



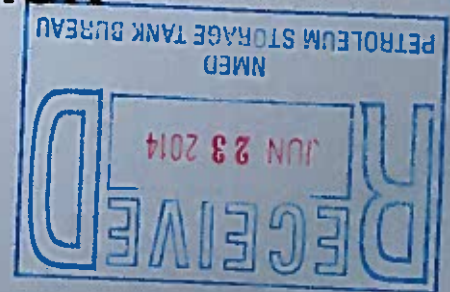
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OFF-SITE INVESTIGATION REPORT 6-14

**ALLSUPS #320 FACILITY
CLOVIS, NEW MEXICO**



Submitted To:

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June 2014



Off-Site Investigation Report

Allsup's #320 Facility
21st Street and Prince Street
Clovis, New Mexico

BEI Job No. 1070
WPID #s16814
DID#16814-3
Facility #31013
RID #4623

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1.0 EXECUTIVE SUMMARY

On behalf of Allsup's Petroleum, Inc. (Allsup's), Brown Environmental, Inc. (BEI) recently conducted an Off-Site Investigation (OSI) in the vicinity of the Allsup's #320 facility located at the intersection of Prince Street and 21st Street in Clovis, New Mexico (Figure 1). In February and March 2014, four deep monitor wells (BW-4, BW-5, BW-6, and BW-7) were installed at the locations highlighted in Figure 2. The OSI was conducted as a follow-up to an earlier Minimum Site Assessment (MSA) conducted in 2011 and 2012, which identified subsurface gasoline soil and groundwater contamination in the site vicinity.

The earlier MSA included installation and sampling of three nested groundwater monitor wells (BW-1, BW-2, and BW-3) and performance of a short-term soil vacuum extraction (SVE) feasibility study (FS) at the Site. In late April of 2014, groundwater samples were collected from the four new deep monitor wells in addition to the original three deep wells as part of the OSI. The results of the recent drilling and groundwater-sampling event are highlighted in this report.

Retrieved soil samples from the ten boreholes advanced in the Site vicinity by BEI indicate four primary Lithologic Units at the Site, which are highlighted in the cross section shown on Figures 3, 3a, and 3b. Lithologic Unit I consists predominantly of clayey sand, silt and very fine sand extending from the land surface to approximately 20 to 30 feet below surface grade (bsg). Minor to moderate stage 1 to 2 discontinuous calcium carbonate (caliche) cemented zones are present towards the bottom of this Unit. Lithologic Unit II consists primarily of silty sand with prominent continuous stage 3 to 4 caliche extending to approximately 67 to 75 feet bsg. Lithologic Unit III extends below Unit II to a depth of between approximately 280 to 335 feet bsg and consists predominantly of very fine sand with low to trace amounts of silt. Lithologic Unit IV extends below Lithologic Unit III to the base of each borehole and consists predominantly of silty sands, sandy silts, and localized thin carbonate-cemented fine sandstone layers and nodules.

Depth to groundwater in deep wells was approximately 325 feet bsg during the April 29, 2014 sampling and gauging event. A potentiometric surface map using the data collected from this event is presented in Figure 4. Groundwater flow beneath the Site was calculated to be approximately 0.0026 feet/foot to the south. Regional groundwater levels have reportedly dropped significantly during the past several decades as a result of over pumping of supply wells.

Based on the combined drilling and FS testing at the Site, an extensive vapor-phase gasoline plume with localized areas of adsorbed-phase soil hydrocarbons is present extending to the water table.

Results of the April 2014 groundwater-sampling event indicate an extensive dissolved phase hydrocarbon contaminant plume in the Site vicinity as shown in Figures 5, 6, and 7. The highest levels of benzene, toluene, ethyl benzene, and total xylenes (BTEX), 1,2 dichloroethane (EDC), 1,2 dibromoethane (EDB), and total naphthalenes (NAPH) were identified in groundwater samples collected from off-site well BW-5. Samples collected from off-site well BW-7 also contained significantly higher levels of dissolved phase hydrocarbons when compared to those identified in groundwater samples collected from on-site wells BW-1, BW-2, and BW-3.

Analysis of available subsurface data including the magnitude and extent of soil vapor, total petroleum hydrocarbons (TPH) in soil, and dissolved-phase hydrocarbons in groundwater suggest the presence of an off-site gasoline hydrocarbon source, possibly in the vicinity of well BW-5. Several long-term residents in the site vicinity reported the presence of a former gasoline service station to the west of well BW-5 along the west side of Prince Street.

Additional drilling and SVE FS testing will be needed to better define the magnitude and extent of the soil and groundwater hydrocarbon contamination in the Site vicinity. Additionally, regular compliance groundwater monitoring should be initiated to monitor water quality trends.

2.0 INTRODUCTION

2.1 BACKGROUND/SITE HISTORY

The OSI was conducted to evaluate the extent of hydrocarbon releases from the former underground storage tank (UST) systems removed from the Site in January 2011 as part of a remodeling and upgrade of the facility by Allsups. Figure 2 highlights the location of the new service station/convenience store facilities and UST systems. Prior to purchase by Allsups in approximately 2000, the facility was a Target Gas Station.

The Allsups #320 Facility is located in Clovis, New Mexico. Allsups purchased the facility after Re-Spec, Inc. (Re-Spec) performed a limited site assessment (LSA) in 1999. During the LSA, five shallow soil borings were reportedly advanced at the Site. The results were submitted by NSync Environmental (NSync) to the NMED in the form of a 14-day report in May 2001.

In early 2011, Allsups completely demolished and removed the old station and constructed a new larger facility at the Site. During the station upgrade, three former 8,000-gallon gasoline-containing USTs including piping and dispensers were removed. This older set of tanks was reportedly installed in 1988 by the previous owner (NSync, 2001). Elevated PID and soil laboratory readings were observed on select samples collected from beneath the tank excavation (BEI 2011). A release notification was then submitted to the NMED.

During the 2011 MSA, three borings were advanced and sampled to depths of up to 209 feet below surface grade (bsg) using a hollow-stem auger (HSA) drilling rig at the approximate locations shown in Figure 2. In February 2012, BEI installed and sampled nested well BW-1 at the location shown in Figure 2 using an air-rotary casing hammer (ARCH) drilling rig. Groundwater samples collected from the well contained benzene at concentrations exceeding New Mexico Water Quality Control Commission (WQCC) standards.

As a result, the New Mexico Environment Department-Petroleum Storage Tank (NMED) required installation and sampling of two additional nested monitor wells (BW-2 and BW-3) to better evaluate soil and groundwater quality and to determine groundwater flow direction beneath the Site. Drilling activities for these new nested wells was conducted in July 2012. Each of the three nested monitor wells consists of three separate wells with shallow and intermediate depth screen intervals set using 2-inch diameter PVC and the deep depth well screen interval set using 4-inch diameter PVC.

NMED also requested completion of a Feasibility Study (FS) at the Site to better characterize the distribution and concentrations of subsurface hydrocarbon vapors and to evaluate the potential effectiveness of soil vacuum extraction (SVE) as a remedial technology for the Site. The FS was conducted on the three nested wells over a four-day period in October 2012.

Field activities for the most recent OSI consisted of installation and sampling of four single completion groundwater monitoring wells between February and April, 2014.

2.2 SCOPE OF WORK

BEI's original scope of work for this phase of the project consisted of three primary tasks:

- Install and sample three monitor wells (later modified to include installation and sampling of a fourth well).
- Properly dispose of investigative-derived waste (IDW).
- Prepare and submit a summary report to NMED.

3.0 PHYSICAL SETTING

3.1 PHYSIOGRAPHY/LAND USE

The Site is located at the intersection of Prince Street and 21st Avenue in Clovis, New Mexico. Site elevation is approximately 4,280 feet above mean sea level. Topography in the site vicinity generally slopes gently to the south and southeast. Several small lakes are located between 0.5 miles and 1 mile from the Site (Figure 1).

In general, the areas immediately surrounding the Site are characterized by commercial use. A large shopping mall is located to the east and south with an IHOP restaurant located immediately east of the Site. Several businesses are located to the west including New Mexico Bank and Trust, Sonic Restaurant, and Fast Bucks Loans (formerly Prince Street 66 service station). Prior drilling at the Prince Street 66 in 2002 following tank removal by Souder, Miller, and Associates, Inc. (SMA) suggest that hydrocarbon releases were minor in nature and not vertically extensive.

Walgreens and Citizens Bank are located to the north. Residential housing is located further to the east and west of the Site with continued commercial usage extending north and south along Prince Street. At least one former service station was reportedly located west of the current location of well BW-5, based on information from long-term residents.

3.2 HYDROGEOLOGIC SETTING

During the BEI investigations, three boreholes (B-1, B-2, and B-3), three nested wells (BW-1, BW-2, and BW-3), and four single completion wells (BW-4, BW-5, BW-6, and BW-7) were advanced in the Site vicinity at the locations shown in Figure 2. Retrieved soil samples from BEI advanced boreholes identified four primary Lithologic Units at the Site. These Units are highlighted in the cross sections shown in Figures 3, 3a, and 3b and the corelog/well completion diagrams located in Appendix A.

Lithologic Unit I consists predominantly of clayey sand, silt, and very fine sand. This Unit extends from the land surface to approximately 20 to 30 feet bsg and transitions into the underlying Unit II. Minor to moderate stage 1 to 2 discontinuous caliche zones are present towards the bottom of Lithologic Unit I. Lithologic Unit II consists primarily of silty sand with prominent continuous stage 3 to 4 caliche extending from the base of Lithologic Unit I to approximately 67 to 75 feet bsg. The dense cemented carbonate in this interval was locally

laminar and also fractured in nature. Lithologic Unit III extends below Unit II to a depth of between approximately 280 to 335 feet bsg and consists of very fine sand with trace to low amounts of silt. Minor disseminated carbonate was observed in this Unit. Bedding surfaces observed in the split spoons appeared at or nearly horizontal in nature when present. Lithologic Unit IV extends below Lithologic Unit III to the base of each borehole and consists predominantly of silty sands, sandy silts, and localized thin carbonate cemented fine sandstone layers and nodules.

Depth to groundwater in deep wells was approximately 325 feet bsg during the April 2014 sampling and gauging event. A potentiometric surface map using the data collected from this event is presented in Figure 4. Calculated groundwater flow direction is to the south-southwest at a hydraulic gradient of approximately 0.0026 feet/foot. Based on discussions with local water well drillers, the regional groundwater has been falling several feet per year for several decades in the Site vicinity. Between April 2012 and April 2014, water levels declined in well BW-1 by 3.26 feet.

Multiple high yield City of Clovis municipal wells are located west of the Site, which may affect groundwater flow.

4.0 FIELD AND LABORATORY SAMPLING METHODS AND PROCEDURES

4.1 GENERAL

This section describes the methods and procedures for the following project activities:

- Soil Boring Advancement and Monitor Well Completion
- Subsurface Soil Sampling and Analysis
- Groundwater Sampling and Analysis

As per the requirements of CFR 1910.120, BEI prepared a site-specific Health and Safety Plan prior to initiation of field activities at the Site.

4.2 SOIL BORING/MONITOR WELL INSTALLATION

Four soil borings, BW-4 through BW-7, were advanced in the Site vicinity in February and March 2014 using a Speedstar 50k air-rotary casing hammer (ARCH) drilling rig operated by Yellow Jacket Drilling Services, Inc. (YJDS). Borehole lithologic logs and monitor well completion diagrams are located in Appendix A. Each well was constructed using 5-inch diameter schedule 80 PVC casing with 0.01-inch slotted well screen set at the bottom of each borehole. A five-foot blank sump was set at the base of three wells and an extra five-foot screen on the fourth well to minimize the effects of siltation and extend the life of the well.

A 10-20 silica sand pack was emplaced in the borehole across the well screen in each well. Hydrated bentonite pellets and bentonite-cement grout were emplaced in multiple lifts from the top of the sand pack to just below the land surface. Bentonite was hydrated in approximately two-foot lifts by adding water. The percentage of bentonite vs. cement in the borehole grout column varied between 6%/94% and 10%/90% as shown on the well completion diagrams. This was done to prevent blistering of the well during concrete setup and still allow for an effective grout seal. The top several feet of borehole in each location was filled with concrete and a 12-inch diameter manway and concrete apron was set at the land surface. A compression plug and lock was inserted in the top of each PVC well casing.

The borehole was logged by observing drilling cuttings and through the collection of split-spoon samples in discrete locations. As with earlier drilling at the Site, whenever possible ARCH operations were temporarily suspended prior to split spoon collection to minimize the effects of

aeration of hydrocarbons in the subsurface. Split-spoon samplers were decontaminated between sample runs using an alconox and tap water rinse. Retrieved sediments were logged by a BEI Geologist using the Unified Soil Classification System (USCS) method.

Drill cuttings were temporarily stored on-site in 20-yard³ plastic-lined roll off containers for later removal by Gandy Marley, Inc. to their permitted landfarm in Tatum, New Mexico for final disposition. Waste disposal manifests are included in Appendix B.

4.3 SOIL SAMPLING AND ANALYSIS

During drilling activities, retrieved sediment samples were collected from the borehole and analyzed in the field for total ionizable volatile compounds (TIVC) using a RAE-2000 photoionization detector (PID) utilizing a 10.6 eV lamp. 100 ppm/v isobutylene span gas and ambient air were used to calibrate the PID prior to use.

Results of the field headspace analysis are presented on the borehole logs in Appendix A. In addition, sediment samples were also collected using the PSTR Methanol Extraction Method at discrete locations in each borehole. Results of the laboratory analyses are presented in Table 1 and Appendix C. These samples were hand delivered on ice to Hall Environmental Laboratory Inc. (Hall) in Albuquerque, New Mexico for laboratory analyses. Laboratory soil samples were analyzed for one or more of the following parameters:

- Total petroleum hydrocarbons (TPH)_{gasoline range} using EPA Method 8015 modified.
- Benzene, toluene, ethyl benzene, and total xylenes (BTEX), tri-methyl benzenes (TMBs), and methyl tertiary butyl ether (MTBE) using EPA Method 8021.

During the Investigation, all samples were handled using strict chain-of-custody procedures. Laboratory reports including chain-of-custody documentation are presented in Appendix C.

4.4 GROUNDWATER SAMPLING AND ANALYSIS

Following completion of drilling activities in early March 2014, the wells were allowed to equilibrate for nearly two months. During the week of April 29, 2014, groundwater samples were collected from all seven deep monitor wells for laboratory analysis. Groundwater laboratory analytical results are presented on Table 3, Figures 5, 6, and 7, and in Appendix C.

Prior to sampling, the water level in each well was measured and also gauged for the presence of light non-aqueous phase liquids (LNAPL). Temperature, pH, and conductivity measurements were taken during well purging to document well stabilization. Approximately 50 gallons of water was removed from each of the four new wells (BW-4, BW-5, BW-6 and BW-7) by swabbing and bailing. All seven wells were subsequently purged using a Grundfos downhole pump mounted on a workover rig provided by YJDS. Approximately 4 well volumes were removed from each well prior to collection of groundwater samples. The downhole pump was decontaminated prior to use and between each well by steam cleaning and using analconox and tap water rinse.

Groundwater samples were collected from each well using a dedicated disposable bailer lowered into the well on the end of a water level probe. Samples were collected from the upper approximately 3 feet of the water column in each well. Additionally, a blind duplicate was collected from well BW-7 during the sampling event for quality assurance/quality control (QA/QC) purposes. Collected samples were stored in 40-milliliter vials preserved with mercuric chloride. Samples were collected using strict chain-of-custody procedures, stored on ice in a cooler, and hand-delivered to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. Purge water was discharged to an on-site paved surface to allow volatilization of any volatile organic compounds (VOCs) per NMED guidance documents.

Laboratory groundwater samples were analyzed for the following parameters:

- VOCs including BTEX, tri-methyl benzenes (TMBs), 1,2 dichloroethane (EDC), and methyl tertiary butyl ether (MTBE) using EPA Method 8260.

5.0 RESULTS OF THE INVESTIGATION

5.1 HYDROCARBON DISTRIBUTION IN SOIL

Estimates on the magnitude and extent of subsurface hydrocarbons in the Site vicinity are based on data collected during the combined MSA and OSI drilling events and from the FS SVE testing event. Although a significant amount of data is now available, care must be taken when comparing the information as different collection techniques and sample analyses were used to evaluate the presence of hydrocarbons in the subsurface.

Table 1 and Appendix A present summaries of field headspace and/or laboratory analytical results for soil samples collected during recent BEI subsurface drilling operations. Soil headspace concentrations measured during drilling and data summarizing extracted gasoline vapor concentrations recovered during SVE FS testing are also presented in cross-sectional view in Figures 3, 3a, and 3b.

Ten soil borings have been drilled in the Site vicinity during the recent investigations. The initial three borings (B-1, B-2, and B-3) were advanced in March 2011 using hollow-stem auger (HSA) drilling techniques that did not involve significant aeration of volatile hydrocarbon compounds during the sample collection process. As a result, both laboratory and field headspace analysis of retrieved sediments are generally representative of actual subsurface conditions. Although these borings did not reach the water table, they provide important data on site lithology and hydrocarbon distribution in the immediate vicinity of the Allsup's property as highlighted in Figure 3b. The subsequent seven additional borings were advanced to below the water table and completed as groundwater monitor wells.

During the drilling of nested wells BW-1, BW-2, and BW-3 and single completion wells BW-4, BW-5, BW-6, and BW-7, ARCH drilling methods were used. Significant aeration of subsurface sediments occurs during the advancement of the borehole and transport of drill cuttings to the surface. Headspace analysis of retrieved cuttings from the ARCH-advanced wells typically did not exceed 3 parts per million/volume (ppm/v) using a PID with the exception of location BW-5. PID analysis of drill cuttings retrieved from depths between approximately 300 and 328 feet bsg in this borehole yielded elevated concentrations as high as 243 ppm/v.

Headspace analysis was also collected on split-spoon samples at discrete locations during advancement of the ARCH wells. Whenever possible the casing was advanced to the depth of the split spoon sample and the hole allowed to equilibrate for as long as possible prior to actual

collection of the split spoon. This methodology provided a better representation of subsurface hydrocarbon levels and revealed the presence of elevated gasoline hydrocarbons in the vicinity of wells BW-4, BW-7, and especially BW-5, near the groundwater table (Figures 3 and 3a). These data combined with SVE FS extracted vapors collected from the original nested wells during late 2012 indicate the presence of an extensive hydrocarbon vapor plume in the site vicinity. It should be noted that PID readings collected during drilling are reported in ppm/v and the results of the laboratory analyses of extracted vapor concentrations measured during the SVE FS are reported in micrograms/liter (ug/l). An approximate conversion factor using an average molecular weight for gasoline can be estimated by dividing the reported hydrocarbon vapor concentrations in ug/l by 3.5 to obtain the value in ppm/v.

Between the confirmatory soil sampling conducted during the UST removal and the subsequent soil boring advancement, a total of 49 soil samples have been collected for laboratory analyses during the BEI investigations. Maximum TPH concentrations measured in the Site vicinity were 2,770 milligrams/kilogram (mg/kg) in a sample collected from a depth of 15 feet bsg beneath the northeast corner of the former tank pit. However, adsorbed-phase gasoline hydrocarbons beneath the Allsup's property decrease rapidly with depth as highlighted on Table 1 and Figure 3b. Of the 22 laboratory samples collected from boreholes drilled on the Allsup's property, only two samples had measurable TPH levels exceeding laboratory method detection limits (MDLs). Sample BW-1-239' (SM/ML) had a reported value of 25.6 mg/kg. Sample BW-2-320' (SM/ML) had a reported value of 9.35 mg/kg. These samples and several other samples had trace levels of one or more of the BTEX compounds and/or MTBE (Table 1).

With the exception of two samples collected immediately below the former Allsup's USTs, the maximum TPH value measured in the site vicinity was 121 mg/kg in sample BW-5-322' (SM) #2. Note that two samples were collected and analyzed from the same depth at this location. Sample BW-5-322' (SM) #1 was non-detect for all measured compounds. Sample #1 was collected approximately 30 minutes after cessation of drilling/borehole equilibration; Sample #2 was collected after approximately 150 minutes of borehole equilibration. PID readings from these two samples were measured at 77 ppm/v and 3,300 ppm/v, respectively. This limited comparison highlights the significant effect ARCH drilling has on sample aeration and the potential for SVE technology as a cleanup option for the Site.

Soil vapor data collected during the FS provides the most accurate data on hydrocarbon concentrations and distribution in the subsurface, although the vapor concentrations represent an average across the entire screen of each well. Figures 3 and 3a provide data on the levels of subsurface TPH in the shallow, intermediate, and deep depth vadose zone. Vapor samples collected during SVE testing commonly exceeded 10,000 ug/l TPH in the intermediate and deep

zone wells. The highest subsurface TPH vapor levels were documented during SVE testing of BW-1i and BW-1d beneath the former UST hold. Off-site wells have not yet been SVE tested.

During the recent OSI drilling events, BEI measured off gas emissions at the top of casing for each of the newly installed wells. Elevated readings were obtained on BW-4, BW-5, and BW-7 at concentrations of up to 400 ppm/v, 4,500 ppm/v and 1,200 ppm/v, respectively. PID readings obtained on off-gases from well BW-6 did not exceed 14 ppm/v. PID readings on well BW-1d during this same interval were up to 1,800 ppm/v.

In general, soil hydrocarbons in the Site vicinity appear to be vertically and horizontally extensive and predominantly in the vapor-phase.

5.2 HYDROCARBON DISTRIBUTION IN GROUNDWATER

Results of the April 2014 groundwater-sampling event indicate the presence of dissolved-phase gasoline hydrocarbons in groundwater in the Site vicinity as shown in Figures 5, 6, and 7. Benzene was detected at levels exceeding the 10 ppb WQCC standard in groundwater samples collected from three wells, with the highest concentrations in off-site wells BW-5 (2,100 ppb) and BW-7 (990 and 1,100 ppb). Only one well (BW-1d) on the Allsups property contained benzene above WQCC standards at a concentration of 50 ppb. Groundwater isoconcentration maps highlighting both EDC and Total Naphthalenes (NAPH) are presented in Figures 6 and 7, respectively. EDC exceeded the 10 ppb WQCC standard in wells BW-5 (100 ppb) and BW-7 (75 and 75 ppb). NAPH exceeded the 30 ppb WQCC standard in well BW-5 (59.9 ppb). Total xylenes, EDB, and toluene were also identified groundwater samples at concentrations above standards in one or more off-site wells. The presence of the lead scavengers EDB and EDC in groundwater suggest that at least portions hydrocarbon release(s) occurred pre-1978 when the sale of leaded gasoline was discontinued in the United States for use in private and commercial vehicles.

Recent groundwater flow determined by calculating the potentiometric surface for both the September 24, 2012 and April 29, 2014 gauging events (Figure 4) is to the south. The current distribution of the dissolved-phase groundwater plume(s) appears to extend in this direction also. However, based on the significant declines in regional groundwater levels during the past several decades and the apparent age of the release(s), it is possible that the hydraulic gradient has changed over time. The horizontal extent of dissolved-phase hydrocarbon contamination has not been fully characterized in the Site vicinity and likely has more than one source.

6.0 CONCLUSIONS

Based on the available data collected during the MSA and OSI drilling events and the FS, the following conclusions are presented for the Site:

- Depth to groundwater in the Site vicinity is approximately 325 feet bsg. Groundwater flow is currently to the south at a hydraulic gradient of approximately 0.0026 feet/foot.
- Retrieved soil samples from BEI advanced boreholes identified four primary Lithologic Units at the Site as shown in Figures 3, 3a, and 3b.
- Vadose zone gasoline hydrocarbons in the Site vicinity are primarily in the vapor-phase with localized areas of adsorbed-phase contamination. Gasoline vapors are vertically extensive extending to the water table. The horizontal extent of hydrocarbon vapors in the vadose zone has not been fully characterized but is greater than approximately 700 feet long by 350 feet wide.
- The distribution of both soil and groundwater contamination suggests the presence of an off-site gasoline hydrocarbon source, possibly in the vicinity of well BW-5. Several long-term residents reported the presence of a former service station west of BW-5 along west side of Prince Street.
- In general, discounting lithologic heterogeneities, the highest levels of soil and groundwater contamination at a hydrocarbon release site are typically found beneath the source area. Additionally, partitioning of individual chemical constituents in a gasoline plume favors migration of more soluble compounds such as benzene vs. less soluble compounds such as NAPH. BW-5 appears to be the closest well to the primary hydrocarbon source impacting groundwater taking these factors into account.
- Based on plume geometry, the former UST systems at the Allsup's property (formerly Target Gas) may not be the primary hydrocarbon source area.
- The magnitude and extent of the soil and groundwater hydrocarbon plume(s) has not been fully characterized.

7.0 RECOMENDATIONS

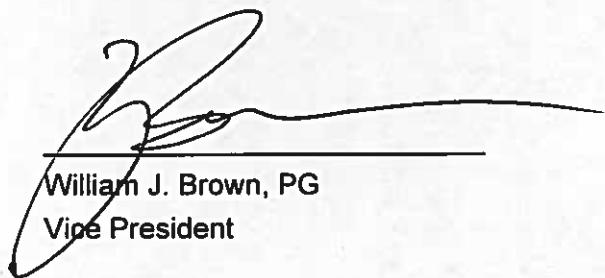
Based on the available data the following recommendations are presented for the Site vicinity:

- Additional off-site drilling is necessary to fully characterize the magnitude and extent of soil and groundwater hydrocarbons.
- Additional follow-up SVE FS testing should be conducted on newly installed off-site and previously installed on-site wells to more accurately map subsurface vadose zone hydrocarbon levels and determine the effective treatment areas of each well.
- A regular groundwater-monitoring schedule should be implemented at the Site to evaluate plume migration and longer-term groundwater quality trends.

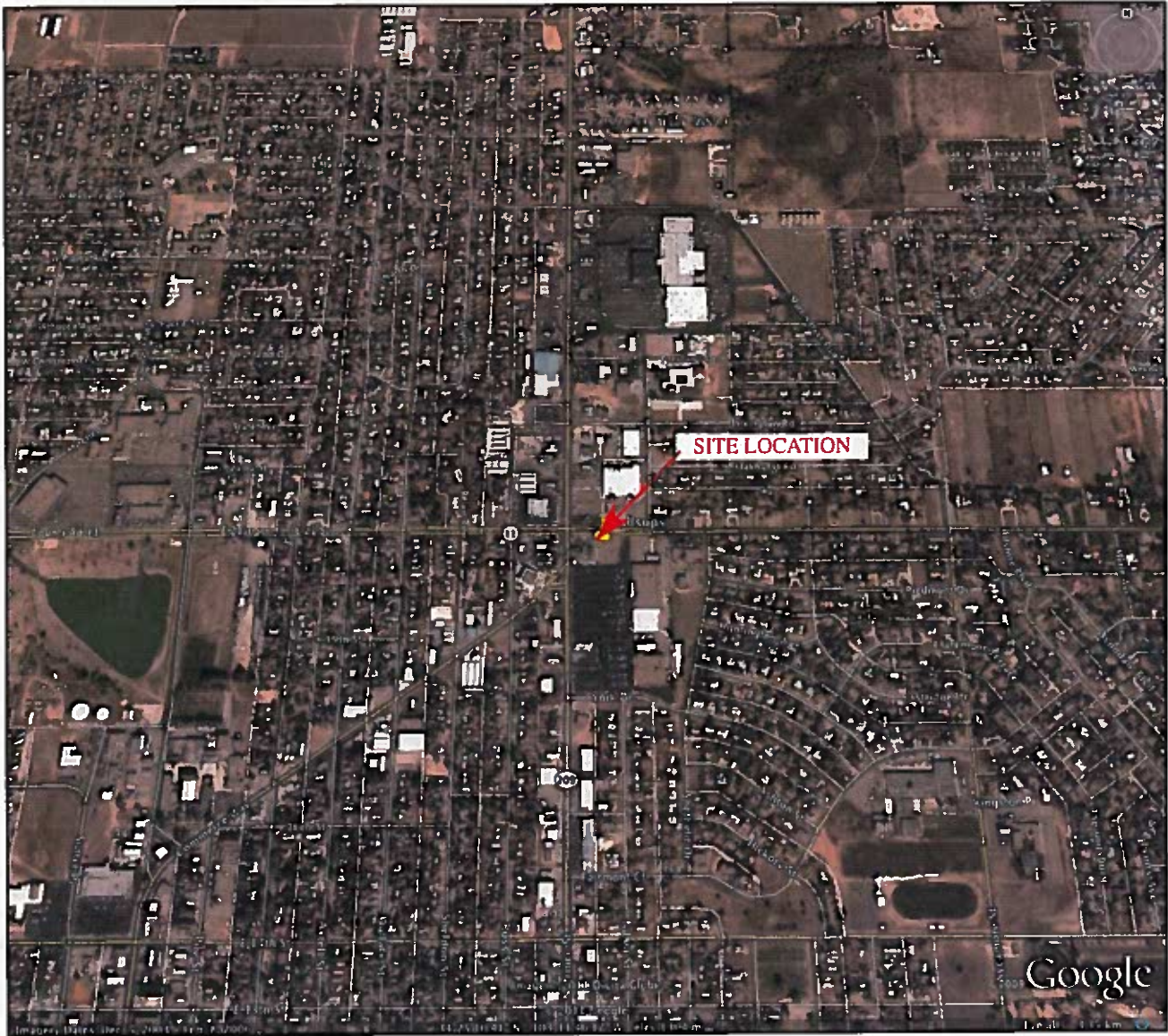
8.0 STATEMENT OF FAMILIARITY

We are personally familiar with the information presented in this report and it is accurate and complete to the best of our knowledge.

Brown Environmental, Inc.

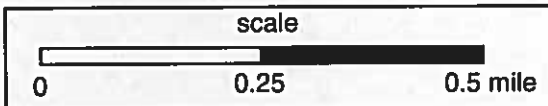


William J. Brown, PG
Vice President



EXPLANATION:

Google Earth Maps,
Image © 2009 DigitalGlobe © 2011 Tele Atlas



Site Vicinity Map

Allsups #320 Facility
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Drafted by:	EMB	6/14	Job #: 1070
Reviewed by:	WJB	6/14	Figure: 1

TABLE 1
SUMMARY OF SOIL LABORATORY ANALYTICAL DATA ALLSUPS #320 FACILITY
CLOVIS, NEW MEXICO

LOCATION OF SAMPLE	SAMPLE DATE	LABORATORY ANALYTICAL METHOD	TPH GASOLINE RANGE ORGANICS (GRO) (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	METHYL TERTIARY BUTYL ETHER (MTBE) (mg/kg)
Tank #1 North 16'	1/11	8015/8021	2770	4.5	85	46	470	<5.0
Tank #1 South 13'	1/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
Tank #2 North 16'	1/11	8015/8021	27.7	0.076	0.33	0.57	3.2	<0.10
Tank #2 South 13'	1/11	8015/8021	10.1	<0.050	<0.050	<0.050	0.28	<0.10
Tank #3 North 12'	1/11	8015/8021	19.4	<0.050	<0.050	0.081	1.0	<0.10
Tank #3 South 13'	1/11	8015/8021	381	0.82	19	11	56	<1.0
Product Line #1 4'	1/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
SW Dispenser 3'	1/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
NW Dispenser 3'	1/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
NE Dispenser 3'	1/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
SE Dispenser 3'	1/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-1-37' (Caliche)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-1-63' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-2-40' (Caliche)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-2-69' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-3-54' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-3-73-74' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	0.12	<0.10
B-3-104' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
B-3-159' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	0.10
B-3-189' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	0.15	0.11
B-3-209' (SM)	3/11	8015/8021	<5.0	<0.050	<0.050	<0.050	<0.050	<0.10
BW-1-219' (SM)	2/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	0.21*
BW-1-239' (SM/ML)	2/12	8015/8021	25.6*	<0.050*	0.17*	0.16*	2.0*	<0.10*
BW-1-289' (SM)	2/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-1-309' (SM)	2/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-2-78' (SM/ML)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-2-158' (SM)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-2-278' (SM)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-2-320' (SM/ML)	7/12	8015/8021	9.35*	0.099*	<0.050*	0.081*	0.40*	<0.10*
BW-3-78.5' (SM/ML)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-3-158' (SM)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-3-239' (SM/ML)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-3-319' (SM/ML)	7/12	8015/8021	<5.0*	<0.050*	<0.050*	<0.050*	<0.10*	<0.10*
BW-4-202' (SM)	2/14	8015/8021	<3.2*	<0.032*	<0.032*	<0.032*	<0.064*	<0.064*
BW-4-282' (SM)	2/14	8015/8021	<2.9*	<0.029*	0.046*	<0.029*	<0.058*	<0.058*
BW-4-322' (SM)	2/14	8015/8021	<2.8*	<0.028*	<0.028*	<0.028*	<0.055*	<0.055*
BW-5-122' (SM/ML)	2/14	8015/8021	<3.5*	<0.035*	<0.035*	<0.035*	<0.070*	<0.070*
BW-5-242' (SM/ML)	2/14	8015/8021	<2.4*	<0.024*	<0.024*	<0.024*	<0.048*	<0.048*
BW-5-282' (SM)	2/14	8015/8021	4.08*	0.17*	0.45*	0.072*	0.50*	<0.046*
BW-5-322' (SM)#1	2/14	8015/8021	<2.9*	<0.029*	<0.029*	<0.029*	<0.058*	<0.058*
BW-5-322' (SM)#2	2/14	8015/8021	121*	<0.33*	<0.33*	0.42*	5.8*	<0.65*
BW-6-122' (SM)	2/14	8015/8021	<3.4*	<0.034*	<0.034*	<0.034*	<0.069*	<0.069*
BW-6-242' (SM)	2/14	8015/8021	<3.3*	<0.033*	<0.033*	<0.033*	<0.067*	<0.067*
BW-6-281.5' (SM)	2/14	8015/8021	<3.6*	<0.036*	<0.036*	<0.036*	<0.071*	<0.071*
BW-6-323.5' (SM)	2/14	8015/8021	<2.9*	<0.029*	<0.029*	<0.029*	<0.058*	<0.058*
BW-7-122' (SM)	2/14	8015/8021	<3.0*	<0.030*	<0.030*	<0.030*	<0.060*	<0.060*
BW-7-202' (SM/ML)	2/14	8015/8021	<2.8*	<0.028*	<0.028*	<0.028*	<0.055*	<0.055*
BW-7-282' (SM)	2/14	8015/8021	<2.7*	0.037*	0.040*	<0.027*	<0.055*	<0.055*
BW-7-322' (SM)	2/14	8015/8021	<2.8*	0.13*	0.16*	<0.028*	<0.082*	<0.057*

*=sample collected from split spoon during ARCH drilling and may have been aerated

**TABLE 2 -
SUMMARY OF GROUNDWATER LEVEL MEASUREMENTS
ALLSUPS #320 FACILITY - CLOVIS, NEW MEXICO**

LOCATION OF WELL	DATE OF MEASUREMENT	TOP OF CASING ELEVATION (in feet msl)	DEPTH TO GROUNDWATER (in feet)	GROUNDWATER ELEVATION (in feet msl)	TOTAL DEPTH OF WELL* (in feet)	WATER COLUMN THICKNESS (in feet)
BW-1d	4/13/12	4279.88	322.49	3957.39	344.48	21.99
	7/27/12	4279.88	322.69	3957.19	344.48	21.79
	9/24/12	4279.88	322.75	3957.13	344.48	21.73
	4/29/14	4279.63	325.75	3953.88	341.50	15.75
BW-2d	10/26/09	4280.53	323.12	3957.41	347.60	24.48
	9/24/12	4280.53	323.21	3957.32	347.60	24.39
	4/29/14	4280.38	326.14	3954.24	345.40	19.26
BW-3d	10/26/09	4280.17	322.36	3957.81	347.20	24.84
	9/24/12	4280.17	322.44	3957.73	347.20	24.76
BW-4	4/29/14	4279.98	325.38	3954.60	347.20	21.82
BW-5	4/29/14	4280.20	326.04	3954.16	349.39	23.35
BW-6	4/29/14	4279.06	325.53	3953.53	352.72	27.19
BW-7	4/29/14	4280.34	326.46	3953.88	350.60	24.14
	4/29/14	4277.55	324.63	3952.92	354.00	29.37

TABLE 3
SUMMARY OF ORGANIC GROUNDWATER LABORATORY ANALYTICAL DATA-
ALLSUPS #320 FACILITY, CLOVIS, NM

LOCATION OF WELL	SAMPLE DATE	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	TOTAL XYLENES ug/l	METHYL-TERTIARY BUTYL ETHER ug/l	TRI-METHYL BENZENES ug/l	1,2-DICHLORO-ETHANE (EDC) ug/l	1,2-DIBROMO-ETHANE (EDB) ug/l	NAPHTH + MONO-METHYL NAPHTH ug/l
WQCC/SPTR STANDARDS		10	750	750	520	100		10	0.1	30
BW-1d	04/13/12	240	61	45	20	16	63	35	<10	<10
(duplicate)	09/25/12	290	29	49	34	<10	11.3	5.2	<10	<10
	09/25/12	200	46	7.8	45	<10	13.5	6.2	<10	<10
	04/30/14	50	6	<10	1.8	<10	2.5	1.4	<10	<10
BW-2d	09/25/12	21	15	<10	6.2	<10	2.5	1.0	<10	<10
	04/29/14	<10	8	<10	<1.5	<10	<2.5	1.0	<10	<10
BW-3d	09/25/12	1.4	56	<10	6.1	<10	1.9	<10	<10	<10
	04/29/14	<10	14	<10	<1.5	<10	2.5	1.0	<10	<10
BW-4	04/30/14	<10	11	<10	<1.5	<10	<2.0	1.8	<10	<10
BW-5	04/29/14	2,100	1,800	200	990	<10	138	100	29	59.9
BW-6	04/29/14	<10	10	<10	<1.5	<10	1.9	<10	<10	<10
BW-7 duplicate	04/30/14	990	3.4	67	260	<10	51	75	26	16
	04/30/14	1,100	4.4	74	280	<10	55	75	29	20.1
trip blank	4/13/12	<10	<10	<10	<1.5	<10	<2.0	<10	<10	<10
	9/25/12	<10	<10	<10	<1.5	<10	<2.0	<10	<10	<10
	4/30/14	<10	<10	<10	<1.5	<10	<2.0	<10	<10	<10

NAPHTH: naphthalene
ug/l: micrograms/liter

GANDY·MARLEY, INC.

P.O. Box 1658
Roswell, NM 88202
(575) 347-0434
Fax (575) 347-0435

No. 28302

LEASE OPERATOR/SHIPPER/COMPANY: ~~Q. Gandy~~

LEASE NAME: Brown Environmental

TRANSPORTER COMPANY: R Marley TIME: 6:09 AM (PM)

DATE: 2/25/14 VEHICLE NO.: 18 DRIVER NO.:

CHARGE TO:

TYPE OF MATERIAL

OCD

[] Other Material: Contaminated soil [] C-117 No.: _____
[] BS&W content: _____

Description: _____

COMPANY CONTACT:

VOLUME OF MATERIAL []: YARDS 20 : CELL# _____ : [] _____

AS A CONDITION TO GANDY·MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. §6901, et seq., THE NM HEALTH AND SAF. CODE, §361.001, et seq. AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED CONTAMINATED SOILS AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO GANDY·MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO GANDY·MARLEY, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.

DRIVER: Justin Sellers

FACILITY REPRESENTATIVE: _____

White - GMI Canary - Shipper Pink - GMI Gold - Transporter

GANDY·MARLEY, INC.

P.O. Box 1658
Roswell, NM 88202
(575) 347-0434
Fax (575) 347-0435

No. 28308

LEASE OPERATOR/SHIPPER/COMPANY:

LEASE NAME: PRINCE STREET #14TH CLOVIS, NM

TRANSPORTER COMPANY: R. MARLEY TIME: AM/PM

DATE: 03-03-14 VEHICLE NO.: SR#107 DRIVER NO.: M-22

CHARGE TO:

SETOUT # 125.00
LINE IC 20.00

TYPE OF MATERIAL

OCD

Other Material: Contaminated soil C-117 No.: 15268
 BS&W content:

Description: Mud

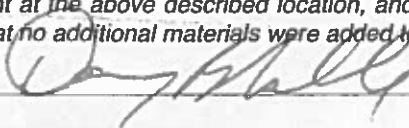
COMPANY CONTACT:

VOLUME OF MATERIAL []: YARDS 20 : CELL# LF : []

AS A CONDITION TO GANDY·MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. §6901, et seq., THE NM HEALTH AND SAF. CODE, §361.001, et seq. AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED CONTAMINATED SOILS AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO GANDY·MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO GANDY·MARLEY, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.

DRIVER: 

FACILITY REPRESENTATIVE: 

White - GMI Canary - Shipper Pink - GMI Gold - Transporter

GANDY·MARLEY, INC.

P.O. Box 1658
Roswell, NM 88202
(575) 347-0434
Fax (575) 347-0435

No. 28052

LEASE OPERATOR/SHIPPER/COMPANY: R Marley

LEASE NAME: Brown Environmental

TRANSPORTER COMPANY:

TIME: AM/PM

DATE: 02-14-14 VEHICLE NO.: 26

DRIVER NO.:

CHARGE TO:

TYPE OF MATERIAL

OCD

Other Material: Contaminated soil C-117 No.: _____
 BS&W content: _____

Description: _____

COMPANY CONTACT:

VOLUME OF MATERIAL []: YARDS 20 yds: CELL# _____: [] _____

AS A CONDITION TO GANDY·MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. §6901, et seq., THE NM HEALTH AND SAF. CODE, §361.001, et seq. AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED CONTAMINATED SOILS AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO GANDY·MARLEY, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO GANDY·MARLEY, INC.'S FACILITY FOR DISPOSAL.

THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.

DRIVER: Justin Williams

FACILITY REPRESENTATIVE: g Tolton

White - GMI Canary - Shipper Pink - GMI Gold - Transporter

DRIVER TOOK YELLOW COPY



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 12, 2014

Bill Brown

Brown Environmental Inc.
6739 Academy Road NE Suite 254
Albuquerque, NM 87109
TEL: (505) 934-7707
FAX (505) 858-0707

RE: Allsups #320

OrderNo.: 1405051

Dear Bill Brown:

Hall Environmental Analysis Laboratory received 9 sample(s) on 5/1/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d

Project: Allsups #320

Collection Date: 4/29/2014 10:19:00 AM

Lab ID: 1405051-001

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Toluene	14	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Ethylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Naphthalene	ND	2.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
2-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Acetone	ND	10		µg/L	1	5/6/2014 3:14:39 AM	R18402
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Bromoform	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Bromomethane	ND	3.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
2-Butanone	ND	10		µg/L	1	5/6/2014 3:14:39 AM	R18402
Carbon disulfide	ND	10		µg/L	1	5/6/2014 3:14:39 AM	R18402
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Chloroethane	ND	2.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Chloroform	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Chloromethane	ND	3.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 3:14:39 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d

Project: Allsups #320

Collection Date: 4/29/2014 10:19:00 AM

Lab ID: 1405051-001

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
2-Hexanone	ND	10		µg/L	1	5/6/2014 3:14:39 AM	R18402
Isopropylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
4-Methyl-2-pentanone	ND	10		µg/L	1	5/6/2014 3:14:39 AM	R18402
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
n-Propylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Styrene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 3:14:39 AM	R18402
Xylenes, Total	ND	1.5		µg/L	1	5/6/2014 3:14:39 AM	R18402
Surr: 1,2-Dichloroethane-d4	89.0	70-130		%REC	1	5/6/2014 3:14:39 AM	R18402
Surr: 4-Bromofluorobenzene	91.2	70-130		%REC	1	5/6/2014 3:14:39 AM	R18402
Surr: Dibromofluoromethane	92.5	70-130		%REC	1	5/6/2014 3:14:39 AM	R18402
Surr: Toluene-d8	89.1	70-130		%REC	1	5/6/2014 3:14:39 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d

Project: Allsup #320

Collection Date: 4/29/2014 1:00:00 PM

Lab ID: 1405051-002

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Toluene	5.6	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Ethylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Naphthalene	ND	2.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
2-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Acetone	ND	10		µg/L	1	5/6/2014 3:42:36 AM	R18402
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Bromoform	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Bromomethane	ND	3.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
2-Butanone	ND	10		µg/L	1	5/6/2014 3:42:36 AM	R18402
Carbon disulfide	ND	10		µg/L	1	5/6/2014 3:42:36 AM	R18402
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Chloroethane	ND	2.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Chloroform	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Chloromethane	ND	3.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 3:42:36 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d

Project: Allsups #320

Collection Date: 4/29/2014 1:00:00 PM

Lab ID: 1405051-002

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
2-Hexanone	ND	10		µg/L	1	5/6/2014 3:42:36 AM	R18402
Isopropylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
4-Methyl-2-pentanone	ND	10		µg/L	1	5/6/2014 3:42:36 AM	R18402
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
n-Propylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Styrene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 3:42:36 AM	R18402
Xylenes, Total	ND	1.5		µg/L	1	5/6/2014 3:42:36 AM	R18402
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%REC	1	5/6/2014 3:42:36 AM	R18402
Surr: 4-Bromofluorobenzene	93.3	70-130		%REC	1	5/6/2014 3:42:36 AM	R18402
Surr: Dibromofluoromethane	95.5	70-130		%REC	1	5/6/2014 3:42:36 AM	R18402
Surr: Toluene-d8	89.7	70-130		%REC	1	5/6/2014 3:42:36 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-6

Project: Allsups #320

Collection Date: 4/29/2014 4:05:00 PM

Lab ID: 1405051-003

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Toluene	10	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Ethylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Naphthalene	ND	2.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
2-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Acetone	ND	10		µg/L	1	5/6/2014 4:10:41 AM	R18402
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Bromoform	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Bromomethane	ND	3.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
2-Butanone	ND	10		µg/L	1	5/6/2014 4:10:41 AM	R18402
Carbon disulfide	ND	10		µg/L	1	5/6/2014 4:10:41 AM	R18402
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Chloroethane	ND	2.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Chloroform	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Chloromethane	ND	3.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 4:10:41 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-6

Project: Allsups #320

Collection Date: 4/29/2014 4:05:00 PM

Lab ID: 1405051-003

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
2-Hexanone	ND	10		µg/L	1	5/6/2014 4:10:41 AM	R18402
Isopropylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
4-Methyl-2-pentanone	ND	10		µg/L	1	5/6/2014 4:10:41 AM	R18402
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
n-Propylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Styrene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 4:10:41 AM	R18402
Xylenes, Total	ND	1.5		µg/L	1	5/6/2014 4:10:41 AM	R18402
Surr: 1,2-Dichloroethane-d4	91.8	70-130		%REC	1	5/6/2014 4:10:41 AM	R18402
Surr: 4-Bromofluorobenzene	94.7	70-130		%REC	1	5/6/2014 4:10:41 AM	R18402
Surr: Dibromofluoromethane	92.8	70-130		%REC	1	5/6/2014 4:10:41 AM	R18402
Surr: Toluene-d8	91.6	70-130		%REC	1	5/6/2014 4:10:41 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit	
O RSD is greater than RSDlimit	P Sample pH greater than 2.	
R RPD outside accepted recovery limits	RL Reporting Detection Limit	
S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5

Project: Allsup #320

Collection Date: 4/29/2014 6:04:00 PM

Lab ID: 1405051-004

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	2100	50		µg/L	50	5/6/2014 12:37:59 PM	R18435
Toluene	1800	50		µg/L	50	5/6/2014 12:37:59 PM	R18435
Ethylbenzene	200	50		µg/L	50	5/6/2014 12:37:59 PM	R18435
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2,4-Trimethylbenzene	110	50		µg/L	50	5/6/2014 12:37:59 PM	R18435
1,3,5-Trimethylbenzene	28	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2-Dichloroethane (EDC)	100	50		µg/L	50	5/6/2014 12:37:59 PM	R18435
1,2-Dibromoethane (EDB)	29	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Naphthalene	35	2.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1-Methylnaphthalene	8.9	4.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
2-Methylnaphthalene	16	4.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Acetone	ND	500		µg/L	50	5/6/2014 12:37:59 PM	R18435
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Bromoform	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Bromomethane	ND	3.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
2-Butanone	160	10		µg/L	1	5/6/2014 4:38:47 AM	R18402
Carbon disulfide	ND	10		µg/L	1	5/6/2014 4:38:47 AM	R18402
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Chloroethane	ND	2.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Chloroform	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Chloromethane	ND	3.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 4:38:47 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5

Project: Allsups #320

Collection Date: 4/29/2014 6:04:00 PM

Lab ID: 1405051-004

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
2-Hexanone	42	10		µg/L	1	5/6/2014 4:38:47 AM	R18402
Isopropylbenzene	7.0	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
4-Methyl-2-pentanone	20	10		µg/L	1	5/6/2014 4:38:47 AM	R18402
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
n-Butylbenzene	5.4	3.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
n-Propylbenzene	17	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Styrene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 4:38:47 AM	R18402
Xylenes, Total	990	75		µg/L	50	5/6/2014 12:37:59 PM	R18435
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%REC	1	5/6/2014 4:38:47 AM	R18402
Surr: 4-Bromofluorobenzene	99.7	70-130		%REC	1	5/6/2014 4:38:47 AM	R18402
Surr: Dibromofluoromethane	101	70-130		%REC	1	5/6/2014 4:38:47 AM	R18402
Surr: Toluene-d8	89.2	70-130		%REC	1	5/6/2014 4:38:47 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-4

Project: Allsup #320

Collection Date: 4/30/2014 9:05:00 AM

Lab ID: 1405051-005

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Toluene	11	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Ethylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2-Dichloroethane (EDC)	1.8	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Naphthalene	ND	2.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
2-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Acetone	ND	10		µg/L	1	5/6/2014 11:13:46 AM	R18435
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Bromoform	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Bromomethane	ND	3.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
2-Butanone	ND	10		µg/L	1	5/6/2014 11:13:46 AM	R18435
Carbon disulfide	ND	10		µg/L	1	5/6/2014 11:13:46 AM	R18435
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Chloroethane	ND	2.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Chloroform	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Chloromethane	ND	3.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 11:13:46 AM	R18435

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-4

Project: Allsup #320

Collection Date: 4/30/2014 9:05:00 AM

Lab ID: 1405051-005

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
2-Hexanone	ND	10		µg/L	1	5/6/2014 11:13:46 AM	R18435
Isopropylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
4-Methyl-2-pentanone	ND	10		µg/L	1	5/6/2014 11:13:46 AM	R18435
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
n-Propylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Styrene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 11:13:46 AM	R18435
Xylenes, Total	ND	1.5		µg/L	1	5/6/2014 11:13:46 AM	R18435
Surr: 1,2-Dichloroethane-d4	90.9	70-130		%REC	1	5/6/2014 11:13:46 AM	R18435
Surr: 4-Bromofluorobenzene	93.4	70-130		%REC	1	5/6/2014 11:13:46 AM	R18435
Surr: Dibromofluoromethane	93.9	70-130		%REC	1	5/6/2014 11:13:46 AM	R18435
Surr: Toluene-d8	90.6	70-130		%REC	1	5/6/2014 11:13:46 AM	R18435

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

- Qualifiers:**
- * Value exceeds Maximum Contaminant Level.
 - E Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-7

Project: Allsup #320

Collection Date: 4/30/2014 12:22:00 PM

Lab ID: 1405051-006

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	990	20		µg/L	20	5/7/2014 12:05:06 PM	R18468
Toluene	3.4	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Ethylbenzene	67	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2,4-Trimethylbenzene	41	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,3,5-Trimethylbenzene	10	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2-Dichloroethane (EDC)	75	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2-Dibromoethane (EDB)	2.6	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Naphthalene	16	2.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
2-Methylnaphthalene	5.1	4.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Acetone	ND	10		µg/L	1	5/6/2014 6:42:05 PM	R18435
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Bromoform	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Bromomethane	ND	3.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
2-Butanone	ND	10		µg/L	1	5/6/2014 6:42:05 PM	R18435
Carbon disulfide	ND	10		µg/L	1	5/6/2014 6:42:05 PM	R18435
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Chloroethane	ND	2.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Chloroform	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Chloromethane	ND	3.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 6:42:05 PM	R18435

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-7

Project: Allsups #320

Collection Date: 4/30/2014 12:22:00 PM

Lab ID: 1405051-006

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
2-Hexanone	ND	10		µg/L	1	5/6/2014 6:42:05 PM	R18435
Isopropylbenzene	1.8	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
4-Methyl-2-pentanone	21	10		µg/L	1	5/6/2014 6:42:05 PM	R18435
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
n-Propylbenzene	4.4	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Styrene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 6:42:05 PM	R18435
Xylenes, Total	260	30		µg/L	20	5/7/2014 12:05:06 PM	R18468
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%REC	1	5/6/2014 6:42:05 PM	R18435
Surr: 4-Bromofluorobenzene	93.6	70-130		%REC	1	5/6/2014 6:42:05 PM	R18435
Surr: Dibromofluoromethane	98.6	70-130		%REC	1	5/6/2014 6:42:05 PM	R18435
Surr: Toluene-d8	87.7	70-130		%REC	1	5/6/2014 6:42:05 PM	R18435

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-8

Project: Allsup #320

Collection Date: 4/30/2014 12:59:00 PM

Lab ID: 1405051-007

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	1100	50		µg/L	50	5/6/2014 1:33:53 PM	R18435
Toluene	4.4	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Ethylbenzene	74	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2,4-Trimethylbenzene	44	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,3,5-Trimethylbenzene	11	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2-Dichloroethane (EDC)	75	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2-Dibromoethane (EDB)	2.9	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Naphthalene	15	2.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
2-Methylnaphthalene	5.1	4.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Acetone	ND	10		µg/L	1	5/6/2014 5:34:55 AM	R18402
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Bromoform	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Bromomethane	ND	3.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
2-Butanone	ND	10		µg/L	1	5/6/2014 5:34:55 AM	R18402
Carbon disulfide	ND	10		µg/L	1	5/6/2014 5:34:55 AM	R18402
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Chloroethane	ND	2.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Chloroform	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Chloromethane	ND	3.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 5:34:55 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-8

Project: Allsups #320

Collection Date: 4/30/2014 12:59:00 PM

Lab ID: 1405051-007

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
2-Hexanone	ND	10		µg/L	1	5/6/2014 5:34:55 AM	R18402
Isopropylbenzene	2.0	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
4-Methyl-2-pentanone	18	10		µg/L	1	5/6/2014 5:34:55 AM	R18402
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
n-Propylbenzene	4.7	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Styrene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 5:34:55 AM	R18402
Xylenes, Total	300	75		µg/L	50	5/6/2014 1:33:53 PM	R18435
Surr: 1,2-Dichloroethane-d4	89.3	70-130		%REC	1	5/6/2014 5:34:55 AM	R18402
Surr: 4-Bromofluorobenzene	94.8	70-130		%REC	1	5/6/2014 5:34:55 AM	R18402
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	5/6/2014 5:34:55 AM	R18402
Surr: Toluene-d8	91.4	70-130		%REC	1	5/6/2014 5:34:55 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d

Project: Allsup #320

Collection Date: 4/30/2014 2:48:00 PM

Lab ID: 1405051-008

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	50	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Toluene	6.0	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Ethylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2-Dichloroethane (EDC)	1.4	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Naphthalene	ND	2.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
2-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Acetone	ND	10		µg/L	1	5/6/2014 11:41:59 AM	R18435
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Bromoform	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Bromomethane	ND	3.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
2-Butanone	ND	10		µg/L	1	5/6/2014 11:41:59 AM	R18435
Carbon disulfide	ND	10		µg/L	1	5/6/2014 11:41:59 AM	R18435
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Chloroethane	ND	2.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Chloroform	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Chloromethane	ND	3.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 11:41:59 AM	R18435

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d

Project: Allsups #320

Collection Date: 4/30/2014 2:48:00 PM

Lab ID: 1405051-008

Matrix: AQUEOUS

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
2-Hexanone	ND	10		µg/L	1	5/6/2014 11:41:59 AM	R18435
Isopropylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
4-Methyl-2-pentanone	ND	10		µg/L	1	5/6/2014 11:41:59 AM	R18435
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
n-Propylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Styrene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 11:41:59 AM	R18435
Xylenes, Total	1.6	1.5		µg/L	1	5/6/2014 11:41:59 AM	R18435
Surr: 1,2-Dichloroethane-d4	88.1	70-130		%REC	1	5/6/2014 11:41:59 AM	R18435
Surr: 4-Bromofluorobenzene	93.9	70-130		%REC	1	5/6/2014 11:41:59 AM	R18435
Surr: Dibromofluoromethane	88.3	70-130		%REC	1	5/6/2014 11:41:59 AM	R18435
Surr: Toluene-d8	91.0	70-130		%REC	1	5/6/2014 11:41:59 AM	R18435

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: Trip Blank

Project: Allsup #320

Collection Date:

Lab ID: 1405051-009

Matrix: TRIP BLANK

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Toluene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Ethylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Naphthalene	ND	2.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
2-Methylnaphthalene	ND	4.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Acetone	ND	10		µg/L	1	5/6/2014 6:30:39 AM	R18402
Bromobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Bromodichloromethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Bromoform	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Bromomethane	ND	3.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
2-Butanone	ND	10		µg/L	1	5/6/2014 6:30:39 AM	R18402
Carbon disulfide	ND	10		µg/L	1	5/6/2014 6:30:39 AM	R18402
Carbon Tetrachloride	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Chlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Chloroethane	ND	2.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Chloroform	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Chloromethane	ND	3.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
2-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
4-Chlorotoluene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
cis-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Dibromochloromethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Dibromomethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,1-Dichloroethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,1-Dichloroethene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,3-Dichloropropane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
2,2-Dichloropropane	ND	2.0		µg/L	1	5/6/2014 6:30:39 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: Trip Blank

Project: Allsups #320

Collection Date:

Lab ID: 1405051-009

Matrix: TRIP BLANK

Received Date: 5/1/2014 2:30:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Hexachlorobutadiene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
2-Hexanone	ND	10		µg/L	1	5/6/2014 6:30:39 AM	R18402
Isopropylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
4-Isopropyltoluene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
4-Methyl-2-pentanone	ND	10		µg/L	1	5/6/2014 6:30:39 AM	R18402
Methylene Chloride	ND	3.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
n-Butylbenzene	ND	3.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
n-Propylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
sec-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Styrene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
tert-Butylbenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
trans-1,2-DCE	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Trichlorofluoromethane	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Vinyl chloride	ND	1.0		µg/L	1	5/6/2014 6:30:39 AM	R18402
Xylenes, Total	ND	1.5		µg/L	1	5/6/2014 6:30:39 AM	R18402
Surr: 1,2-Dichloroethane-d4	90.1	70-130		%REC	1	5/6/2014 6:30:39 AM	R18402
Surr: 4-Bromofluorobenzene	94.8	70-130		%REC	1	5/6/2014 6:30:39 AM	R18402
Surr: Dibromofluoromethane	92.6	70-130		%REC	1	5/6/2014 6:30:39 AM	R18402
Surr: Toluene-d8	90.0	70-130		%REC	1	5/6/2014 6:30:39 AM	R18402

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit
J Analyte detected below quantitation limits	P Sample pH greater than 2.	RL Reporting Detection Limit
O RSD is greater than RSDlimit		
R RPD outside accepted recovery limits		
S Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051

12-May-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES
Client ID:	PBW	Batch ID:	R18402	RunNo:	18402
Prep Date:		Analysis Date:	5/5/2014	SeqNo:	531558
				Units:	µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051

12-May-14

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R18402	RunNo:	18402					
Prep Date:		Analysis Date:	5/5/2014	SeqNo:	531558	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.1	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.2	70	130			
Surr: Toluene-d8	9.2		10.00		92.2	70	130			

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R18402	RunNo:	18402					
Prep Date:		Analysis Date:	5/5/2014	SeqNo:	531562	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.3	70	130			
Toluene	16	1.0	20.00	0	82.3	80	120			
Chlorobenzene	16	1.0	20.00	0	79.8	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051
12-May-14

Client: Brown Environmental Inc.
Project: Allsup #320

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES									
Client ID: LCSW	Batch ID: R18402	RunNo: 18402									
Prep Date:	Analysis Date: 5/5/2014	SeqNo: 531562	Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,1-Dichloroethene	19	1.0	20.00	0	95.2	90	143				
Trichloroethene (TCE)	16	1.0	20.00	0	80.3	70	130				
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.1	70	130				
Surr: 4-Bromofluorobenzene	9.0		10.00		90.0	70	130				
Surr: Dibromofluoromethane	9.6		10.00		95.8	70	130				
Surr: Toluene-d8	9.1		10.00		91.2	70	130				

Sample ID: 1405077-001a ms	SampType: MS	TestCode: EPA Method 8260B: VOLATILES									
Client ID: BatchQC	Batch ID: R18402	RunNo: 18402									
Prep Date:	Analysis Date: 5/5/2014	SeqNo: 531586	Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	120	1.0	20.00	102.8	95.8	70	130			E	
Toluene	140	1.0	20.00	122.3	79.3	67.5	123			E	
Chlorobenzene	18	1.0	20.00	0	91.4	70	130				
1,1-Dichloroethene	22	1.0	20.00	0	110	81.9	134				
Trichloroethene (TCE)	17	1.0	20.00	0	86.6	70	130				
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.0	70	130				
Surr: 4-Bromofluorobenzene	9.4		10.00		93.6	70	130				
Surr: Dibromofluoromethane	9.1		10.00		90.7	70	130				
Surr: Toluene-d8	8.9		10.00		89.2	70	130				

Sample ID: 1405077-001a msd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES									
Client ID: BatchQC	Batch ID: R18402	RunNo: 18402									
Prep Date:	Analysis Date: 5/5/2014	SeqNo: 531587	Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	120	1.0	20.00	102.8	82.8	70	130	2.15	20	E	
Toluene	140	1.0	20.00	122.3	66.5	67.5	123	1.87	20	ES	
Chlorobenzene	18	1.0	20.00	0	89.9	70	130	1.62	20		
1,1-Dichloroethene	21	1.0	20.00	0	106	81.9	134	4.33	20		
Trichloroethene (TCE)	17	1.0	20.00	0	82.7	70	130	4.62	20		
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.6	70	130	0	0		
Surr: 4-Bromofluorobenzene	9.5		10.00		95.3	70	130	0	0		
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130	0	0		
Surr: Toluene-d8	8.8		10.00		88.0	70	130	0	0		

- Qualifiers:**
- * Value exceeds Maximum Contaminant Level.
 - E Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
 - RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051

12-May-14

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES		
Client ID:	PBW	Batch ID:	R18435	RunNo:	18435		
Prep Date:		Analysis Date:	5/6/2014	SeqNo:	532362	Units:	µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051
12-May-14

Client: Brown Environmental Inc.
Project: Allsups #320

Sample ID: 5mL-rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R18435	RunNo: 18435
Prep Date:	Analysis Date: 5/6/2014	SeqNo: 532362 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.5	70	130			
Surr: Toluene-d8	9.2		10.00		92.0	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R18435	RunNo: 18435
Prep Date:	Analysis Date: 5/6/2014	SeqNo: 532366 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.3	70	130			
Toluene	17	1.0	20.00	0	85.3	80	120			
Chlorobenzene	16	1.0	20.00	0	82.0	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051

12-May-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R18435	RunNo:	18435					
Prep Date:		Analysis Date:	5/6/2014	SeqNo:	532366	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	106	90	143			
Trichloroethene (TCE)	17	1.0	20.00	0	84.1	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		87.7	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.7	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.5	70	130			
Surr: Toluene-d8	8.8		10.00		88.0	70	130			

Sample ID	1405051-006a ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BW-7	Batch ID:	R18435	RunNo:	18435					
Prep Date:		Analysis Date:	5/6/2014	SeqNo:	532376	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1100	1.0	20.00	1077	137	70	130			ES
Toluene	19	1.0	20.00	3.376	76.0	67.5	123			
Chlorobenzene	15	1.0	20.00	0.2196	73.3	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.6	81.9	134			
Trichloroethene (TCE)	15	1.0	20.00	0	77.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		89.4	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.3	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	8.7		10.00		86.6	70	130			

Sample ID	1405051-006a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BW-7	Batch ID:	R18435	RunNo:	18435					
Prep Date:		Analysis Date:	5/6/2014	SeqNo:	532377	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1100	1.0	20.00	1077	-32.0	70	130	3.10	20	ES
Toluene	15	1.0	20.00	3.376	56.4	67.5	123	23.6	20	RS
Chlorobenzene	11	1.0	20.00	0.2196	55.8	70	130	26.6	20	RS
1,1-Dichloroethene	14	1.0	20.00	0	72.4	81.9	134	29.7	20	RS
Trichloroethene (TCE)	12	1.0	20.00	0	60.4	70	130	24.2	20	RS
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.4		10.00		93.5	70	130	0	0	
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130	0	0	
Surr: Toluene-d8	8.7		10.00		87.4	70	130	0	0	

- Qualifiers:**
- * Value exceeds Maximum Contaminant Level.
 - Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
 - RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1405051

12-May-14

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID:	R18468	RunNo:	18468						
Prep Date:		Analysis Date:	5/7/2014	SeqNo:	533266	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	1.0									
Xylenes, Total	ND	1.5									
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.4	70	130				
Surr: 4-Bromofluorobenzene	9.1		10.00		90.9	70	130				
Surr: Dibromofluoromethane	9.1		10.00		91.3	70	130				
Surr: Toluene-d8	8.9		10.00		89.2	70	130				

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	LCSW	Batch ID:	R18468	RunNo:	18468						
Prep Date:		Analysis Date:	5/7/2014	SeqNo:	533268	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	20	1.0	20.00	0	102	70	130				
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130				
Surr: 4-Bromofluorobenzene	9.0		10.00		90.5	70	130				
Surr: Dibromofluoromethane	9.3		10.00		93.4	70	130				
Surr: Toluene-d8	8.7		10.00		86.8	70	130				

Sample ID	1405051-006a ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	BW-7	Batch ID:	R18468	RunNo:	18468						
Prep Date:		Analysis Date:	5/7/2014	SeqNo:	533271	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1400	20	400.0	1077	86.6	70	130				
Surr: 1,2-Dichloroethane-d4	180		200.0		91.8	70	130				
Surr: 4-Bromofluorobenzene	180		200.0		90.0	70	130				
Surr: Dibromofluoromethane	190		200.0		95.0	70	130				
Surr: Toluene-d8	180		200.0		87.5	70	130				

Sample ID	1405051-006a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	BW-7	Batch ID:	R18468	RunNo:	18468						
Prep Date:		Analysis Date:	5/7/2014	SeqNo:	533272	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1400	20	400.0	1077	76.6	70	130	2.84	20		
Surr: 1,2-Dichloroethane-d4	180		200.0		91.5	70	130	0	0		
Surr: 4-Bromofluorobenzene	180		200.0		91.7	70	130	0	0		
Surr: Dibromofluoromethane	190		200.0		92.8	70	130	0	0		
Surr: Toluene-d8	180		200.0		90.1	70	130	0	0		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Brown Env Work Order Number: 1405051 RcptNo: 1

Received by/date: *[Signature]* 05/01/14
 Logged By: Lindsay Mangin 5/1/2014 2:30:00 PM *[Signature]*
 Completed By: Lindsay Mangin 5/1/2014 2:42:34 PM *[Signature]*
 Reviewed By: *IO* 05/01/2014

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Client

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

8. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.2	Good	Not Present			

UNLIT-AUGUR 111111

Chain-of-Custody Record

Client: Brown Environmental, Inc Standard Rush
 Project Name: MUSUPS #320

Mailing Address: 6734 HAWKINS RD NE STE 254
ALBUQUERQUE, NM 87109
 Phone #: 505 858-1818

Project #: 320
 Project Manager: WILLIAM BROWN

email or Fax#: 505 858-0707

QA/QC Package: Level 4 (Full Validation)
 Standard Other

Accreditation: NELAP Other

Sample: W. Brown Yes No
 On Ice: No
 Sample Temperature: 42

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
12/14	10:19	H ₂ O	BW-3d	300MS	HClz	-001
12/14	13:00	H ₂ O	BW-2d	"	"	-002
12/14	16:05	H ₂ O	BW-6	"	"	-003
12/14	18:09	H ₂ O	BW-5	"	"	-004
12/14	9:05	H ₂ O	BW-4	"	"	-005
12/14	12:22	H ₂ O	BW-7	"	"	-006
12/14	12:57	H ₂ O	BW-8	"	"	-007
12/14	14:48	H ₂ O	BW-1d	"	"	-008
			TRIP CONT	200MS	"	-009

Date: 1/14/14 Time: 14:30
 Relinquished by: [Signature]

Date: 05/01/14 Time: 1430
 Received by: [Signature]

Analysis Request

BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
									X		
									X		
									X		
									X		
									X		
									X		
									X		
									X		
									X		
									X		

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 06, 2014

Bill Brown

Brown Environmental Inc.
6739 Academy Road NE Suite 254
Albuquerque, NM 87109
TEL: (505) 934-7707
FAX (505) 858-0707

RE: Allsup #320

OrderNo.: 1403004

Dear Bill Brown:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/3/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-7-122' (SM)

Project: Allsup #320

Collection Date: 2/25/2014 4:15:00 PM

Lab ID: 1403004-001

Matrix: MEOH (SOIL)

Received Date: 3/3/2014 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/4/2014 10:05:55 PM	R17094
Surr: BFB	93.5	74.5-129		%REC	1	3/4/2014 10:05:55 PM	R17094
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.060		mg/Kg	1	3/4/2014 10:05:55 PM	R17094
Benzene	ND	0.030		mg/Kg	1	3/4/2014 10:05:55 PM	R17094
Toluene	ND	0.030		mg/Kg	1	3/4/2014 10:05:55 PM	R17094
Ethylbenzene	ND	0.030		mg/Kg	1	3/4/2014 10:05:55 PM	R17094
Xylenes, Total	ND	0.060		mg/Kg	1	3/4/2014 10:05:55 PM	R17094
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	3/4/2014 10:05:55 PM	R17094

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-7-202' (SM/ML)

Project: Allsups #320

Collection Date: 2/26/2014 8:10:00 AM

Lab ID: 1403004-002

Matrix: MEOH (SOIL)

Received Date: 3/3/2014 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/4/2014 10:36:11 PM	R17094
Surr: BFB	91.3	74.5-129		%REC	1	3/4/2014 10:36:11 PM	R17094
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.055		mg/Kg	1	3/4/2014 10:36:11 PM	R17094
Benzene	ND	0.028		mg/Kg	1	3/4/2014 10:36:11 PM	R17094
Toluene	ND	0.028		mg/Kg	1	3/4/2014 10:36:11 PM	R17094
Ethylbenzene	ND	0.028		mg/Kg	1	3/4/2014 10:36:11 PM	R17094
Xylenes, Total	ND	0.055		mg/Kg	1	3/4/2014 10:36:11 PM	R17094
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	3/4/2014 10:36:11 PM	R17094

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-7-282' (SM)

Project: Allsups #320

Collection Date: 2/27/2014 1:40:00 PM

Lab ID: 1403004-003

Matrix: MEOH (SOIL)

Received Date: 3/3/2014 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.7		mg/Kg	1	3/4/2014 11:06:23 PM	R17094
Surr: BFB	92.4	74.5-129		%REC	1	3/4/2014 11:06:23 PM	R17094
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.055		mg/Kg	1	3/4/2014 11:06:23 PM	R17094
Benzene	0.037	0.027		mg/Kg	1	3/4/2014 11:06:23 PM	R17094
Toluene	0.040	0.027		mg/Kg	1	3/4/2014 11:06:23 PM	R17094
Ethylbenzene	ND	0.027		mg/Kg	1	3/4/2014 11:06:23 PM	R17094
Xylenes, Total	ND	0.055		mg/Kg	1	3/4/2014 11:06:23 PM	R17094
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	3/4/2014 11:06:23 PM	R17094

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: MW-7-322' (SM)

Project: Allsups #320

Collection Date: 2/28/2014 7:40:00 AM

Lab ID: 1403004-004

Matrix: MEOH (SOIL)

Received Date: 3/3/2014 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/4/2014 11:36:36 PM	R17094
Surr: BFB	91.6	74.5-129		%REC	1	3/4/2014 11:36:36 PM	R17094
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.057		mg/Kg	1	3/4/2014 11:36:36 PM	R17094
Benzene	0.13	0.028		mg/Kg	1	3/4/2014 11:36:36 PM	R17094
Toluene	0.16	0.028		mg/Kg	1	3/4/2014 11:36:36 PM	R17094
Ethylbenzene	ND	0.028		mg/Kg	1	3/4/2014 11:36:36 PM	R17094
Xylenes, Total	0.082	0.057		mg/Kg	1	3/4/2014 11:36:36 PM	R17094
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	3/4/2014 11:36:36 PM	R17094

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: MeOH Blank

Project: Allsups #320

Collection Date:

Lab ID: 1403004-005

Matrix: MEOH BLAN

Received Date: 3/3/2014 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	3/5/2014 12:06:48 AM	R17094
Benzene	ND	0.050		mg/Kg	1	3/5/2014 12:06:48 AM	R17094
Toluene	ND	0.050		mg/Kg	1	3/5/2014 12:06:48 AM	R17094
Ethylbenzene	ND	0.050		mg/Kg	1	3/5/2014 12:06:48 AM	R17094
Xylenes, Total	ND	0.10		mg/Kg	1	3/5/2014 12:06:48 AM	R17094
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	3/5/2014 12:06:48 AM	R17094

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403004

06-Mar-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/4/2014	SeqNo:	491583	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		96.0	74.5	129			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/4/2014	SeqNo:	491584	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.7	71.7	134			
Surr: BFB	1000		1000		102	74.5	129			

Sample ID	1403004-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BW-7-122' (SM)	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/5/2014	SeqNo:	491589	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	12	3.0	15.00	0	83.2	69.5	145			
BFB	540		600.2		90.2	74.5	129			

Sample ID	1403004-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BW-7-122' (SM)	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/5/2014	SeqNo:	491590	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	12	3.0	15.00	0	81.9	69.5	145	1.60	20	
Surr: BFB	590		600.2		99.0	74.5	129	0	0	

- Qualifiers:
- * Value exceeds Maximum Contaminant Level.
 - Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
 - RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403004

06-Mar-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/4/2014	SeqNo:	491611	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID	100NG BTEX LCS2	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/4/2014	SeqNo:	491612	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.77	0.10	1.000	0	77.4	64.5	131			
Benzene	0.96	0.050	1.000	0	96.3	80	120			
Toluene	0.96	0.050	1.000	0	96.3	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.0	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.9	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	1403004-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BW-7-202' (SM/ML)	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/5/2014	SeqNo:	491618	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.49	0.055	0.5501	0	89.3	58.5	163			
Benzene	0.48	0.028	0.5501	0	87.9	67.4	135			
Toluene	0.48	0.028	0.5501	0	88.0	72.6	135			
Ethylbenzene	0.50	0.028	0.5501	0	91.0	69.4	143			
Xylenes, Total	1.5	0.055	1.650	0.01326	91.3	70.8	144			
Surr: 4-Bromofluorobenzene	0.61		0.5501		111	80	120			

Sample ID	1403004-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BW-7-202' (SM/ML)	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/5/2014	SeqNo:	491619	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.49	0.055	0.5501	0	88.3	58.5	163	1.10	20	
Benzene	0.48	0.028	0.5501	0	86.6	67.4	135	1.47	20	
Toluene	0.48	0.028	0.5501	0	86.5	72.6	135	1.73	20	
Ethylbenzene	0.49	0.028	0.5501	0	89.5	69.4	143	1.66	20	

- Qualifiers:**
- * Value exceeds Maximum Contaminant Level.
 - E Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
 - RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403004

06-Mar-14

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	1403004-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BW-7-202' (SM/ML)	Batch ID:	R17094	RunNo:	17094					
Prep Date:		Analysis Date:	3/5/2014	SeqNo:	491619	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	1.5	0.055	1.650	0.01326	91.4	70.8	144	0.181	20	
Surr: 4-Bromofluorobenzene	0.60		0.5501		108	80	120	0	0	

- Qualifiers:**
- * Value exceeds Maximum Contaminant Level.
 - Value above quantitation range
 - J Analyte detected below quantitation limits
 - O RSD is greater than RSDlimit
 - R RPD outside accepted recovery limits
 - S Spike Recovery outside accepted recovery limits
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
 - RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Brown Env

Work Order Number: 1403004

RcptNo: 1

Received by/date: [Signature] 03/03/14

Logged By: Lindsay Mangin 3/3/2014 8:40:00 AM [Signature]

Completed By: Lindsay Mangin 3/3/2014 8:42:19 AM [Signature]

Reviewed By: mg 03/03/14

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Client

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels? Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			

www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Client: **Brown Environmental Inc.**
 Mailing Address: **6337 Alameda Rd NE Ste 20 Albuquerque, NM 87109**
 Phone #: **505-858-1818**
 email or Fax#: **505-858-0707**

QA/QC Package: Level 4 (Full Validation)
 Standard
 Accreditation NELAP Other
 EDD (Type)

Project Name: **ANUSPS 320**
 Project #: **1077**
 Project Manager: **William Brown**
 Sampler: **W. Brown**
 Office: Yes No
 Sample Temperature: **5**
 Container Type and #
 Preservative Type
 HEAT No
1402 mL water
220 mL VMS 4/MSA
-001
-002
-003
-004
-005
MeOH BANK

Date	Time	Matrix	Sample Request ID
2/25/14	16:15	Soil	BW-7-122' (5m)
2/26/14	8:10	"	BW-7-222' (5m/ml)
2/27/14	13:40	"	BW-7-282' (5m)
2/28/14	7:40	"	BW-7-322' (5m)

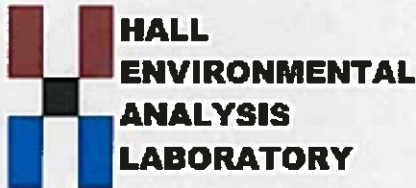
Date: **2/25/14** Time: **8:40** Relinquished by: *[Signature]*
 Date: **2/25/14** Time: **8:40** Relinquished by: *[Signature]*

Analysis Request

Analysis Request	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)
	X	X									
	X	X									
	X	X									
	X	X									
	X	X									

Remarks: **H/C RANGES PLEASE**

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 26, 2014

Bill Brown

Brown Environmental Inc.
6739 Academy Road NE Suite 254
Albuquerque, NM 87109
TEL: (505) 934-7707
FAX (505) 858-0707

RE: Allsups #320

OrderNo.: 1402734

Dear Bill Brown:

Hall Environmental Analysis Laboratory received 8 sample(s) on 2/19/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1402734

Date Reported: 2/26/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5-122 (SM/ML)

Project: Allsup #320

Collection Date: 2/12/2014 1:40:00 PM

Lab ID: 1402734-001

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	2/21/2014 12:42:28 AM	R16860
Surr: BFB	80.0	74.5-129		%REC	1	2/21/2014 12:42:28 AM	R16860
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.070		mg/Kg	1	2/21/2014 12:42:28 AM	R16860
Benzene	ND	0.035		mg/Kg	1	2/21/2014 12:42:28 AM	R16860
Toluene	ND	0.035		mg/Kg	1	2/21/2014 12:42:28 AM	R16860
Ethylbenzene	ND	0.035		mg/Kg	1	2/21/2014 12:42:28 AM	R16860
Xylenes, Total	ND	0.070		mg/Kg	1	2/21/2014 12:42:28 AM	R16860
Surr: 4-Bromofluorobenzene	87.9	80-120		%REC	1	2/21/2014 12:42:28 AM	R16860

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5-242 (SM/ML)

Project: Allsups #320

Collection Date: 2/12/2014 6:10:00 PM

Lab ID: 1402734-002

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.4		mg/Kg	1	2/21/2014 1:10:55 AM	R16860
Surr: BFB	80.5	74.5-129		%REC	1	2/21/2014 1:10:55 AM	R16860
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	2/21/2014 1:10:55 AM	R16860
Benzene	ND	0.024		mg/Kg	1	2/21/2014 1:10:55 AM	R16860
Toluene	ND	0.024		mg/Kg	1	2/21/2014 1:10:55 AM	R16860
Ethylbenzene	ND	0.024		mg/Kg	1	2/21/2014 1:10:55 AM	R16860
Xylenes, Total	ND	0.048		mg/Kg	1	2/21/2014 1:10:55 AM	R16860
Surr: 4-Bromofluorobenzene	89.6	80-120		%REC	1	2/21/2014 1:10:55 AM	R16860

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5-282 (SM)

Project: Allsup #320

Collection Date: 2/13/2014 8:30:00 AM

Lab ID: 1402734-003

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	4.08	2.31		mg/Kg	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: <C6	0.900	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C06-C7	6.50	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C07-C8	18.6	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C08-C9	12.6	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C09-C10	19.3	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C10-C11	26.7	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C11-C12	12.2	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C12-C14	3.20	0		%	1	2/21/2014 1:39:28 AM	R16860
% GRO Hydrocarbons: C14+	ND	0		%	1	2/21/2014 1:39:28 AM	R16860
Surr: BFB	88.5	74.5-129		%REC	1	2/21/2014 1:39:28 AM	R16860
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	2/21/2014 1:39:28 AM	R16860
Benzene	0.17	0.023		mg/Kg	1	2/21/2014 1:39:28 AM	R16860
Toluene	0.45	0.023		mg/Kg	1	2/21/2014 1:39:28 AM	R16860
Ethylbenzene	0.072	0.023		mg/Kg	1	2/21/2014 1:39:28 AM	R16860
Xylenes, Total	0.50	0.046		mg/Kg	1	2/21/2014 1:39:28 AM	R16860
Surr: 4-Bromofluorobenzene	94.0	80-120		%REC	1	2/21/2014 1:39:28 AM	R16860

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5-322 (SM) #1

Project: Allsup #320

Collection Date: 2/13/2014 11:55:00 AM

Lab ID: 1402734-004

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	2/21/2014 11:18:41 AM	R16892
Surr: BFB	79.5	74.5-129		%REC	1	2/21/2014 11:18:41 AM	R16892
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.058		mg/Kg	1	2/21/2014 11:18:41 AM	R16892
Benzene	ND	0.029		mg/Kg	1	2/21/2014 11:18:41 AM	R16892
Toluene	ND	0.029		mg/Kg	1	2/21/2014 11:18:41 AM	R16892
Ethylbenzene	ND	0.029		mg/Kg	1	2/21/2014 11:18:41 AM	R16892
Xylenes, Total	ND	0.058		mg/Kg	1	2/21/2014 11:18:41 AM	R16892
Surr: 4-Bromofluorobenzene	87.3	80-120		%REC	1	2/21/2014 11:18:41 AM	R16892

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-5-322 (SM) #2

Project: Allsup #320

Collection Date: 2/13/2014 1:55:00 PM

Lab ID: 1402734-005

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	121	32.6		mg/Kg	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: <C6	ND	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C06-C7	0.200	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C07-C8	2.40	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C08-C9	4.20	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C09-C10	37.0	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C10-C11	41.4	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C11-C12	13.8	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C12-C14	1.00	0		%	10	2/21/2014 11:47:16 AM	R16892
% GRO Hydrocarbons: C14+	ND	0		%	10	2/21/2014 11:47:16 AM	R16892
Surr: BFB	103	74.5-129		%REC	10	2/21/2014 11:47:16 AM	R16892
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.65		mg/Kg	10	2/21/2014 11:47:16 AM	R16892
Benzene	ND	0.33		mg/Kg	10	2/21/2014 11:47:16 AM	R16892
Toluene	ND	0.33		mg/Kg	10	2/21/2014 11:47:16 AM	R16892
Ethylbenzene	0.42	0.33		mg/Kg	10	2/21/2014 11:47:16 AM	R16892
Xylenes, Total	5.8	0.65		mg/Kg	10	2/21/2014 11:47:16 AM	R16892
Surr: 4-Bromofluorobenzene	96.2	80-120		%REC	10	2/21/2014 11:47:16 AM	R16892

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-4-202 (SM)

Project: Allsups #320

Collection Date: 2/16/2014 10:38:00 AM

Lab ID: 1402734-006

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	2/21/2014 2:36:33 AM	R16860
Surr: BFB	76.5	74.5-129		%REC	1	2/21/2014 2:36:33 AM	R16860
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.064		mg/Kg	1	2/21/2014 2:36:33 AM	R16860
Benzene	ND	0.032		mg/Kg	1	2/21/2014 2:36:33 AM	R16860
Toluene	ND	0.032		mg/Kg	1	2/21/2014 2:36:33 AM	R16860
Ethylbenzene	ND	0.032		mg/Kg	1	2/21/2014 2:36:33 AM	R16860
Xylenes, Total	ND	0.064		mg/Kg	1	2/21/2014 2:36:33 AM	R16860
Surr: 4-Bromofluorobenzene	83.5	80-120		%REC	1	2/21/2014 2:36:33 AM	R16860

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-4-282 '(SM)

Project: Allsup #320

Collection Date: 2/16/2014 3:25:00 PM

Lab ID: 1402734-007

Matrix: MEOH (SOIL)

Received Date: 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	2/21/2014 3:05:03 AM	R16860
Surr: BFB	81.0	74.5-129		%REC	1	2/21/2014 3:05:03 AM	R16860
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.058		mg/Kg	1	2/21/2014 3:05:03 AM	R16860
Benzene	ND	0.029		mg/Kg	1	2/21/2014 3:05:03 AM	R16860
Toluene	0.046	0.029		mg/Kg	1	2/21/2014 3:05:03 AM	R16860
Ethylbenzene	ND	0.029		mg/Kg	1	2/21/2014 3:05:03 AM	R16860
Xylenes, Total	ND	0.058		mg/Kg	1	2/21/2014 3:05:03 AM	R16860
Surr: 4-Bromofluorobenzene	89.9	80-120		%REC	1	2/21/2014 3:05:03 AM	R16860

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Brown Environmental Inc.**Client Sample ID:** BW-4-322 (SM)**Project:** Allsup #320**Collection Date:** 2/17/2014 8:50:00 AM**Lab ID:** 1402734-008**Matrix:** MEOH (SOIL)**Received Date:** 2/19/2014 11:43:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	2/20/2014 10:38:16 PM	R16869
Surr: BFB	90.6	74.5-129		%REC	1	2/20/2014 10:38:16 PM	R16869
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.055		mg/Kg	1	2/20/2014 10:38:16 PM	R16869
Benzene	ND	0.028		mg/Kg	1	2/20/2014 10:38:16 PM	R16869
Toluene	ND	0.028		mg/Kg	1	2/20/2014 10:38:16 PM	R16869
Ethylbenzene	ND	0.028		mg/Kg	1	2/20/2014 10:38:16 PM	R16869
Xylenes, Total	ND	0.055		mg/Kg	1	2/20/2014 10:38:16 PM	R16869
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	2/20/2014 10:38:16 PM	R16869

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402734

26-Feb-14

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	B1	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485659	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	830		1000		83.1	74.5	129			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485660	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.9	71.7	134			
Surr: BFB	880		1000		87.7	74.5	129			

Sample ID	1402734-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BW-5-122 (SM/ML)	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485663	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.5	17.52	0	112	69.5	145			
Surr: BFB	630		700.8		90.4	74.5	129			

Sample ID	1402734-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BW-5-122 (SM/ML)	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485664	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.5	17.52	0	110	69.5	145	1.12	20	
Surr: BFB	640		700.8		91.1	74.5	129	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R16869	RunNo:	16869					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485731	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		93.6	74.5	129			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R16869	RunNo:	16869					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485732	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402734

26-Feb-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range						
Client ID:	LCSS	Batch ID:	R16869	RunNo:	16869						
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485732	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	71.7	134				
Surr: BFB	980		1000		97.8	74.5	129				

Sample ID	MB-11836 MK	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range						
Client ID:	PBS	Batch ID:	R16892	RunNo:	16892						
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486483	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	780		1000		78.1	74.5	129				

Sample ID	LCS-11836 MK	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range						
Client ID:	LCSS	Batch ID:	R16892	RunNo:	16892						
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486484	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	71.7	134				
BFB	890		1000		89.3	74.5	129				

Sample ID	MB-11836	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range						
Client ID:	PBS	Batch ID:	11836	RunNo:	16892						
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486487	Units:	%REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	780		1000		78.1	74.5	129				

Sample ID	LCS-11836	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range						
Client ID:	LCSS	Batch ID:	11836	RunNo:	16892						
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486488	Units:	%REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	890		1000		89.3	74.5	129				

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402734
26-Feb-14

Client: Brown Environmental Inc.
Project: Allsup #320

Sample ID	B 1	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485688	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		93.9	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485689	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.87	0.10	1.000	0	86.7	64.5	131			
Benzene	1.0	0.050	1.000	0	104	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.3	0.10	3.000	0	109	80	120			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.3	80	120			

Sample ID	1402734-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BW-5-122 (SM/ML)	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485692	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.68	0.070	0.7008	0	96.7	58.5	163			
Benzene	0.81	0.035	0.7008	0	115	67.4	135			
Toluene	0.81	0.035	0.7008	0.003875	116	72.6	135			
Ethylbenzene	0.81	0.035	0.7008	0	115	69.4	143			
Xylenes, Total	2.5	0.070	2.102	0	117	70.8	144			
Surr: 4-Bromofluorobenzene	0.70		0.7008		100	80	120			

Sample ID	1402734-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BW-5-122 (SM/ML)	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485693	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.70	0.070	0.7008	0	100	58.5	163	3.83	20	
Benzene	0.80	0.035	0.7008	0	114	67.4	135	1.11	20	
Toluene	0.79	0.035	0.7008	0.003875	112	72.6	135	3.14	20	
Ethylbenzene	0.81	0.035	0.7008	0	115	69.4	143	0.133	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402734

26-Feb-14

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	1402734-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BW-5-122 (SM/ML)	Batch ID:	R16860	RunNo:	16860					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485693	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	2.5	0.070	2.102	0	117	70.8	144	0.0839	20	
Surr: 4-Bromofluorobenzene	0.69		0.7008		98.7	80	120	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R16869	RunNo:	16869					
Prep Date:		Analysis Date:	2/20/2014	SeqNo:	485761	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R16869	RunNo:	16869					
Date:		Analysis Date:	2/20/2014	SeqNo:	485762	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.98	0.10	1.000	0	97.5	64.5	131			
Benzene	0.99	0.050	1.000	0	99.2	80	120			
Toluene	0.99	0.050	1.000	0	99.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID	MB-11836 MK	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R16892	RunNo:	16892					
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486498	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.87		1.000		86.7	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402734

26-Feb-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	LCS-11836 MK	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R16892	RunNo:	16892					
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486499	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.86	0.10	1.000	0	86.0	64.5	131			
Benzene	1.1	0.050	1.000	0	108	80	120			
Toluene	1.1	0.050	1.000	0	111	80	120			
Ethylbenzene	1.1	0.050	1.000	0	112	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	80	120			

Sample ID	MB-11836	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	11836	RunNo:	16892					
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486502	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87		1.000		86.7	80	120			

Sample ID	LCS-11836	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	11836	RunNo:	16892					
Prep Date:	2/20/2014	Analysis Date:	2/21/2014	SeqNo:	486503	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		93.3	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Brown Env

Work Order Number: 1402734

RcptNo: 1

Received by/date: MG 02/19/14

Logged By: Lindsay Mangin 2/19/2014 11:43:00 AM *Judy Hago*

Completed By: Lindsay Mangin 2/19/2014 2:47:06 PM *Judy Hago*

Reviewed By: *[Signature]* 02/19/14

Chain of Custody

- 1. Custody seals intact on sample bottles? Yes No Not Present
- 2. Is Chain of Custody complete? Yes No Not Present
- 3. How was the sample delivered? Client

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. Are samples (except VOA and ONG) properly preserved? Yes No
- 9. Was preservative added to bottles? Yes No NA
- 10. VOA vials have zero headspace? Yes No No VOA Vials
- 11. Were any sample containers received broken? Yes No
- 12. Does paperwork match bottle labels? Yes No
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: 12 or 13 unless noted
 Adjusted? [Signature]
 Checked by: [Signature]

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: Date:
 By Whom: Via: eMail Phone Fax In Person
 Regarding:
 Client Instructions:

17. Additional remarks:

Cooler Information

Order No.	Temp	Condition	CO/Notes	Start Date	Stop Date
1	2.5	Good	Not Present		

Chain-of-Custody Record

Client: Brown Co, Commerce, NC
 Mailing Address: 6739 Henamy Ln, Suite 254
Asheboro, NC 27814
 Phone #: 505 858-1818

email or Fax#: _____
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation
 NELAP Other _____
 EDD (Type) _____

Turn-Around Time: _____
 Standard Rush
 Project Name: MUSIS #320
 Project #: 1077

Project Manager: William Brown
 Sampler: W. Brown

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type
12/14	13:40	SOIL	BW-5-122 (5m/ml)	2 METHANOL 20 SB 1 4 DE WPRES.	-001
12/14	18:10	"	BW-5-242 (5m/ml)	"	-002
13/14	8:30	"	BW-5-282 (5m)	"	-003
13/14	11:55	"	BW-5-322 (5m) #1	"	-004
13/14	13:55	"	BW-5-322 (5m) #2	"	-005
16/14	10:38	"	BW-4-202 (5m)	"	-006
16/14	15:25	"	BW-4-282 (5m)	"	-007
17/14	8:50	"	BW-4-322 (5m)	"	-008

Date: 19/14 11:43 Time: _____
 Requisitioned by: [Signature]
 Date: 19/14 11:43 Time: _____
 Requisitioned by: [Signature]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Analysis Request	Remarks
BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas only)	X
TPH Method 8015B (Gas/Diesel)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
8310 (PNA or PAH)	
RCRA 8 Metals	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	

Remarks: H/C ANALYSIS PURSUE TAX



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 14, 2014

Bill Brown

Brown Environmental Inc.
6739 Academy Road NE Suite 254
Albuquerque, NM 87109
TEL: (505) 934-7707
FAX (505) 858-0707

RE: Allsups #320

OrderNo.: 1402464

Dear Bill Brown:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/12/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-6-242' (SM)

Project: Allsup #320

Collection Date: 2/9/2014 7:40:00 AM

Lab ID: 1402464-002

Matrix: MEOH (SOIL)

Received Date: 2/12/2014 4:02:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	2/13/2014 11:07:35 PM	R16746
Surr: BFB	83.0	74.5-129		%REC	1	2/13/2014 11:07:35 PM	R16746
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.067		mg/Kg	1	2/13/2014 11:07:35 PM	R16746
Benzene	ND	0.033		mg/Kg	1	2/13/2014 11:07:35 PM	R16746
Toluene	ND	0.033		mg/Kg	1	2/13/2014 11:07:35 PM	R16746
Ethylbenzene	ND	0.033		mg/Kg	1	2/13/2014 11:07:35 PM	R16746
Xylenes, Total	ND	0.067		mg/Kg	1	2/13/2014 11:07:35 PM	R16746
Surr: 4-Bromofluorobenzene	90.8	80-120		%REC	1	2/13/2014 11:07:35 PM	R16746

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-6-281.5' (SM)

Project: Allsup #320

Collection Date: 2/9/2014 9:48:00 AM

Lab ID: 1402464-003

Matrix: MEOH (SOIL)

Received Date: 2/12/2014 4:02:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	2/13/2014 11:36:08 PM	R16746
Surr: BFB	82.5	74.5-129		%REC	1	2/13/2014 11:36:08 PM	R16746
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.071		mg/Kg	1	2/13/2014 11:36:08 PM	R16746
Benzene	ND	0.036		mg/Kg	1	2/13/2014 11:36:08 PM	R16746
Toluene	ND	0.036		mg/Kg	1	2/13/2014 11:36:08 PM	R16746
Ethylbenzene	ND	0.036		mg/Kg	1	2/13/2014 11:36:08 PM	R16746
Xylenes, Total	ND	0.071		mg/Kg	1	2/13/2014 11:36:08 PM	R16746
Surr: 4-Bromofluorobenzene	89.9	80-120		%REC	1	2/13/2014 11:36:08 PM	R16746

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-6-323.5' (SM)

Project: Allsup #320

Collection Date: 2/9/2014 12:45:00 PM

Lab ID: 1402464-004

Matrix: MEOH (SOIL)

Received Date: 2/12/2014 4:02:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	2/14/2014 12:04:38 AM	R16746
Surr: BFB	82.0	74.5-129		%REC	1	2/14/2014 12:04:38 AM	R16746
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.058		mg/Kg	1	2/14/2014 12:04:38 AM	R16746
Benzene	ND	0.029		mg/Kg	1	2/14/2014 12:04:38 AM	R16746
Toluene	ND	0.029		mg/Kg	1	2/14/2014 12:04:38 AM	R16746
Ethylbenzene	ND	0.029		mg/Kg	1	2/14/2014 12:04:38 AM	R16746
Xylenes, Total	ND	0.058		mg/Kg	1	2/14/2014 12:04:38 AM	R16746
Surr: 4-Bromofluorobenzene	88.8	80-120		%REC	1	2/14/2014 12:04:38 AM	R16746

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: MEOH BLANK

Project: Aillsups #320

Collection Date:

Lab ID: 1402464-005

Matrix: MEOH BLAN

Received Date: 2/12/2014 4:02:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/14/2014 12:33:09 AM	R16746
Surr: BFB	83.6	74.5-129		%REC	1	2/14/2014 12:33:09 AM	R16746
EPA METHOD 8021B: VOLATILES							Analyst: JMP
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	2/14/2014 12:33:09 AM	R16746
Benzene	ND	0.050		mg/Kg	1	2/14/2014 12:33:09 AM	R16746
Toluene	ND	0.050		mg/Kg	1	2/14/2014 12:33:09 AM	R16746
Ethylbenzene	ND	0.050		mg/Kg	1	2/14/2014 12:33:09 AM	R16746
Xylenes, Total	ND	0.10		mg/Kg	1	2/14/2014 12:33:09 AM	R16746
Surr: 4-Bromofluorobenzene	91.4	80-120		%REC	1	2/14/2014 12:33:09 AM	R16746

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402464

14-Feb-14

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	MB-11696 MK	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R16746	RunNo:	16746					
Prep Date:	2/12/2014	Analysis Date:	2/13/2014	SeqNo:	482053	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	800		1000		79.8	74.5	129			

Sample ID	LCS-11696 MK	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R16746	RunNo:	16746					
Prep Date:	2/12/2014	Analysis Date:	2/13/2014	SeqNo:	482054	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	71.7	134			
Surr: BFB	850		1000		85.5	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1402464
14-Feb-14

Client: Brown Environmental Inc.
Project: Allsups #320

Sample ID	MB-11696 MK	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R16746	RunNo:	16746					
Prep Date:		Analysis Date:	2/13/2014	SeqNo:	482085	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		86.0	80	120			

Sample ID	LCS-11696 MK	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R16746	RunNo:	16746					
Prep Date:		Analysis Date:	2/13/2014	SeqNo:	482086	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.78	0.10	1.000	0	78.3	64.5	131			
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.4	80	120			

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
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2.
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: Brown Env

Work Order Number: 1402464

RcptNo: 1

Received by/date: AG 02/12/14

Logged By: Lindsay Mangin 2/12/2014 4:02:00 PM *Judy H*

Completed By: Lindsay Mangin 2/13/2014 8:08:08 AM *Judy H*

Reviewed By: TO 02/13/2014

Chain of Custody

1. Custody seals intact on sample bottles? Yes No Not Present
2. Is Chain of Custody complete? Yes No Not Present
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes No NA
5. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
6. Sample(s) in proper container(s)? Yes No
7. Sufficient sample volume for indicated test(s)? Yes No
8. Are samples (except VOA and ONG) properly preserved? Yes No
9. Was preservative added to bottles? Yes No NA
10. VOA vials have zero headspace? Yes No No VOA Vials
11. Were any sample containers received broken? Yes No
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
13. Are matrices correctly identified on Chain of Custody? Yes No
14. Is it clear what analyses were requested? Yes No
15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No.	Temp. No.	Condition	Seal Intact	SP No.	SP Date	SP By
1	2.1	Good	Not Present			



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Client: HALL ENVIRONMENTAL INC
 Project Name: ASUS #320
 Project #: 1077
 Project Manager: WILLIAM BROWN
 Mailing Address: 4901 HAWKINS NE SUITE 254 ALBUQUERQUE, NM 87109
 Phone #: 505 858-1818
 email or Fax#: 505 858-0707

QA/QC Package:
 Standard Level 4 (Full Validation)
 NELAP Other
 EDD (Type) _____

On Ice: Yes No
 Sample Temperature: 9

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAT No.
2/8/14	13:50	SOIL	BW-6-122 (5m)	2 202 METHOD L + 402 MR		1402404
2/9/14	7:40	"	BW-6-242 (5m)	"	"	-001
2/9/14	9:48	"	BW-6-281.5 (5m)	"	"	-002
2/9/14	12:45	"	BW-6-323.5 (5m)	"	"	-003
						-004

Date: 2/14 Time: 10:30 Relinquished by: [Signature]
 Date: 2/14 Time: 16:06 Relinquished by: [Signature]




Received by: [Signature] Date: 2/14 Time: 10:30
 Received by: [Signature] Date: 2/12/14 Time: 16:02

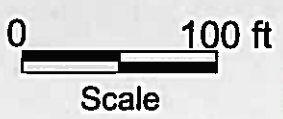
Analysis Request	Remarks
BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas-only)	X
TPH 8015B (GRO / DRO / MRO)	
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH's (8310 or 8270 SIMS)	
RCRA 8 Metals	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	

If necessary, samples submitted to Hall Environmental may be re-contracted to other accreditation laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



EXPLANATION

- BW-6**  New Single Completion Monitor Well Location
- BW-3**  Nested Monitor Well Location
- B-1**  Soil Boring Location



**SITE BASE MAP
WITH CROSS SECTION
LOCATIONS**

Allsups Store #320 Clovis, New Mexico



BROWN ENVIRONMENTAL, INC.

6739 Academy Road NE, NE., Suite 254
Albuquerque, NM 87109
Phone: (505) 858-1818 Fax: (505) 858-0707

Drawn by:	WJB	6/14	Client: Allsups
Drafted by:	EMB	6/14	Job #1070
Reviewed by:	WJB	6/14	FIGURE 2

SOUTH A

BW-7

BW-5

BW-1 (s.l.d)

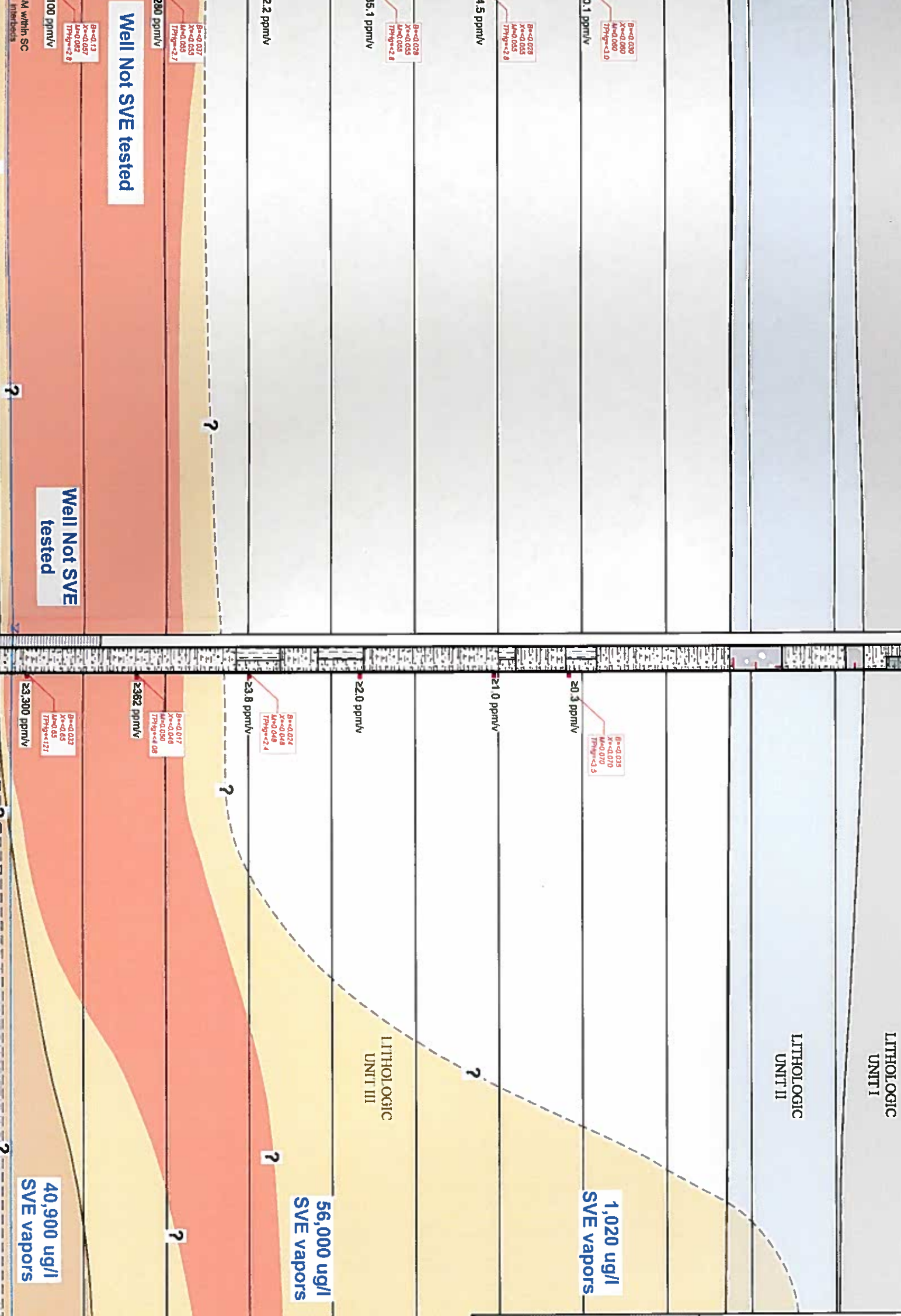
Depth
in ft

360
330
300
270
240
210
180
150
120
90
60
30
0

TD = 354'
3/14

TD = 358'
2/14

TD = 345'
2/12





8779 Academy Road NC, Suite 254
 Albuquerque, New Mexico 87109
 Phone: (505) 836-1888 Fax: (505) 836-0707

BROWN ENVIRONMENTAL, INC.

Reviewed by: WJB	6/14	Figure 3
Drafted by: EMB	6/14	Job # 1070
Drawn by: WJB	6/14	Client: NMED

SIMPLIFIED GEOLOGIC AND HYDROCARBON CONTAMINANT CROSS SECTION A-A'
 Allsup's Store #320, Clovis, NM

15,900 ug/l SVE vapors
 Elevated TPH Lab Vapor Levels During SVE Feasibility Testing (in ug/l)

Elevated PID Vapor levels During Drilling (> 100 ppmv)

Elevated PID Vapor levels During Drilling and earlier SVE Feasibility Testing (> 100 ppmv)

Lithology

- SC Clayey Sand
- SM Silty Sand
- ML Silt
- SAS Sandstone/Cemented Sand
- Carbonate-rich interval
- Caliche Interval

Scale: Vertical Exaggeration 30x

Well Completion Summary

BW-3

Screen Interval: 20.9' to 21.182'

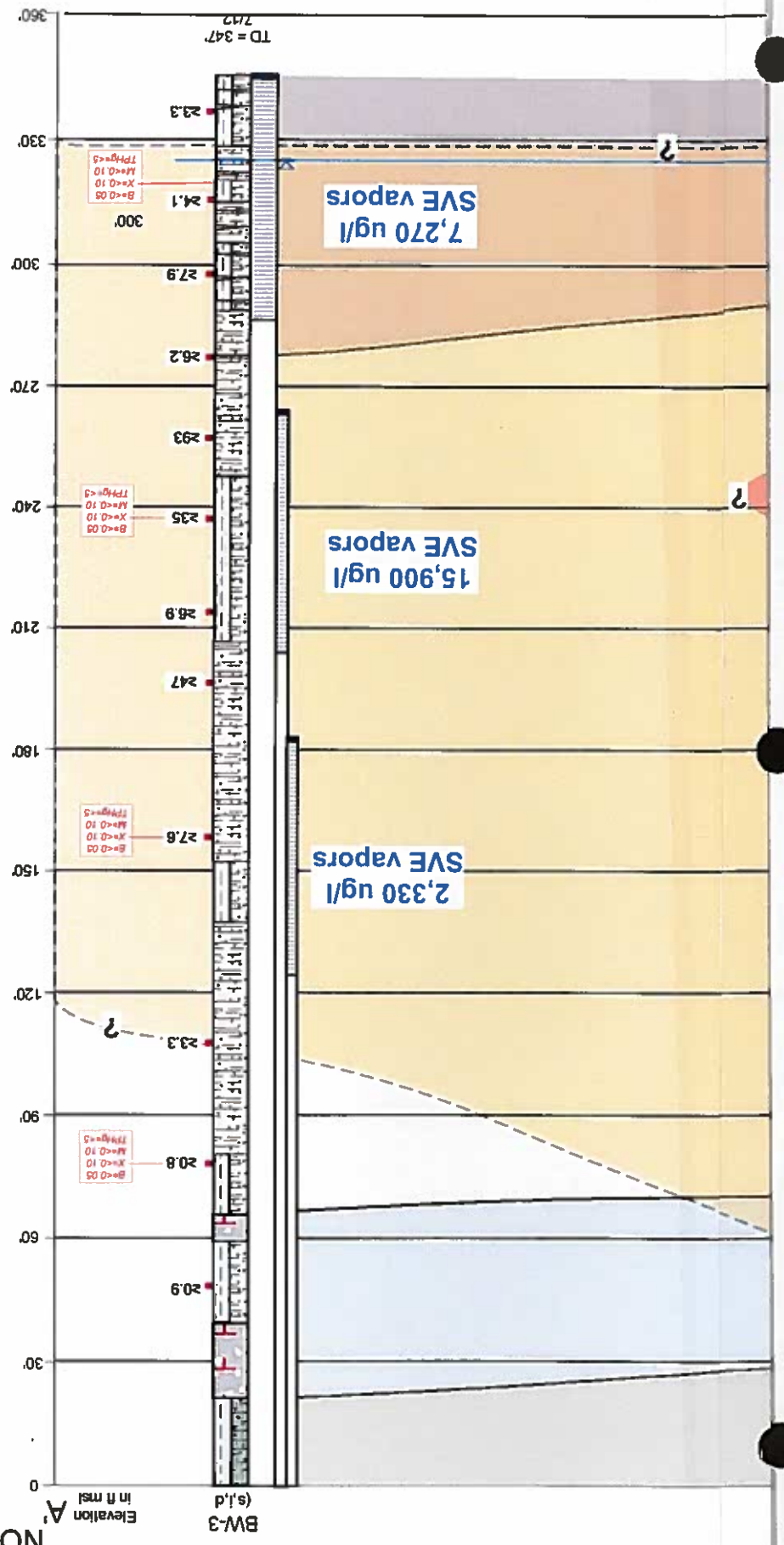
Depth to Water: 26.1'

Soil Lab Results:

- B=0.61 Benzene
- X=0.40 Total Xylenes
- M=MTBE
- TPH=Total Petroleum Hydrocarbons (gas range) 28.2
- 21.182
- 51 PID Headspace Reading (in ppmv)

Simplified Lithology

NORTH



WEST
Depth B
(m ft)

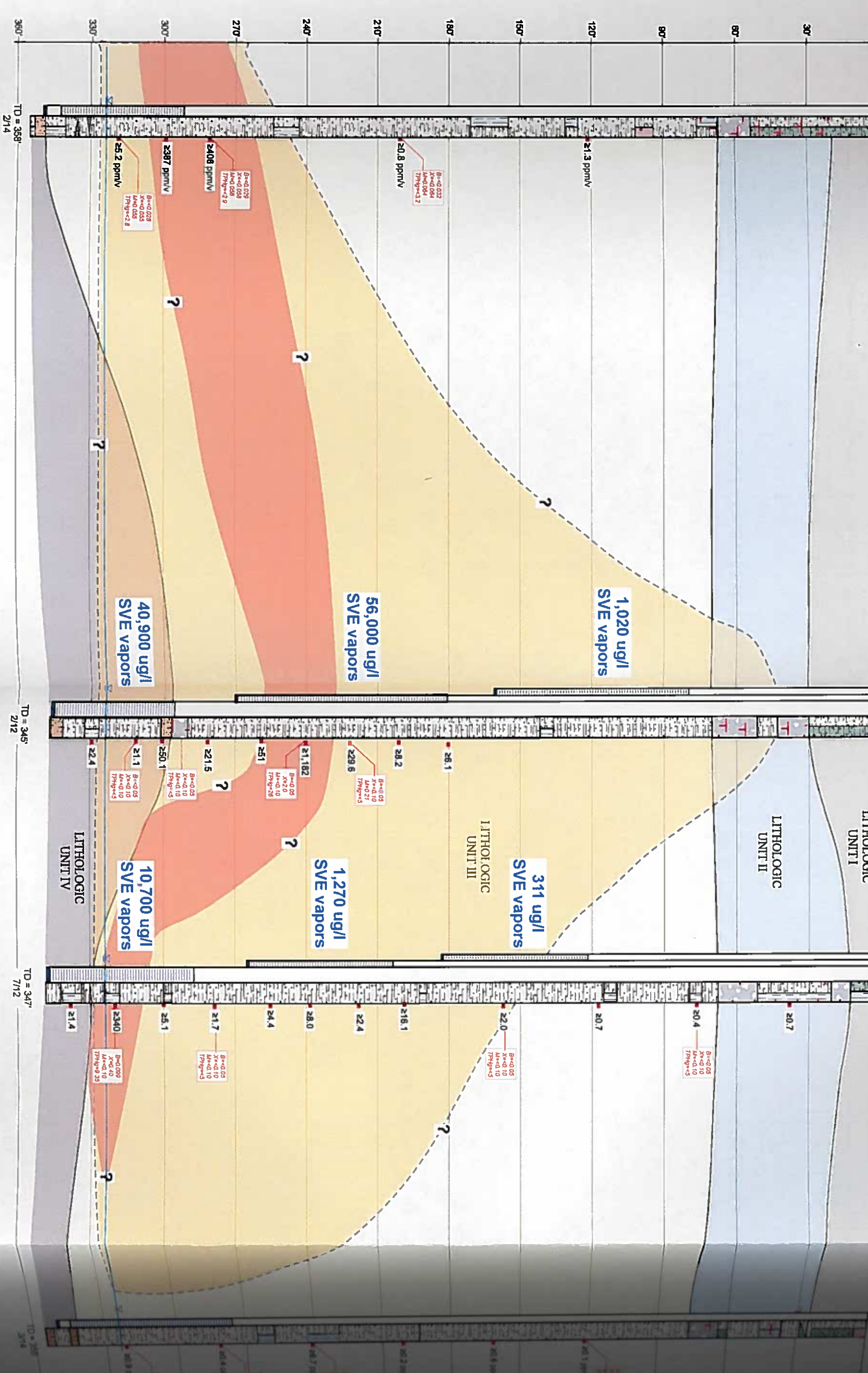
BW-4

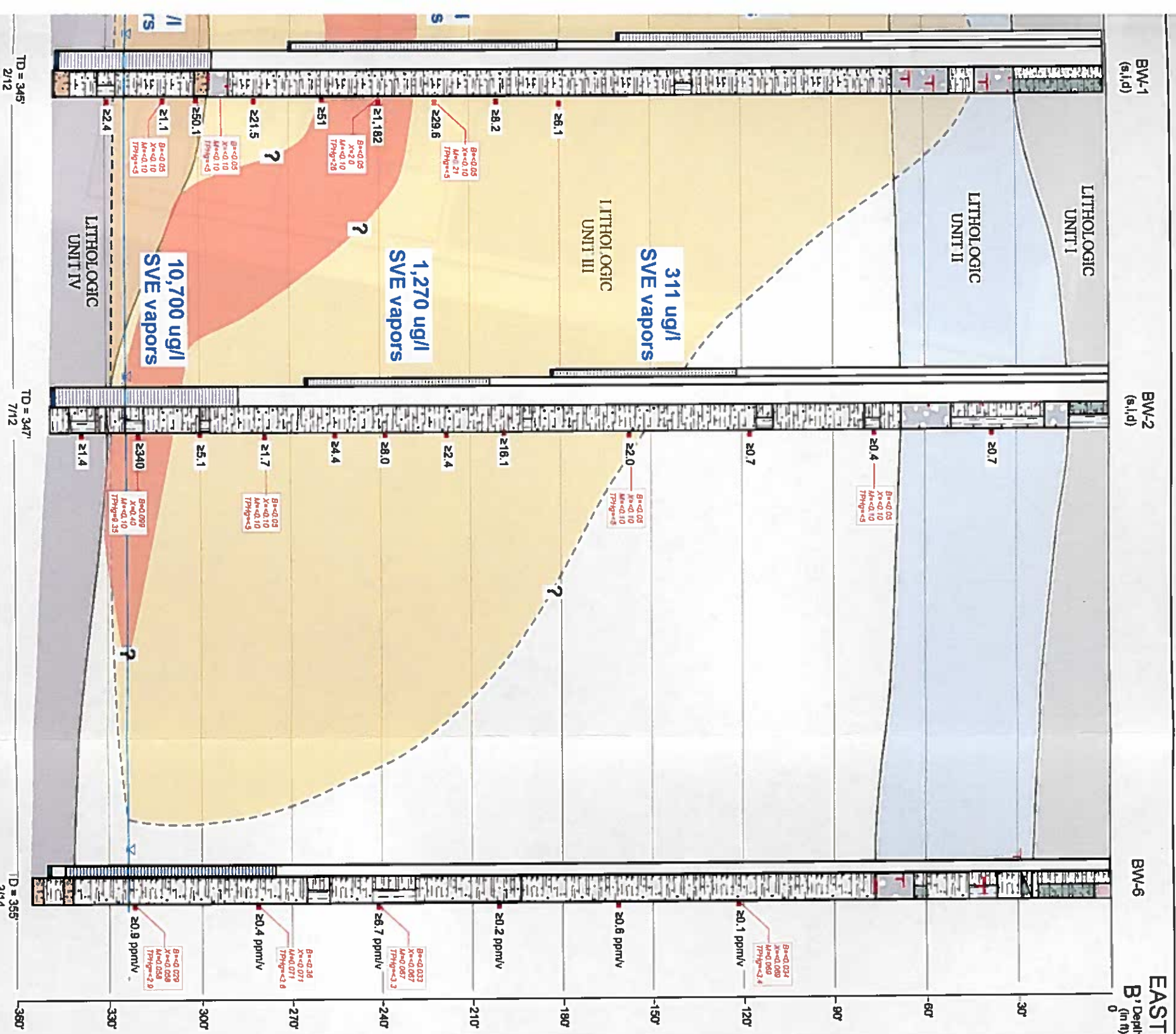
BW-1
(s.l.d)

BW-2
(s.l.d)

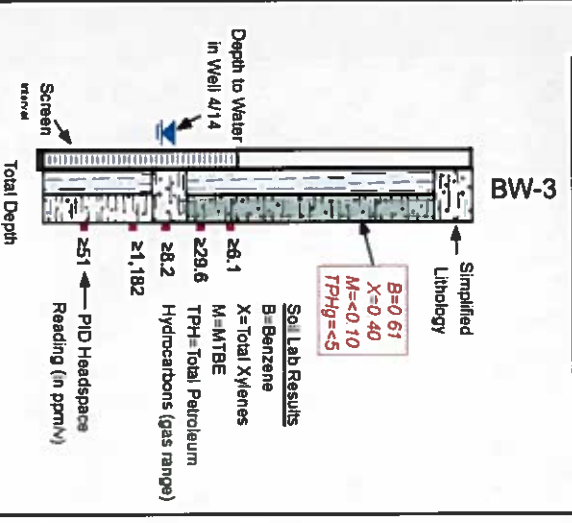
BW-3

EAST
B
(m ft)



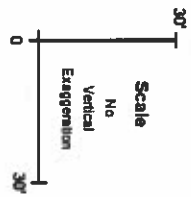


Well Completion Summary



Lithology

- SC Clayey Sand
- SM Silty Sand
- ML Silt
- SAS Sandstone/Cemented Sand
- Carbonate-rich Interval
- Caliche Interval



15,900 ug/l Elevated TPH Lab Vapor Levels During 2012 SVE Feasibility Testing (in ug/l)

311 ug/l Elevated PID Vapor levels During Drilling (> 100 ppmv)

10,700 ug/l Elevated PID Vapor levels During Drilling and earlier SVE Feasibility Testing (> 100 ppmv)

SIMPLIFIED GEOLOGIC AND HYDROCARBON CONTAMINANT CROSS SECTION B-B'

Allsup's Store #320, Clovis, NM

Drawn by:	WJB	6/14	Client: NMEED
Drafted by:	EMB	6/14	Job # 1070
Reviewed by:	WJB	6/14	Figure 3a

BROWN ENVIRONMENTAL, INC

679 Academy Road NE, Suite 314
 Albuquerque, New Mexico 87109
 Phone: (505) 866-0881 Fax: (505) 866-0707



EXPLANATION

- BW-6** New Single Completion Monitor Well Location
- BW-3** Nested Monitor Well Location

10 ppb EDC Isoncontour (in parts per billion)

GROUNDWATER QUALITY DATA	
4/14	4/14= date of sampling
B = 240	B = benzene
T = 61	T = toluene
E = 4.5	E = ethyl benzene
X = 20	X = total xylenes
TB = 6.3	TB = tri-methyl benzenes
EC = 3.5	EC = 1,2 dichloroethane
EB = <1.0	EB = 1,2 dibromoethane
M = 1.6	M = methyl tertiary butyl ether
N = <10	N = naphthalenes + mono methyl naphthalenes

all concentrations in parts per billion (ppb)
NS = Not Sampled



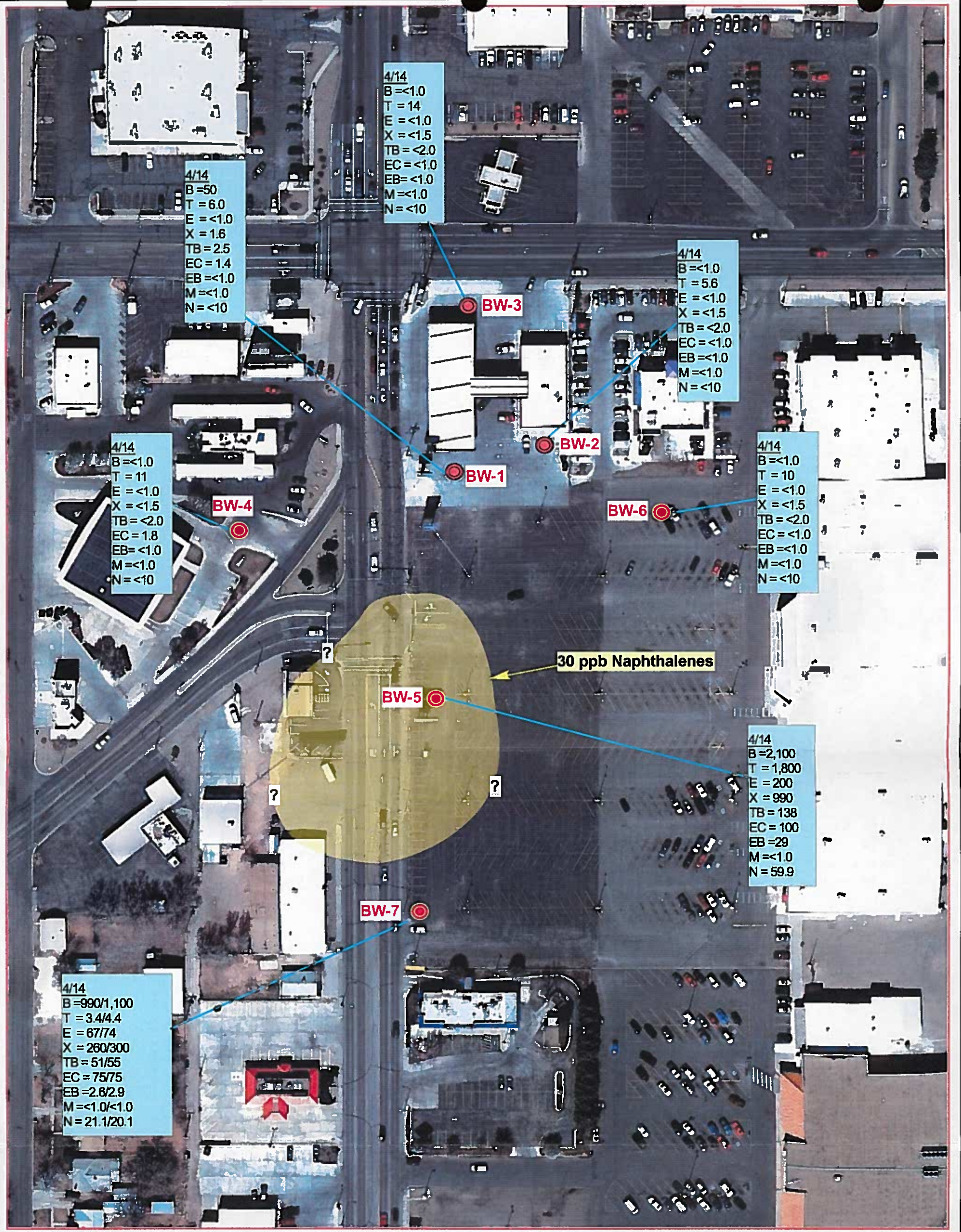
**1,2 DICHLOROETHANE (EDC)
GROUNDWATER QUALITY MAP-
4/14 SAMPLING EVENT**

Allsup's Store #320 Clovis, New Mexico



BROWN ENVIRONMENTAL, INC.
6739 Academy Road NE, NE., Suite 234
Albuquerque, NM 87109
Phone: (505) 858-1818 Fax: (505) 858-0707

Drawn by:	WJB	6/14	Client: Allsup's
Drafted by:	EMB	6/14	Job #1070
Reviewed by:	WJB	6/14	FIGURE 6



EXPLANATION

- BW-6** New Single Completion Monitor Well Location
- BW-3** Nested Monitor Well Location

30 ppb Naphthalene Isoncontour (in parts per billion)

GROUNDWATER QUALITY DATA	
4/14	4/14= date of sampling
B = 240	B = benzene
T = 61	T = toluene
E = 4.5	E = ethyl benzene
X = 20	X = total xylenes
TB = 6.3	TB = tri-methyl benzenes
EC = 3.5	EC = 1,2 dichloroethane
EB = <1.0	EB = 1,2 dibromoethane
M = 1.6	M = methyl tertiary butyl ether
N = <10	N = naphthalenes + mono methyl naphthalenes

all concentrations in parts per billion (ppb)
NS = Not Sampled



**TOTAL NAPHTHALENES
GROUNDWATER QUALITY MAP-
4/14 SAMPLING EVENT**

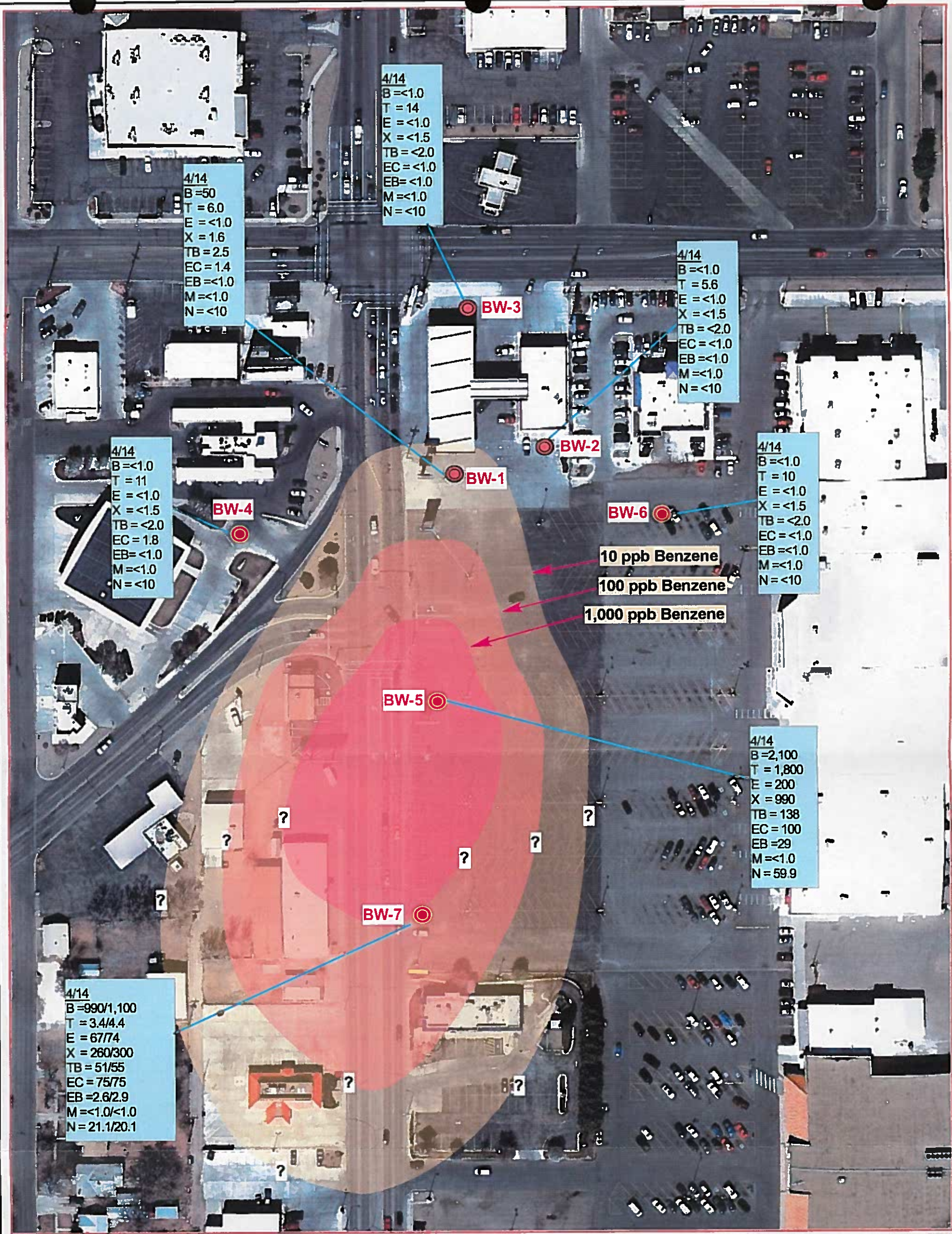
Allsup's Store #320 Clovis, New Mexico



BROWN ENVIRONMENTAL, INC.

6739 Academy Road NE, NE., Suite 25+
Albuquerque, NM 87109
Phone: (505) 858-1818 Fax: (505) 858-0707

Drawn by:	WJB	6/14	Client: Allsup's
Drafted by:	EMB	6/14	Job #1070
Reviewed by:	WJB	6/14	FIGURE 7



4/14
 B=<1.0
 T = 14
 E =<1.0
 X =<1.5
 TB=<2.0
 EC=<1.0
 EB=<1.0
 M=<1.0
 N=<10

4/14
 B=50
 T = 6.0
 E =<1.0
 X = 1.6
 TB=2.5
 EC= 1.4
 EB=<1.0
 M=<1.0
 N=<10

4/14
 B=<1.0
 T = 5.6
 E =<1.0
 X =<1.5
 TB=<2.0
 EC=<1.0
 EB=<1.0
 M=<1.0
 N=<10

4/14
 B=<1.0
 T = 11
 E =<1.0
 X =<1.5
 TB=<2.0
 EC= 1.8
 EB=<1.0
 M=<1.0
 N=<10

4/14
 B=<1.0
 T = 10
 E =<1.0
 X =<1.5
 TB=<2.0
 EC=<1.0
 EB=<1.0
 M=<1.0
 N=<10

4/14
 B=2,100
 T = 1,800
 E = 200
 X = 990
 TB = 138
 EC = 100
 EB=29
 M=<1.0
 N = 59.9

4/14
 B=990/1,100
 T = 3.4/4.4
 E = 67/74
 X = 260/300
 TB = 51/55
 EC = 75/75
 EB=2.6/2.9
 M=<1.0/<1.0
 N = 21.1/20.1

10 ppb Benzene
 100 ppb Benzene
 1,000 ppb Benzene

EXPLANATION

- BW-6 ● New Single Completion Monitor Well Location
- BW-3 ● Nested Monitor Well Location

10 ppb Benzene Isoncontour (in parts per billion)

GROUNDWATER QUALITY DATA

4/14	4/14= date of sampling
B = 240	B = benzene
T = 61	T = toluene
E = 4.5	E = ethyl benzene
X = 20	X = total xylenes
TB = 6.3	TB = tri-methyl benzenes
EC = 3.5	EC = 1,2 dichloroethane
EB = <1.0	EB = 1,2 dibromoethane
M = 1.6	M = methyl tertiary butyl ether
N = <10	N = naphthalenes + mono-methyl naphthalenes

all concentrations in parts per billion (ppb)
 NS = Not Sampled



**BENZENE
 GROUNDWATER QUALITY MAP-
 4/14 SAMPLING EVENT**

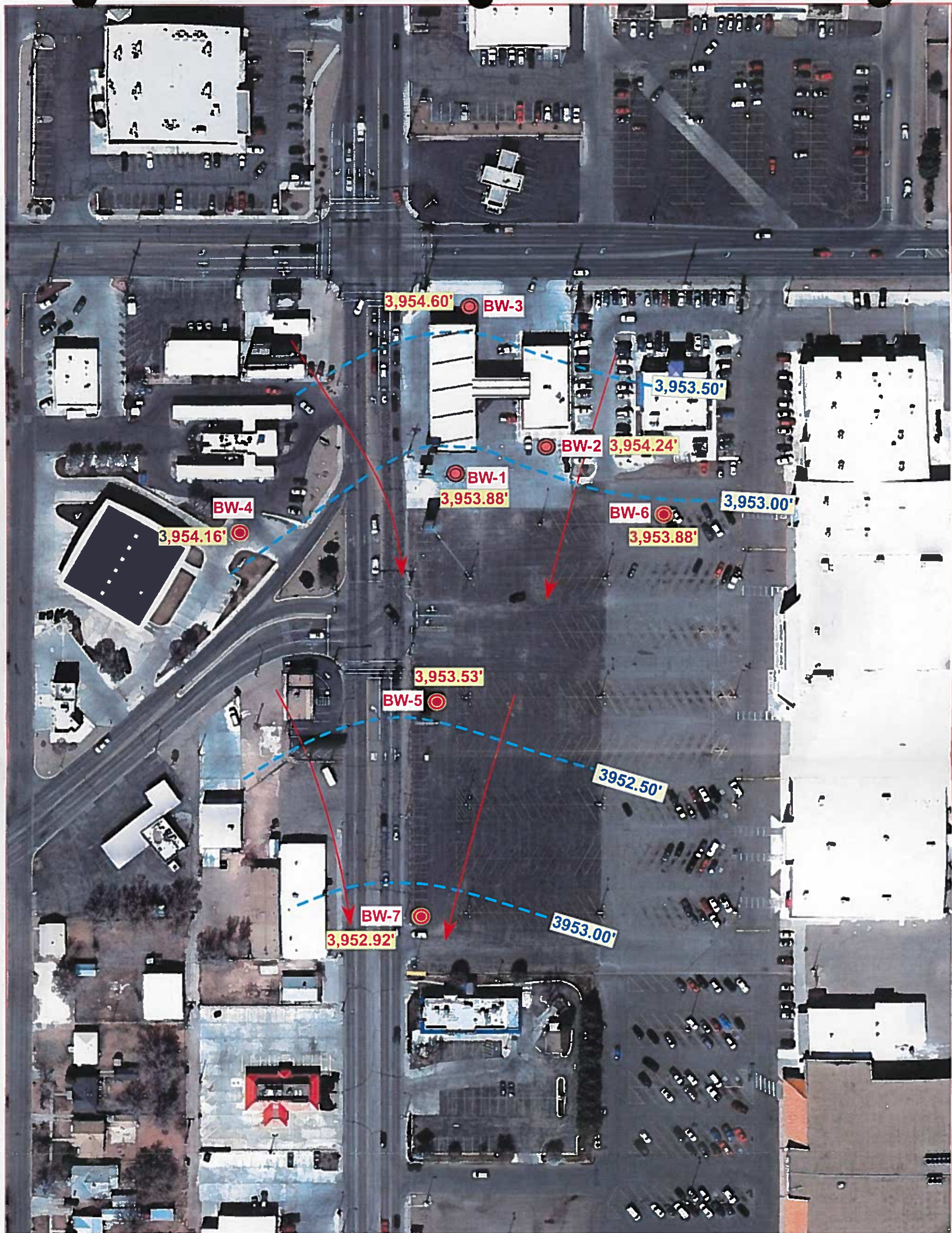
Allsup's Store #320 Clovis, New Mexico



BROWN ENVIRONMENTAL, INC.

6739 Academy Road NE, NE., Suite 234
 Albuquerque, NM 87109
 Phone: (505) 858-1818 Fax: (505) 858-0707

Drawn by:	WJB	6/14	Client: Allsup's
Drafted by:	EMB	6/14	Job #1070
Reviewed by:	WJB	6/14	FIGURE 5



EXPLANATION

- BW-6** ● New Single Completion Monitor Well Location
- BW-3** ● Nested Monitor Well Location

Approximate Direction of Groundwater Flow

Groundwater Elevation in Feet Above Mean Sea level

Equipotential Line

0 100 ft
Scale

NORTH

GROUNDWATER POTENTIOMETRIC SURFACE MAP 4-29-14

Allsup's Store #320 Clovis, New Mexico



BROWN ENVIRONMENTAL, INC.

6739 Academy Road NE, Suite 254
Albuquerque, NM 87109
Phone: (505) 858-1818 Fax: (505) 858-0707

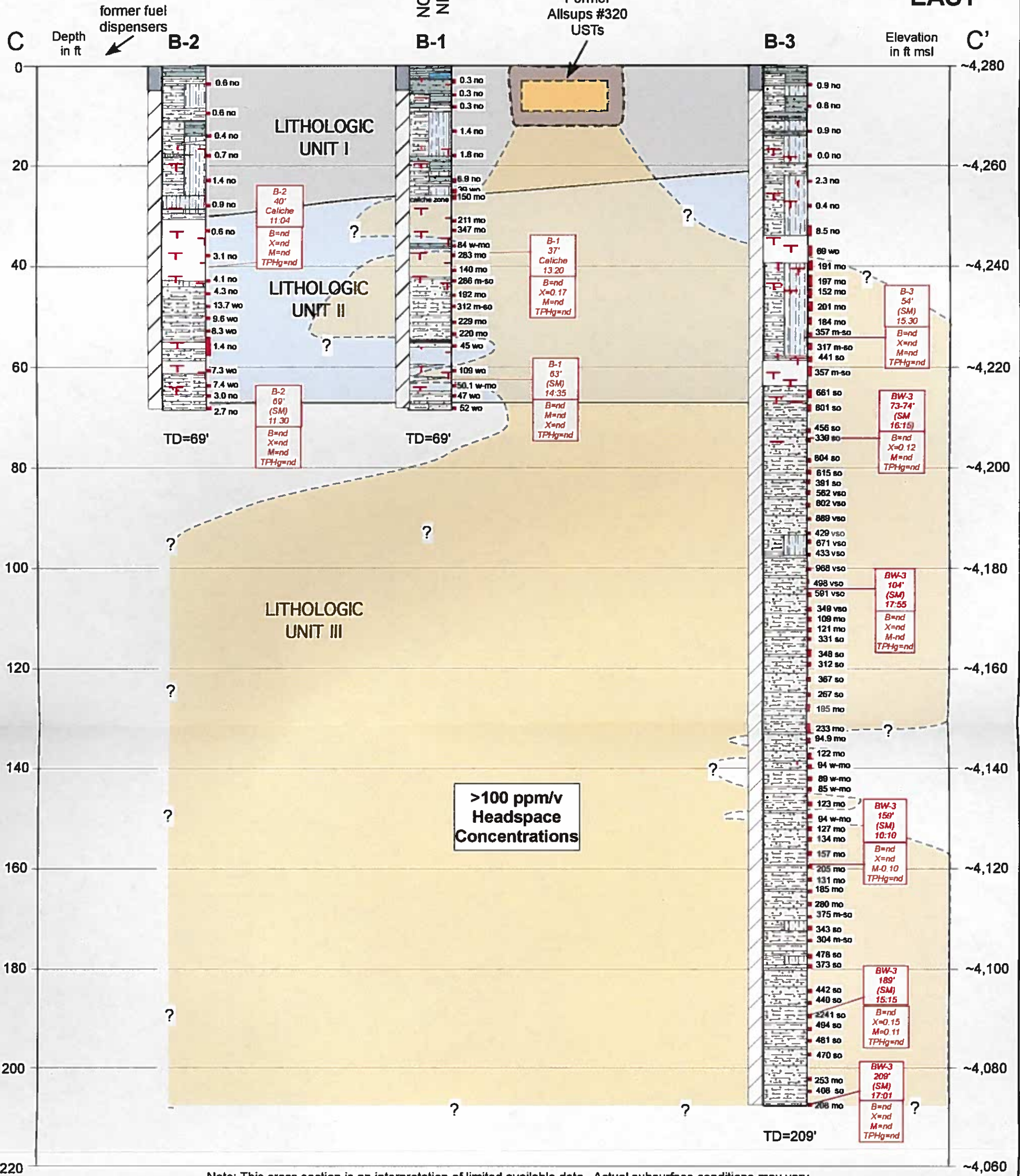
Drawn by:	WJB	6/14	Client: Allsup's
Drafted by:	EMB	6/14	Job #1070
Reviewed by:	WJB	6/14	FIGURE 4

NORTH

EAST

BEND IN SECTION

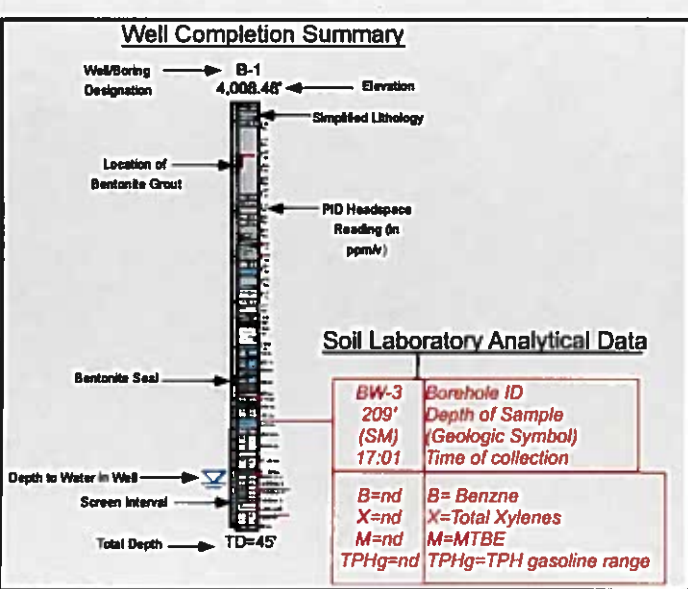
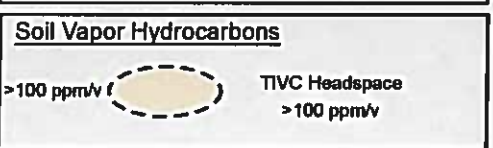
Former Allsups #320 USTs



EXPLANATION

Lithology

- SC Clayey Sand
- SCL Sandy Clay
- CL Clay - plastic, dense
- CH Fat Clay - highly plastic
- SW Poorly Sorted Sand
- SP Well Sorted Sand
- SM Silty Sand
- PC Pedogenic Carbonate
- GM Silty Gravel
- GC Gravelly Silt
- MSS Mudstone-Siltstone - Chinle or Chinle derived
- SAS Sandstone - Chinle or Chinle derived



SIMPLIFIED GEOLOGIC AND HYDROCARBON CONTAMINANT CROSS SECTION C-C'

ALLSUPS #320 FACILITY CLOVIS, NM

Drawn by:	WJB	6/14	Client: NMED
Drafted by:	EMB	6/14	Job #1070
Reviewed by:	WJB	6/14	Figure: 3b

BROWN ENVIRONMENTAL, INC.
8759 Academy Road NE, Suite 254
Albuquerque, New Mexico 87109
Phone: (505) 858-1818 Fax: 858-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.

Borehole ID: BW-5

page 1 of 5

DATE OF DRILLING: 2/11/14 - 2/15/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-273.5'
 Screen: 0.01 slot from 273.5'-348.5'
 w/ 5' blank sump at base to 353.5'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=mtbe TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
Concrete		no=no odor to=trace odor w=weak odor mo=moderate odor so=strong odor		±8.7 no	5	
				±3.2 no	10	
				±0.8 no	15	
6%/84% Bentonite Cement Grout				±2.2 no	20	
				±1.2 no	25	
				±0.7 no	30	
6%/92% Bentonite Cement Grout				±0.4 no	35	
				±0.8 no	40	
				±0.3 no	45	
				±0.4 no	50	
				±0.4 no	55	
				±0.8 no	60	
				±0.3 no	65	
5" Dia. Sched 80 PVC Flush-Threaded				±0.6 no	70	

Surface Conditions: 0.0'-0.3' Asphalt.

0.3'-1.0' Cuttings (SW/SC) Clayey silty sand, fill material.

1.0'-5.5' Cuttings (SC/SM) Dark brown clayey silty very fine to fine sand, moist to slightly moist, no apparent hydrocarbon odor.

5.5'-11.0' Cuttings (SC) silt-very fine sand-clay, weakly plastic, interbedded with (SC/ML) clayey silty very fine sand, moist to slightly moist, no apparent hydrocarbon odor.

11.0'-16.0' Cuttings (SM/ML) Silt - very fine sand (10YR) brown with trace clay coarsening with depth grading to (SM) silty very fine sand, unconsolidated.

16.0'-20.0' Cuttings (SM) Silty very fine sand (10YR), slightly moist, no apparent hydrocarbon odor.

20.0'-24.0' Cuttings (SM/ML) Tan-white (10YR) silt - very fine sand, with Stage 3 calcium carbonate cement hard drilling, no apparent hydrocarbon odor.

24.0'-29.0' Cuttings (SM) Light brown-tan (10YR) silty very fine sand with trace calcium carbonate, slightly moist, no apparent hydrocarbon odor, unconsolidated.

29.0'-33.0' Cuttings (SM) with Stage 2 calcium carbonate cement.

33.0'-60.0' Cuttings (SM) with (SM/ML) zones and interbeds to Stage 2+ to 3 calcium carbonate - color varies from brown (10YR) to light tan-white (10YR), slightly moist.

60.0'-67.0' Cuttings (SM) Caliche zone, dense Stage 4 calcium carbonate grading to Stage 3 at base with (SM/ML) silt - very fine sand matrix, no apparent hydrocarbon odor, light tan-white grades to:

67.0'-72.0' Cuttings (SM) Tan - brown, silty very fine sand with Stage 2 to 1+ calcium carbonate decreasing with depth, slightly moist, unconsolidated, no apparent hydrocarbon odor.



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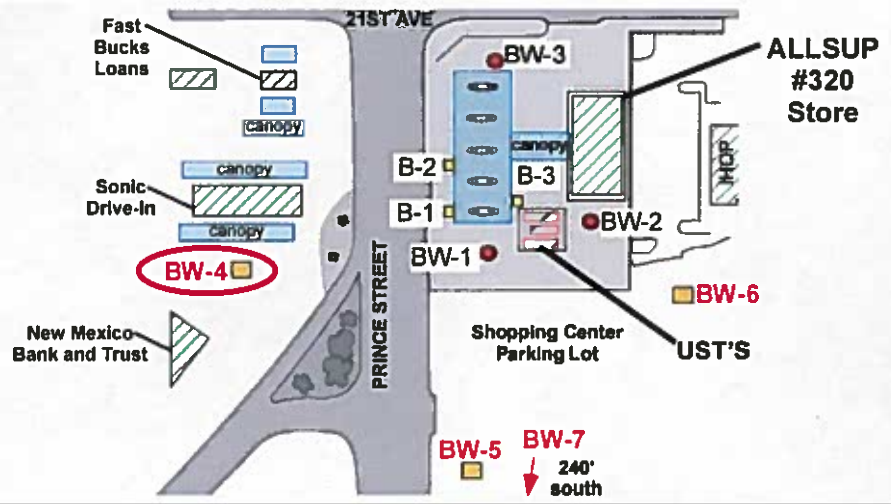
PHONE: (505) 858-1818 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-4

page 5 of 5

DATE OF DRILLING: 2/15/14 - 2/19/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample b=benzene m=merbde TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simplified Lithology
	10-20 Silica Sand		≥387 so ≥39 no	305	301.0'-302.5' Split Spoon 1.5' sample. Entire core is (SM) tan to brown (10YR) silty very fine sand, some moisture, massive, moderate weathered hydrocarbon odor at top - decreases with depth.
			≥0.1 no		~321' Blowdown on hole = 327 ppm/v
			≥0.2 no	310	~307.0'-333.0' Cuttings (SM) Tan brown silty very fine with calcium carbonate cemented nodules, unconsolidated, some moisture increasing with depth.
			≥0.0 no	315	
		2/17/14 BW-4 322' (SM/ML) 8.50 B=ND M=ND T=ND TPH=ND	≥0.1 no	320	321' Stopped drilling for 2/16/14 @17:15
			≥5.2 no ≥1.7 no	325	321.0'-322.5' Split Spoon 1.5' sample. Entire core is (SM) tan-brown silty very fine to fine sand, unconsolidated, moist - especially at base, several 1" to 1.5" sized irregular calcium carbonate cemented (SAS) nodules, massive, no apparent hydrocarbon odor.
			≥1.3 no		2/17/14 @ 9:14 Blowdown on hole @ 321' = 0.8 ppm/v
			≥0.6 no	330	Cuttings very moist to wet below 328'
			≥1.6 no	335	330.0'-342.0' Cuttings (SM) Silty very fine sand, with thin interbeds of calcium carbonate cemented fine sandstone (SAS), cuttings are moist to wet, no apparent hydrocarbon odor.
				340	
			≥1.1 no	345	342.0'-351.0' Cuttings (SM) and (SM/ML) Interbeds, finer grained than above, cuttings are soupy-water saturated, having trouble getting returns, (10YR) light tan to brown, no apparent hydrocarbon odor.
				350	
			≥0.9 no	355	351.0'-354.0' Cuttings (SAS) Very fine sandstone with some silt, calcium carbonate cemented, no apparent hydrocarbon odor.
				360	
				365	
				370	
					354.0'-355.0' Cuttings (SM) silty very fine sand. Cuttings are soupy-water saturated, having trouble getting returns, (10YR) light tan to brown, no apparent hydrocarbon odor.
					total depth = 355'



BROWN ENVIRONMENTAL, INC

6739 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 858-1818 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-4

page 4 of 5

DATE OF DRILLING: 2/15/14 - 2/19/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
Screen: 0.01 slot from 275'-345'
w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample b=benzene m=metane TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simplified Lithology
10-20 Silica Sand	0.01 Slot 5" Dia. Sched 80 PVC Screen			225	
3/8" Bentonite Pellets (Hydrated)				230	
6% / 84% Bentonite Cement Grout (2 lifts)				235	
10% / 90% Bentonite Cement Grout (2 lifts)				240	
				245	
				250	
				255	
				260	
				265	
				270	
				275	
				280	
				285	
				290	
				295	
				300	
				305	
				310	
				315	
				320	
				325	
				330	
				335	
				340	
				345	
				350	

206.0'-245.0' Cuttings (SM) Tan-brown (10YR) silty very fine sand, unconsolidated, some moisture, no apparent hydrocarbon odor, portions border on (SM/ML) and are finer grained with greater silt content, gradational lower contact.

241'-242.5' Split Spoon 1.5' sample. Entire core is (SM/ML) tan-brown (10YR) silty very fine sand, well sorted, massive, almost moist, no apparent hydrocarbon odor.

245.0'-253.0' Cuttings (SM/ML) Tan-brown (10YR) silt very fine sand, finer grained than surrounding, some moisture, unconsolidated, no apparent hydrocarbon odor, trace calcium carbonate cemented nodules.

253.0'-307.0' Cuttings (SM) Silty very fine to fine sand as above, some moisture, no apparent hydrocarbon odor, localized calcium carbonate cemented, concretions below ~265'.

Very windy on site

281.0' -282.5' Split Spoon 1.5' sample. 0.0'-1.5' (SM) Light tan-brown (10YR) silty very fine sand, slightly moist, moderate hydrocarbon odor at top decreases with depth, unconsolidated, massive.

301' Let borehole equilibrate for 110 minutes before collecting split spoon, strong gasoline hydrocarbon odor in sample, borehole venting at 450 ppm/v.

2/16/14
BW-4
282'
(SM)
15:25
B=ND
M=ND
T=0.046
TPH=ND



BROWN ENVIRONMENTAL, INC

6739 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
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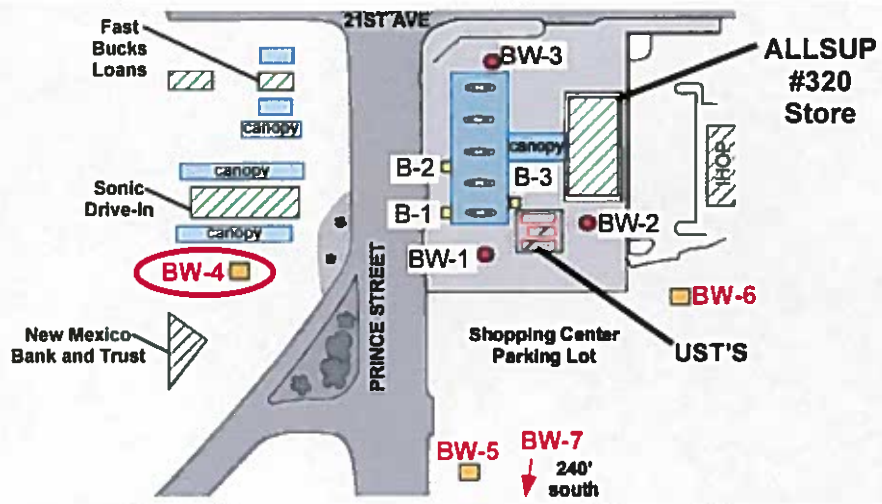
ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.

Borehole ID: BW-4

page 3 of 5

DATE OF DRILLING: 2/15/14 - 2/19/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=mtbe TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
6% 94% Bentonite Cement Grout (2 lifts)			≥1.2 no	150		
			≥2.1 no	155		
			≥2.1 no	160		
			≥2.1 no	165		
			≥1.6 no	170		
			≥1.7 no	175		
			≥1.6 no	180		
			≥0.2 no	185		
			≥1.4 no	190		
			≥0.0 no	195		
			≥0.4 no	200		
			≥0.8 no	202		
			≥0.9 no	205		
			≥1.2 no	210		
			≥1.1 no	220		
			≥0.0 no	220		

154.0'-170.0' Cuttings (SM/ML) Silty fine sand, greater silt than above or below, (10YR) tan-brown, localized calcium carbonate nodules, no apparent hydrocarbon odor.

170.0'-203.0' Cuttings (SM) Tan to brown (10YR) very fine to fine sand, unconsolidated, no apparent hydrocarbon odor, no calcium carbonate nodules, slightly moist.

Stopped adding water during drilling at 170'

201.0'-202.5' Split Spoon 1.5' sample. Entire core is (SM) tan-brown (10YR) silty very fine to fine sand, slightly moist, massive, unconsolidated, no apparent hydrocarbon odor.

203.0'-206.0' Cuttings Thin beds of (ML/SC) clayey silt-sand, light brown (10YR), soft, non plastic, cuttings in clumps to 2" across, also (SM) tan-brown silty very fine sand, unconsolidated, no apparent hydrocarbon odor, slightly moist to moist - more moisture than above.

206' Driller adding water again

215' stopped adding water

215.0'-270.0' Cuttings Fairly moist as in borehole BW-5, no water being added.

206.0'-245.0' Cuttings (SM) Tan-brown (10YR) silty very fine sand, unconsolidated, some moisture, no apparent hydrocarbon odor, portions border on (SM/ML) and are finer grained with greater silt content, gradational lower contact.

2/16/14
 BW-4
 202'
 (SM)
 10.38
 B=ND
 M=ND
 T=ND
 TPH=ND



BROWN ENVIRONMENTAL, INC

6739 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109

PHONE: (505) 858-1818 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-4

DATE OF DRILLING: 2/15/14 - 2/19/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample b=benzene m=miba TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
10% 80% Bentonite Cement Grout (3 lifts)				75		
			±0.3 no	80		
			±0.2 no	85		
			±0.3 no	90		
			±0.2 no	95		
			±0.1 no	100		
			±0.2 no	105		
			±0.3 no	110		
			±0.7 no	115		
			±1.3 no	120		
			±1.2 no	125		
			±0.8 no	130		
			±1.6 no	135		
			±0.8 no	140		
			±1.3 no	145		

75.0'-94.0' Cuttings (SM) Light brown silty very fine sand, unconsolidated, no apparent hydrocarbon odor, minor calcium carbonate at top.

94.0'-101.0' Cuttings (SM/SP) Tan-brown (10YR) very fine to medium sand with trace silt, coarser grained than above, unconsolidated with localized calcium carbonate cemented nodules, no apparent hydrocarbon odor.

101.0'-125.0' Cuttings (SM) Tan-brown (10YR) silty very fine to fine sand - finer grained than above, unconsolidated with minor localized calcium carbonate cemented nodules ≤5mm across.

121.0'-122.5' Split Spoon 1.5' sample. 0.0'-1.5' (SM) (10YR) Tan-brown silty very fine to fine sand, unconsolidated, no apparent hydrocarbon odor, massive, some moisture.

End of drilling 2/15/14.

125.0'-129.0' Cuttings (SM/ML) Silty very fine sand, unconsolidated, no apparent hydrocarbon odor, minor calcium carbonate cemented small concretions, finer grained than surrounding.

129.0'-154.0' Cuttings (SM) Tan-brown silty very fine sand, unconsolidated, slightly moist, no apparent hydrocarbon odor.



BROWN ENVIRONMENTAL, INC

6759 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
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ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.

Borehole ID: BW-4

page 1 of 5

DATE OF DRILLING: 2/15/14 - 2/19/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: -324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample b=benzene m=mercaptane TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
Concrete				0-5		
6% 94% Bentonite Cement Grout (3 lifts)				5-20		
10% 90% Bentonite Cement Grout (1 lift)				20-70		
		no=na odor to=trace odor wo=weak odor mo=moderate odor so=strong odor		5		
		≥1.2 no		10		
		≥0.8 no		15		
		≥1.2 no		20		
		≥0.4 no		25		
		≥1.0 no		30		
		≥1.1 no		35		
		≥0.4 no		40		
		≥0.3 no		45		
		≥1.2 no		50		
		≥0.8 no		55		
		≥0.3 no		60		
				65		
		≥0.1 no		70		

Surface Conditions: 0.0'-0.4' Concrete.

0.4'-5.0' Posthole (SM/SW) Clayey silty very fine to medium sand, unconsolidated, brown (10YR) fill material.

1.0'-4.0' (SM/SC) Dark brown (10YR) clayey silty very fine to fine sand, non-plastic, slightly moist, no apparent hydrocarbon odor.

4.0'-14.0' Cuttings (SM/SC) Clayey silty very fine sand with (SC) silty clayey interbeds, locally weakly plastic, light tan-brown, disseminated calcium carbonate, slightly moist, no apparent hydrocarbon odor.

14.0'-19.0' Cuttings (SM/SC) Clayey silty very fine sand, partially calcium carbonate cemented, light brown (10YR), slightly moist, no apparent hydrocarbon odor, sharp transition to:

19.0'-55.0' Cuttings (SM/ML) Tan-orange to light brown silt-very fine sand with Stage 2+ to 3 calcium carbonate, hard drilling, slightly moist, no apparent hydrocarbon odor, caliche present in beds/banding, slightly moist, no apparent hydrocarbon odor.

50.0' Driller having to add water to prevent damage to hammer seals.

55.0'-67.0' Cuttings Caliche, Stage 3-4 in beds with (SM/ML) to (SM) matrix, light tan brown (10YR), hard drilling.

66.0'-75.0' Cuttings (SM/ML) Silt-very fine sand with Stage 3 calcium carbonate, light tan-very light brown, no apparent hydrocarbon odor, minor calcium carbonate at top, easier drilling than above.



BROWN ENVIRONMENTAL, INC

6739 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109

PHONE: (505) 858-1818 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.

Borehole ID: BW-5

DATE OF DRILLING: 2/11/14 - 2/15/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-273.5'
 Screen: 0.01 slot from 273.5'-348.5'
 w/ 5' blank sump at base to 353.5'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample b=benzene m=merb TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simplified Lithology
6% 94% Bentonite Cement Grout (2 lifts)				225	
			≥0.7 no	230	
			≥1.6 no	235	
			≥2.2 no	240	
		2/12/14 BW-5 242' (SM/ML) 18:10 B=ND M=ND T=ND TPH=ND	≥3.8 no	245	
			≥0.3 no	245	
			≥0.5 no	250	
			≥2.9 no	255	
			≥1.2 no	260	
			≥0.2 no	265	
3/8" Bentonite Pellets (hydrated)			≥0.9 no	270	
10-20 Silica Sand			≥0.6 no	275	
			≥0.4 no	280	
		2/13/14 BW-5 282' (SM) 8:30 B=0.17 M=ND T=0.45 TPH=4.1	≥362 ma	285	
			≥7.2 wo	285	
5" Dia. Sched 80 PVC 0.01 slot flush-threaded screen			≥8.9 wo	290	
			≥6.6 wo	295	
			≥46 wo	347	

230.0'-246.0' Cuttings (SM/ML) Silt - very fine sand - more silt than above, higher moisture content, unconsolidated, some calcium carbonate cemented nodules.

241.0'-242.5' Split Spoon 1.5' sample. Entire core is (SM/ML) silt - very fine sand, unconsolidated, massive, very moist from driller adding water, no apparent hydrocarbon odor, hard calcium carbonate cemented (SAS) nodules to 2".

< 242' Blowdown on hole=4.7 ppm/v >

246.0'-292.0' Cuttings (SM) Tan-brown (10YR) silty very fine sand with weak disseminated calcium carbonate cement and localized calcium carbonate nodules.

Moisture content decreasing below 255'

< 280' Stop drilling for 2/12/14 @ 19:25 >

2/13/14 8:30 Hole venting at 1,500-4,400 ppm/v, strong gasoline odor

Blowdown on hole = 950 ppm/v

281'-282.5' Split Spoon 1.5' sample. Entire core is (SM) tan-brown (10YR) silty very fine to fine sand, weak disseminated calcium carbonate, massive, several 3/4" sized calcium carbonate cemented concretions, slightly moist, moderate hydrocarbon odor.

292.0'-298.0' Cuttings (SM) As above with thin (SC) clayey very fine sand intervals.

some (SC) nodules



BROWN ENVIRONMENTAL, INC

6739 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 858-1818 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-5

page 3 of 5

DATE OF DRILLING: 2/11/14 - 2/15/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: -324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-273.5'
 Screen: 0.01 slot from 273.5'-348.5'
 w/ 5' blank sump at base to 353.5'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=mtbe TPH=TPH gas range	PID Reading (ppm) Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
6% / 94% Bentonite Cement Grout (2 lifts)			±0.2 no	150		
			±0.0 no	155		
			±1.0 no	160		
			±0.1 no	165		
			±0.2 no	170		
			±0.4 no	175		
			±0.4 no	180		
			±0.2 no	185		
8% / 92% Bentonite Cement Grout (2 lifts)			±0.4 no	190		
			±0.7 no	195		
			±2.0 no	200		
			±0.3 no	205		
			±1.0 no	210		
			±0.4 no	215		
6% / 94% Bentonite Cement Grout			±0.2 no	220		
			±0.8 no	225		

149.0'-186.0' Cuttings (SM) Tan brown (10YR) silty very fine to fine sand, unconsolidated, some moisture, no apparent hydrocarbon odor, several localized (SM/ML) intervals with greater silt content.

161.0'-162.5' Split Spoon (SM) Tan (10YR) silty very fine to fine sand, some moisture, unconsolidated, no apparent hydrocarbon odor.

<162' Blowdown on hole = 0.2 ppm/v>

186.0'-198.0' Cuttings (SM) Silty very fine sand, tan to brown (10YR) as above, some moisture, no apparent hydrocarbon odor, grades to:

198.0'-216.0' Cuttings (SM/ML) As described below in split spoon.

201.0'-202.5' Split Spoon 1.5' sample. Entire core is (SM/ML) silty very fine sand, no clay, unconsolidated, massive, some moisture, no apparent hydrocarbon odor.

< 202.5' Blowdown on holes 0.0 ppm/v >

< 204-255 Sediments with higher moisture content. >

216.0'-230.0' Cuttings (SM) Silty very fine to fine sand, slightly coarser than above with less silt, fairly moist. No apparent hydrocarbon odor.



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ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.

Borehole ID: BW-5

page 2 of 5

DATE OF DRILLING: 2/11/14 - 2/15/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-273.5'
 Screen: 0.01 slot from 273.5'-348.5'
 w/ 5' blank sump at base to 353.5'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=mtbe TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
	8%/92% Bentonite Cement Grout (2 lifts)			75		
				±0.3 no		
				80		
				±0.2 no		
				85		
				±0.4 no		
				90		
				±0.1 no		
				95		
				±0.2 no		
				100		
				±0.1 no		
				105		
				±0.3 no		
				110		
				±0.4 no		
				115		
				±0.3 no		
				120		
				±0.2 no		
				125		
				±0.1 no		
				130		
				±0.1 no		
				135		
				±0.4 no		
				140		
				±0.6 no		
				145		

72.0'-115.0' Cuttings (SM) Tan-light brown silty very fine to fine sand, well sorted, fairly moist, unconsolidated, no apparent hydrocarbon odor, trace calcium carbonate nodules at top.

121.0'-122.5' Split Spoon (SM/ML) Tan-brown silt-very fine sand, finer grained than surrounding, some moisture, weak horizontal stratification, some calcium carbonate-cemented (SAS) sandstone nodules.

<Begin drilling @ 13:40 2/12/14 after rig repair>

115.0'-126.0' Cuttings (SM/ML) Light brown (10YR) silt-very fine sand, unconsolidated, slightly moist, no apparent hydrocarbon odor, gradational boundaries.

126.0'-143.0' Cuttings (SM) Tan brown (10YR), silty very fine to fine sand, some moisture, unconsolidated, trace calcium carbonate cemented nodules, no apparent hydrocarbon odor.

143.0'-149.0' Cuttings (SM/ML) As above, slightly moist, unconsolidated, no apparent hydrocarbon odor, silt-very fine sand, well sorted.

2/12/14
 BW-5
 122'
 (SM/ML)
 13:40
 B=ND
 M=ND
 T=ND
 TPH=ND



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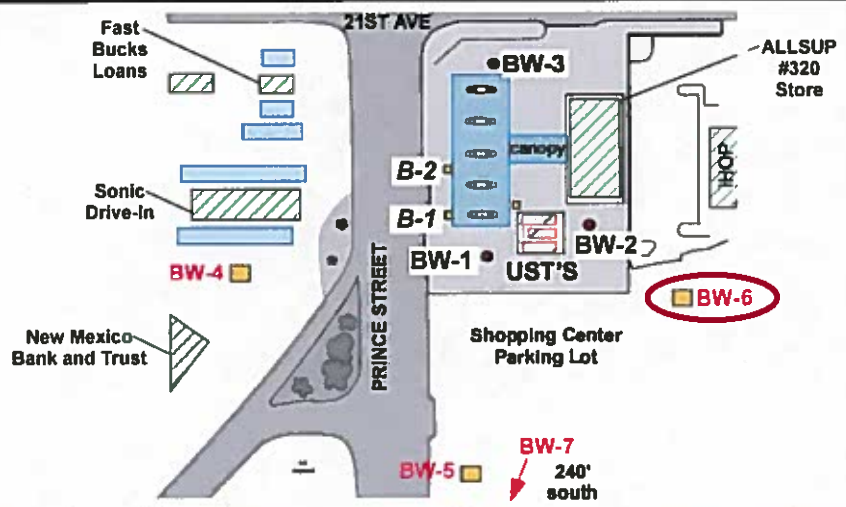
ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.

Borehole ID: BW-6

page 2 of 5

DATE OF DRILLING: 2/8/14 - 2/11/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 355'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample b=benzene m=miba TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
6% 94% Bentonite Cement Grout (3 lbs)				75		
			±0.2 no	80		
			±0.7 no	85		
			±0.5 no	90		
10% 90% Bentonite Cement Grout (3 lbs)			±1.2 no	95		
			±0.8 no	100		
			±1.2 no	105		
			±0.2 no	110		
			±0.3 no	115		
			±0.2 no	120		
			±0.1 no	122.5		
			±0.6 no	125		
			±0.1 no	130		
			±0.2 no	135		
			±0.1 no	140		
			±0.1 no	145		

76.0'-130.0' Cuttings (SM) Silty very fine sand, unconsolidated, (10YR) brown, no apparent hydrocarbon odor, moist, occasional small calcium carbonate nodule, slightly moist to moist.

121.0'-122.5' Split Spoon 1.5' sample. (10YR) Silty very fine to fine sand, massive, weak calcium carbonate cement at base with localized calcium carbonate nodules, slightly moist, no apparent hydrocarbon odor.

< After hole sat 150 minutes blew out with air - 1.7 ppm/v on PID, no apparent hydrocarbon odor. >

130.0'-146.0' Cuttings (SM) Very fine to fine sand, well sorted with some silt (10YR) light tan-brown, slightly moist - less than above, no apparent hydrocarbon odor, finer grained than above, well sorted.



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ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.
Borehole ID: BW-6

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DATE OF DRILLING: 2/8/14 - 2/11/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 355'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=methane TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
			no=no odor to=trace odor wo=weak odor mo=moderate odor so=strong odor	5		
			≥1.3 no	10		
			≥0.3 no	15		
			≥1.6 no	20		
			≥0.5 no	25		
			≥1.6 no	30		
			≥0.5 no	35		
			≥1.6 no	40		
			≥0.7 no	45		
			≥2.2 no	50		
			≥0.2 no	55		
			≥0.4 no	60		
			≥0.4 no	65		
			≥0.1 no	70		

Surface Conditions: 0.0'-0.3' Asphalt.

0.3'-1.0' Cuttings Base coarse (SW) silty fine to coarse sand.

1.0'-5.5' Cuttings (SW/SM) Silty gravelly very fine to fine sand, light brown, slightly moist, no apparent hydrocarbon odor, ~10% coarse sand and gravel clasts.

5.5'-13.0' Cuttings (ML/SC) Clayey silty very fine sand, weakly plastic, slightly moist, reddish-brown (7.5 YR), no apparent hydrocarbon odor, calcium carbonate stringers at base.

13.0'-17.0' Cuttings (SM/ML) Reddish brown silty very fine sand, unconsolidated.

17.0'-23.0' Cuttings (ML/SC) Silty clayey very fine sand mixture, slightly moist, plastic, some calcium carbonate, no apparent hydrocarbon odor.

23.0'-29.0' Cuttings (SM) to (SM/ML) silty very fine sand with ~Stage 2+ calcium carbonate locally, cuttings are light reddish-white, grades to:

29.0'-36.0' Cuttings (SM) Silty very fine sand, well sorted (7.5YR) reddish-brown, slightly moist, no apparent hydrocarbon odor, calcium carbonate.

36.0'-45.0' Cuttings (SM/ML) with Stage 2+ to 3 calcium carbonate, light tan-white, hard drilling, no apparent hydrocarbon odor, sharp lower contact.

45.0'-60.0' Cuttings (SM) Silty very fine to fine sand, reddish-brown (7.5YR) moist to slightly moist, occasional calcium carbonate nodules, no apparent hydrocarbon odor.

60.0'-66.0' Cuttings (SM/ML) Silty very fine sand with Stage 1+ to 2+ calcium carbonate, tan-white brown, no apparent hydrocarbon odor, slightly moist, likely carbonate is variable.

66.0'-76.0' Cuttings Caliche Stage 3 to 4 calcium carbonate, hard drilling, matrix is (SM/ML), white-tan, no apparent hydrocarbon odor, drillers adding water to keep dust down in this zone.

6%/94% Bentonite Cement Grout



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ALLSUPS #320

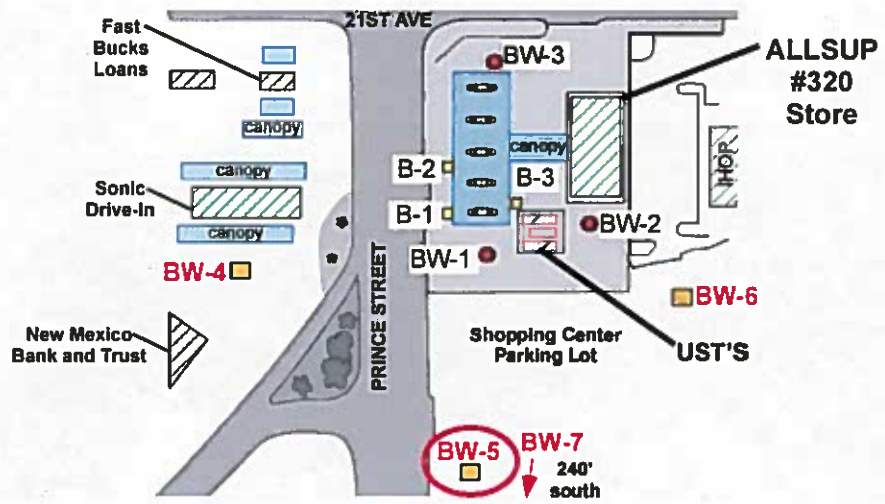
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Borehole ID: BW-5

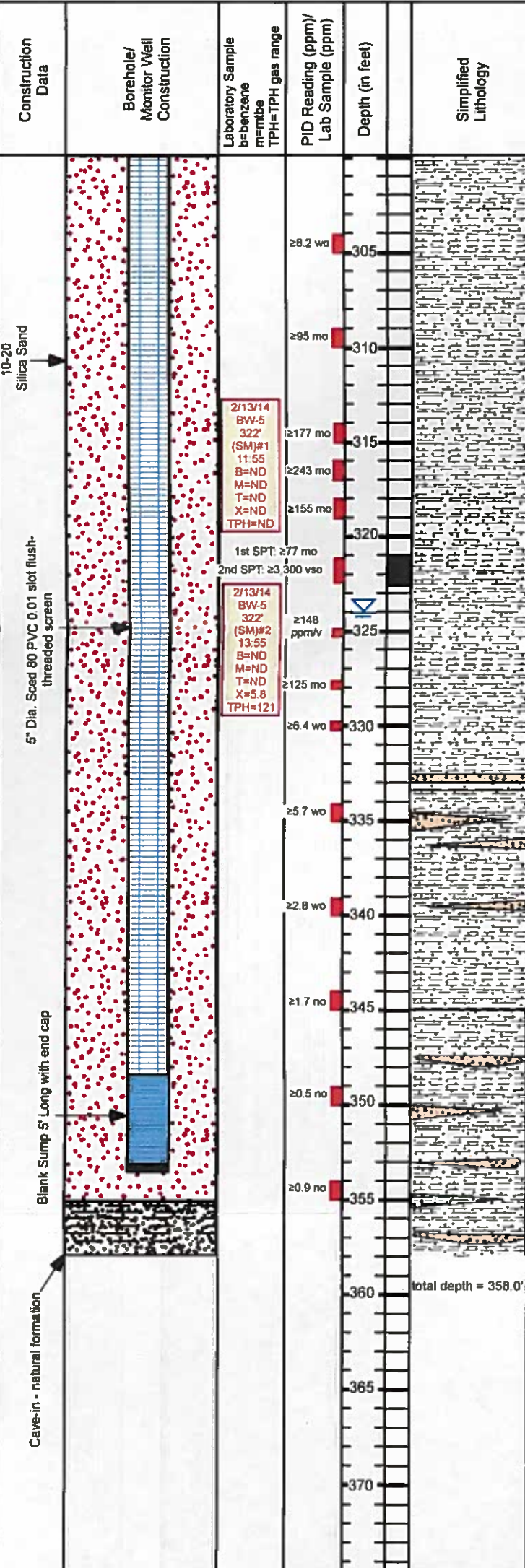
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DATE OF DRILLING: 2/11/14 - 2/15/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-273.5'
 Screen: 0.01 slot from 273.5'-348.5'
 w/ 5' blank sump at base to 353.5'

SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION



300.0'-345.0' Cuttings (SM) Silty very fine sand with localized calcium carbonate cemented concretions, hydrocarbon odor strong between ~310' and 324' depth, decreases rapidly below water at ~324', cuttings very moist below 328' depth, driller adding water below this zone to prevent plugging.

310' Cyclone vapor levels ≤ 400 ppm/v, strong weathered gas odor, OBZ ≤5 ppm/v, wind coming up also.

<314' Cyclone 128 ppm/v OBZ ≤4 ppm/v>

321.0'-322.5' Split Spoon 1st spoon collected @ 11:55. Entire core is (SM) silty very fine to fine sand, massive with trace calcium carbonate cement, slightly moist, moderate hydrocarbon odor, turpene-like odor.

321.0'-322.5' Split Spoon 2nd spoon collected @ 13:55. Geology same as 1st sample, hydrocarbon odor much stronger after letting hole sit for 2 hours.

Collected two sets of lab samples - one on each spoon.

<325' Cyclone off gas = 2,200 ppm/v OBZ ≤4 ppm/v>

<330.0'-342.0' Blowdown - 320 ppm/v>

345.0'-358.0' Cuttings (SM) Silty very fine sand, water saturated with thin (SAS) very fine sand stone/siltstone layers, possible (SM/SC) clayey silty very fine sand intervals also, cuttings soupy.



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ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-6

DATE OF DRILLING: 2/8/14 - 2/11/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 355'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=merb TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
				150		
			≥0.2 no	155		
			≥0.2 no	160		
			≥0.6 no	165		
			≥0.2 no	165		
			≥0.1 no	170		
			≥0.1 no	175		
			≥0.1 no	180		
			≥0.1 no	185		
			≥0.8 no	190		
			≥0.2 no	195		
			≥0.1 no	200		
			≥0.2 no	205		
			≥0.0 no	210		
			≥0.0 no	215		
			≥0.1 no	220		
			≥0.0 no	225		

146.0'-165.0' Cuttings (SM) Silty very fine to fine sand, slightly coarser than above with less silt, (10YR) light tan-brown, slightly moist to moist, no apparent hydrocarbon odor.

161.0'-162.5' Split Spoon 1.5' sample. 0.0'-1.5' (SM) Brown (10YR) silty very fine sand, well sorted, slightly moist, massive, no apparent hydrocarbon odor, trace calcium carbonate nodules.

162' Blowdown on hole after 30 minutes = 0.1 ppm/v, no apparent hydrocarbon odor

165.0'-241.0' Cuttings (SM) As above but more moisture, unconsolidated, no apparent hydrocarbon odor, light brown (10YR) little variation in cuttings throughout interval.

201.0'-202.5' Split Spoon 1.5' sample. 0.0'-1.5' (SM) Tan brown (10YR) silty very fine sand, unconsolidated with localized 3% ≤1 cm sized rounded calcium carbonate cemented nodules.

< Let hole sit 35 minutes-blowdown=PID = 0.2 ppm/v, no apparent hydrocarbon odor >



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ALLSUPS #320

CLIENT: Allsups Petroleum, Inc.

Borehole ID: BW-6

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DATE OF DRILLING: 2/8/14 - 2/9/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 355'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=mba TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simplified Lithology
8% 92% Bentonite Cement Grout (trimmed in place)				225	
			±0.0 no	230	
			±0.0 no	235	
			±0.0 no	240	
		2/8/14 BW-6 242' (SM) 7.40 B=ND M=ND T=ND TPH=ND	±6.7 mo	245	
			±2.1 no	250	
			±0.8 no	255	
			±0.5 no	260	
			±1.2 no	265	
			±0.8 no	270	
			±1.2 no	275	
			±0.7 no	280	
		2/9/14 BW-6 281.5' (SM) 9.48 B=ND M=ND T=ND TPH=ND	±0.4 no	285	
			±0.6 no	290	
			±1.0 no	295	
			±0.6 no		

241' Stop drilling for 2/8/14 @ 18:15

8:00 2/9/14 - Initial blowdown on hole after letting sit since 18:15 last night - PID = 6.5 ppm/v

241.0'-242.5' Split Spoon 1.5' sample. 0.0'-1.5' (SM) Silty very fine sand, unconsolidated, slightly moist, minor disseminated calcium carbonate, massive, occasional ≤5mm calcium carbonate cemented sand nodule.

241.0'-260.0' Cuttings (SM) Tan-brown, silty very fine to fine, some massive localized calcium carbonate cemented small sand nodules to 0.5 cm, no apparent hydrocarbon odor, cuttings uniform in nature with little variation.

260.0'-266.0' Cuttings (SM/ML) Silt to very fine sand mixture, finer grained and drier than above, unconsolidated.

266.0'-305.0' Cuttings (SM) Tan-brown (10YR) silty very fine sand, unconsolidated with increasing carbonate cemented nodules with depth, localized harder drilling zones, localized siltier zones also (SM/ML).

281.0'-282.5' Split Spoon 1.5' sample 0.0'-1.5' (SM) Silty very fine sand, tan-brown (10YR) some moisture, mostly unconsolidated with prominent dense calcium carbonate cemented (SAS) sandstone nodules to 2" across, sub-rounded white gray, 20% of interval, no apparent hydrocarbon odor.

Blowdown on hole 280' depth = 0.8 ppm/v



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ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.

Borehole ID: BW-6

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DATE OF DRILLING: 2/8/14 - 2/9/14
 LOGGED BY: WJB
 DRILLER: John Chavez-Yellow Jacket Drilling
 BOREHOLE DIAMETER: 9 5/8" Nominal
 DRILLING METHOD: ARCH
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: na
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 355'
 SCREEN INTERVAL: Casing: 5" Sched 80 PVC from 0-275'
 Screen: 0.01 slot from 275'-345'
 w/ 5' blank sump at base to 350'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample b=benzene m=met TPH=TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simplified Lithology
10-20 Silica Sand	Borehole/Monitor Well Construction 0.01 Slot Screen 5" Dia. Sched 80 PVC 5' long Blank Sump with end cap	2/8/14 BW-6 323.5' 12.45 B=ND M=ND T=ND X=ND TPH=ND	≥0.5 no	305	
			≥1.2 no	310	
			≥0.7 no	315	
			≥0.4 no	320	
			≥0.9 no	325	
			≥0.3 no	330	
			≥1.2 no	335	
			≥1.3 no	340	
			≥0.2 no	345	
			≥0.6 no	350	
		355		total depth = 355'	
				360	
				365	
				370	

305.0'-333.0' Cuttings (SM) Tan-brown silty very fine sand as above but without calcium carbonate (SAS) sandstone nodules, gradational upper contact, poor cutting returns below 333' air from rig is destroying borehole - having to add water.

322.5'-324.0' Split Spoon 1.5' sample. 0.0'-1.5' (SM) Well sorted tan-brown (10YR), silty very fine sand, massive unconsolidated moist, no apparent hydrocarbon odor, no (SAS) nodules.

322.5' Blowdown after letting sit for 70 minutes 3.1 ppm/v

333.0'-343.0' Cuttings Very poor returns in this interval; few cuttings indicate (SM) silty sand with possible (SM/SC) clayey silty very fine sand and thin (SAS/SST) tan-gray very fine sandstone/siltstone layers, no apparent hydrocarbon odor.

343.0'-355.0' Cuttings Interbedded light tan-gray (SAS) fine grained calcium carbonate cemented sandstone and (SM) weaker cemented silty sand intervals, hard drilling, hole making water, cutting soupy in nature w/ SAS clasts.

TD= 355', cleaning out hole with water



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