUNDWATER NOVEMBER 2007

Golder Associates
Albuquerque, New Mexico

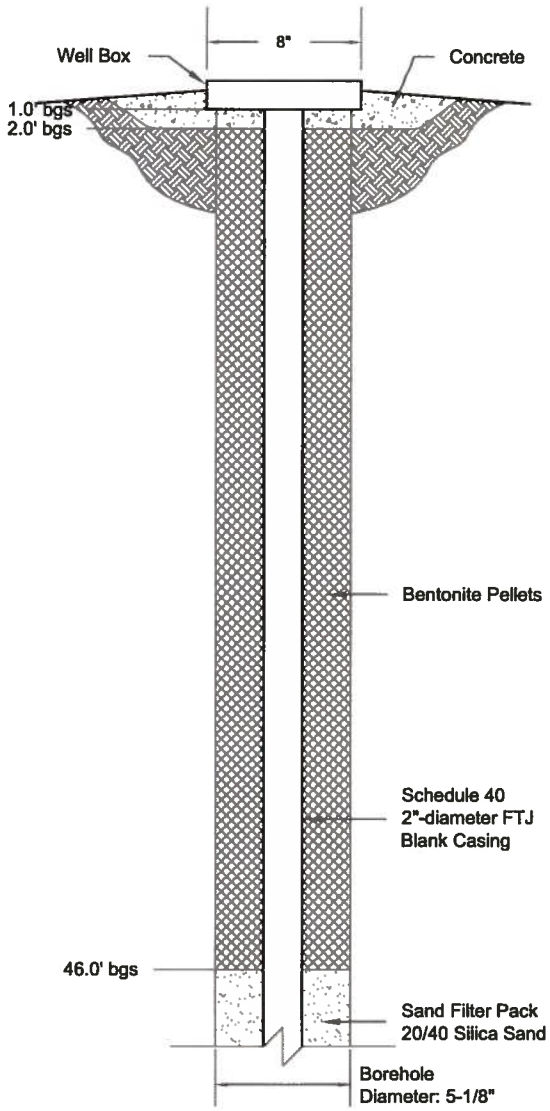
PROJECT No.		073-80008	FILE No. Walstad Property.dwg
DESIGN	TM	08/31/08	SCALE AS SHOWN REV. A
CADD	RLO	01/17/08	
CHECK	TM	01/17/08	
REVIEW	JS	01/17/08	

FIGURE 7

APPENDIX A
BORING LOGS / WELL COMPLETION DIAGRAMS

P:\ABQ Projects\Walstad\073-80008 Walstad Property\Figures\Walstad Bore Logs 11.08.07.dwg

FLUSH WELL DIAGRAM



SAMPLER TYPE	BLOW COUNTS	SAMPLE INTERVAL	RECOVERY (INCH)	PID READING	USCS SOIL TYPE	DEPTH (FEET BGS)	SOIL DESCRIPTION
CUTTINGS	NA					0	GRASS / DIRT TOP SOIL
					SC	5	CLAYEY SAND, BROWN (7.5YR 4/4), MEDIUM GRAINED, DRY, NO HYDROCARBON ODOR
						10	CALICHE, PINKISH WHITE (7.5YR 8/2), FINE GRAINED, DRY, NO HYDROCARBON ODOR, HARD DRILLING
						15	SAME AS ABOVE, EASIER DRILLING
				0.1	CALICHE	20	CALICHE, PINK (7.5YR 7/3), FINE GRAINED, DRY, NO HYDROCARBON ODOR @ 21' WET, POSSIBLE WATER LINE LEAKING FROM CITY YARD
						25	CALICHE, FINE GRAINED, PINK (7.5YR 7/4), DRY, HARD DRILLING, NO HYDROCARBON ODOR
						30	CALICHE WITH SANDSTONE, VERY HARD, FINE TO MEDIUM GRAINED, PINK (7.5YR 7/4), DRY, NO HYDROCARBON ODOR
						35	CALICHE SAND, WITH CALICHE GRAVEL, BROWN (7.5YR 6/4), MOIST, NO HYDROCARBON ODOR
					SP		
				0.6		40	SILTY SAND, FINE GRAINED, REDDISH YELLOW (7.5YR 6/6), HARD DRILLING @ 42', DRY, NO HYDROCARBON ODOR, VERY SLOW DRILLING
					ML	45	SILTY SAND, FINE GRAINED WITH SANDSTONE LENSES / LAYERS, LIGHT REDDISH BROWN (5YR 6/4), DRY, NO HYDROCARBON ODOR
						50	HARD DRILLING THROUGH SANDSTONE LENSES

Project:	Walstad 66
Drilling Company:	Harrison and Cooper
Drilling Rig/Bit:	Air Rotary Ingersol Rand OD - 5-1/8"
Driller:	Leonard
Start Date/Time:	11/08/07 / 1245
Completion Date/Time	11/08/07 / 1400
Boring Depth:	65.0 feet below ground surface
Logged by:	Rob Bendkowski

LOVINGTON 66, 424 SOUTH MAIN
LOVINGTON, NEW MEXICO

BORING LOG/
WELL CONSTRUCTION DETAIL W-19
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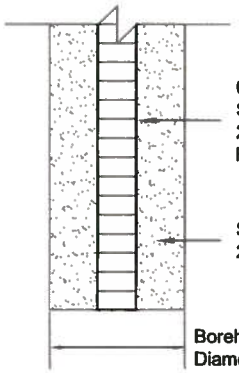

SAMPLER TYPE	BLOW COUNTS	SAMPLE INTERVAL	RECOVERY (INCH)	PID READING	USCS SOIL TYPE	DEPTH (FEET BGS)	SOIL DESCRIPTION
CUTTINGS / SPLIT SPOON / CUTTINGS	NA			0.6	ML	55	SAME AS ABOVE, LESS SANDSTONE
						60	SILTY SAND, FINE TO MEDIUM GRAINED, LIGHT BROWN (7.5YR 6/4), WET, NO HYDROCARBON ODOR
						65	HARD DRILLING, HARD LAYER CALICHE, SILTY SAND, FINE GRAINED, LIGHT BROWN (7.5YR 6/4), MOIST, NO HYDROCARBON ODOR
						70	SILTY SAND, FINE TO MEDIUM GRAINED, LIGHT BROWN (7.5YR 6/4), MOIST, WET, SLIGHT ODOR
						75	
						80	
						85	
						90	
						95	
						100	

Project:	Walstad 66
Drilling Company:	Harrison and Cooper
Drilling Rig/Bit:	Air Rotary Ingersol Rand OD - 5-1/8"
Driller:	Leonard
Start Date/Time:	11/08/07 / 1245
Completion Date/Time	11/08/07 / 1400
Boring Depth:	65.0 feet below ground surface
Logged by:	Rob Bendkowski

LOVINGTON 66, 424 SOUTH MAIN
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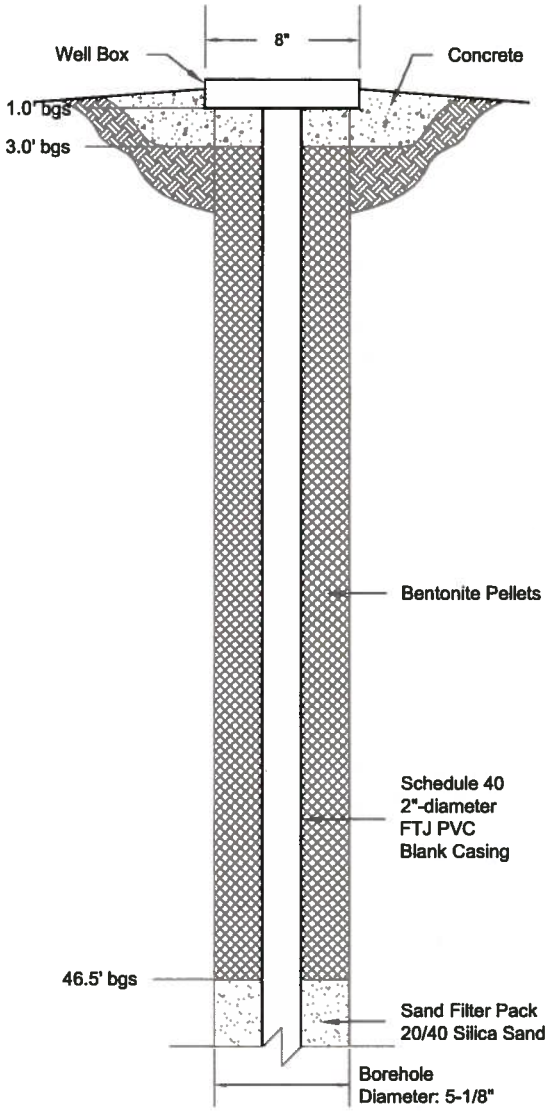
FLUSH WELL DIAGRAM



SAMPLER TYPE	BLOW COUNTS	SAMPLE INTERVAL	RECOVERY (INCH)	PID READING	USCS SOIL TYPE	DEPTH (FEET BGS)	SOIL DESCRIPTION
CUTTINGS	NA						GRASS TOP SOIL, TAN , DRY, CALICHE GRAVEL, WHITE, DRY
						5	CALICHE, PURE WHITE, HARD, MINOR AMOUNT TAN, FINE SAND, DRY, NO HYDROCARBON ODOR
					CALICHE		
						10	CALICHE, SAND, WHITE (5YR 8/1), MINOR CALICHE GRAVELS (PEA SIZE), SAND, MEDIUM GRAINED, DRY, NO HYDROCARBON ODOR
						15	WELL GRAINED SAND, PINK (5YR 7/4), FINE TO MEDIUM GRAINED, MINOR CALICHE GRAVEL, SLIGHTLY MOIST, NO HYDROCARBON ODOR
				0.0		20	WELL GRADED SAND WITH SANDSTONE FRAGMENTS, PINK (7.5YR 8/3), FINE GRAINED, ANGULAR FRAGMENTS UP TO 1" DIAMETER, VERY HARD, WELL CEMENTED, DRY, NO HYDROCARBON ODOR
					SW		
						25	SAME AS ABOVE WITH CALICHE
						30	SILTY SAND, PINK (7.5YR 7/4), VERY FINE GRAINED, SLIGHTLY MOIST, SMALL AMOUNT OF GRAVEL WHICH IS WELL CEMENTED SAND, NO HYDROCARBON ODOR
						35	SAME AS ABOVE, REDDISH YELLOW (7.5YR 6/6), HARD INTERVAL, DIFFICULT DRILLING, CEMENTED, VERY FINE SAND
					ML		
						40	SILTY SAND, PINK (7.5YR 7/4), VERY FINE
				0.0		45	SAME AS ABOVE, BLOW SAND TEXTURE, DRY, NO HYDROCARBON ODOR
							HARD DIFFICULT DRILLING, CHANGED BITS
					S.S.	50	FINE GRAINED SANDSTONE, WELL CEMENTED, PINK (7.5YR 7/4)

Project:	Walstad 66
Drilling Company:	Harrison and Cooper
Drilling Rig/Bit:	Air Rotary Ingersol Rand OD - 5-1/8"
Driller:	Leonard
Start Date/Time:	11/08/07 / 0815
Completion Date/Time	11/08/07 / 0930
Boring Depth:	65.0 feet below ground surface
Logged by:	Teri McMillan

LOVINGTON 66, 424 SOUTH MAIN
LOVINGTON, NEW MEXICO

BORING LOG/
WELL CONSTRUCTION DETAIL W-20
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Golder Associates
ALBUQUERQUE, NEW MEXICO

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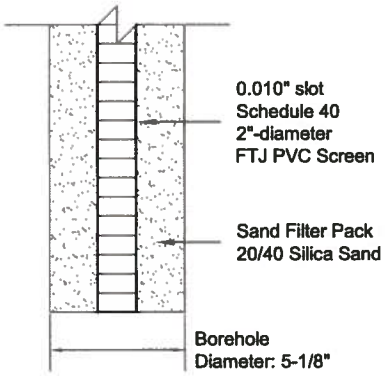

SAMPLER TYPE	BLOW COUNTS	SAMPLE INTERVAL	RECOVERY (INCH)	PID READING	USCS SOIL TYPE	DEPTH (FEET BGS)	SOIL DESCRIPTION
CUTTINGS	NA				S.S.		
SPLIT SPOON			5"		ML	55	53'-54' SPLIT SPOON SAMPLE, VERY FINE SILTY SAND, PINK (7.5YR 7/4)
							CEMENTED SAND, NO HYDROCARBON ODOR
CUTTINGS							FINE SAND, PINK (7.5YR 7/6), MOIST, NO HYDROCARBON ODOR
				0.0	SW	60	SAME AS ABOVE, WET
						65	
						70	
						75	
						80	
						85	
						90	
						95	
						100	

Project:	Walstad 66
Drilling Company:	Harrison and Cooper
Drilling Rig/Bit:	Air Rotary Ingersol Rand OD - 5-1/8"
Driller:	Leonard
Start Date/Time:	11/08/07 / 0815
Completion Date/Time	11/08/07 / 0930
Boring Depth:	65.0 feet below ground surface
Logged by:	Teri McMillan

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WELL CONSTRUCTION DETAIL W-20
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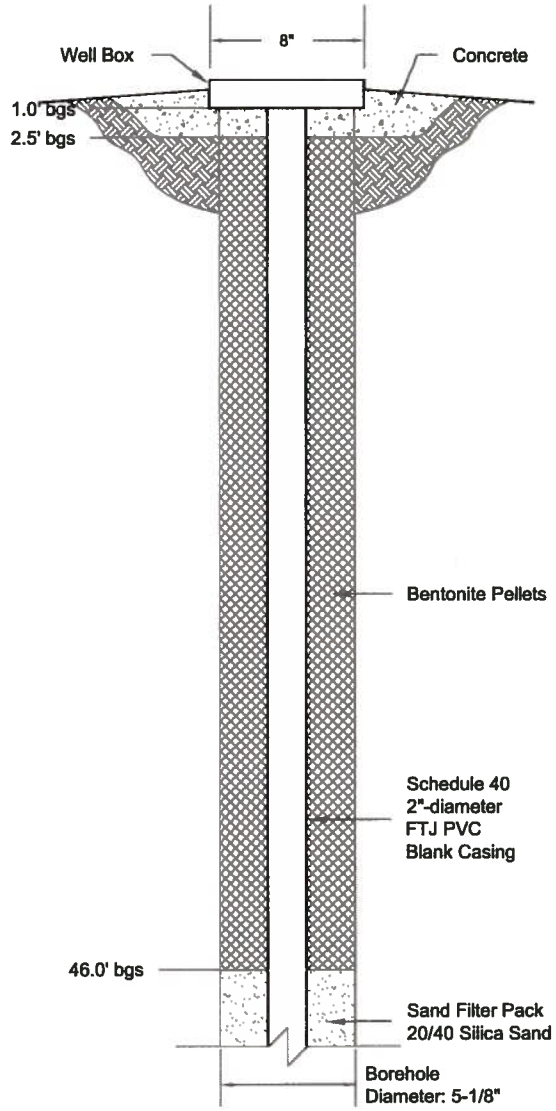
FLUSH WELL DIAGRAM



SAMPLER TYPE	BLOW COUNTS	SAMPLE INTERVAL	RECOVERY (INCH)	PID READING	USCS SOIL TYPE	DEPTH (FEET BGS)	SOIL DESCRIPTION
CUTTINGS	NA					0	GRASS TOP SOIL
					ML	5	VERY FINE GRAINED SILTY SAND WITH GRAVEL, BROWN (7.5YR 4/3), DRY, NO HYDROCARBON ODOR
						10	CALICHE, PINKISH WHITE (7.5YR 8/2), FINE GRAINED, SLIGHTLY INDURATED, DRY, NO HYDROCARBON ODOR
						15	SAME AS ABOVE, NOT AS HARD
				0.0	CALICHE	20	SAME AS ABOVE, HARD LAYER BELOW DIFFICULT DRILLING
						25	CEMENTED CALICHE LAYER WITH FINE SAND, PINKISH WHITE (7.5YR 8/2), DRY, NO HYDROCARBON ODOR
						30	WELL GRADED SAND WITH INTERBEDDED CALICHE LAYERS, PINK (7.5YR 7/4), FINE GRAINED
					SW	35	SAME AS ABOVE WITH SOME SANDSTONE LAYERS, EASY DRILLING
				0.3		40	HARD DRILLING ABOVE 40' SILTY SAND, PINK (7.5YR 8/3), DRY, NO HYDROCARBON ODOR
					ML	45	SAME AS ABOVE, CEMENTED INTERVALS, PINK (7.5YR 7/4), DRY, NO HYDROCARBON ODOR
						50	HARD DRILLING, SAME AS ABOVE

Project:	Walstad 66
Drilling Company:	Harrison and Cooper
Drilling Rig/Bit:	Air Rotary Ingersol Rand OD - 5-1/8"
Driller:	Leonard
Start Date/Time:	11/08/07 / 1015
Completion Date/Time	11/08/07 / 1110
Boring Depth:	65.0 feet below ground surface
Logged by:	Rob Bendkowski

LOVINGTON 66, 424 SOUTH MAIN
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ALBUQUERQUE, NEW MEXICO

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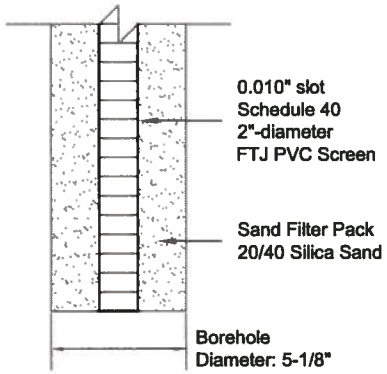

SAMPLER TYPE	BLOW COUNTS	SAMPLE INTERVAL	RECOVERY (INCH)	PID READING	USCS SOIL TYPE	DEPTH (FEET BGS)	SOIL DESCRIPTION
CUTTINGS / SPLIT SPOON	NA				ML	55	53'-54' SPLIT SPOON SAMPLE, SAME AS ABOVE WELL GRADED SAND, REDDISH BROWN (7.5YR 6/6), MOIST, NO HYDROCARBON ODOR
CUTTINGS				0.5	SW	60	SAME AS ABOVE, WET, HYDROCARBON ODOR
						65	SAME AS ABOVE
						70	
						75	
						80	
						85	
						90	
						95	
						100	

Project:	Walstad 66
Drilling Company:	Harrison and Cooper
Drilling Rig/Bit:	Air Rotary Ingersol Rand OD - 5-1/8"
Driller:	Leonard
Start Date/Time:	11/08/07 / 1015
Completion Date/Time	11/08/07 / 1110
Boring Depth:	65.0 feet below ground surface
Logged by:	Rob Bendkowski

LOVINGTON 66, 424 SOUTH MAIN
LOVINGTON, NEW MEXICO

BORING LOG/
WELL CONSTRUCTION DETAIL W-21
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Golder Associates
ALBUQUERQUE, NEW MEXICO

APPENDIX B
PHOTOGRAPHIC DOCUMENTATION

PHOTO 2 - W-20 LOOKING EAST.

PHOTO 4 - MONITOR WELL W-3 CONVEYANCE PIPING BETWEEN WELLS.

Goblin Associates
ALBUQUERQUE, NEW MEXICO

PROJECT
LOVINGTON 66
424 SOUTH MAIN
LOVINGTON, NEW MEXICO

TITLE
PHOTOGRAPHS
NEW WELL INSTALLATION
WALSTAD 66
424 SOUTH MAIN

PROJECT No. 073-80008		
FILE No. Photo Log.dwg		
REV.		
DESIGN	RE	01/16/08
CADD	RLO	01/16/08
CHECK	TM	01/16/08
REVIEW	JS	01/16/08

PHOTO SET 1

APPENDIX C
ANALYTICAL LABORATORY RESULTS

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, November 20, 2007

Teri McMillan
Golder Associates
5200 Pasadena, NE Suite C
Albuquerque, NM 87113

TEL: (505) 259-6779
FAX (505) 821-5273

RE: Walstad

Order No.: 0711184

Dear Teri McMillan:

Hall Environmental Analysis Laboratory, Inc. received 15 sample(s) on 11/9/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-5
Lab Order:	0711184	**Collection Date:**	11/7/2007 10:50:00 AM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	45	1.0		µg/L	1	11/15/2007 11:29:39 PM
Toluene	8.5	1.0		µg/L	1	11/15/2007 11:29:39 PM
Ethylbenzene	29	1.0		µg/L	1	11/15/2007 11:29:39 PM
Methyl tert-butyl ether (MTBE)	170	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2,4-Trimethylbenzene	8.9	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,3,5-Trimethylbenzene	2.8	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Naphthalene	4.9	2.0		µg/L	1	11/15/2007 11:29:39 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2007 11:29:39 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2007 11:29:39 PM
Acetone	ND	10		µg/L	1	11/15/2007 11:29:39 PM
Bromobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Bromochloromethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Bromoform	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Bromomethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
2-Butanone	ND	10		µg/L	1	11/15/2007 11:29:39 PM
Carbon disulfide	ND	10		µg/L	1	11/15/2007 11:29:39 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Chlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Chloroethane	ND	2.0		µg/L	1	11/15/2007 11:29:39 PM
Chloroform	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Chloromethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2007 11:29:39 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Dibromomethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2007 11:29:39 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-5
Lab Order:	0711184	**Collection Date:**	11/7/2007 10:50:00 AM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/15/2007 11:29:39 PM
Isopropylbenzene	2.2	1.0		µg/L	1	11/15/2007 11:29:39 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2007 11:29:39 PM
Methylene Chloride	ND	3.0		µg/L	1	11/15/2007 11:29:39 PM
n-Butylbenzene	1.2	1.0		µg/L	1	11/15/2007 11:29:39 PM
n-Propylbenzene	4.3	1.0		µg/L	1	11/15/2007 11:29:39 PM
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Styrene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2007 11:29:39 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2007 11:29:39 PM
Vinyl chloride	ND	1.0		µg/L	1	11/15/2007 11:29:39 PM
Xylenes, Total	15	1.5		µg/L	1	11/15/2007 11:29:39 PM
Surr: 1,2-Dichloroethane-d4	89.9	68.1-123		%REC	1	11/15/2007 11:29:39 PM
Surr: 4-Bromofluorobenzene	94.9	53.2-145		%REC	1	11/15/2007 11:29:39 PM
Surr: Dibromofluoromethane	89.7	68.5-119		%REC	1	11/15/2007 11:29:39 PM
Surr: Toluene-d8	85.5	64-131		%REC	1	11/15/2007 11:29:39 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-11
Lab Order:	0711184	**Collection Date:**	11/7/2007 1:20:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	18	1.0		µg/L	1	11/15/2007 11:58:20 PM
Toluene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Ethylbenzene	38	1.0		µg/L	1	11/15/2007 11:58:20 PM
Methyl tert-butyl ether (MTBE)	540	10		µg/L	10	11/16/2007 1:12:14 PM
1,2,4-Trimethylbenzene	19	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,3,5-Trimethylbenzene	16	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2-Dichloroethane (EDC)	35	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Naphthalene	ND	2.0		µg/L	1	11/15/2007 11:58:20 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2007 11:58:20 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2007 11:58:20 PM
Acetone	ND	10		µg/L	1	11/15/2007 11:58:20 PM
Bromobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Bromochloromethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Bromoform	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Bromomethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
2-Butanone	ND	10		µg/L	1	11/15/2007 11:58:20 PM
Carbon disulfide	ND	10		µg/L	1	11/15/2007 11:58:20 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Chlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Chloroethane	ND	2.0		µg/L	1	11/15/2007 11:58:20 PM
Chloroform	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Chloromethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2007 11:58:20 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Dibromomethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2007 11:58:20 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-11
Lab Order:	0711184	**Collection Date:**	11/7/2007 1:20:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/15/2007 11:58:20 PM
Isopropylbenzene	6.0	1.0		µg/L	1	11/15/2007 11:58:20 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2007 11:58:20 PM
Methylene Chloride	ND	3.0		µg/L	1	11/15/2007 11:58:20 PM
n-Butylbenzene	1.7	1.0		µg/L	1	11/15/2007 11:58:20 PM
n-Propylbenzene	9.4	1.0		µg/L	1	11/15/2007 11:58:20 PM
sec-Butylbenzene	1.8	1.0		µg/L	1	11/15/2007 11:58:20 PM
Styrene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2007 11:58:20 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2007 11:58:20 PM
Vinyl chloride	ND	1.0		µg/L	1	11/15/2007 11:58:20 PM
Xylenes, Total	13	1.5		µg/L	1	11/15/2007 11:58:20 PM
Surr: 1,2-Dichloroethane-d4	88.9	68.1-123		%REC	1	11/15/2007 11:58:20 PM
Surr: 4-Bromofluorobenzene	94.1	53.2-145		%REC	1	11/15/2007 11:58:20 PM
Surr: Dibromofluoromethane	85.5	68.5-119		%REC	1	11/15/2007 11:58:20 PM
Surr: Toluene-d8	86.6	64-131		%REC	1	11/15/2007 11:58:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-16
Lab Order:	0711184	**Collection Date:**	11/7/2007 1:58:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	640	10		µg/L	10	11/16/2007 1:42:06 PM
Toluene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Ethylbenzene	22	1.0		µg/L	1	11/16/2007 12:26:58 AM
Methyl tert-butyl ether (MTBE)	55	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2,4-Trimethylbenzene	74	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,3,5-Trimethylbenzene	62	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2-Dichloroethane (EDC)	23	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Naphthalene	93	2.0		µg/L	1	11/16/2007 12:26:58 AM
1-Methylnaphthalene	100	4.0		µg/L	1	11/16/2007 12:26:58 AM
2-Methylnaphthalene	170	40		µg/L	10	11/16/2007 1:42:06 PM
Acetone	ND	10		µg/L	1	11/16/2007 12:26:58 AM
Bromobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Bromochloromethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Bromodichloromethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Bromoform	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Bromomethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
2-Butanone	ND	10		µg/L	1	11/16/2007 12:26:58 AM
Carbon disulfide	ND	10		µg/L	1	11/16/2007 12:26:58 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Chlorobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Chloroethane	ND	2.0		µg/L	1	11/16/2007 12:26:58 AM
Chloroform	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Chloromethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
2-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
4-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
cis-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/16/2007 12:26:58 AM
Dibromochloromethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Dibromomethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/16/2007 12:26:58 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-16
Lab Order:	0711184	**Collection Date:**	11/7/2007 1:58:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/16/2007 12:26:58 AM
Isopropylbenzene	13	1.0		µg/L	1	11/16/2007 12:26:58 AM
4-Isopropyltoluene	1.1	1.0		µg/L	1	11/16/2007 12:26:58 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/16/2007 12:26:58 AM
Methylene Chloride	ND	3.0		µg/L	1	11/16/2007 12:26:58 AM
n-Butylbenzene	18	1.0		µg/L	1	11/16/2007 12:26:58 AM
n-Propylbenzene	18	1.0		µg/L	1	11/16/2007 12:26:58 AM
sec-Butylbenzene	4.6	1.0		µg/L	1	11/16/2007 12:26:58 AM
Styrene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
tert-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/16/2007 12:26:58 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
trans-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/16/2007 12:26:58 AM
Vinyl chloride	ND	1.0		µg/L	1	11/16/2007 12:26:58 AM
Xylenes, Total	12	1.5		µg/L	1	11/16/2007 12:26:58 AM
Surr: 1,2-Dichloroethane-d4	88.8	68.1-123		%REC	1	11/16/2007 12:26:58 AM
Surr: 4-Bromofluorobenzene	97.0	53.2-145		%REC	1	11/16/2007 12:26:58 AM
Surr: Dibromofluoromethane	87.6	68.5-119		%REC	1	11/16/2007 12:26:58 AM
Surr: Toluene-d8	86.9	64-131		%REC	1	11/16/2007 12:26:58 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-7
Lab Order:	0711184	**Collection Date:**	11/7/2007 2:50:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Toluene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Naphthalene	ND	2.0		µg/L	1	11/16/2007 2:10:46 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 2:10:46 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 2:10:46 PM
Acetone	ND	10		µg/L	1	11/16/2007 2:10:46 PM
Bromobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Bromochloromethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Bromoform	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Bromomethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
2-Butanone	ND	10		µg/L	1	11/16/2007 2:10:46 PM
Carbon disulfide	ND	10		µg/L	1	11/16/2007 2:10:46 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Chlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Chloroethane	ND	2.0		µg/L	1	11/16/2007 2:10:46 PM
Chloroform	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Chloromethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/16/2007 2:10:46 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Dibromomethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/16/2007 2:10:46 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-7
Lab Order:	0711184	**Collection Date:**	11/7/2007 2:50:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/16/2007 2:10:46 PM
Isopropylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/16/2007 2:10:46 PM
Methylene Chloride	ND	3.0		µg/L	1	11/16/2007 2:10:46 PM
n-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
n-Propylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
sec-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Styrene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/16/2007 2:10:46 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/16/2007 2:10:46 PM
Vinyl chloride	ND	1.0		µg/L	1	11/16/2007 2:10:46 PM
Xylenes, Total	ND	1.5		µg/L	1	11/16/2007 2:10:46 PM
Surr: 1,2-Dichloroethane-d4	86.3	68.1-123		%REC	1	11/16/2007 2:10:46 PM
Surr: 4-Bromofluorobenzene	90.7	53.2-145		%REC	1	11/16/2007 2:10:46 PM
Surr: Dibromofluoromethane	84.3	68.5-119		%REC	1	11/16/2007 2:10:46 PM
Surr: Toluene-d8	82.7	64-131		%REC	1	11/16/2007 2:10:46 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-9
Lab Order:	0711184	**Collection Date:**	11/7/2007 4:00:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	6500	100		µg/L	100	11/19/2007 10:03:56 AM
Toluene	120	10		µg/L	10	11/16/2007 1:25:30 AM
Ethylbenzene	620	10		µg/L	10	11/16/2007 1:25:30 AM
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2,4-Trimethylbenzene	340	10		µg/L	10	11/16/2007 1:25:30 AM
1,3,5-Trimethylbenzene	110	10		µg/L	10	11/16/2007 1:25:30 AM
1,2-Dichloroethane (EDC)	360	10		µg/L	10	11/16/2007 1:25:30 AM
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Naphthalene	51	20		µg/L	10	11/16/2007 1:25:30 AM
1-Methylnaphthalene	ND	40		µg/L	10	11/16/2007 1:25:30 AM
2-Methylnaphthalene	ND	40		µg/L	10	11/16/2007 1:25:30 AM
Acetone	ND	100		µg/L	10	11/16/2007 1:25:30 AM
Bromobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Bromochloromethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Bromodichloromethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Bromoform	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Bromomethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
2-Butanone	ND	100		µg/L	10	11/16/2007 1:25:30 AM
Carbon disulfide	ND	100		µg/L	10	11/16/2007 1:25:30 AM
Carbon Tetrachloride	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Chlorobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Chloroethane	ND	20		µg/L	10	11/16/2007 1:25:30 AM
Chloroform	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Chloromethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
2-Chlorotoluene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
4-Chlorotoluene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
cis-1,2-DCE	ND	10		µg/L	10	11/16/2007 1:25:30 AM
cis-1,3-Dichloropropene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	11/16/2007 1:25:30 AM
Dibromochloromethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Dibromomethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2-Dichlorobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,3-Dichlorobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,4-Dichlorobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Dichlorodifluoromethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,1-Dichloroethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,1-Dichloroethene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2-Dichloropropane	19	10		µg/L	10	11/16/2007 1:25:30 AM
1,3-Dichloropropane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
2,2-Dichloropropane	ND	20		µg/L	10	11/16/2007 1:25:30 AM
1,1-Dichloropropene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Hexachlorobutadiene	ND	10		µg/L	10	11/16/2007 1:25:30 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-9
Lab Order:	0711184	**Collection Date:**	11/7/2007 4:00:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	100		µg/L	10	11/16/2007 1:25:30 AM
Isopropylbenzene	26	10		µg/L	10	11/16/2007 1:25:30 AM
4-Isopropyltoluene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
4-Methyl-2-pentanone	ND	100		µg/L	10	11/16/2007 1:25:30 AM
Methylene Chloride	ND	30		µg/L	10	11/16/2007 1:25:30 AM
n-Butylbenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
n-Propylbenzene	69	10		µg/L	10	11/16/2007 1:25:30 AM
sec-Butylbenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Styrene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
tert-Butylbenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	11/16/2007 1:25:30 AM
Tetrachloroethene (PCE)	ND	10		µg/L	10	11/16/2007 1:25:30 AM
trans-1,2-DCE	ND	10		µg/L	10	11/16/2007 1:25:30 AM
trans-1,3-Dichloropropene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2,3-Trichlorobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,1,1-Trichloroethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,1,2-Trichloroethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Trichloroethene (TCE)	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Trichlorofluoromethane	ND	10		µg/L	10	11/16/2007 1:25:30 AM
1,2,3-Trichloropropane	ND	20		µg/L	10	11/16/2007 1:25:30 AM
Vinyl chloride	ND	10		µg/L	10	11/16/2007 1:25:30 AM
Xylenes, Total	450	15		µg/L	10	11/16/2007 1:25:30 AM
Surr: 1,2-Dichloroethane-d4	88.3	68.1-123		%REC	10	11/16/2007 1:25:30 AM
Surr: 4-Bromofluorobenzene	96.7	53.2-145		%REC	10	11/16/2007 1:25:30 AM
Surr: Dibromofluoromethane	91.7	68.5-119		%REC	10	11/16/2007 1:25:30 AM
Surr: Toluene-d8	93.2	64-131		%REC	10	11/16/2007 1:25:30 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-8
Lab Order:	0711184	**Collection Date:**	11/7/2007 4:40:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	20000	400		µg/L	400	11/16/2007 3:09:11 PM
Toluene	27000	400		µg/L	400	11/16/2007 3:09:11 PM
Ethylbenzene	3200	100		µg/L	100	11/16/2007 1:55:22 AM
Methyl tert-butyl ether (MTBE)	5900	100		µg/L	100	11/16/2007 1:55:22 AM
1,2,4-Trimethylbenzene	2900	100		µg/L	100	11/16/2007 1:55:22 AM
1,3,5-Trimethylbenzene	760	100		µg/L	100	11/16/2007 1:55:22 AM
1,2-Dichloroethane (EDC)	4100	100		µg/L	100	11/16/2007 1:55:22 AM
1,2-Dibromoethane (EDB)	440	100		µg/L	100	11/16/2007 1:55:22 AM
Naphthalene	770	200		µg/L	100	11/16/2007 1:55:22 AM
1-Methylnaphthalene	ND	400		µg/L	100	11/16/2007 1:55:22 AM
2-Methylnaphthalene	ND	400		µg/L	100	11/16/2007 1:55:22 AM
Acetone	ND	1000		µg/L	100	11/16/2007 1:55:22 AM
Bromobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Bromochloromethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Bromodichloromethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Bromoform	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Bromomethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
2-Butanone	ND	1000		µg/L	100	11/16/2007 1:55:22 AM
Carbon disulfide	ND	1000		µg/L	100	11/16/2007 1:55:22 AM
Carbon Tetrachloride	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Chlorobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Chloroethane	ND	200		µg/L	100	11/16/2007 1:55:22 AM
Chloroform	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Chloromethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
2-Chlorotoluene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
4-Chlorotoluene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
cis-1,2-DCE	ND	100		µg/L	100	11/16/2007 1:55:22 AM
cis-1,3-Dichloropropene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	11/16/2007 1:55:22 AM
Dibromochloromethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Dibromomethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,2-Dichlorobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,3-Dichlorobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,4-Dichlorobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Dichlorodifluoromethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,1-Dichloroethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,1-Dichloroethene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,2-Dichloropropane	160	100		µg/L	100	11/16/2007 1:55:22 AM
1,3-Dichloropropane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
2,2-Dichloropropane	ND	200		µg/L	100	11/16/2007 1:55:22 AM
1,1-Dichloropropene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Hexachlorobutadiene	ND	100		µg/L	100	11/16/2007 1:55:22 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-8
Lab Order:	0711184	**Collection Date:**	11/7/2007 4:40:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	1000		µg/L	100	11/16/2007 1:55:22 AM
Isopropylbenzene	100	100		µg/L	100	11/16/2007 1:55:22 AM
4-Isopropyltoluene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
4-Methyl-2-pentanone	ND	1000		µg/L	100	11/16/2007 1:55:22 AM
Methylene Chloride	ND	300		µg/L	100	11/16/2007 1:55:22 AM
n-Butylbenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
n-Propylbenzene	310	100		µg/L	100	11/16/2007 1:55:22 AM
sec-Butylbenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Styrene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
tert-Butylbenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,1,1,2-Tetrachloroethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,1,2,2-Tetrachloroethane	ND	200		µg/L	100	11/16/2007 1:55:22 AM
Tetrachloroethene (PCE)	ND	100		µg/L	100	11/16/2007 1:55:22 AM
trans-1,2-DCE	ND	100		µg/L	100	11/16/2007 1:55:22 AM
trans-1,3-Dichloropropene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,2,3-Trichlorobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,2,4-Trichlorobenzene	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,1,1-Trichloroethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,1,2-Trichloroethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Trichloroethene (TCE)	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Trichlorofluoromethane	ND	100		µg/L	100	11/16/2007 1:55:22 AM
1,2,3-Trichloropropane	ND	200		µg/L	100	11/16/2007 1:55:22 AM
Vinyl chloride	ND	100		µg/L	100	11/16/2007 1:55:22 AM
Xylenes, Total	15000	150		µg/L	100	11/16/2007 1:55:22 AM
Surr: 1,2-Dichloroethane-d4	88.0	68.1-123		%REC	100	11/16/2007 1:55:22 AM
Surr: 4-Bromofluorobenzene	97.2	53.2-145		%REC	100	11/16/2007 1:55:22 AM
Surr: Dibromofluoromethane	92.2	68.5-119		%REC	100	11/16/2007 1:55:22 AM
Surr: Toluene-d8	92.7	64-131		%REC	100	11/16/2007 1:55:22 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-21
Lab Order:	0711184	**Collection Date:**	11/8/2007 10:45:00 AM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-07	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Toluene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Naphthalene	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 8:52:20 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 8:52:20 PM
Acetone	ND	0.75		mg/Kg	1	11/15/2007 8:52:20 PM
Bromobenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Bromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Bromoform	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Bromomethane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
2-Butanone	ND	0.50		mg/Kg	1	11/15/2007 8:52:20 PM
Carbon disulfide	ND	0.50		mg/Kg	1	11/15/2007 8:52:20 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
Chlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Chloroethane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
Chloroform	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Chloromethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Dibromomethane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-21
Lab Order:	0711184	**Collection Date:**	11/8/2007 10:45:00 AM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-07	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
2-Hexanone	ND	0.50		mg/Kg	1	11/15/2007 8:52:20 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/15/2007 8:52:20 PM
Methylene chloride	ND	0.15		mg/Kg	1	11/15/2007 8:52:20 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Styrene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
Vinyl chloride	ND	0.050		mg/Kg	1	11/15/2007 8:52:20 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/15/2007 8:52:20 PM
Surr: 1,2-Dichloroethane-d4	86.2	68.7-122		%REC	1	11/15/2007 8:52:20 PM
Surr: 4-Bromofluorobenzene	89.9	79.3-126		%REC	1	11/15/2007 8:52:20 PM
Surr: Dibromofluoromethane	78.7	64.4-119		%REC	1	11/15/2007 8:52:20 PM
Surr: Toluene-d8	98.7	86.5-121		%REC	1	11/15/2007 8:52:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-20
Lab Order:	0711184	**Collection Date:**	11/8/2007 3:15:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Toluene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Naphthalene	ND	2.0		µg/L	1	11/16/2007 3:37:50 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 3:37:50 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 3:37:50 PM
Acetone	ND	10		µg/L	1	11/16/2007 3:37:50 PM
Bromobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Bromochloromethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Bromoform	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Bromomethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
2-Butanone	ND	10		µg/L	1	11/16/2007 3:37:50 PM
Carbon disulfide	ND	10		µg/L	1	11/16/2007 3:37:50 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Chlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Chloroethane	ND	2.0		µg/L	1	11/16/2007 3:37:50 PM
Chloroform	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Chloromethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/16/2007 3:37:50 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Dibromomethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/16/2007 3:37:50 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-20
Lab Order:	0711184	**Collection Date:**	11/8/2007 3:15:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/16/2007 3:37:50 PM
Isopropylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/16/2007 3:37:50 PM
Methylene Chloride	ND	3.0		µg/L	1	11/16/2007 3:37:50 PM
n-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
n-Propylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
sec-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Styrene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/16/2007 3:37:50 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/16/2007 3:37:50 PM
Vinyl chloride	ND	1.0		µg/L	1	11/16/2007 3:37:50 PM
Xylenes, Total	ND	1.5		µg/L	1	11/16/2007 3:37:50 PM
Surr: 1,2-Dichloroethane-d4	85.0	68.1-123		%REC	1	11/16/2007 3:37:50 PM
Surr: 4-Bromofluorobenzene	90.5	53.2-145		%REC	1	11/16/2007 3:37:50 PM
Surr: Dibromofluoromethane	84.8	68.5-119		%REC	1	11/16/2007 3:37:50 PM
Surr: Toluene-d8	84.1	64-131		%REC	1	11/16/2007 3:37:50 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-21
Lab Order:	0711184	**Collection Date:**	11/8/2007 4:15:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-09	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Toluene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Naphthalene	ND	2.0		µg/L	1	11/16/2007 2:52:31 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 2:52:31 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 2:52:31 AM
Acetone	ND	10		µg/L	1	11/16/2007 2:52:31 AM
Bromobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Bromochloromethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Bromodichloromethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Bromoform	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Bromomethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
2-Butanone	ND	10		µg/L	1	11/16/2007 2:52:31 AM
Carbon disulfide	ND	10		µg/L	1	11/16/2007 2:52:31 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Chlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Chloroethane	ND	2.0		µg/L	1	11/16/2007 2:52:31 AM
Chloroform	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Chloromethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
2-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
4-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
cis-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/16/2007 2:52:31 AM
Dibromochloromethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Dibromomethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/16/2007 2:52:31 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-21
Lab Order:	0711184	**Collection Date:**	11/8/2007 4:15:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-09	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/16/2007 2:52:31 AM
Isopropylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/16/2007 2:52:31 AM
Methylene Chloride	ND	3.0		µg/L	1	11/16/2007 2:52:31 AM
n-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
n-Propylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
sec-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Styrene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
tert-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/16/2007 2:52:31 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
trans-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/16/2007 2:52:31 AM
Vinyl chloride	ND	1.0		µg/L	1	11/16/2007 2:52:31 AM
Xylenes, Total	ND	1.5		µg/L	1	11/16/2007 2:52:31 AM
Surr: 1,2-Dichloroethane-d4	82.6	68.1-123		%REC	1	11/16/2007 2:52:31 AM
Surr: 4-Bromofluorobenzene	92.6	53.2-145		%REC	1	11/16/2007 2:52:31 AM
Surr: Dibromofluoromethane	85.1	68.5-119		%REC	1	11/16/2007 2:52:31 AM
Surr: Toluene-d8	83.8	64-131		%REC	1	11/16/2007 2:52:31 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-19
Lab Order:	0711184	**Collection Date:**	11/8/2007 4:35:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-10	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	4.3	1.0		µg/L	1	11/16/2007 3:21:11 AM
Toluene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2-Dichloroethane (EDC)	23	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Naphthalene	ND	2.0		µg/L	1	11/16/2007 3:21:11 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 3:21:11 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 3:21:11 AM
Acetone	ND	10		µg/L	1	11/16/2007 3:21:11 AM
Bromobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Bromochloromethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Bromodichloromethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Bromoform	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Bromomethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
2-Butanone	ND	10		µg/L	1	11/16/2007 3:21:11 AM
Carbon disulfide	ND	10		µg/L	1	11/16/2007 3:21:11 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Chlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Chloroethane	ND	2.0		µg/L	1	11/16/2007 3:21:11 AM
Chloroform	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Chloromethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
2-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
4-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
cis-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/16/2007 3:21:11 AM
Dibromochloromethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Dibromomethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2-Dichloropropane	2.6	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/16/2007 3:21:11 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-19
Lab Order:	0711184	**Collection Date:**	11/8/2007 4:35:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-10	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/16/2007 3:21:11 AM
Isopropylbenzene	4.5	1.0		µg/L	1	11/16/2007 3:21:11 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/16/2007 3:21:11 AM
Methylene Chloride	ND	3.0		µg/L	1	11/16/2007 3:21:11 AM
n-Butylbenzene	1.5	1.0		µg/L	1	11/16/2007 3:21:11 AM
n-Propylbenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
sec-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Styrene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
tert-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/16/2007 3:21:11 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
trans-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/16/2007 3:21:11 AM
Vinyl chloride	ND	1.0		µg/L	1	11/16/2007 3:21:11 AM
Xylenes, Total	ND	1.5		µg/L	1	11/16/2007 3:21:11 AM
Surr: 1,2-Dichloroethane-d4	87.8	68.1-123		%REC	1	11/16/2007 3:21:11 AM
Surr: 4-Bromofluorobenzene	91.0	53.2-145		%REC	1	11/16/2007 3:21:11 AM
Surr: Dibromofluoromethane	86.7	68.5-119		%REC	1	11/16/2007 3:21:11 AM
Surr: Toluene-d8	83.5	64-131		%REC	1	11/16/2007 3:21:11 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-19
Lab Order:	0711184	**Collection Date:**	11/8/2007 1:40:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-11	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Toluene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Naphthalene	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 9:28:01 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 9:28:01 PM
Acetone	ND	0.75		mg/Kg	1	11/15/2007 9:28:01 PM
Bromobenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Bromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Bromoform	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Bromomethane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
2-Butanone	ND	0.50		mg/Kg	1	11/15/2007 9:28:01 PM
Carbon disulfide	ND	0.50		mg/Kg	1	11/15/2007 9:28:01 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
Chlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Chloroethane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
Chloroform	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Chloromethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Dibromomethane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-19
Lab Order:	0711184	**Collection Date:**	11/8/2007 1:40:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-11	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
2-Hexanone	ND	0.50		mg/Kg	1	11/15/2007 9:28:01 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/15/2007 9:28:01 PM
Methylene chloride	ND	0.15		mg/Kg	1	11/15/2007 9:28:01 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Styrene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
Vinyl chloride	ND	0.050		mg/Kg	1	11/15/2007 9:28:01 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/15/2007 9:28:01 PM
Surr: 1,2-Dichloroethane-d4	95.8	68.7-122		%REC	1	11/15/2007 9:28:01 PM
Surr: 4-Bromofluorobenzene	91.5	79.3-126		%REC	1	11/15/2007 9:28:01 PM
Surr: Dibromofluoromethane	89.1	64.4-119		%REC	1	11/15/2007 9:28:01 PM
Surr: Toluene-d8	102	86.5-121		%REC	1	11/15/2007 9:28:01 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-20
Lab Order:	0711184	**Collection Date:**	11/8/2007 9:00:00 AM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-12	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Toluene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Naphthalene	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 10:03:27 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 10:03:27 PM
Acetone	ND	0.75		mg/Kg	1	11/15/2007 10:03:27 PM
Bromobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Bromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Bromoform	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Bromomethane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
2-Butanone	ND	0.50		mg/Kg	1	11/15/2007 10:03:27 PM
Carbon disulfide	ND	0.50		mg/Kg	1	11/15/2007 10:03:27 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
Chlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Chloroethane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
Chloroform	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Chloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Dibromomethane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	W-20
Lab Order:	0711184	**Collection Date:**	11/8/2007 9:00:00 AM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-12	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
2-Hexanone	ND	0.50		mg/Kg	1	11/15/2007 10:03:27 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/15/2007 10:03:27 PM
Methylene chloride	ND	0.15		mg/Kg	1	11/15/2007 10:03:27 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Styrene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
Vinyl chloride	ND	0.050		mg/Kg	1	11/15/2007 10:03:27 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/15/2007 10:03:27 PM
Surr: 1,2-Dichloroethane-d4	92.7	68.7-122		%REC	1	11/15/2007 10:03:27 PM
Surr: 4-Bromofluorobenzene	100	79.3-126		%REC	1	11/15/2007 10:03:27 PM
Surr: Dibromofluoromethane	85.8	64.4-119		%REC	1	11/15/2007 10:03:27 PM
Surr: Toluene-d8	110	86.5-121		%REC	1	11/15/2007 10:03:27 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	Waste Characterization
Lab Order:	0711184	**Collection Date:**	11/8/2007 1:55:00 PM
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-13	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/14/2007 1:14:51 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/14/2007 1:14:51 PM
Surr: DNOP	112	61.7-135		%REC	1	11/14/2007 1:14:51 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/15/2007 5:12:25 AM
Surr: BFB	105	84-138		%REC	1	11/15/2007 5:12:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	11/15/2007 5:12:25 AM
Benzene	ND	0.050		mg/Kg	1	11/15/2007 5:12:25 AM
Toluene	ND	0.050		mg/Kg	1	11/15/2007 5:12:25 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 5:12:25 AM
Xylenes, Total	ND	0.10		mg/Kg	1	11/15/2007 5:12:25 AM
Surr: 4-Bromofluorobenzene	96.3	68.2-109		%REC	1	11/15/2007 5:12:25 AM
EPA METHOD 6010B: SOIL METALS						Analyst: **TES**
Lead	1.2	0.25		mg/Kg	1	11/15/2007 12:41:51 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	TRIP BLANK
Lab Order:	0711184	**Collection Date:**	
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-14	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
Benzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Toluene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Naphthalene	ND	2.0		µg/L	1	11/16/2007 3:49:39 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 3:49:39 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/16/2007 3:49:39 AM
Acetone	ND	10		µg/L	1	11/16/2007 3:49:39 AM
Bromobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Bromochloromethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Bromodichloromethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Bromoform	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Bromomethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
2-Butanone	ND	10		µg/L	1	11/16/2007 3:49:39 AM
Carbon disulfide	ND	10		µg/L	1	11/16/2007 3:49:39 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Chlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Chloroethane	ND	2.0		µg/L	1	11/16/2007 3:49:39 AM
Chloroform	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Chloromethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
2-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
4-Chlorotoluene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
cis-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/16/2007 3:49:39 AM
Dibromochloromethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Dibromomethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/16/2007 3:49:39 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	TRIP BLANK
Lab Order:	0711184	**Collection Date:**	
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-14	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **SMP**
2-Hexanone	ND	10		µg/L	1	11/16/2007 3:49:39 AM
Isopropylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/16/2007 3:49:39 AM
Methylene Chloride	ND	3.0		µg/L	1	11/16/2007 3:49:39 AM
n-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
n-Propylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
sec-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Styrene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
tert-Butylbenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/16/2007 3:49:39 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
trans-1,2-DCE	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/16/2007 3:49:39 AM
Vinyl chloride	ND	1.0		µg/L	1	11/16/2007 3:49:39 AM
Xylenes, Total	ND	1.5		µg/L	1	11/16/2007 3:49:39 AM
Surr: 1,2-Dichloroethane-d4	86.6	68.1-123		%REC	1	11/16/2007 3:49:39 AM
Surr: 4-Bromofluorobenzene	94.2	53.2-145		%REC	1	11/16/2007 3:49:39 AM
Surr: Dibromofluoromethane	85.4	68.5-119		%REC	1	11/16/2007 3:49:39 AM
Surr: Toluene-d8	83.8	64-131		%REC	1	11/16/2007 3:49:39 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	MeOH Blank
Lab Order:	0711184	**Collection Date:**	
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-15	**Matrix:**	MEOH BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Toluene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Naphthalene	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 10:39:09 PM
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/15/2007 10:39:09 PM
Acetone	ND	0.75		mg/Kg	1	11/15/2007 10:39:09 PM
Bromobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Bromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Bromodichloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Bromoform	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Bromomethane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
2-Butanone	ND	0.50		mg/Kg	1	11/15/2007 10:39:09 PM
Carbon disulfide	ND	0.50		mg/Kg	1	11/15/2007 10:39:09 PM
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
Chlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Chloroethane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
Chloroform	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Chloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
Dibromochloromethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Dibromomethane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,1-Dichloroethane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
2,2-Dichloropropane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
1,1-Dichloropropene	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
Hexachlorobutadiene	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Nov-07*

CLIENT:	Golder Associates	**Client Sample ID:**	MeOH Blank
Lab Order:	0711184	**Collection Date:**	
Project:	Walstad	**Date Received:**	11/9/2007
Lab ID:	0711184-15	**Matrix:**	MEOH BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
2-Hexanone	ND	0.50		mg/Kg	1	11/15/2007 10:39:09 PM
Isopropylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/15/2007 10:39:09 PM
Methylene chloride	ND	0.15		mg/Kg	1	11/15/2007 10:39:09 PM
n-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
n-Propylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Styrene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
Vinyl chloride	ND	0.050		mg/Kg	1	11/15/2007 10:39:09 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/15/2007 10:39:09 PM
Surr: 1,2-Dichloroethane-d4	82.8	68.7-122		%REC	1	11/15/2007 10:39:09 PM
Surr: 4-Bromofluorobenzene	118	79.3-126		%REC	1	11/15/2007 10:39:09 PM
Surr: Dibromofluoromethane	76.6	64.4-119		%REC	1	11/15/2007 10:39:09 PM
Surr: Toluene-d8	95.8	86.5-121		%REC	1	11/15/2007 10:39:09 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Golder Associates
Project: Walstad **Work Order:** 0711184

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-14371		*MBLK*			Batch ID:	**14371**	Analysis Date:	11/12/2007 10:01:20 PM	
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-14371		*LCS*			Batch ID:	**14371**	Analysis Date:	11/12/2007 10:35:44 PM	
Diesel Range Organics (DRO)	38.92	mg/Kg	10	77.8	64.6	116			
Sample ID: LCSD-14371		*LCSD*			Batch ID:	**14371**	Analysis Date:	11/12/2007 11:09:49 PM	
Diesel Range Organics (DRO)	39.10	mg/Kg	10	78.2	64.6	116	0.477	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0711184-13A MSD		*MSD*			Batch ID:	**R26076**	Analysis Date:	11/15/2007 6:12:12 AM	
Gasoline Range Organics (GRO)	21.16	mg/Kg	5.0	84.6	69.5	120	2.29	11.6	
Sample ID: MB-14387		*MBLK*			Batch ID:	**14387**	Analysis Date:	11/14/2007 12:50:19 PM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R26076**	Analysis Date:	11/14/2007 9:08:24 AM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-14387		*LCS*			Batch ID:	**14387**	Analysis Date:	11/14/2007 1:20:54 PM	
Gasoline Range Organics (GRO)	25.80	mg/Kg	5.0	103	69.5	120			
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R26076**	Analysis Date:	11/15/2007 6:42:14 AM	
Gasoline Range Organics (GRO)	24.61	mg/Kg	5.0	98.4	69.5	120			
Sample ID: 0711184-13A MS		*MS*			Batch ID:	**R26076**	Analysis Date:	11/15/2007 5:42:21 AM	
Gasoline Range Organics (GRO)	21.65	mg/Kg	5.0	86.6	69.5	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Golder Associates
Project: Walstad **Work Order:** 0711184

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0711184-13A MSD		*MSD*			Batch ID:	**R26076**	Analysis Date:	11/15/2007 6:12:12 AM	
Methyl tert-butyl ether (MTBE)	0.4926	mg/Kg	0.10	120	67.9	135	1.89	28	
Benzene	0.3242	mg/Kg	0.050	116	78.8	132	1.13	27	
Toluene	2.101	mg/Kg	0.050	105	78.9	116	0.300	19	
Ethylbenzene	0.4473	mg/Kg	0.050	112	69.3	125	0.605	10	
Xylenes, Total	2.625	mg/Kg	0.10	114	73	128	0.359	13	
Sample ID: B		*MBLK*			Batch ID:	**R26076**	Analysis Date:	11/14/2007 11:08:48 AM	
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.10						
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R26076**	Analysis Date:	11/15/2007 6:42:14 AM	
Methyl tert-butyl ether (MTBE)	0.4876	mg/Kg	0.10	119	67.9	135			
Benzene	0.3532	mg/Kg	0.050	126	78.8	132			
Toluene	2.302	mg/Kg	0.050	115	78.9	116			
Ethylbenzene	0.4691	mg/Kg	0.050	117	69.3	125			
Xylenes, Total	2.708	mg/Kg	0.10	118	73	128			
Sample ID: 0711184-13A MS		*MS*			Batch ID:	**R26076**	Analysis Date:	11/15/2007 5:42:21 AM	
Methyl tert-butyl ether (MTBE)	0.4834	mg/Kg	0.10	118	67.9	135			
Benzene	0.3279	mg/Kg	0.050	117	78.8	132			
Toluene	2.094	mg/Kg	0.050	105	78.9	116			
Ethylbenzene	0.4446	mg/Kg	0.050	111	69.3	125			
Xylenes, Total	2.616	mg/Kg	0.10	114	73	128			
Method: EPA Method 6010B: Soil Metals									
Sample ID: MB-14392		*MBLK*			Batch ID:	**14392**	Analysis Date:	11/15/2007 11:36:44 AM	
Lead	ND	mg/Kg	0.25						
Sample ID: LCS-14392		*LCS*			Batch ID:	**14392**	Analysis Date:	11/15/2007 11:39:38 AM	
Lead	24.63	mg/Kg	0.25	98.5	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Golder Associates
Project: Walstad **Work Order:** 0711184

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb		*MBLK*			Batch ID: **R26102**		Analysis Date:	11/15/2007 6:28:34 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromochloromethane	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Golder Associates
Project: Walstad **Work Order:** 0711184

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb		*MBLK*			Batch ID: **R26102**		Analysis Date:	11/15/2007 6:28:34 AM	
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 100ng lcs		*LCS*			Batch ID: **R26102**		Analysis Date:	11/15/2007 7:25:34 AM	
Benzene	20.81	µg/L	1.0	104	72.4	126			
Toluene	18.28	µg/L	1.0	91.4	79.2	115			
Chlorobenzene	21.61	µg/L	1.0	108	83.1	111			
1,1-Dichloroethene	21.36	µg/L	1.0	107	81.4	122			
Trichloroethene (TCE)	19.52	µg/L	1.0	97.6	64.4	118			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GOLDER ASSOC | Date and Time Received: 11/9/2007

Work Order Number 0711184 | Received by AMF

Checklist completed by Signature Date 11/9/07

Matrix | Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

Client: Golder Assoc
Address: 5200 Pasadena Ste C ABQ NM
Phone #: 821-3043
Fax #:

Project Name: Walstad
Project #:
Project Manager: T. McMillan
Sampler: TMcMillan R Bendowski
Sample Temperature: 1°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)
11/7/07	1050	A	W-5	3 VOAs	✓		0711184 1											X		
	1320	A	W-11	3 VOAs	✓		2											X		
	1358	A	W-16	"	✓		3											X		
	1430	A	W-7	"	✓		4											X		
	1600	A	W-9	"	✓		5											X		
	1640	A	W-8	"	✓		6											X		
11-8-07	1045	S	W-21	2 VOAs 1 4oz JAR			7											✓		
	1515	A	W-20	3 VOAs	✓		8											✓		
	1615	A	W-21	3 VOAs	✓		9											✓		
	1635	A	W-19	3 VOA			10											X		
	1340	S	W-19	2 vials 1 4oz			11											X		
	900	S	W-20	"			12											X		

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
11/9/07	1650		11/9/07 1650
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Per Contract 11/8/05

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Golden Assoc.

Address: 5200 Pasadena Ste C. ABQ NM

Phone #: 821 3043

Fax #:

QA / QC Package: Std ☐ Level 4 ☐

Other:

Project Name: Walstad

Project #:

Project Manager: T McMillan

Sampler: T. McMillan R Bendkowski

Sample Temperature:

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl₂	Preservative HNO₃		HEAL No. 0711184
11-8-07	1355	S	Waste charact	2 VIALS, 1-4oz				13
			Trip Blank					14
			Meoh blank					15

ANALYSIS REQUEST

HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	TOTAL Lead				Air Bubbles or Headspace (Y or N)
13	X		X								X		X				
14											X						
15											X						

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/9/07	1050	Tom McMillan	[signature] 11/9/07 1050
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Per Contract 11/3/05

APPENDIX D
SAMPLING FIELD FORMS

(16)

Golder Associates
4910 Alameda Blvd, NE Suite A
Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-1	Date gauged	11-7-07	
Site	Walstad	Time gauged	8:52	
Depth to PSH	53.91 Feet	Well diameter	4"	Inches
Depth to water	57.02 Feet	Height of fluid column	3.05	Feet
Total depth	_____ Feet	Volume in well	_____	Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by Jen McMillan

Sample method _____

Requested analyses _____

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(16) 17

Golder Associates
4910 Alameda Blvd, NE Suite A
Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-2		Date gauged	11-7-07	
Site	Walstad		Time gauged	755	
Depth to PSH	52.88	Feet	Well diameter	4"	Inches
Depth to water	56.20	Feet	Height of fluid column	3.32	Feet
Total depth		Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by _____

Sample method _____

Requested analyses _____

Comments/observations TOC - 3910.19 - (3853.99) + 3.32 x .75
3856.48

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(F8)

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Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-3		Date gauged	11-7-07	
Site	Walstad		Time gauged	0630	
Depth to PSH	53.01	Feet	Well diameter	4"	Inches
Depth to water	56.04	Feet	Height of fluid column	3.03	Feet
Total depth		Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by _____

Sample method _____

Requested analyses 3910.29 = 3854.25 + (3.03 · .75) + (2.27)

Comments/observations 3856.52

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(7)

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-5		Date gauged	11-7-07	
Site	Walstad		Time gauged	10:00 am	
Depth to PSH	—	Feet	Well diameter	2"	Inches
Depth to water	54.61	Feet	Height of fluid column	10.37	Feet
Total depth	64.95	Feet	Volume in well	1.7578	Gallons

(3 well volumes = 5.2734 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged 11/7/07 10:20 Purge Method HAND BAILER

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH *	ORP (mV)	DO (mg/L)
10.25	.25	19.2	1469	~~6.07~~		0.51
1030	2	19.5	2052	~~5.62~~		
10:40	4	19.5	2467			
10:48	5.25	19.7	2454			

Actual purge volume 5.25 gal. Field measurements stabilized within ± 10%? Y

Time/date sampled 11/7/07 10:50 Purged/sampled by

Sample method Disposable bailer

Requested analyses 8260

Comments/observations pH-meter broken.

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-7	Date gauged	11-7-02		
Site	Walstad	Time gauged	12:30		
Depth to PSH		Feet	Well diameter	2"	Inches
Depth to water	53.48	Feet	Height of fluid column	12.52	Feet
Total depth	66.00	Feet	Volume in well	2.13	Gallons

(3 well volumes = 6.39 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ RP 21.5 Purge Method Hand Bailed

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
14:30	.25	21	300	—	—	5.30
14:35	2	20.0	1196	—	—	
14:40	4	19.7	1206	—	—	
14:50	6	19.7	1200	—	—	

Actual purge volume 6 gal. Field measurements stabilized within ± 10%? _____

Time/date sampled 14:50 Purged/sampled by Jeri M. Nulan

Sample method DISPOSABLE HAND BAILER

Requested analyses 8260

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(12)

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-8		Date gauged	11-7-07	
Site	Walotad		Time gauged	1608	
Depth to PSH		Feet	Well diameter	2 11	Inches
Depth to water	54.65	Feet	Height of fluid column	10.35	Feet
Total depth	65.00	Feet	Volume in well	1.76	Gallons

(3 well volumes = 5.3 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged 11/7/07 1610 Purge Method Hand bailed

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
1615	.25	19.7	1096			1.26
1625	2	19.7	1196			
1630	4	19.7	1224			
1635	5.5	19.7	1235			

Actual purge volume 5.5 gal. Field measurements stabilized within ± 10%? Y

Time/date sampled 11/7/07 1640 Purged/sampled by Jen McMillan

Sample method Disposable Bailer

Requested analyses 8260

Comments/observations

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(11)

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Albuquerque, NM 87113
Phone: (505) 821-3043, Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

RB

Well ID	W-9	Date gauged	11-7-07		
Site	Walstad	Time gauged	15:40		
Depth to PSH		Feet	Well diameter	2"	Inches
Depth to water	54.12	Feet	Height of fluid column	10.48	Feet
Total depth	64.60	Feet	Volume in well	1.781G	Gallons

(3 well volumes = 5.4 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged 11-2-07 15:40 Purge Method HAND BAILER

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
15:45	.25	20.0	1080	—	—	1.12
15:50	2	19.7	1130	—	—	
15:55	4	19.5	1167	—	—	
16:00	5.5	19.5	1183	—	—	

Actual purge volume 5.5 gal. Field measurements stabilized within ± 10%? _____

Time/date sampled 16:00 Purged/sampled by [signature]

Sample method Disposable Bailer

Requested analyses 8260

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(9)

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID: W-10
Date gauged: ~~[illegible]~~ RB 11-7-07
Site: Walstad
Time gauged: ______

Depth to PSH ______ Feet
Well diameter ______ Inches
Depth to water ______ Feet
Height of fluid column ______ Feet
Total depth ______ Feet
Volume in well ______ Gallons

(3 well volumes = ______ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged ______
Purge Method ______

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume ______ gal.
Field measurements stabilized within ± 10%? ______

Time/date sampled ______
Purged/sampled by [signature]

Sample method: Disposable bailer

Requested analyses: 8260

Comments/observations: UNSURE OF WELL LOCATION, COULD ~~NOT~~ OPEN, VERY HEAVY TRAFFIC

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(6)

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-11		Date gauged	11-7-07	
Site	Walstad		Time gauged	12:50	
Depth to PSH		Feet	Well diameter	2"	Inches
Depth to water	54.26	Feet	Height of fluid column	10.59	Feet
Total depth	64.85	Feet	Volume in well	1.8	Gallons

(3 well volumes = 5.4 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method Hand bailed

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
13.00	.25	22.5	1732	—		.28
13.05	2	21.2	1665	—		
13:15	4	21.0	1595	—		
13:20	5.5	21.0	1592			

Actual purge volume 5.5 gal. Field measurements stabilized within ± 10%? Y

Time/date sampled 13:20 Purged/sampled by Teresa McMillan

Sample method Disposable bailer

Requested analyses 8260

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(a)

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Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-12		Date gauged	11-7-07	
Site	Walstad		Time gauged	11:55	
Depth to PSH		Feet	Well diameter	2 11	Inches
Depth to water	53.72	Feet	Height of fluid column		Feet
Total depth		Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by Jeri McMullen

Sample method _____

Requested analyses _____

Comments/observations _____

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(4)

Golder Associates
4910 Alameda Blvd, NE Suite A
Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-13		Date gauged	11-2-07	
Site	Walstad		Time gauged	12:35 pm	
Depth to PSH	—	Feet	Well diameter	2"	Inches
Depth to water	53.70	Feet	Height of fluid column		Feet
Total depth		Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled 12:35 pm Purged/sampled by [signature]

Sample method _____

Requested analyses _____

Comments/observations _____

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(14)

Golder Associates
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Albuquerque, NM 87113
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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-14	Date gauged	11-7-07
Site	Walstad	Time gauged	17:15

Depth to PSH		Feet	Well diameter	2"	Inches
Depth to water	53.72	Feet	Height of fluid column		Feet
Total depth		Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by Jen McMillan

Sample method _____

Requested analyses _____

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(1)

Golder Associates
4910 Alameda Blvd, NE Suite A
Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-15	Date gauged	11-7-07
Site	Walstad	Time gauged	11:40
Depth to PSH	– Feet	Well diameter	2" Inches
Depth to water	53.11 Feet	Height of fluid column	Feet
Total depth	Feet	Volume in well	Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by Jen McMillan

Sample method _____

Requested analyses _____

Comments/observations need 2" cap.

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(8)

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Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-16		Date gauged	11-7-07	
Site	Wadotad		Time gauged	1330	
Depth to PSH	—	Feet	Well diameter	2"	Inches
Depth to water	53.06	Feet	Height of fluid column	11.74	Feet
Total depth	64.80	Feet	Volume in well	1.99	Gallons

(3 well volumes = 6 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged 1333 11/7/07 Purge Method Hand bailed

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
1335	.25	21.5	1730			.11
1340	2	20.7	2067			
1346	4	20.5	2050			
1355	6	20.7	2072			

Actual purge volume 6 gal. Field measurements stabilized within ± 10%? Y

Time/date sampled 11/7/07 1358 Purged/sampled by Rob Bendawson

Sample method Disposable bailer

Requested analyses 8260

Comments/observations

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(5)

Golder Associates
4910 Alameda Blvd, NE Suite A
Albuquerque, NM 87113
Phone: (505) 821-3043; Fax: (505) 821-5273

MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID W-18 Date gauged 11-7-07

Site Walstad Time gauged 12:40

Depth to PSH		Feet	Well diameter		Inches
Depth to water	54.19	Feet	Height of fluid column		Feet
Total depth		Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by _____

Sample method _____

Requested analyses _____

Comments/observations _____

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	W-19		Date gauged	11/8/07	
Site	Waldstad		Time gauged	1430	
9-07					
Depth to PSH	—	Feet	Well diameter	2"	Inches
54.23					
Depth to water	54.24	Feet	Height of fluid column		Feet
Total depth	65.10	Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged — Purge Method: Developed Handbailed

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
1430	18	19.5	1214			

Actual purge volume 18 gal. Field measurements stabilized within ± 10%? _____

Time/date sampled 14:35 11/8/07 Purged/sampled by Rob Bandbrusbe

Sample method Disposable Bailer

Requested analyses 8260

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID: W-20 | Date gauged: 11-8-07
Site: Walstad | Time gauged: 14:15

8/5 11-9-07 54.29

Depth to PSH		Feet	Well diameter	2"	Inches
Depth to water	54.25	Feet	Height of fluid column	10.75	Feet
Total depth	65.00	Feet	Volume in well	1.8275	Gallons

(3 well volumes = 5.5 gallons)

GROUNDWATER SAMPLING DATA

Time/date purged: 14:20 / 11-8-07 ~~Purge~~ Develop Method: Hand bailed

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
15:15	20	19.5	1185			

Actual purge volume: 20 gal.
Field measurements stabilized within ± 10%?
Time/date sampled: 15:15
Purged/sampled by: Jon McMullen
Sample method: Disposable Bailer
Requested analyses: 8260
Comments/observations:

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

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MONITOR WELL SAMPLING FIELD FORM

8:22

FLUID LEVEL DATA

Well ID	W-21	Date gauged	11-8-07
Site	Walstad	Time gauged	15:20
Depth to PSH	— Feet	Well diameter	2 11 Inches
Depth to water	54.15 Feet	Height of fluid column	Feet
Total depth	65.00 Feet	Volume in well	Gallons

11-9-07

54.19

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method HAND BAILED

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)
1614	15	202	2544			

Actual purge volume 15 gal. Field measurements stabilized within ± 10%? —

Time/date sampled 1615 Purged/sampled by Jeri McMillan

Sample method Disposable Bailer

Requested analyses 8260

Comments/observations _____

Well Casing Volumes

2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

(6) 19

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MONITOR WELL SAMPLING FIELD FORM

FLUID LEVEL DATA

Well ID	COO V-1	Date gauged	11-7-07	
Site	Walstad	Time gauged	8:45	
Depth to PSH	53.01 Feet	Well diameter	2"	Inches
Depth to water	52.54 Feet	Height of fluid column		Feet
Total depth	Feet	Volume in well		Gallons

(3 well volumes = _____ gallons)

GROUNDWATER SAMPLING DATA

Time/date purged _____ Purge Method _____

Time	Purge Volume (gal)	Temp (°C)	SpC (µs/cm)	pH	ORP (mV)	DO (mg/L)

Actual purge volume _____ gal. Field measurements stabilized within ± 10%? _____

Time/date sampled _____ Purged/sampled by _____

Sample method _____

Requested analyses _____

Comments/observations FREE PRODUCT

Well Casing Volumes
2" diameter = 0.17 gal/ft 4" diameter = 0.66 gal/ft 6" diameter = 1.50 gal/ft

APPENDIX E
SURVEY RESULTS

McMillan, Teri

From: Ed Blevins [edblevins@basinsurveys.com]

Sent: Tuesday, December 18, 2007 4:46 PM

To: McMillan, Teri

Subject: WALSTAD 66 424 SOUTH MAIN LOVINGTON, NEW MEXICO MONITOR WELLS.

Teri: This is what I came up with:

Monitor Well #	Northing	Easting	Elevation
W-7	708910.732	843120.516	3910.88
W-15	708221.991	843030.653	3909.40
W-18	708697.213	843818.977	3909.38
W-19	708148.942	843934.177	3908.36
W-20	707780.845	844187.250	3907.45
W-21	707988.787	8438410613	3908.49

Trimble 5800 GPS was used for the New Mexico Plane coordinates (NAD-83) Elevations were taken using existing Monitor wells #9 & 12
as reference elevations and a Dietzgen Level for elevation shots (on North side of casing). Please let me know if this is the information that
you need.

Thanks,

Ed Blevins

Office Manager
Basin Surveys
505-393-7316
www.basinsurveys.com

60

APPENDIX F
PRODUCT BAIL DOWN TEST FIELD FORMS, GRAPHS, AND ESTIMATION OF NAPL VOLUME AND MASS

$\beta_{ow} = \frac{\sigma_{aw}}{\sigma_{ow}}$ Oil-water scaling factor

σ_{aw} = surface tension of uncontaminated water (72.75 dynes/cm @ 20°C)

σ_{ao} = surface tension of LNAPL [25 dynes/cm @ 20°C for JP-4, Table C.2.2]

$\sigma_{ow} = o_{aw} - o_{ao}$ = interfacial tension between water and LNAPL (47.75dynes/cm @ 20°C)

It is important to note that this method includes the capillary thickness of the hydrocarbon, and is, therefore, likely to be an overestimate.

Table C.2.2 Surface Tensions for Various Compounds

Compound	Surface Tension @ 20°C (dyne/cm)
JP-4	25[a/]
Gasoline	19-23 [a/]
Pure Water	72.75[b/]

a/ Martel (1987).
b/ CRC Handbook (1956).

C.2.3.4.3. LNAPL Baildown Test

The LNAPL baildown test is applicable in areas where the hydrocarbon/water interface is below the potentiometric surface, and the recharge rate of hydrocarbon into the well is slow (Hughes *et al.*, 1988).

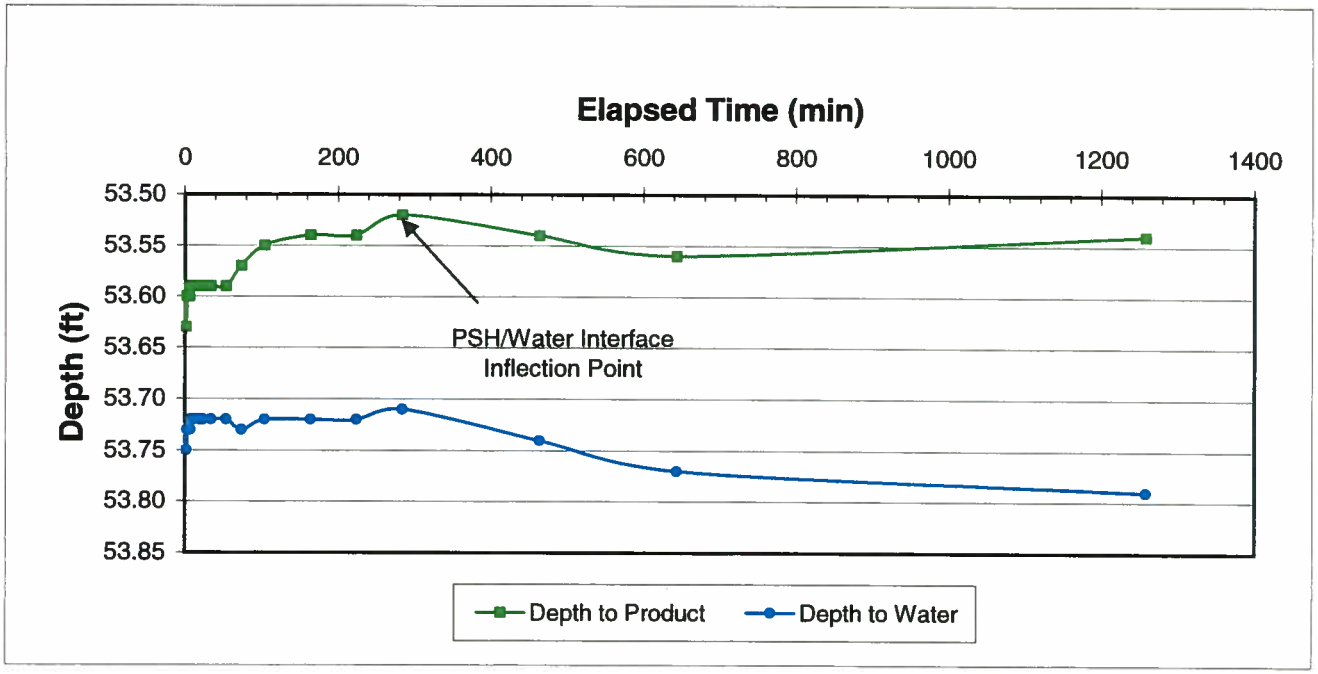
Baildown Test Procedure (from Hughes *et al.*, 1988):

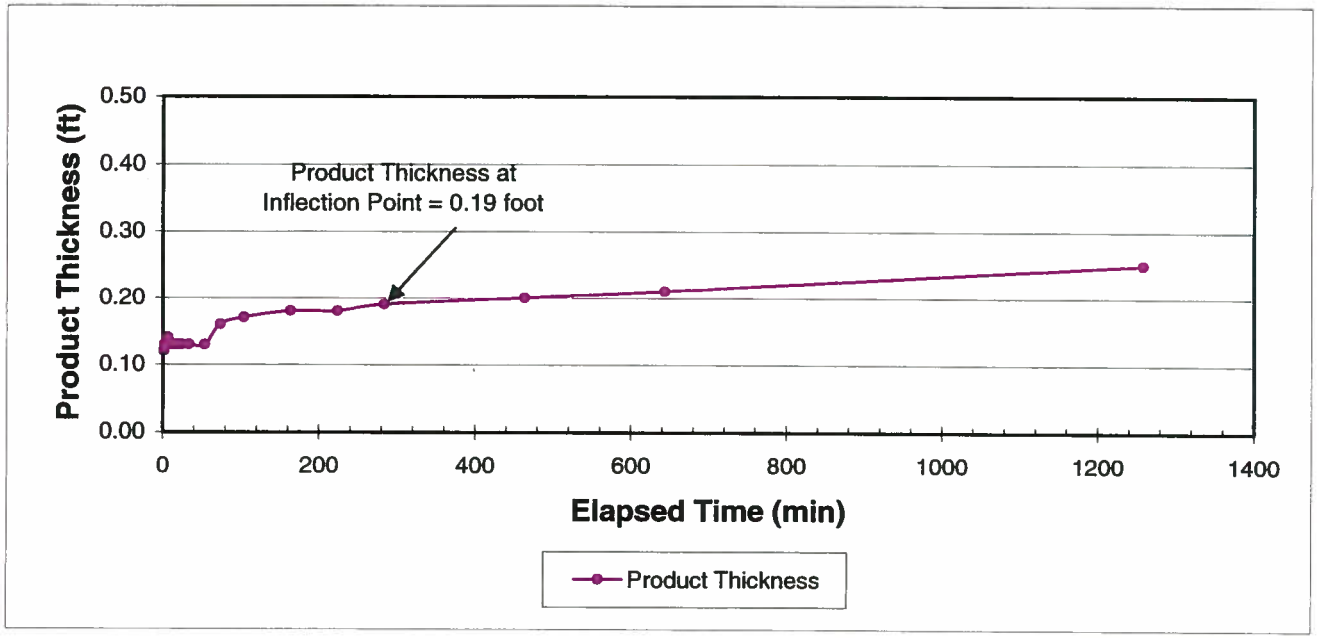
1) Gauge the well and calculate the corrected potentiometric surface elevation using equations C.2.1 and C.2.2.
2) Rapidly bail the hydrocarbon from the well.
3) Gauge the well again, and if the thickness of the hydrocarbon is acceptable (0.1 to 1 foot), calculate the potentiometric surface elevation. The potentiometric surface elevation thus calculated should be within 0.005 foot of the value calculated in step 1. If it is, then continue to step 4; if it is not, repeat steps 2 and 3.
4) Record the top of the LNAPL surface in the well as it recharges until the well is fully re-charged.
5) Plot the elevation of the top of LNAPL in the well *vs.* time since bailing ceased.
6) The true thickness of the mobile LNAPL layer (T_f) is the distance from the inflection point to the top of the hydrocarbon under static conditions (Figure C.2.6). Thus, T_f is picked directly off the plot. Table C.2.3 is an example of the results of this procedure.

ESTIMATION OF NAPL VOLUME AND MASS
FORMER LOVINGTON 66, NEW MEXICO

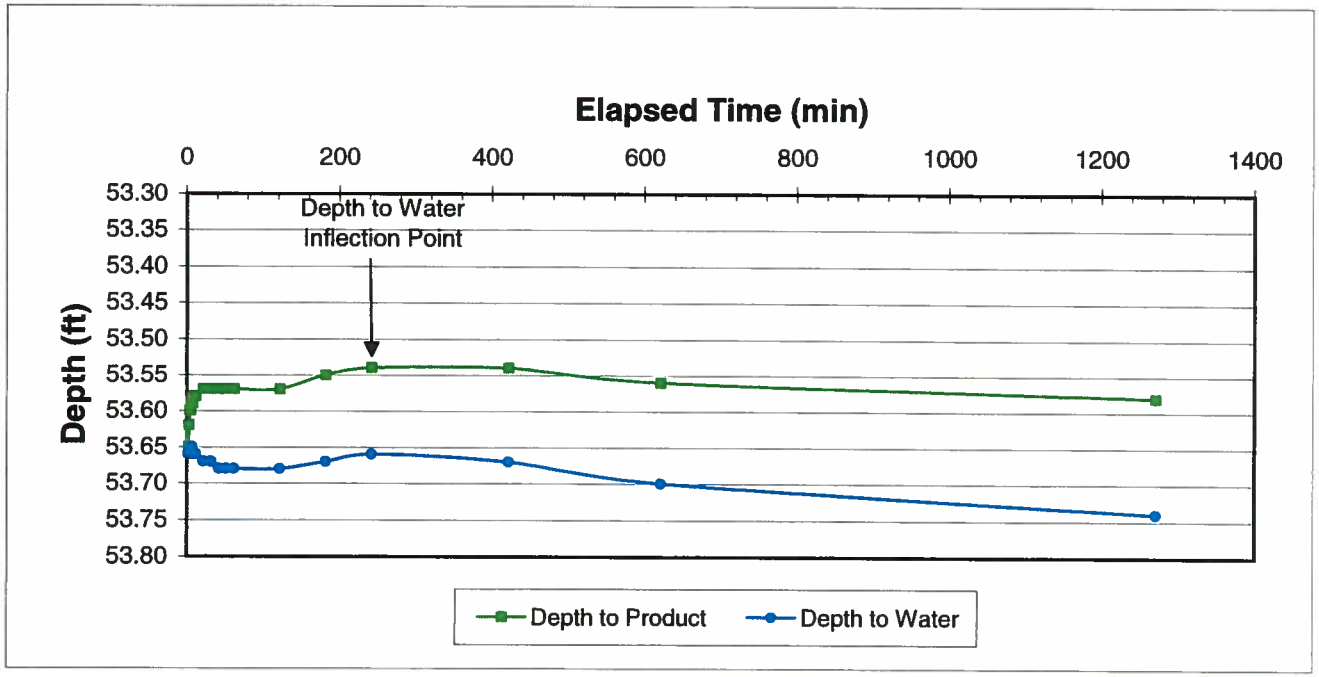
Parameter	Value	Units	Notes
W-2 Bail Down			
Initial Apparent NAPL Thickness	3.32	ft	Before bail down
Estimated "True" NAPL Thickness	0.19	ft	1st bail down day
Estimated "True" NAPL Thickness	0.12	ft	2nd bail down day
Ratio of "True" to Apparnent NAPL, high	5.72%		
Ratio of "True" to Apparnent NAPL, low	3.61%		
W-3 Bail Down			
Initial Apparent NAPL Thickness	3.03	ft	Before bail down
Estimated "True" NAPL Thickness	0.18	ft	1st bail down day
Estimated "True" NAPL Thickness	0.13	ft	2nd bail down day
Ratio of "True" to Apparnent NAPL, high	5.94%		
Ratio of "True" to Apparnent NAPL, low	4.29%		
Ratio of "True" to Apparnent NAPL, range	3.61%	-	5.94%
NAPL Volume and Mass Estimation			
Total Affected Volume of Soil	1,000	yd^3	Land Desktop Terrain modeling
Estimated Soil Effective Porosity	20%		
Affected Pore Volume	200	yd^3	
Ratio of "True" to Apparent NAPL, low	3.61%		Bail Down Test
Ratio of "True" to Apparent NAPL, high	5.94%		Bail Down Test
Estimated Volume of "True" NAPL, low	1,460	gal	
Estimated Volume of "True" NAPL, high	2,400	gal	
Estimated Mass of NAPL, low	9,743	lb	Estimated SG = 0.8
Estimated Mass of NAPL, high	16,014	lb	Estimated SG = 0.8
Alternative Volume Estimation			
Area	21,000	ft^2	
Average Apparent NAPL Thickness	3.5	ft	
Total Affected Volume of Soil	1,361	yd^3	Area*Thickness/2
Estimated Soil Effective Porosity	20%		
Affected Pore Volume	272.2222	yd^3	
Ratio of "True" to Apparent NAPL, low	3.61%		Bail Down Test
Ratio of "True" to Apparent NAPL, high	5.94%		Bail Down Test
Estimated Volume of "True" NAPL, low	1,987	gal	
Estimated Volume of "True" NAPL, high	3,266	gal	
Estimated Mass of NAPL, low	13,262	lb	Estimated SG = 0.8
Estimated Mass of NAPL, high	21,797	lb	Estimated SG = 0.8
Conclusion			
NAPL Volume, Range	1,460	-	3,266 gallons
NAPL Mass, Range	9,743	-	21,797 pounds

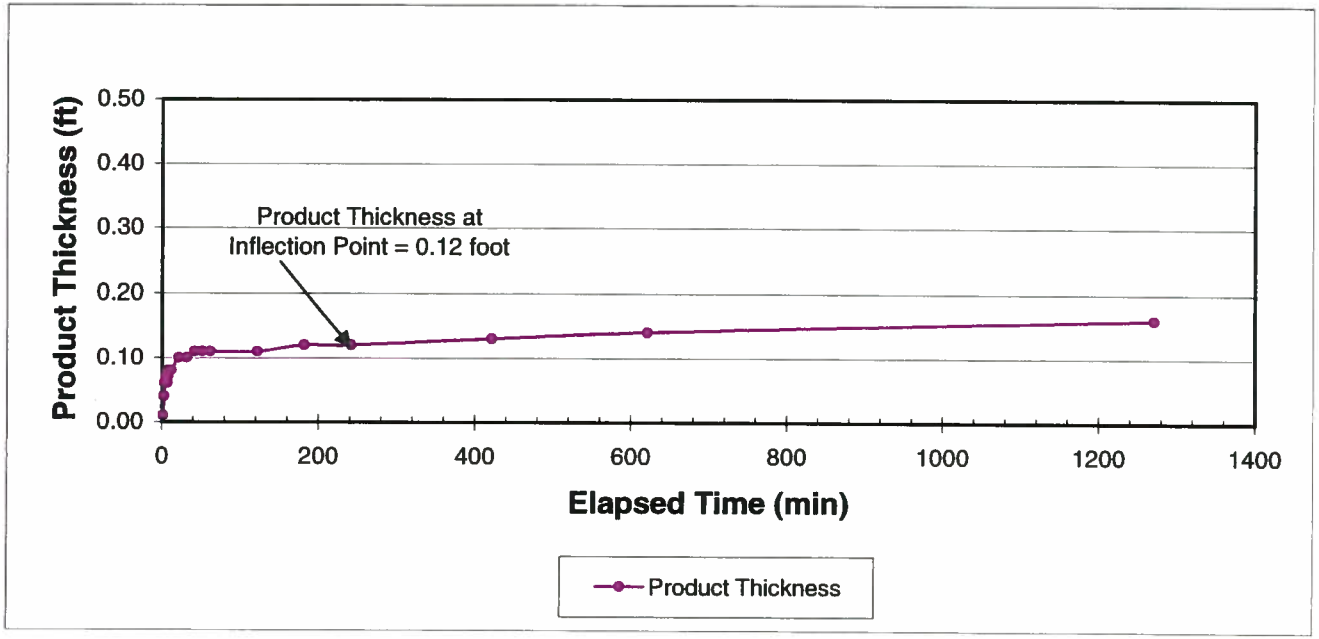
W-2 Bail Down Recovery (Day 1)



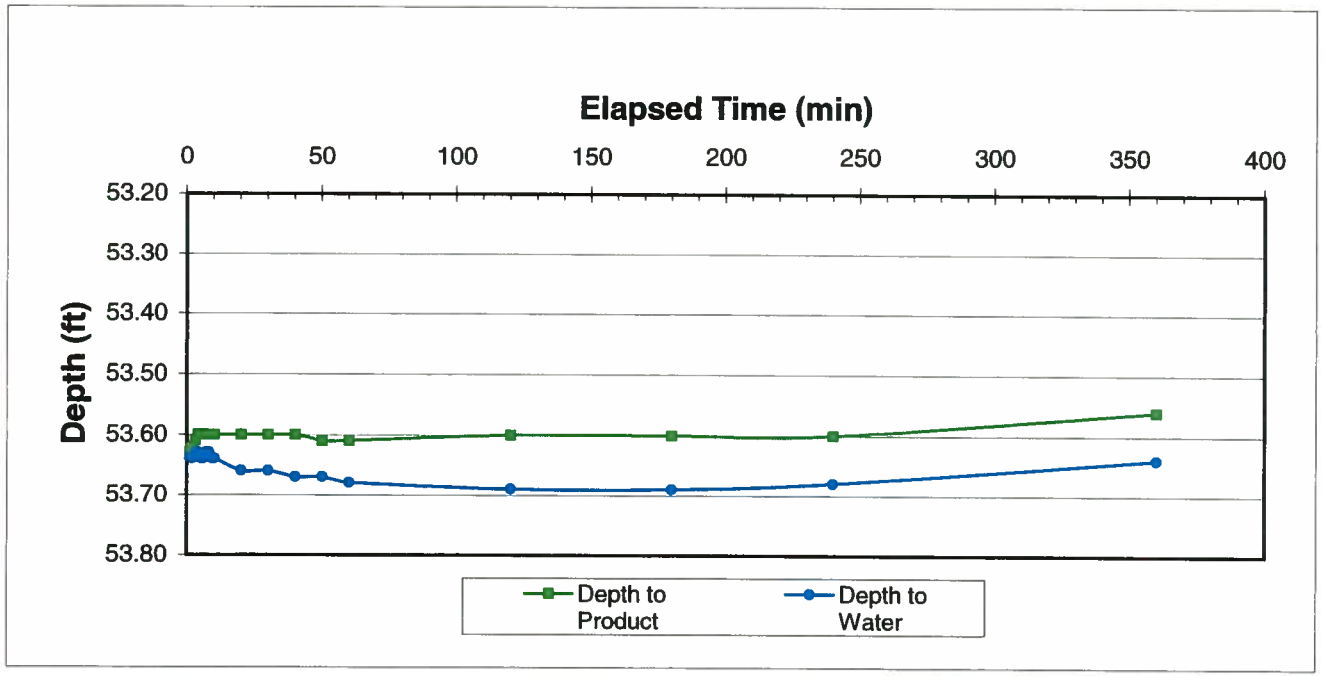


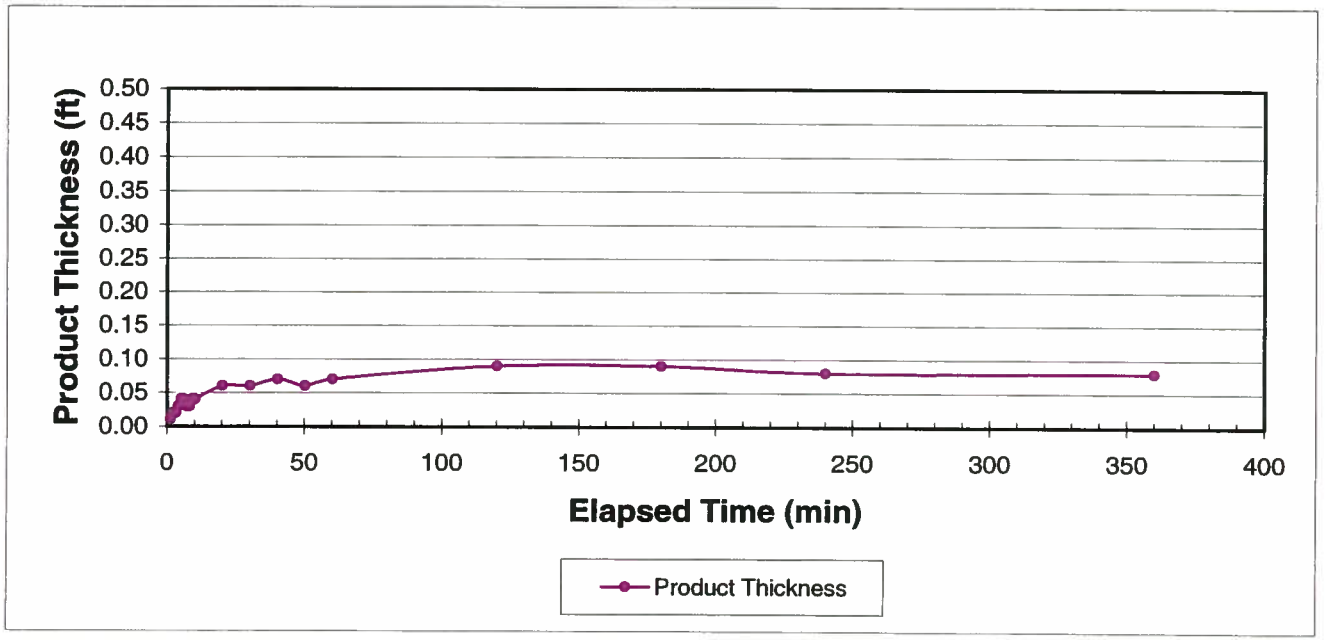
W-2 Bail Down Recovery (Day 2)





W-2 Bail Down Recovery (Day 3)





Date of Test - November 7, 2007

GOLDER ASSOCIATES INC.

073-80008

Product Bail-Down Test

Date: November 7, 2007

Well No.: W-2

Lovington 66, Lovington, NM

Project No. 073-80008

Bail Down Data

Time	Elapsed Time	Depth to Product	Depth to Water	Corrected Potentiometric Surface Elevation	Remarks - Criteria Met?
755	Static	52.88	56.20	3856.48	3.32' STARTED BAILING AT 0815
825		53.71	54.65	3855.54	NON-CORRECTED ELEVATION
843		53.64	54.11	3856.08	NON-CORRECTED ELEVATION
901		53.64	53.86	3856.33	NON-CORRECTED ELEVATION
915		53.64	53.81	3856.38	NON-CORRECTED ELEVATION
927		53.66	53.79	3856.40	NON-CORRECTED ELEVATION - Yes

Recovery Data

Time	Elapsed Time	Depth to Product	Depth to Water	Product Thickness	Remarks
928	1	53.63	53.75	0.12	
929	2	53.60	53.73	0.13	
930	3	53.60	53.73	0.13	
931	4	53.60	53.73	0.13	
932	5	53.60	53.73	0.13	
933	6	53.59	53.73	0.14	
934	7	53.59	53.72	0.13	
935	8	53.59	53.72	0.13	
936	9	53.59	53.72	0.13	
937	10	53.59	53.72	0.13	
940	13	53.59	53.72	0.13	
945	18	53.59	53.72	0.13	
950	23	53.59	53.72	0.13	
1000	33	53.59	53.72	0.13	
1010	53	53.59	53.72	0.13	
1030	73	53.57	53.73	0.16	
1100	103	53.55	53.72	0.17	
1200	163	53.54	53.72	0.18	
1300	223	53.54	53.72	0.18	
1400	283	53.52	53.71	0.19	
1700	463	53.54	53.74	0.20	
2000	643	53.56	53.77	0.21	
615	1258	53.54	53.79	0.25	END DAY 1 / BEGIN DAY 2

Product Removed: 4.5 **Water Removed:** 1 GAL **Technician:** TM / RB

GOLDER ASSOCIATES INC.

073-80008

Product Bail-Down Test

Date: November 8, 2007

Well No.: W-2 Lovington 66, Lovington, NM **Project No.** 073-80008

Bail Down Data

Time	Elapsed Time	Depth to Product	Depth to Water	Corrected Potentiometric Surface Elevation	Remarks - Criteria Met?
725	Static	53.54	53.79	3856.59	0.25' Product
745		53.62	53.71	3856.48	0.09' - Non-Corrected Elevation
755		53.65	53.69	3856.50	0.04' - Non-Corrected Elevation
759		53.65	53.66	3856.53	0.01' - Non-Corrected Elevation - Yes

Recovery Data

Time	Elapsed Time	Depth to Product	Depth to Water	Product Thickness	Remarks
800	1	53.65	53.66	0.01	
801	2	53.62	53.66	0.04	
802	3	53.60	53.66	0.06	
803	4	53.60	53.66	0.06	
804	5	53.59	53.66	0.07	
805	6	53.59	53.65	0.06	
806	7	53.59	53.66	0.07	
807	8	53.58	53.66	0.08	
808	9	53.58	53.66	0.08	
810	11	53.58	53.66	0.08	
820	21	53.57	53.67	0.10	
830	31	53.57	53.67	0.10	
840	41	53.57	53.68	0.11	
850	51	53.57	53.68	0.11	
900	61	53.57	53.68	0.11	
1000	121	53.57	53.68	0.11	
1100	181	53.55	53.67	0.12	
1200	241	53.54	53.66	0.12	
1500	421	53.54	53.67	0.13	
1800	621	53.56	53.70	0.16	
550	1271	53.58	53.74	0.16	END DAY 2/BEGIN DAY 3

Product Removed: 1/2 GAL **Water Removed:** TRACE **Technician:** TM / RB

Date 11.09.07

GOLDER ASSOCIATES INC.

073-80008

Product Bail-Down Test

Date: November 9, 2007

Well No.: W-2 Lovington 66, Lovington, NM **Project No.** 073-80008

Bail Down Data

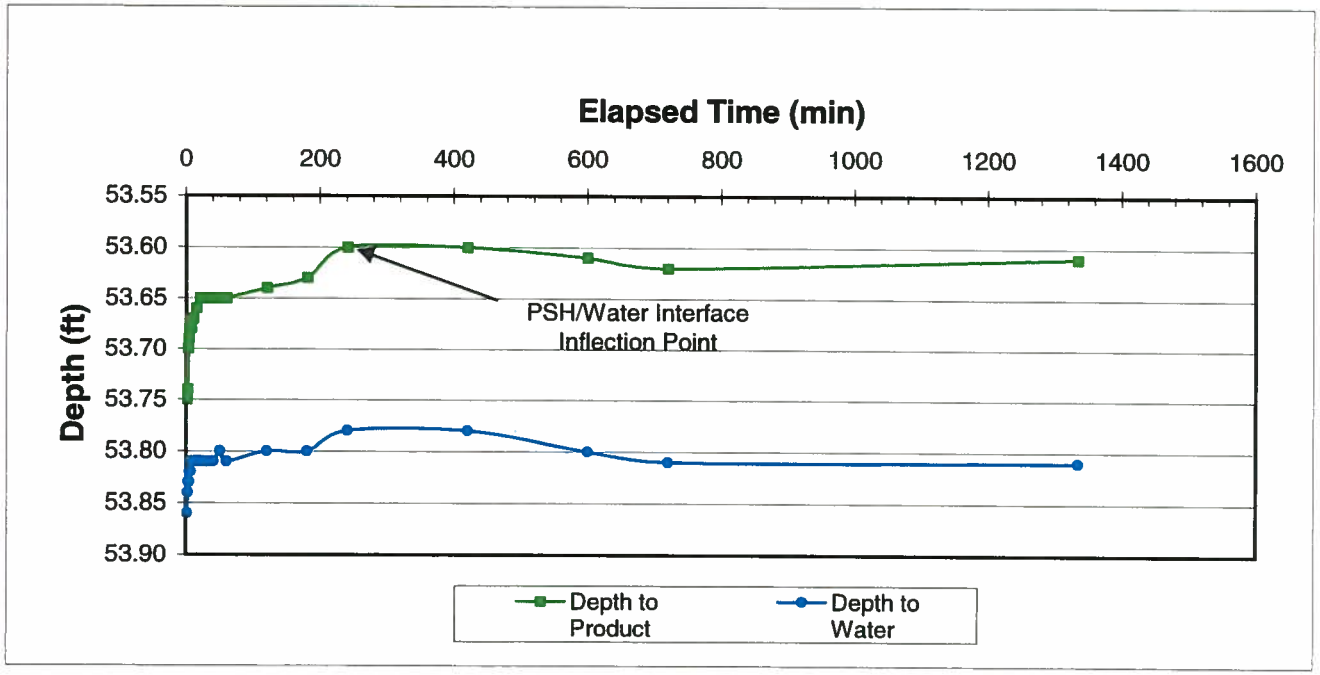
Time	Elapsed Time	Depth to Product	Depth to Water	Corrected Potentiometric Surface Elevation	Remarks - Criteria Met?
550	Static	53.58	53.74	3856.57	0.16'
600		53.67	53.70	3856.49	0.03' Non-Corrected Elevation
605		53.67	53.68	3856.51	0.01' Non-Corrected Elevation - Yes

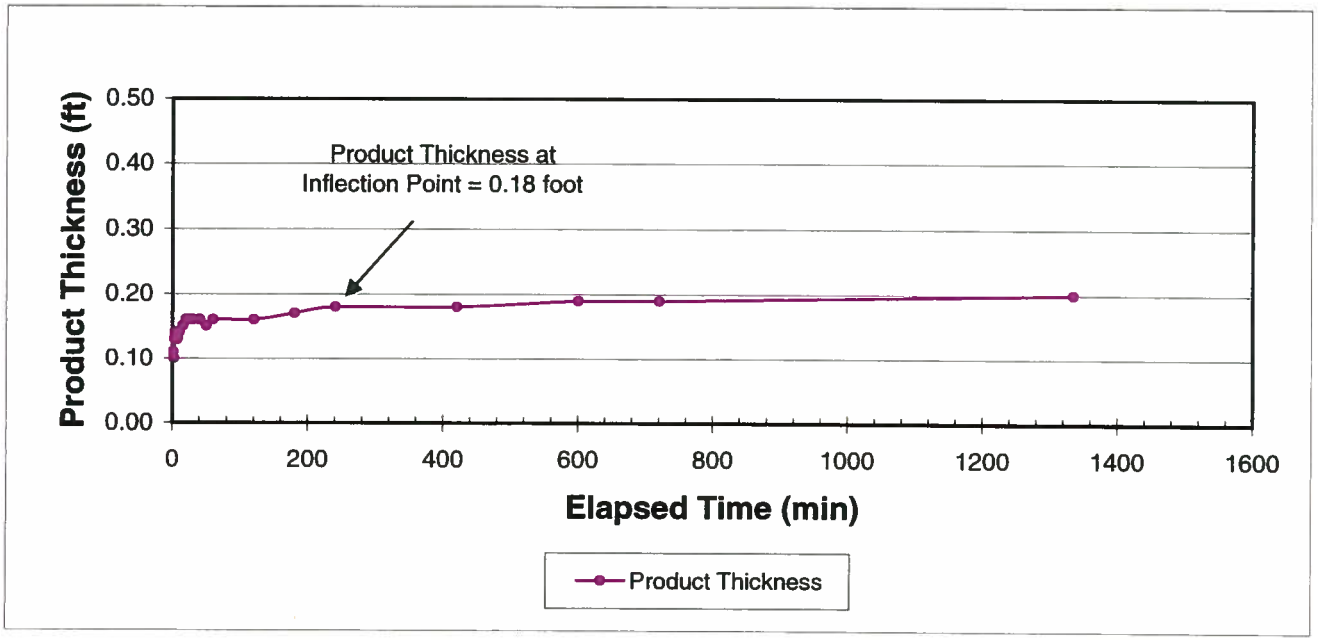
Recovery Data

Time	Elapsed Time	Depth to Product	Depth to Water	Product Thickness	Remarks
606	1	53.63	53.64	0.01	
607	2	53.62	53.64	0.02	
608	3	53.61	53.63	0.02	
609	4	53.60	53.63	0.03	
610	5	53.60	53.64	0.04	
611	6	53.60	53.64	0.04	
612	7	53.60	53.63	0.03	
613	8	53.60	53.63	0.03	
614	9	53.60	53.64	0.04	
615	10	53.60	53.64	0.04	
625	20	53.60	53.66	0.06	
635	30	53.60	53.66	0.06	
645	40	53.60	53.67	0.07	
655	50	53.61	53.67	0.06	
705	60	53.61	53.68	0.07	
805	120	53.60	53.69	0.09	
905	180	53.60	53.69	0.09	
1005	240	53.60	53.68	0.08	
1205	360	53.56	53.64	0.08	END DAY 3

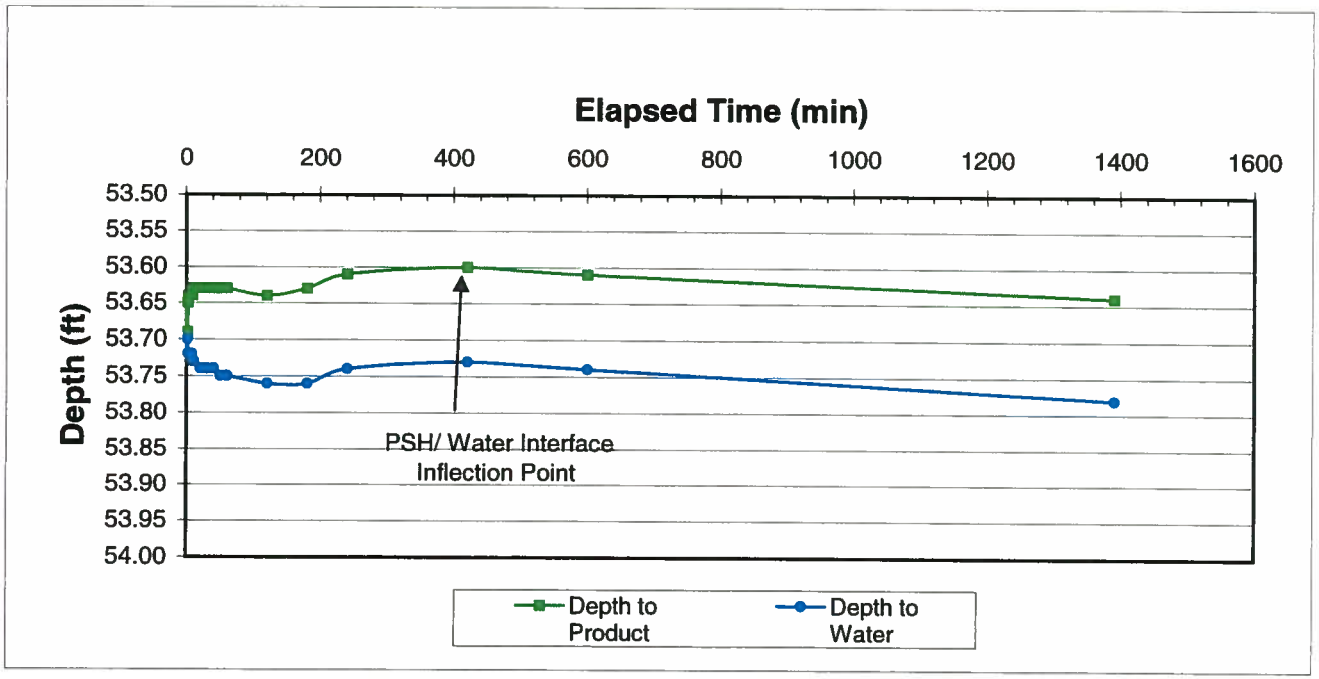
Product Removed: .10 GAL **Water Removed:** 1/8 GAL **Technician:** TM / RB

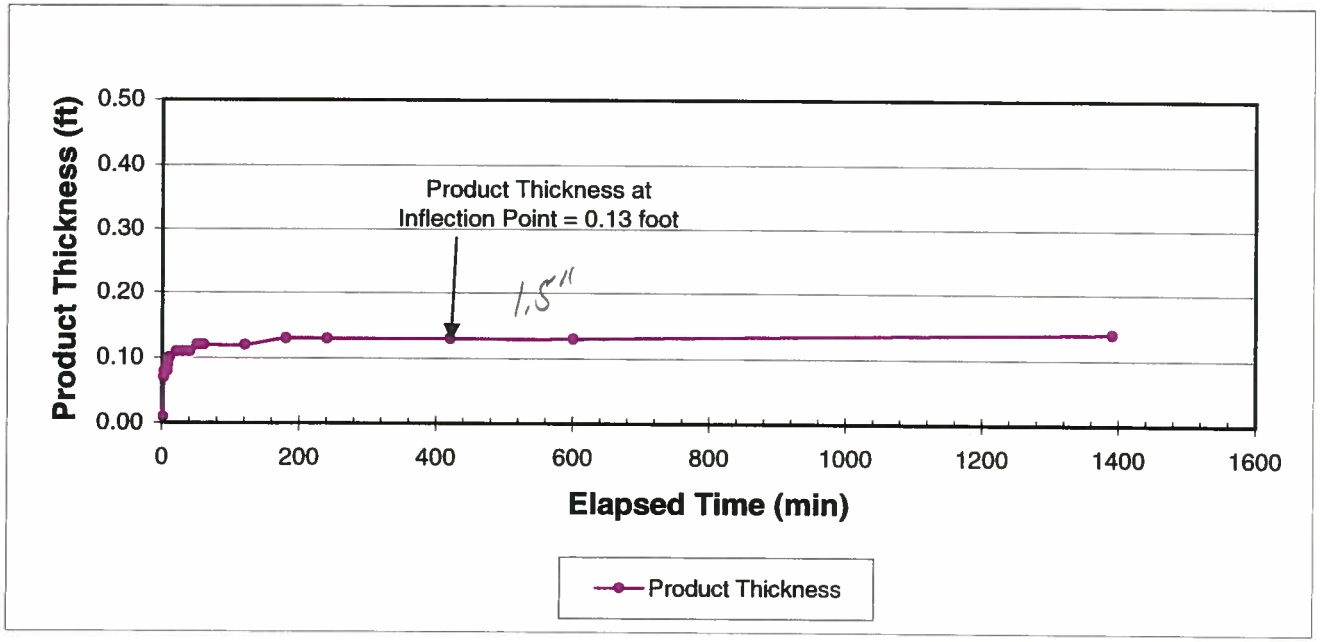
W-3 Bail Down Recovery (Day 1)



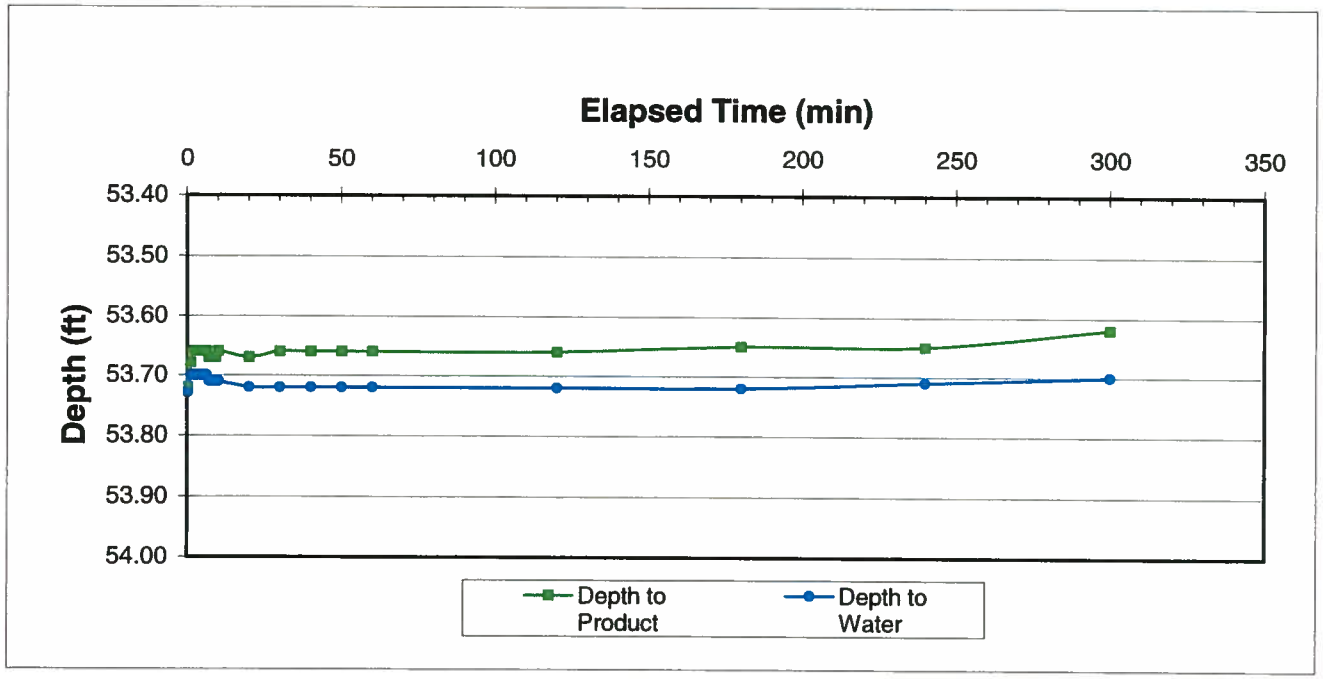


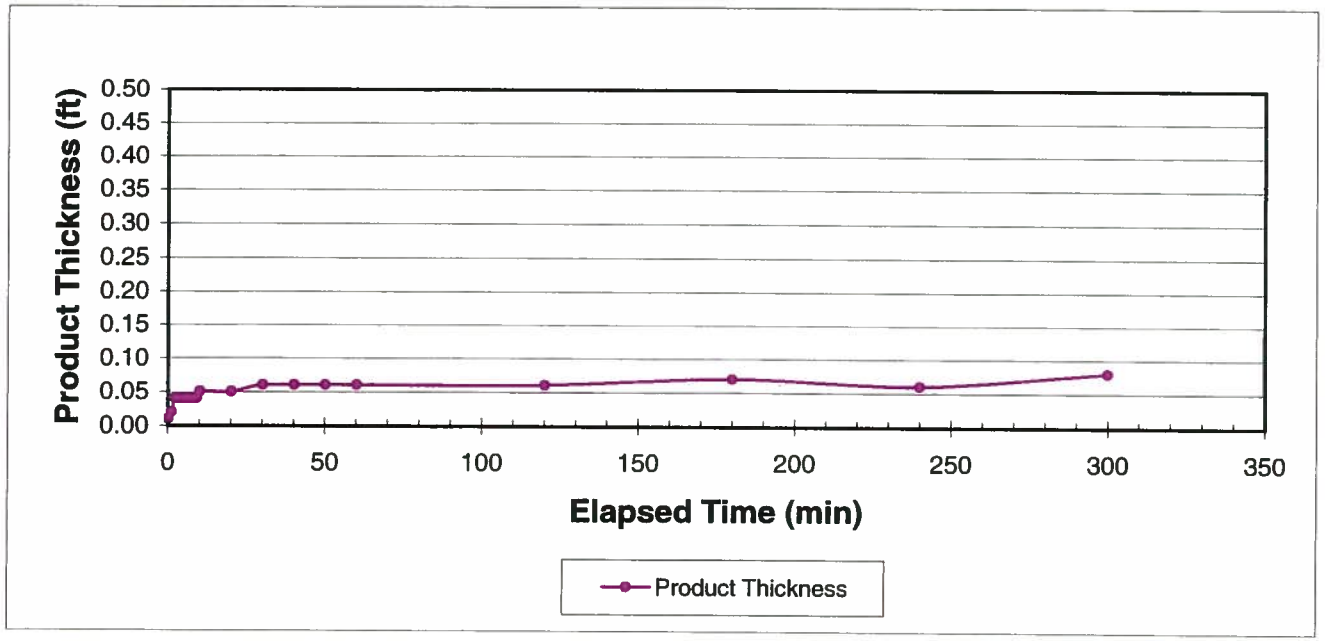
W-3 Bail Down Recovery (Day 2)





W-3 Bail Down Recovery (Day 3)





Date 11.07.07

GOLDER ASSOCIATES INC.

073-80008

Product Bail-Down Test

Date: November 7, 2007

Well No.: W-3 Walstad 66, Lovington, NM **Project No.** 073-80008

Bail Down Data

Time	Elapsed Time	Depth to Product	Depth to Water	Corrected Potentiometric Surface Elevation	Remarks - Criteria Met?
630	Static	53.01	56.04	3856.52	3.03' PRODUCT
645		53.40	55.60	3854.09	NON-CORRECTED
650		53.70	55.20	3855.09	NON-CORRECTED
655		53.70	54.91	3855.38	NON-CORRECTED
715		53.70	54.30	3855.99	NON-CORRECTED
730		54.15	54.15	3856.14	NON-CORRECTED
745		53.72	53.90	3856.39	NON-CORRECTED
759		53.75	53.86	3856.43	NON-CORRECTED - Yes

Recovery Data

Time	Elapsed Time	Depth to Product	Depth to Water	Product Thickness	Remarks
800	1	53.75	53.86	0.11	
801	2	53.74	53.84	0.10	
802	3	53.70	53.83	0.13	
803	4	53.69	53.83	0.14	
804	5	53.68	53.82	0.14	
805	6	53.68	53.82	0.14	
806	7	53.68	53.81	0.13	
807	8	53.67	53.81	0.14	
808	9	53.67	53.81	0.14	
809	10	53.67	53.81	0.14	
816	15	53.66	53.81	0.15	
821	20	53.65	53.81	0.16	
826	25	53.65	53.81	0.16	
831	30	53.65	53.81	0.16	
841	40	53.65	53.81	0.16	
851	50	53.65	53.80	0.15	
900	60	53.65	53.81	0.16	
1000	120	53.64	53.80	0.16	
1100	180	53.63	53.80	0.17	
1200	240	53.60	53.78	0.18	
1500	420	53.60	53.78	0.18	
1800	600	53.61	53.80	0.19	
2000	720	53.62	53.81	0.19	
615	1335	53.61	53.81	0.20	END DAY 1 / BEGIN DAY 2

Product Removed: 5 GAL **Water Removed:** 2.5 GAL **Technician:** TM / RB

Date 11.08.07

GOLDER ASSOCIATES INC.

073-80008

Product Bail-Down Test

Date: November 8, 2007

Well No.: W-3 Lovington 66, Lovington, NM **Project No.** 073-80008

Bail Down Data

Time	Elapsed Time	Depth to Product	Depth to Water	Corrected Potentiometric Surface Elevation	Remarks - Criteria Met?
615	Static	53.61	53.81	3856.63	0.2'
635		53.68	53.74	3856.55	0.06' Non-Corrected Elevation
643		53.69	53.70	3856.59	0.01' Non-Corrected Elevation - Yes

Recovery Data

Time	Elapsed Time	Depth to Product	Depth to Water	Product Thickness	Remarks
644	1	53.69	53.70	0.01	
645	2	53.65	53.72	0.07	
646	3	53.64	53.72	0.08	
647	4	53.64	53.72	0.08	
648	5	53.64	53.72	0.08	
649	6	53.64	53.72	0.08	
650	7	53.64	53.72	0.08	
651	8	53.64	53.73	0.09	
652	9	53.63	53.73	0.10	
653	10	53.63	53.73	0.10	
703	20	53.63	53.74	0.11	
713	30	53.63	53.74	0.11	
723	40	53.63	53.74	0.11	
733	50	53.63	53.75	0.12	
743	60	53.63	53.75	0.12	
843	120	53.64	53.76	0.12	
943	180	53.63	53.76	0.13	
1043	240	53.61	53.74	0.13	
1343	420	53.60	53.73	0.13	
1643	600	53.61	53.74	0.13	
555	1391	53.64	53.78	0.14	END DAY 2 / BEGIN DAY 1

Product Removed: 1/2 GAL **Water Removed:** TRACE **Technician:** TM / RB

Date 11.9.07

GOLDER ASSOCIATES INC.

073-80008

Product Bail-Down Test

Date: November 9, 2007

Well No.: W-3 Lovington 66, Lovington, NM **Project No.** 073-80008

Bail Down Data

Time	Elapsed Time	Depth to Product	Depth to Water	Corrected Potentiometric Surface Elevation	Remarks - Criteria Met?
626	Static	53.64	53.78	3856.62	0.14'
636		53.67	53.76	3856.53	0.09' Non-Corrected Elevation
644		53.69	53.73	3856.56	0.04' Non-Corrected Elevation
656		53.70	53.74	3856.55	0.04' Non-Corrected Elevation
706		53.72	53.73	3856.56	0.01' Non-Corrected Elevation - Yes

Recovery Data

Time	Elapsed Time	Depth to Product	Depth to Water	Product Thickness	Remarks
706	0	53.72	53.73	0.01	
707	1	53.68	53.70	0.02	
708	2	53.66	53.70	0.04	
709	3	53.66	53.70	0.04	
710	4	53.66	53.70	0.04	
711	5	53.66	53.70	0.04	
712	6	53.66	53.70	0.04	
713	7	53.67	53.71	0.04	
714	8	53.67	53.71	0.04	
715	9	53.67	53.71	0.04	
716	10	53.66	53.71	0.05	
726	20	53.67	53.72	0.05	
736	30	53.66	53.72	0.06	
746	40	53.66	53.72	0.06	
756	50	53.66	53.72	0.06	
806	60	53.66	53.72	0.06	
906	120	53.66	53.72	0.06	
1006	180	53.65	53.72	0.07	
1106	240	53.65	53.71	0.06	
1206	300	53.62	53.70	0.08	END DAY 3

Product Removed: .10 GAL **Water Removed:** 1/4 GAL **Technician:** TM / RB