



BROWN ENVIRONMENTAL, INC.

6779 ACADEMY ROAD, NE, SUITE 254 ALBUQUERQUE, NEW MEXICO 87109
PHONE: (505) 858-1818 FAX: (505) 858-0707

MINIMUM SITE ASSESSMENT AND FEASIBILITY TESTING REPORT

ALLSUPS #320 FACILITY
CLOVIS, NEW MEXICO



Submitted To:

Ms. Renee Romero
NMED-PSTB
1914 West 2nd Street
Roswell, New Mexico 88201

Mr. Jeff Scarbrough
Allsup's Petroleum, Inc
2112 Thornton Ave.
Clovis, New Mexico 88102

December 2012

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ROSWELL, NEW MEXICO 87203
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Minimum Site Assessment and Feasibility Testing Report

Allsup #320 Facility
Clovis, New Mexico

BEI Job No. 1070
WPID #s16460/16553
DID#16460-2, 16553-1 and 16553-2
Facility #31013
RID #4623

Submitted to:

Mr. Jeff Scarbrough
Allsup Petroleum, Inc.
2112 Thornton Ave
Clovis, New Mexico 88102

Ms. Renee Romero
NMED-PSTB
1914 West 2nd Street
Roswell, New Mexico 88201

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1.0 EXECUTIVE SUMMARY

On behalf of Allsup's Petroleum, Inc. (Allsup's), in March of 2011, Brown Environmental, Inc. (BEI) conducted a Minimum Site Assessment-Preliminary Investigation (MSA) at the Allsup's #320 facility located at the intersection of Prince Street and 21st Avenue in Clovis, New Mexico (Figure 1). The MSA 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 Allsup's. Figure 2 highlights the location of the new service station/convenience store facilities and UST systems. Prior to purchase by Allsup's in 2000, the facility was a Target Gas Station.

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 new monitor well clusters 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 nine test wells over a four-day period in October 2012.

Retrieved soil samples collected during drilling of wells BW-1, BW-2, and BW-3 and the earlier MSA boreholes identified four primary Lithologic Units at the Site, which are highlighted in the cross section shown on Figure 3. Lithologic Unit I consists predominantly of silt and very fine sand with lesser amounts of clayey sand extending from the land surface to approximately 20 to

30 feet 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 feet bsg. Lithologic Unit III extends below Unit II to a depth of between approximately 280 to 325 feet bsg and consists predominantly of very fine sand with 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 BW-1d, BW-2d, and BW-3d was approximately 323 feet bsg during the September 2012 sampling and gauging event. A potentiometric surface map using the data collected from this event is presented in Figure 4. Groundwater flow direction below the Site was calculated to be approximately 0.004 feet/foot to the south-southwest.

Based on the combined drilling and FS testing at the Site, a vertically extensive vapor-phase gasoline plume is present extending to the water table. The major parameters measured during each of the SVE tests for the three-screened intervals at each well location (shallow, intermediate, and deep) are presented on Figures 6a, 6b, and 6c. A total of nine separate SVE tests were conducted with applied vacuums ranging between approximately 27 to 57 inches of water (H_2O) with generated subsurface extracted vapor flows ranging between approximately 85 and 99 standard cubic feet/minute (scfm). Test intervals ranged between 1.13 to 17.0 hours in length. Based on the results of the FS testing, SVE is a viable treatment method for removal of vadose zone hydrocarbons at the Site.

Results of the groundwater-sampling event are presented in Figure 5. Benzene was identified in samples collected from wells BW-1d and BW-2d at levels exceeding WQCC standards and at trace levels in samples collected from BW-3d. Other gasoline components were also identified in groundwater samples collected from all three deep wells but at levels below the WQCC standards.

Additional drilling and FS testing will be needed to better define the magnitude and extent of the soil and groundwater hydrocarbon plumes at the Site.

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2.1 BACKGROUND/SITE HISTORY

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. Elevated PID readings were reported from borehole SB-4 at depths of 25 and 35 feet bsg. The results were submitted by NSync Environmental (NSync) to the NMED in the form of a 14-day report in May 2001.

Prior to the 2011 station upgrade, three 8,000 gallon gasoline-containing USTs were present at the Site just west of the current UST locations shown in Figure 2. This older set of tanks was reportedly installed in 1988 by the previous owner (NSync, 2001). Allsups removed the former UST systems including piping and dispensers on January 24 and 25, 2011. A release notification was submitted to the NMED the following day. Mr. Bill Bryant of the NMED was present during the UST systems removal. Elevated PID and soil laboratory readings were observed on select samples collected from beneath the tank excavation (BEI 2011).

Between March 2011 and April 2012, on behalf of Allsups, BEI completed portions of an MSA-PI at the Site by advancing and sampling three soil borings (B-1, B-2, B-3) to depths of between 69 and 209 feet and one multiple completion well (BW-1) to a depth of 345 feet (Figure 2).

2.2 SCOPE OF WORK

BEI's original scope of work for this phase of the project consisted of four primary tasks outlined in two separate workplans.

- Install and sample two nested monitor wells.
- Perform SVE FS testing of nested wells.
- Properly dispose of investigative-derived waste (IDW).
- Prepare and submit and summary report to NMED.

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2012 DEC 31 3:00 PM 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 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 NM Bank and Trust, Sonic Restaurant, and Fast Bucks Loans (formerly Prince Street 66 service station). 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.

3.2 HYDROGEOLOGIC SETTING

During the BEI MSA investigations, three boreholes (B-1, B-2, and B-3) and three nested wells (BW-1, BW-2, and BW-3) were advanced at the Site 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 section shown in Figure 3 and the corelogs located in Appendix A. Lithologic Unit I consists predominantly of silt and very fine sand with lesser amounts of clayey 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 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 325 feet bsg and consists predominantly 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.

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Depth to groundwater in deep wells BW-1d, BW-2d, and BW-3d was approximately 323 feet bsg during the July and September 2012 sampling and gauging events. A potentiometric surface map using the data collected from the September 2012 event is presented in Figure 4. Calculated groundwater flow direction is to the south-southwest at a hydraulic gradient of approximately 0.004 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. Multiple high yield City of Portales municipal wells are located west of the Site, which may affect groundwater flow.

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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

Two soil borings, BW-2 and BW-3, were advanced in the Site vicinity in July 2012 using a Speedstar 50k air-rotary casing hammer (ARCH) drilling rig equipped with a Stratex™ hammer and operated by Water Development Corporation, Inc. (WDC). The Borehole lithologic log and monitor well completion diagram are located in Appendix A. In nested well BW-2, the shallow depth well (122 to 182 feet bsg) and the intermediate depth well (204 to 264 feet bsg) were both constructed of 2-inch diameter schedule 80 PVC with 0.02-inch slotted well screens and blank casing. The deep depth well (287 to 347 feet bsg) was constructed of 4-inch diameter schedule 80 PVC with 0.01-inch slotted well screen and blank casing. In nested well BW-3, the shallow depth well (125 to 185 feet bsg) and the intermediate depth well (205 to 265 feet bsg) were both constructed of 2-inch diameter schedule 80 PVC with 0.02-inch slotted well screens and blank casing. The deep depth well (287 to 347 feet bsg) was constructed of 4-inch diameter schedule 80 PVC with 0.01-inch slotted well screen and blank casing.

In each of the two nested wells a 10-20 silica sandpack was emplaced in the borehole across each of the well screens. Hydrated bentonite pellets and a 6%/94% bentonite-cement grout were used to isolate the screened intervals of the wells clusters as shown on the well completion diagrams. Bentonite was hydrated in approximately two-foot lifts by adding water. A 6%/94% bentonite-cement grout was emplaced from the top of the upper bentonite seal to just below the land surface in two separate lifts, followed by a 12-inch diameter manway and concrete apron. A compression plug and lock was inserted in the top of each PVC well casing.

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The borehole was logged by observing drilling cuttings and through the collection of split- spoon samples in discrete locations. 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 a 20-yard³ plastic-lined rolloff container 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 four 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 soil 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

During the week of September 24, 2012, groundwater samples were collected from deep monitor wells BW-1d, BW-2d, and BW-3d for laboratory analysis. Groundwater laboratory analytical results for are presented on Figure 5 and Appendix C.

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Prior to sampling, the water level in each well was measured and also gauged for the presence of 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 two new wells (BW-2d and BW-3d) by swabbing and bailing. All three wells were subsequently purged using a Grundfos downhole pump. 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 a doublealconox and a double tap water rinse.

Two sets of groundwater samples were collected from each well. One set was collected from the pump discharge at the surface and one set was collected using a dedicated disposable bailer lowered into the well. In addition, a blind duplicate was collected from well BW-1d 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 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 SVE FEASIBILITY STUDY

5.1 OVERVIEW

The primary goal of the SVE feasibility study at the Site was two-fold:

- Characterize hydrocarbon vapor concentrations and composition within the vadose zone
- Evaluate SVE technology as a potential remedial alternative

On behalf of Allsup's, BEI conducted nine short-term SVE FS tests at the Site between October 15 and 18, 2012. During the FS, each of the nested wells (BW-1s, BW-1i, BW-1d, BW-2s, BW-2i, BW-2d, BW-3s, BW-3i, and BW-3d) was tested for periods ranging from 1.13 to 17.0 hours in length. Summaries of major SVE testing parameters for wells in the shallow, intermediate, and deep vadose zones are presented in Figures 6a, 6b, and 6c, respectively. BEI has also included detailed FS field test sheets and analyses of each SVE test in Appendix D.

In an effort to evaluate the effects of lithologic heterogeneity across the soil hydrocarbon plume, the existing vadose zone monitoring well clusters were used to measure vacuum responses in a three dimensional nature during the FS testing. Applied vacuums during the SVE tests ranged between approximately 27 and 57 inches of water ("H₂O). Associated subsurface airflows generated during the testing events ranged between approximately 85 and 99 standard cubic feet/minute (scfm). Table 4 summarizes laboratory analytical data for vapor samples collected during the FS. Laboratory reports including chain-of-custody documentation are presented in Appendix C.

In summary, effective subsurface airflow was generated during the testing of all nine wells. Elevated PID/FID measurements were obtained throughout the testing, especially in wells screened in the intermediate and deep vadose zone. Extracted vapor samples collected for laboratory analysis yielded TPH levels up to 56,000 micrograms/liter (ug/l). Total BTEX concentrations were measured at concentrations up to 3,970 ug/l. Elevated levels of carbon dioxide and depleted levels of oxygen were documented on select samples. Vapor discharge levels remained below air quality emission levels throughout the testing period. No groundwater or LNAPLs were recovered during the testing of the above wells. All four GAC vessels were utilized at the Site to control off-gas emissions.

Based on a review of the FS test data, which is presented below, SVE should be an effective remediation strategy for removal of subsurface TPH and BTEX at the Site.

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5.2 FEASIBILITY STUDY SETUP/METHODOLOGY

During the FS, a variety of equipment and measuring devices were required to perform the testing. A list of the primary equipment used is provided below:

- Portable 7.5-horsepower (hp) Tuthill Model 3204 PD blower with condensate knockout vessel (CKV). Unit rated at up to 8" Hg vacuum (at the site elevation of 4,000 feet msl) with flows up to approximately 110 acfm
- Four vapor-phase granular-activated carbon (GAC) 55-gallon drums
- Diesel-powered 25 kilowatt (kw) electrical generator
- Various connections and piping
- PID/FID
- Liquid-filled manometers and digital manometer
- Thermal air velocity meter
- DS-300 Pitot tube
- Nine test/observation wells (BW-1s, BW-1i, BW-1d, BW-2s, BW-2i, BW-2d, BW-3s, BW-3i, and BW-3d)
- Digital barometer and thermometers
- Digital and liquid-filled manometers

The following methods were used throughout the pilot testing to monitor system performance and measure subsurface responses.

- An exclusion zone was setup surrounding the above ground equipment and test well.
- Above ground equipment was setup for SVE operation and the PD blower was manifolded to the test well. The CKV was connected to extraction plumbing between the blower and the test well. A single GAC vessel was placed on the discharge side of the blower.
- A 25-kw generator provided electrical power throughout the pilot test.
- Background atmospheric barometric pressure was measured prior to testing and at regular intervals throughout each test using a digital barometer.
- Manometers were placed on monitoring wells and background responses were measured prior to initiation of each test. Both liquid-filled and digital manometers were used to measure vacuum responses in wells.
- A vacuum was applied to the test well.
- System operational parameters (temperature, airflow, vacuum) were measured on a staggered basis throughout the test (more frequently at the beginning). A digital thermometer was used to measure atmospheric and extracted vapor temperature. A Dwyer DS-300 pitot tube was used to measure airflow from the well. A digital

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manometer was used to measure applied vacuum.

- Vadose zone responses (pressure responses, fluid generation) were measured on a staggered basis throughout the test using the instrumentation discussed above.
- Pre- and post-treatment extracted vapors were field analyzed for hydrocarbons using a FID and/or PID at regular intervals.
- Tedlar bag samples of the extracted vapor were collected at select intervals and analyzed for BTEX and TPH using EPA Methods 8021/8015 modified, and fixed gases (CO₂, O₂, N₂) plus CH₄. Laboratory data is included in Appendix C.
- Post-testing monitoring of vadose zone responses and atmospheric responses was performed using the equipment outlined above.

5.3 ESTIMATED ZONE OF VACUUM INFLUENCE (ZOVI)

As discussed above, vacuum responses were measured at select time intervals during each phase of the FS testing. Traditionally, the ZOVI is determined graphically by plotting the normalized vacuum responses with distance from the extraction well on a log-normal or normal-normal graph as presented in Appendix D. This method provides useful insight into the ZOVI for individual wells at the Site.

Based on the observed subsurface responses measured during the FS, the ZOVI at the Site for individual wells is significant. However, determining the specific ZOVI for each test well can only be estimated based on the limitations of the FS, which include the following:

- Large distance between test well and observation wells
- Limited number of observation wells
- Extended well screen intervals vs blower size
- Natural fluctuations in vacuum/pressure vadose zone conditions
- Length of testing intervals and subsequent formation recovery intervals

Nested wells BW-1 and BW-2 are approximately 94 feet apart. Testing of the wells at the BW-1 and BW-2 locations typically yielded observable vacuum responses in the respective underlying and overlying well screens (if applicable) and in the well screens at the adjacent observation well location. Well BW-3 is located approximately 173 feet from BW-1 and 167 feet from BW-2. In general, meaningful vacuum responses were not observed between BW-3 and the adjacent test/observation wells. Additional FS testing will be necessary to further define the ZOVI for site wells and to design an effective remedial treatment system for the Site.

6.0 RESULTS OF THE ~~MSA~~ FEASIBILITY STUDY

6.1 HYDROCARBON DISTRIBUTION IN SOIL

Characterization of the magnitude and extent of hydrocarbons in the subsurface is based on data collected during drilling events and from the follow-up FS SVE testing event. 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. Table 4 and Appendix D provides detailed results of the FS SVE testing and the levels of vapor-phase hydrocarbons present in the subsurface. Soil headspace concentrations measured during drilling are also presented in cross-sectional view in Figure 3.

With only three soil borings advanced to the water table at the Site, the horizontal extent of the subsurface hydrocarbon plume cannot be fully determined. A further complicating factor involves the nature of drilling methodologies used at the Site. The first three borings (B-1, B-2, and B-3) were advanced in March 2011 using hollow-stem auger (HSA) drilling techniques and 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. However, during the drilling of nested wells (BW-1, BW-2, and BW-3) ARCH drilling methods were used. Significant aeration of subsurface sediments was documented during the drilling process and return of drill cuttings to the surface. Headspace analysis of retrieved cuttings from the ARCH wells typically did not exceed 3 ppm/v on a PID.

Between the confirmatory soil sampling conducted during the UST removal and the subsequent soil boring advancement, a total of 33 soil samples have been collected for laboratory analysis during the recent BEI investigations. Maximum TPH concentrations measured at the Site 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. With a single exception, the only samples with reported benzene values exceeding the laboratory method detection limits (MDLs) were also collected from directly beneath the former tank vault. The soil sample collected from BW-2 at 320 feet depth contained 0.099 mg/kg benzene.

Soil vapor data collected during the FS provides the most accurate data on hydrocarbon concentrations and distribution in the subsurface. Figures 6a, 6b, and 6c provide data on the levels of subsurface BTEX and 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

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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. It is likely based on the available data, that soil vapor contamination extends off-site in all four compass directions. In general, soil hydrocarbons at the Site appear to be vertically and horizontally extensive and predominantly in the vapor-phase.

6.2 HYDROCARBON DISTRIBUTION IN GROUNDWATER

Results of the September 2012 groundwater-sampling event are presented in Figure 5 and indicate the presence of a dissolved-phase hydrocarbon plume in groundwater beneath the Site. Benzene was detected in samples collected from all three deep wells. Duplicate samples collected from BW-1d yielded concentrations of 200 and 290 ppb respectively for benzene. Low levels of TEX, TMBs, MTBE and EDC were also identified at the concentrations highlighted on Figure 5. Groundwater samples collected from wells BW-2d and BW-3d also contained BTEX, TMBs, and EDC. However, only benzene at a level of 21 ppb in BW-2d exceeded WQCC standards.

The horizontal extent of the dissolved-phase hydrocarbon plume has not been fully characterized. Recent groundwater flow as determined by calculating the potentiometric surface for both the July 2012 and September 2012 gauging events is to the south-southeast (Figure 4) suggesting the groundwater plume extends in this direction. However, based on the changes in groundwater levels over time and the apparent age of the release, this cannot be verified with the current monitoring well network.

6.3 HYDROCARBON RESIDUAL SPILL MASS ESTIMATES

Not enough subsurface data is available to calculate residual hydrocarbon spill mass estimates at this time.

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30 RECOMENDATIONS

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

- Additional off-site drilling is necessary to fully characterize the magnitude and extent of the soil and groundwater hydrocarbon plumes.
- It is clear based on the combined results of the earlier HSA drilling and the most recent ARCH drilling that the latter method resulted in successful installation of the 3 nested deep completion wells at the Site, however, it is not effective for characterization of soil contaminant levels.
- Additional follow-up SVE FS testing should be conducted on newly installed off-site wells after a reasonable equilibration period.
- SVE should be an effective remedial technology for vadose zone hydrocarbons if properly implemented.

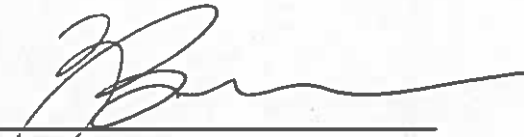
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8.0 STATEMENT OF FAMILIARITY

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

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 TABLE 1
 SUMMARY OF SOIL LABORATORY ANALYTICAL DATA ALLSUPS #320 FACILITY
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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 BUTYLETHER (MTBE) (mg/kg)
Tank #1 North 15'	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 15'	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*

*=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*	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
BW-2d	10/26/09	4280.53	323.12	3957.41	344.48	21.36
	9/24/12	4280.53	323.21	3957.32	344.48	21.27
BW-3d	10/26/09	4280.17	322.36	3957.81	344.48	22.12
	9/24/12	4280.17	322.44	3957.73	344.48	22.04

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**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
WQCCIPSTR STANDARDS		10	750	750	620	100		10	0.1	30
BW-1d (pump)	09/25/12	44	4.9	<1.0	5.7	<1.0	1.0	2.7	<1.0	<10
BW-1d (bailer)	09/25/12	290	29	4.9	34	<1.0	11.3	5.2	<1.0	<10
BW-1d (bailer) (duplicate)	09/25/12	200	46	7.8	45	<1.0	13.5	6.2	<1.0	<10
BW-1d (pump)	04/13/12	5.9	1.2	<1.0	<1.5	<1.0	<2.0	<1.0	<1.0	<10
BW-1d pump (duplicate)	04/13/12	6.0	1.2	<1.0	<1.5	<1.0	<2.0	<1.0	<1.0	<10
BW-1 (bailer)	04/13/12	240	61	4.5	20	1.6	6.3	3.5	<1.0	<10
BW-2d (pump)	09/25/12	6.7	2.6	<1.0	<1.5	<1.0	<2.0	<1.0	<1.0	<10
BW-2d (bailer)	09/25/12	21	15	<1.0	6.2	<1.0	2.5	1.0	<1.0	<10
BW-3d (pump)	09/25/12	<1.0	5.6	<1.0	<1.5	<1.0	<2.0	<1.0	<1.0	<10
BW-3d (bailer)	09/25/12	1.4	56	<1.0	6.1	<1.0	1.9	<1.0	<1.0	<10
trip blank	9/25/12	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<1.0	<1.0	<10
	4/13/12	<1.0	<1.0	<1.0	<1.5	<1.0	<2.0	<1.0	<1.0	<10

ALL CONCENTRATIONS REPORTED IN micrograms/liter (ug/l)

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**TABLE 4
SUMMARY OF SVE LABORATORY ANALYTICAL DATA
ALLSUPS #320 FACILITY CLOVIS, NEW MEXICO**

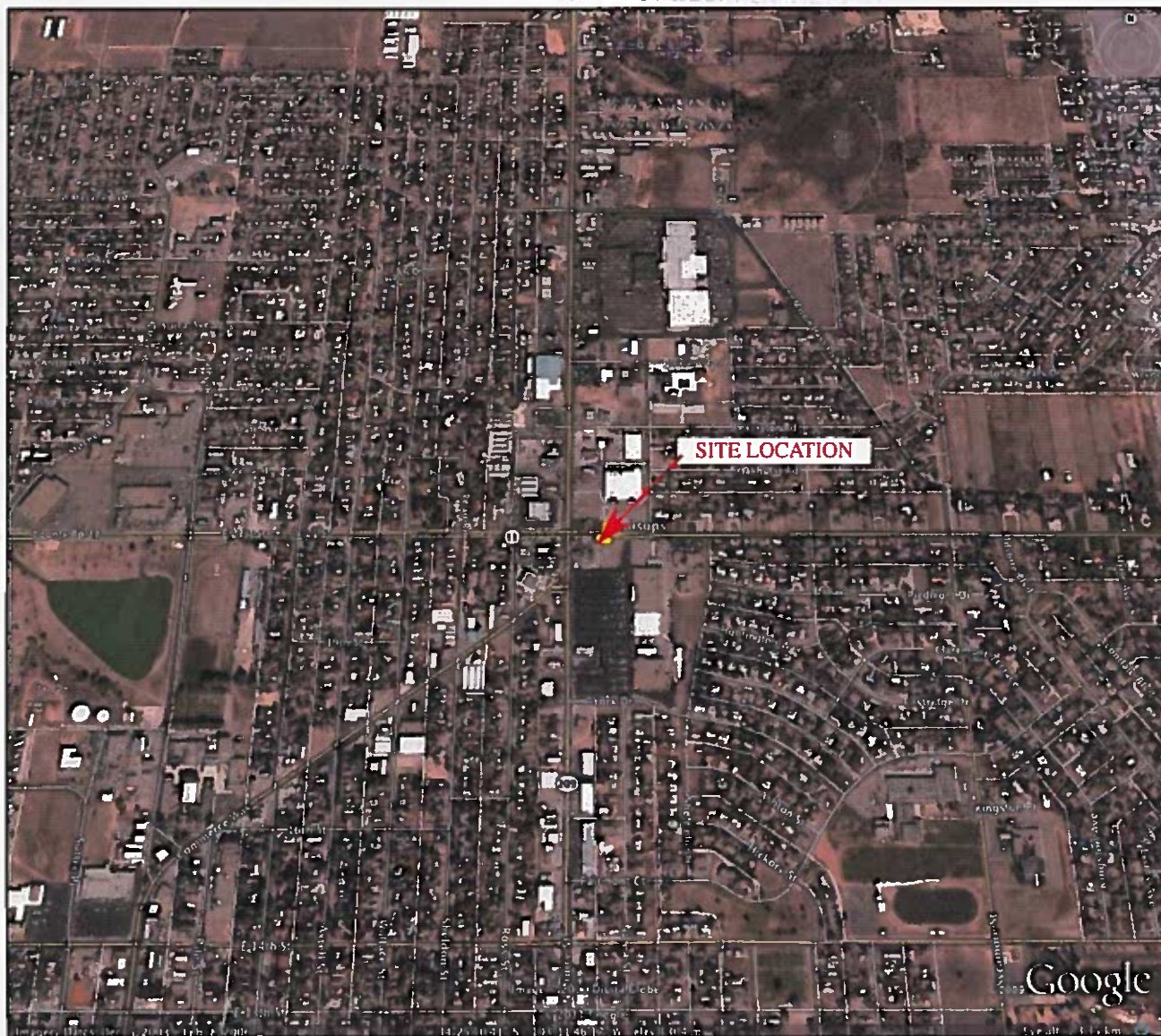
SAMPLE ID	DATE	BTEX/TPH						FIXED GASES		
		BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	TOTAL XYLENES ug/l	BTEX (total) ug/l	TPH GRO C5-C14 ug/l	OXYGEN MOL%	NITROGEN MOL%	CARBON DIOXIDE MOL%
BW-1s @ 18:00	10/15/12	2.4	2.8	9.3	6.6	21.1	1,020	5.41	85.89	8.70
BW-1i @ 9:00	10/16/12	480	770	90.0	710	2,050	27,800	3.62	88.03	7.92
BW-1j @ 13:30	10/16/12	1,000	1,500	170	1,300	3,970	56,000	---	---	---
BW-1d @ 15:30	10/16/12	800	320	53.0	240	1,413	40,900	1.73	88.92	8.28
BW-1d @ 22:40	10/16/12	790	400	54.0	230	1,474	40,500	3.22	88.28	7.63
BW-2s @ 10:40	10/17/12	1.7	4.7	0.72	7.1	14.2	311	---	---	---
BW-2i @ 13:30	10/17/12	22.0	33.0	4.1	45.0	104.1	1,270	---	---	---
BW-2d @ 15:25	10/17/12	140	26	<10	<10	166	10,700	---	---	---
BW-2d @ 22:25	10/17/12	180	39	8.6	37	265	13,300	1.75	89.19	8.83
BW-2d @ 7:25	10/18/12	190	43	8.9	37	279	14,000	---	---	---
BW-3s @ 16:20	10/18/12	42	63	9.2	47	161.2	2,330	---	---	---
BW-3i @ 14:00	10/18/12	230	570	84	440	1,324.0	15,900	---	---	---
BW-3d @ 12:05	10/18/12	80	180	26.0	130	416.0	7,270	---	---	---

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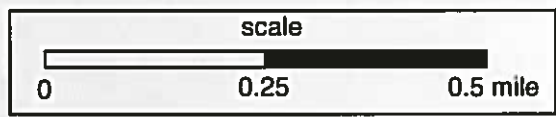
SVE pilot test lab data

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ROSWELL, NEW MEXICO



EXPLANATION:

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



Site Vicinity Map

Allsups #320 Facility
2021 North Prince Street
Portales, New Mexico 88130



BROWN ENVIRONMENTAL, INC.
6779 ACADREMY ROAD, SUITE 244
ALBUQUERQUE, NEW MEXICO 87120
PHONE: (505) 248-8877 FAX: (505) 248-0707

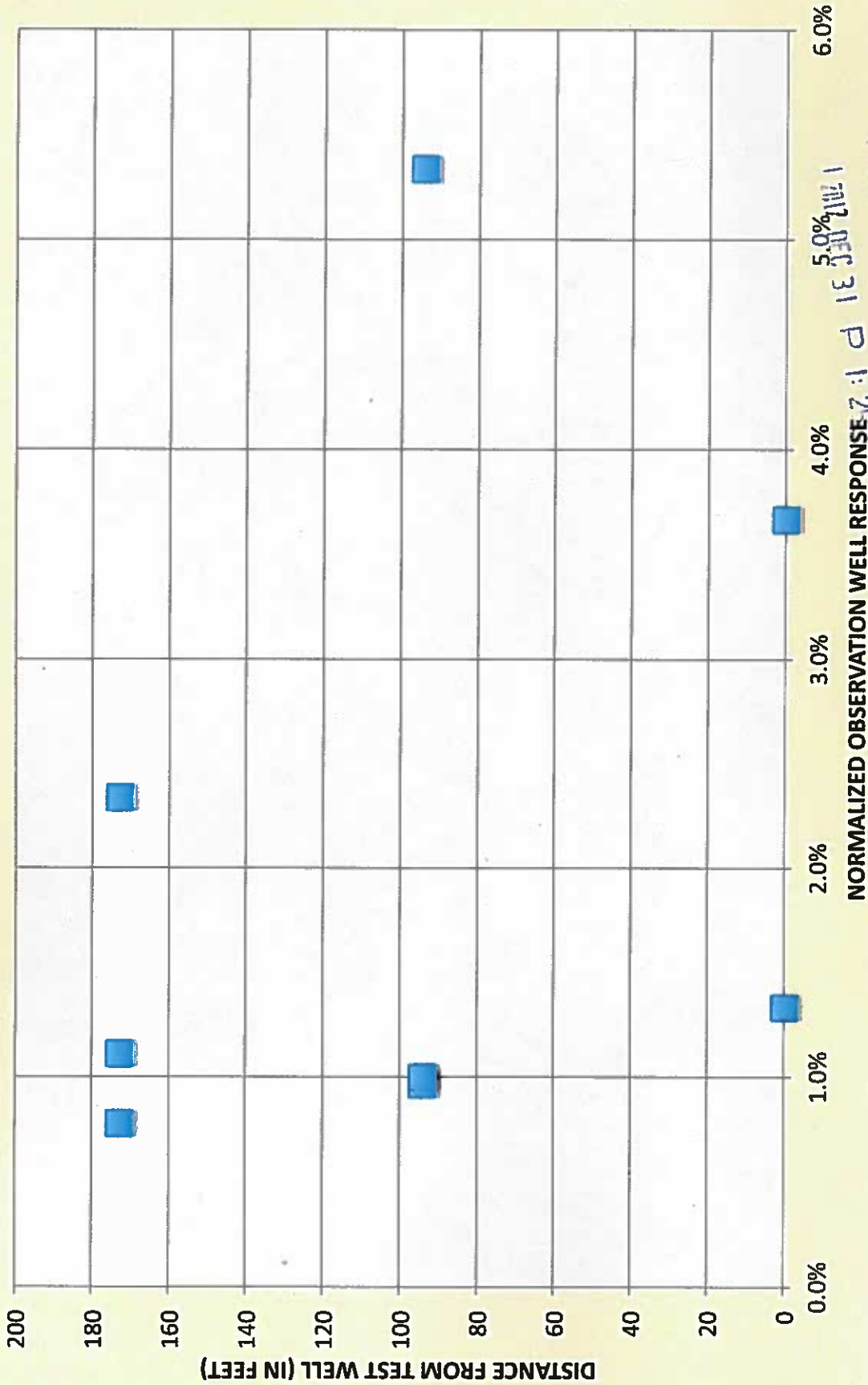
Drawn by:	WJB	12/12	Client: Allsups Petroleum
Drafted by:	EMB	12/12	Job #: 1070
Reviewed by:	WJB	12/12	Figure: 1

Well: BW-18 Date of Test: 12-15-12
 Blower: 7.4 Hp PD blower
 Extraction Well: DTW-11A, The 1st Extraction Pipe Dia: 27" ON MAIN
 Test Start: 16:00 Test End: 20:06Z100
 Data Logged by: WJRP/JF
 Well Completion Description: screen intervals 80-180'

TIME (Day:Month:Minute)	SIVE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION													
	APPLIED VACUUM WELLS (inches H2O)	TOTAL EXTRACTION FLOW (gpm)	DILUTION BYPASS FLOW (gpm)	AIR FLOW FROM WELL (scfm)	SOIL VAPOR CONC. (ppmV)	SOIL VAPOR CONC. (ppmV)	SOIL VAPOR CONC. (ppmV)	GAC/FI VAPOR CONC. (ppmV)	AMBIENT AIR TEMP (degrees F)	BAROM. PRESSURE (inHg)	BW-1	BW-1d	BW-2a	BW-2b	BW-2c	BW-2d	BW-3a	BW-3b	BW-4	BW-5	BW-6	BW-7	BW-8	
	(feet)	(gpm)	(gpm)	(scfm)	(ppmV)	(ppmV)	(ppmV)	(ppmV)	(degrees F)	(inHg)	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
15:30-16:00	Start Test @ 16:00								82	29.89														
16:00	21.0	0.54	0	91	same out (FO)	46	0.4	80	29.89	1.86	1.86	1.87	1.87	1.82	1.82	1.59	1.59	1.92	1.92	2.05-265'	2.05-265'	2.05-265'	2.05-265'	2.05-265'
16:15	24.0	0.59	0	94						1.83	1.53	1.53	1.53	1.90	1.95	1.57	1.57	1.94	1.94	1.94	1.94	1.94	1.94	1.94
16:30	24.0	0.58	0	94						1.72	1.91	1.37	1.37	1.87	1.93	1.51	1.51	1.93	1.93	1.93	1.93	1.93	1.93	1.93
16:50	24.4	0.58	0	94						1.71	1.97	1.25	1.25	1.90	2.00	1.52	1.52	1.96	1.96	1.96	1.96	1.96	1.96	1.96
17:10	24.4	0.59	0	94						1.62	1.98	1.13	1.13	1.88	2.04	1.51	1.51	2.02	2.02	2.02	2.02	2.02	2.02	2.02
17:30	24.7	0.59	0	95						1.600 -45.000(0.50, 40.000)														
18:00	24.8	0.59	0	95						1.56	1.94	1.01	1.01	1.82	1.99	1.41	1.41	1.98	1.98	1.98	1.98	1.98	1.98	1.98
18:05				0						Lab Sample 8015R021														
18:10	26.4	0.65	0	100						1.45	1.88	0.89	0.89	1.75	1.95	1.33	1.33	1.93	1.93	1.93	1.93	1.93	1.93	1.93
18:30	26.9	0.65	0	100						1.33	1.76	0.74	0.74	1.62	1.82	1.19	1.19	1.83	1.83	1.83	1.83	1.83	1.83	1.83
18:50	26.9	0.65	0	100						1.21	1.66	0.61	0.61	1.52	1.77	1.10	1.10	1.74	1.74	1.74	1.74	1.74	1.74	1.74
19:20	27.2	0.65	0	100						1.05	1.82	0.52	0.52	1.45	1.73	1.05	1.05	1.99	1.99	1.99	1.99	1.99	1.99	1.99
19:45	27.8	0.64	0	99						0.90	1.54	0.43	0.43	1.37	1.66	0.98	0.98	1.82	1.82	1.82	1.82	1.82	1.82	1.82
20:06	27.6	0.64	0	99						0.87	1.52	0.43	0.43	1.36	1.65	0.96	0.96	1.82	1.82	1.82	1.82	1.82	1.82	1.82
20:20	0.0	0	0	0						0.87	1.48	0.42	0.42	1.31	1.61	0.94	0.94	1.50	1.50	1.50	1.50	1.50	1.50	1.50
20:36	0.0	0	0	0						0.93	1.45	0.56	0.56	1.28	1.57	0.91	0.91	1.54	1.54	1.54	1.54	1.54	1.54	1.54
20:50-21:00				0						0.38	1.45	0.65	0.65	1.30	1.58	0.94	0.94	1.54	1.54	1.54	1.54	1.54	1.54	1.54
Stop test at 20:06																								
COMMENTS																								
Start Test at 16:00																								
Stop Test at 20:06																								
Stop measurements at 21:00																								

1 2012 DEC 31 P 1: 26
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ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-1S



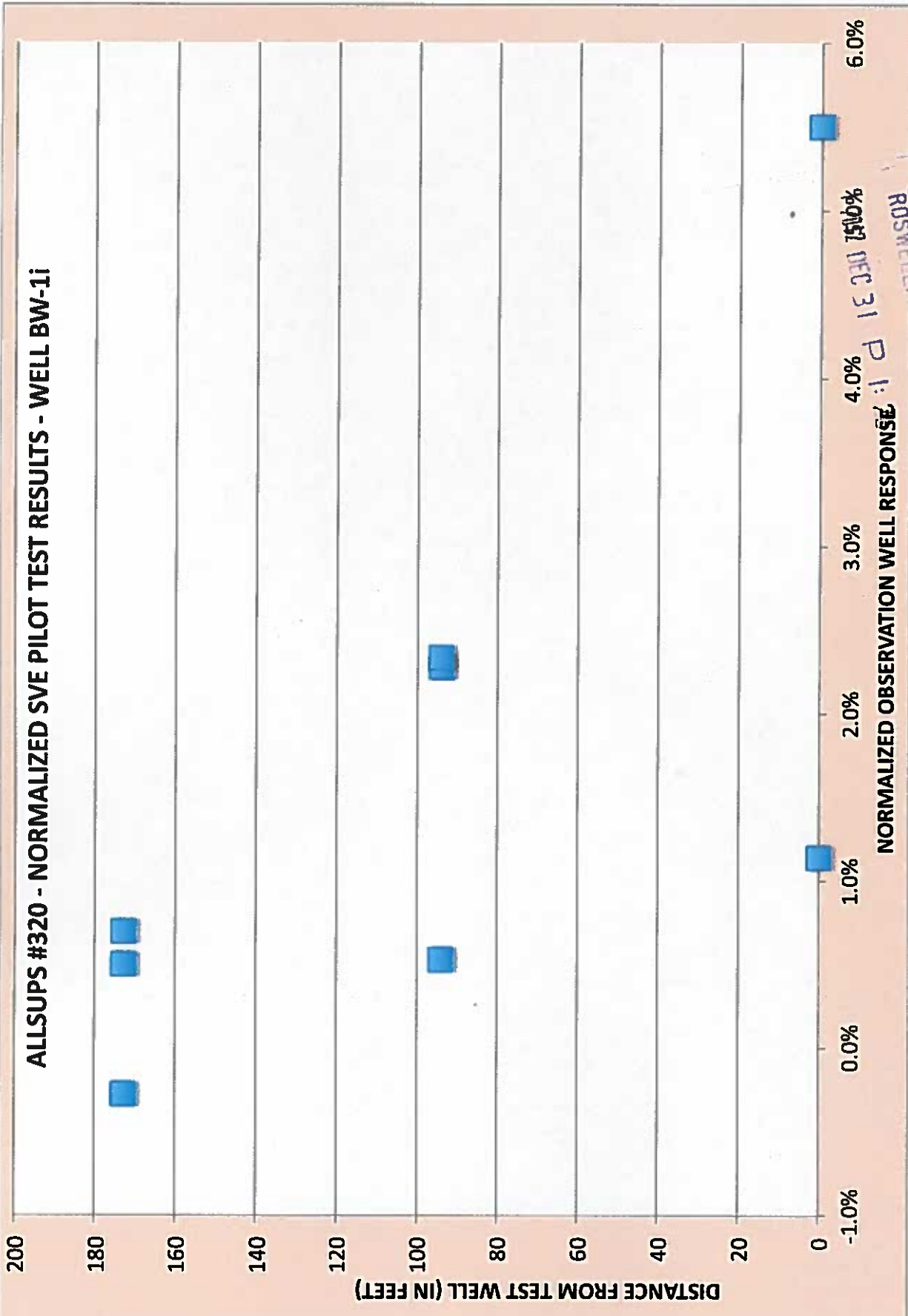
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ROSWELL, NEW MEXICO
DEC 31 10 12 AM '11

Test # 17 Well BW-11 Blower: 7.5 HP PD Blower
 Extraction Well DTW-1A, TD = 19' Extraction Pipe Dia 2.75" OR MAIN
 Date of Test 10-17-12
 Test Start 8:30 Test End 13:38:14.35
 Data Logged by: WJ/PJF
 Well Completion Description screen interval 19'-27'

TIME (Day/Hours/Minutes)	APPLIED VACUUM WELLHEAD (Inches H2O)	SVE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION											
		TOTAL EXTRACTION FLOW F _{HT} (H ₂ O)	DILUTION BY-PASS FLOW F _{VP} (fact)	AIR FLOW FROM WELL F _W (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC. PID (ppmV)	SOIL VAPOR CONC. PID (ppmV)	SOIL VAPOR CONC. PID (ppmV)	GAC/FI VAPOR CONC. FID (ppmV)	AMBIENT AIR TEMP (degrees F)	BAROM. PRESSURE "Hg	BW-18	BW-11	BW-1d	BW-2a	BW-2b	BW-2c	BW-2d	BW-2e	BW-2f	BW-3a	BW-3b	BW-3c
												80-160'	100-270'	295-345'	122-182'	204-264'	267-347'	125-185'	205-265'	287-347'	Distance to Observation Well from Well (in Feet)		
background 8:00																							
8:30	33.9	0.41	0	80	69																		
8:45	34.9	0.42	0	80	71	13000																	
9:00	34.4	0.41	0	78	71	13000																	
9:20	34.2	0.41	0	78	71	11000	2,500	22															
9:30	36.0	0.48	0	86	71																		
9:40	36.3	0.47	0	85	71	15000	3,000	59															
10:00	36.4	0.47	0	85	71	11000	2,880	91															
10:20	36.2	0.47	0	85	71	14000	3,150	157															
11:00	35.9	0.46	0	84	73	24000	3,750	202															
11:30	36.1	0.47	0	85	73	25000	3,900	360.0															
12:00	35.6	0.46	0	80	73	27000	3,300	403															
12:30	35.3	0.46	0	84	73	28000	3,900	505.0															
13:00	35.1	0.46	0	84	73	32000	3,900	600															
13:30	34.9	0.46	0	84	73	24000	3,750	651															
13:38	Stop Test			0	off																		
14:00	0.0	0	0	off	off																		
14:30				off	off																		
14:35				off	off																		

COMMENTS
 1 2012 DEC 31 P 1:26
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 a320 print bw-1d.xls

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-1i



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ROSWELL, NEW MEXICO
DEC 31 1991

Test: 13 Well: BW-1d Blower: 7.6 Hp PD blower
 Extraction Well DTW-2287, TD- 34E Extraction Pipe Dia 27.5 ON MAIN
 Data Logged by: WHB/EJF Test Start 14.40 Date of Test 10-16-12
 Well Completion Description screen Interval 295-34E Test End 22.48/23.50

TIME (Day/Hour/Minute)	SIE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION														
	APPLIED VACUUM WELLHEAD (inches H2O)	TOTAL EXTRACTION FLOW Pilot Tube ($\text{m}^3/\text{H2O}$)	DILUTION BYPASS FLOW/ vapor (actm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC PID (ppm/v)	SOIL VAPOR CONC FID (ppm/v)	GAC/FI VAPOR CONC FID (ppm/v)	AMBIENT TEMP (degrees F)	BAROM PRESSURE "%g	BW-18	BW-11	BW-1d	BW-2a	BW-2b	BW-2c	BW-2d	BW-2e	BW-2f	BW-2g	BW-2h	BW-3a	BW-3b	BW-3c	
											80-160'	180-270'	285-348'	122-182'	204-284'	287-347'	125-185'	205-285'	287-347'	125-185'	205-285'	287-347'	125-185'	205-285'	287-347'
14:30-35	background								86	29.91	1.35	1.53		1.40	1.44	1.15	1.54	1.82	1.86						
14:40	0.47	0	0	85	73	13.500	3.600	1.8		29.91															
14:50				0																					
15:00	28.4	0.47	0	85	73	3.800	2.700	-	88	29.91	1.43	1.04	1.53	1.83	1.58	1.61	1.81	1.90	1.96						
15:20	29.3	0.47	0	85	75	37.000	2.800	86	86	29.91	1.54	0.60	1.83	1.83	1.29	1.67	1.67	1.99	2.02						
15:40	29.9	0.45	0	83	75	36.000	2.745	106	84	29.91	1.58	0.52	1.64	1.81	1.12	1.71	1.71	2.03	2.04						
16:00	30.3	0.40	0	85	75	38.000	2.805	199	84	29.90	1.57	0.44	1.67	1.57	1.16	1.72	1.72	2.04	2.03						
16:20	31.7	0.50	0	88	73	28.000	2.700	191	84	29.88	1.82	0.48	1.70	1.58	1.16	1.74	1.74	2.08	2.05						
16:40	37.2	0.82	0	98	73	30.000	2.810	182	84	29.89	1.59	0.95	1.68	1.54	1.11	1.74	1.74	2.05	2.03						
17:00	38	0.82	0	87	73	28.000	2.700	198	85	29.89	1.83	0.24	1.70	1.53	1.03	1.78	1.78	2.07	2.04						
17:30	38.1	0.82	0	87	73	24.000	2.010	219	81	29.88	1.83	0.12	1.71	1.49	0.95	1.77	1.77	2.07	2.04						
18:00	38.7	0.82	0	98	71	27.900	2.655	581	77	29.87	1.83	0.04	1.70	1.44	0.88	1.76	1.76	2.05	2.01						
18:30	39.0	0.82	0	98	71	22.200	2.550	646	75	29.87	1.51	-0.05	1.64	1.35	0.78	1.71	1.71	1.98	1.94						
19:00	39.3	0.82	0	98	71	8.000	1.115	590	73	29.87	1.50	-0.13	1.58	1.27	0.70	1.65	1.65	1.81	1.87						
19:30	39.2	0.60	0	98	71	35.000	1.144	880	71	29.87	1.37	-0.23	1.44	1.11	0.54	1.82	1.82	1.77	1.73						
20:00	39.7	0.60	0	98	71	4.800	3.345	711	70	29.87	1.28	-0.31	1.35	1.03	0.44	1.44	1.44	1.69	1.65						
20:40	39.8	0.60	0	98	71	50.000	2.650	687	68	29.88	1.07	-0.57	1.15	0.78	0.19	1.20	1.20	1.42	1.38						
21:10	40.3	0.62	0	94	71	63.000	3.000	825	67	29.87	1.02	-0.69	1.09	0.70	0.12	1.19	1.19	1.38	1.33						
21:40	40.3	0.62	0	98	71	60.000	2.875	851	65	29.87	0.98	-0.73	1.03	0.63	0.06	1.15	1.15	1.34	1.30						
22:10	40.8	0.62	0	98	71	63.000	3.000	827	63	29.85	0.90	-0.85	0.93	0.53	-0.06	1.07	1.07	1.19	1.15						

2012 DEC 31 P 1:26

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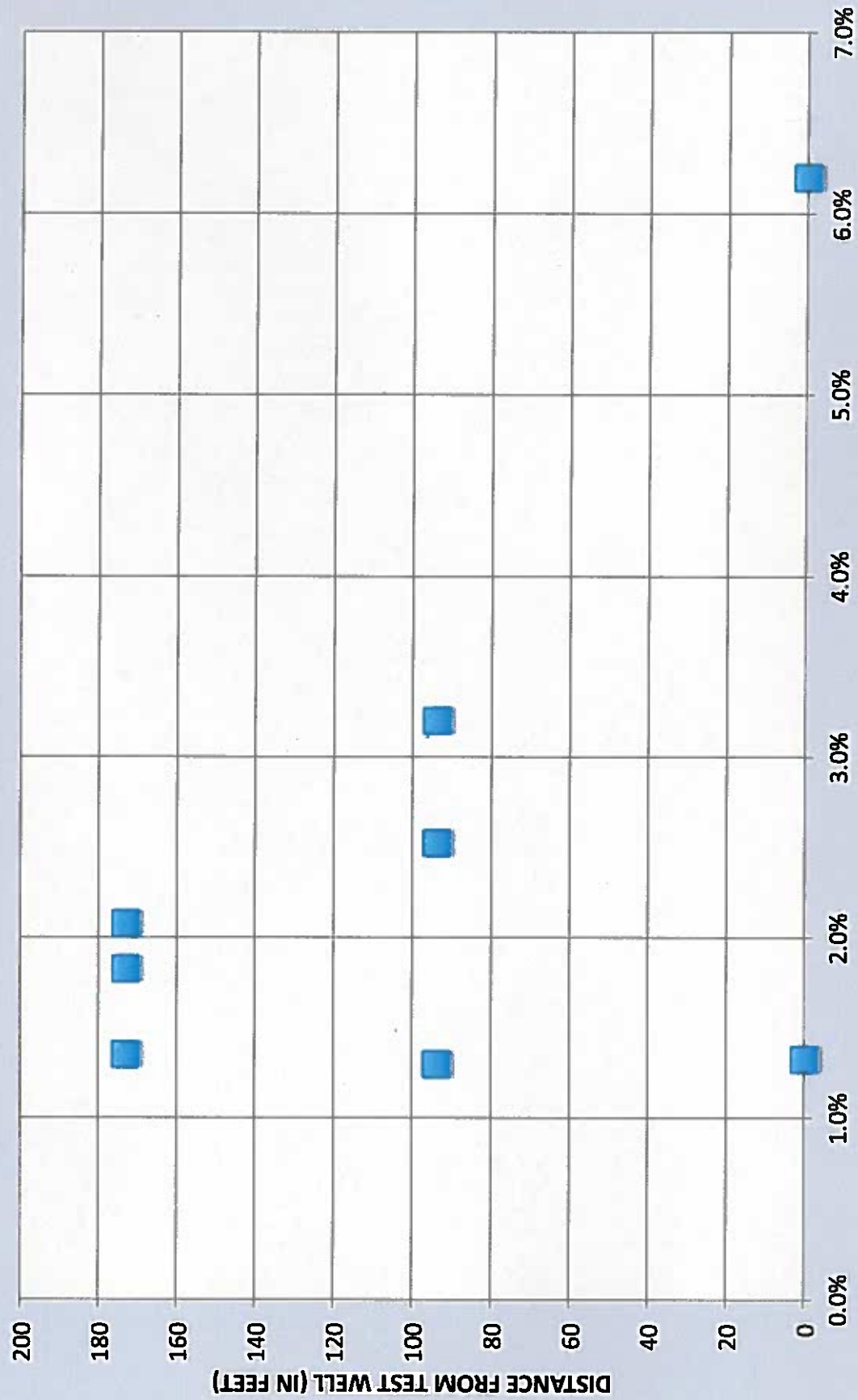
COMMENTS

Test # 1 Well BW-1D
 Extraction Well DTW-22.82' TD- 348'
 Data Logged by: WJ/BEJ
 Well Completion Description screen interval 295-318'
 Blower: 7.5 Hp PD Blower
 Extraction Pipe Dia: 2" ON MAIN
 Date of Test: 10-16-17
 Test Start 14:40
 Test End 22:49/23:50

TIME (Day/Hours/Minutes)	SVE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION																	
	APPLIED VACUUM WELLHEAD (Inch H ₂ O)	TOTAL EXTRACTION FLOW Pori Tube (H ₂ O)	DILUTION BYPASS FLOW vapor (actm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC PID (ppmV)	SOIL VAPOR CONC PID (ppmV)	GAC/FI VAPOR CONC FID (ppmV)	AMBIENT AIR TEMP (degrees F)	BAROM PRESSURE "Hg	BW-18	BW-11	BW-1D	BW-2a	BW-21	BW-2b	BW-2c	BW-2d	BW-2e	BW-2f	BW-2g	BW-2h	BW-2i	BW-3a	BW-3b	BW-3c	BW-3d	
22:45	48.6	0.82	0	0.8	71	56000	3000		61	29.85	0.82	-0.95	--	0.88	0.43	-0.13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05
23:10	0	0	0	0	0			59	29.87	0.77	-0.17	-0.60	0.82	0.40	0.06	0.06	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.99
23:40	0	0	0	0	0				29.87	0.75	0.40	0.12	0.81	0.63	0.06	0.06	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	1.07
23:50	0																											

COMMENTS
 1 2017 DEC 31 P 1: 26
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 4320 post-bw-1d/bv.xls

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-1D



1 2012 DEC 31 P 1: 26

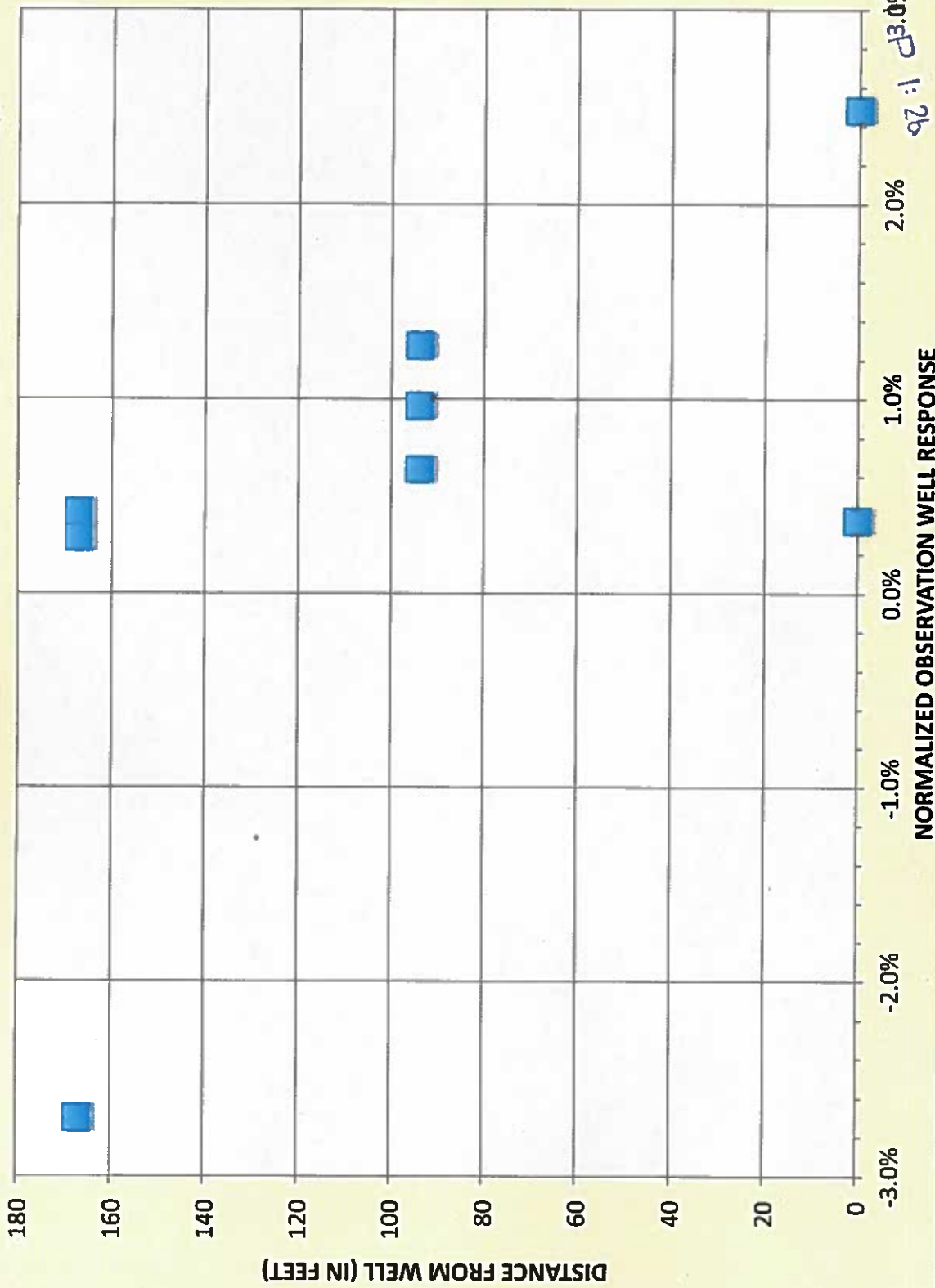
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Test # 28 Well BW-26 Blower: 7.8 Hp PD Blower
 Extraction Well DTW, N.A., To 18' Extraction Pipe Dia. 4.75" DN MAH
 Date Logged by: YH/BJE Date of Test: 10-17-12
 Well Completion Description: screen interval 122-182 Test Start 9:00 Test End 10:40

TIME (Day:Hour:Minute)	SVE OPERATING PARAMETERS				WELL IDENTIFICATION			ATMOSPHERIC CONDITIONS			VAPOR CONCENTRATIONS			VACUUM RESPONSE IN VACUUM WELLS (inches H2O)						
	APPLIED VACUUM WELL-HEAD (inches H2O)	TOTAL EXTRACTION FLOW Pilot Tube (H2O)	DILUTION BY-PASS FLOW vepor (L/min)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC. PID (ppmV)	SOIL VAPOR CONC. PID (ppmV)	SOIL VAPOR CONC. FID (ppmV)	SOIL VAPOR CONC. FID (ppmV)	AIR TEMP (degrees F)	BAROM. PRESSURE "Hg	BW-1g 80-160'	BW-1i 186-270'	BW-1d 285-345'	BW-2a 122-182'	BW-2b 204-284'	BW-2c 287-347'	BW-2d 125-185'	BW-3i 205-285'	BW-3d 287-347'
8:50-8:55	background readings									30.00	-0.60	-0.48	-0.38	-0.55	-0.51	-0.53	-0.61	-0.54	-0.52	
9:00	45.1	0.56		83	71	88	68			30.00	-0.67	-0.54	-0.42	-0.81	-0.56	-0.60	-0.58	-0.58		
9:15	45.9	0.56		83	71	156	52			30.01	-0.60	-0.74	-0.58	-1.34	-0.68	-0.73	-0.72	-0.73		
9:40	45.9	0.56		83	71	120	40	79		30.00	-1.06	-0.73	-0.59	-1.51	-0.68	-0.68	-0.66	-0.65		
10:00	45.8	0.56		83	71	88	36	0.0		29.99	-1.02	-0.77	-0.53	-1.49	-0.62	-0.62	-0.62	-0.60	0.58	
10:10	swapped out GAC vessel Unit off for -2 minutes																			
10:20	45.7	0.55		92	71	100	40	0.3		29.99	-1.18	-0.92	-0.67	-1.64	-0.70	-0.74	-0.73	-0.73	0.71	
10:40	45.6	0.55		92	71	100	40			29.96	-1.13	-0.94	-0.71	-2.00	-1.38	-0.77	-0.72	-0.72	-0.68	
11:00	0			0						29.96	-1.02	-0.94	-0.72	-1.38	-1.17	-0.80	-0.73	-0.75	-0.70	
11:20	0			0																
10:40	Stop test at 100 minutes. Collected 1 liter for 80218015 lab analysis																			

COMMENTS
 1 2012 DEC 31 P 1:26
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 a320 print bw-26.xls

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-2s



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17112 DEC 30 1:26

Well BW-31
 Extraction Well DTW's N.A., T.D. 264'
 Date Logged by: WJB/2JF
 Well Completion Description screen Interval 204'-264'
 Test Start 11:25
 Test End 13:33:14.20
 Date of Test 10-17-12
 Blower: 7.5 HP P2 Motor
 Extraction Pipe Dia. 2 1/2" OH MAIN

TIME (Day:Hour:Minute)	SVE OPERATING PARAMETERS					VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION									
	APPLIED VACUUM WELLHEAD (inches H2O)	TOTAL EXTRACTION FLOW Pilot Tube (H2O)	DILUTION BY-PASS FLOW vapor (acfm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC PID (ppmv)	SOIL VAPOR CONC PID (ppmv)	SOIL VAPOR CONC PID (ppmv)	DACH1 DISCHARGE VAPOR CONC PID	AMBIENT AIR TEMP (deg. air F)	BAROM. PRESSURE "Hg	BW-16 80-180'	BW-11 180-270'	BW-1d 205-348'	BW-2s 122-182'	BW-21 204-264'	BW-2d 237-347'	BW-3e 125-185'	BW-3i 205-265'	BW-3d 287-347'	
11:20	Background -40 minutes after BW-18 test									76	29.98										
11:25 start test	53.5	0.51	0	89	71	500	125	0.0													
11:40	57.0	0.52	0	89	71	600				78	30.00										
12:00	57.6	0.51	0	89	71	564	164	0.2													
12:30	57.6	0.51	0	89	71					79	29.98										
12:50	57.5	0.50	0	88	71	420	400	0		79	29.98										
13:10	57.5	0.50	0		71	765	345	0.2		79	29.98										
13:30	57.6	0.50	0	88	71	520	387	1.8		79	29.98										
13:33	Stop SVE Testing - Collected 1 teatler bag for 8015/8021 lab analysis at 13:30																				
14:00				0							29.86	-0.40	-0.83	-0.80	-0.63	-1.75	-1.38	-0.22	-0.44		
14:20	End of Test Recovery Period																				
				0							29.86	-0.32	-0.74	-0.74	-0.65	-1.24	-1.09	-0.18	-0.40		

VACUUM RESPONSE IN VACUUM WELLS INCREASE H2O

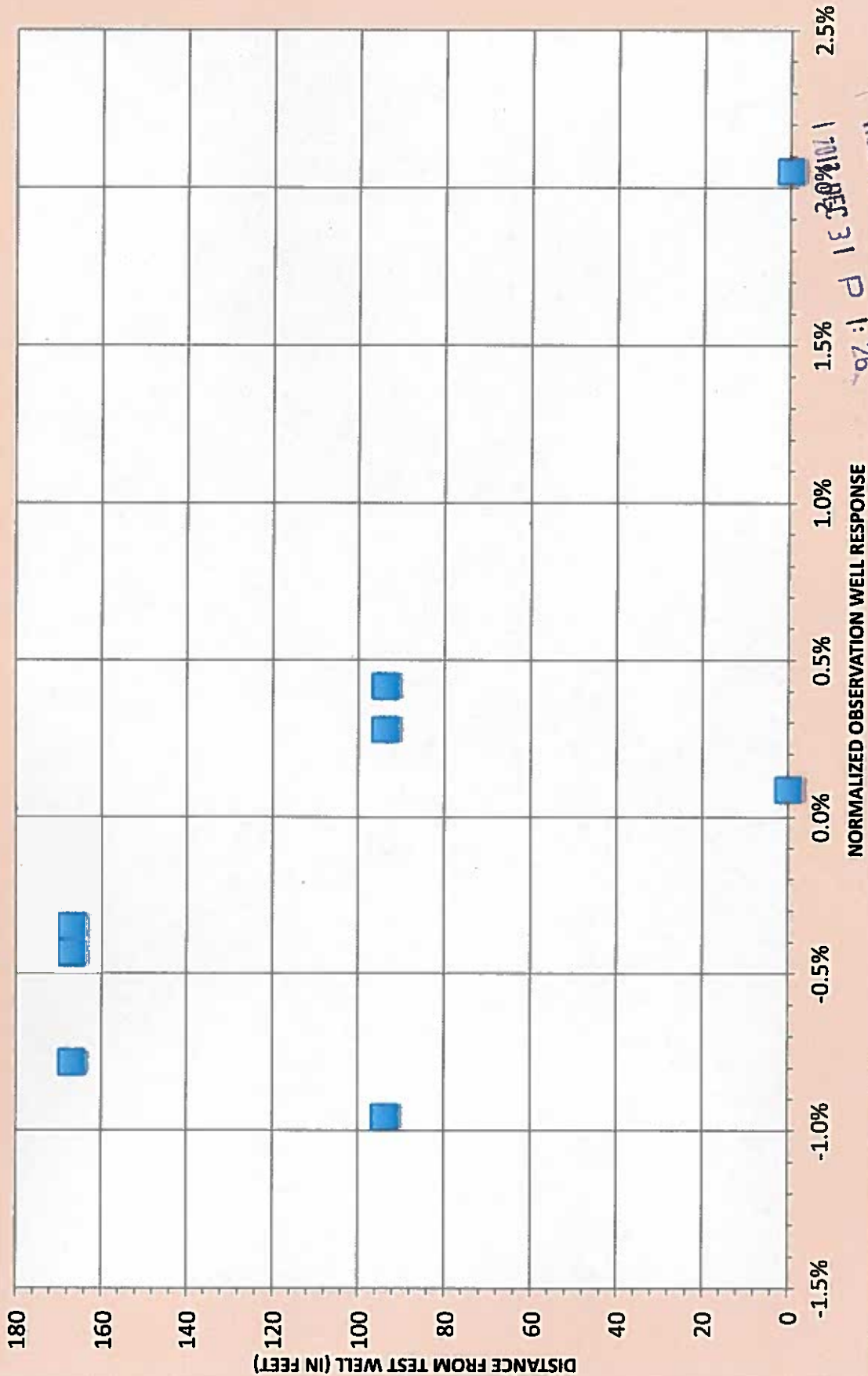
Wells are recovering from Previous test on BW-2's

Distance to Observation Well from Well (in Feet)	167'	167'	0'	0'	0'	0'	167'	167'	0'	167'	167'	0'
	-1.17	-1.38	-0.73	-0.94	-0.85	-0.81	-0.69	-0.60	-0.56	-0.50	-0.47	-1.17
	-0.64	-0.71	-0.71	-0.82	-0.84	-0.79	-0.73	-0.69	-0.60	-0.56	-0.50	-0.64
	-0.57	-0.56	-0.57	-0.67	-0.68	-0.64	-0.62	-0.56	-0.56	-0.53	-0.50	-0.57
	-0.81	-0.81	-0.81	-0.92	-0.92	-0.85	-0.79	-0.73	-0.69	-0.64	-0.60	-0.81
	-0.84	-0.84	-0.84	-0.92	-0.92	-0.85	-0.79	-0.73	-0.69	-0.64	-0.60	-0.81
	-0.45	-0.45	-0.45	-0.52	-0.52	-0.44	-0.38	-0.33	-0.28	-0.22	-0.18	-0.45

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 a320 Sheet 2 of 28

COMMENTS

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-2i



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1013001
DEC 31 P 1:26
2013

Test ID: Well_BW-28
 Extraction Well DTW=323.22 TD= 347
 Date Logged by: WJBP/JF
 Well Completion Description: screens interval 287-347
 Blower: 7.5 Hp PG Blower
 Date of Test: 12-17-12
 Extraction Pipe Dia: 278 UN/MAIN

Test Start: 10/17/12 @ 14:25
 Test End: 10/18/12 @ 7:59:00

TIME (Day/Hours/Minutes)	SYE OPERATING PARAMETERS				VAPOR CONCENTRATIONS						ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION									
	APPLIED VACUUM WELLS (inches H2O)	TOTAL EXTRACTION FLOW Pilot Tube (1" H ₂ O)	DILUTION BYPASS FLOW vapor (Actm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC. PID (ppmV)	BOIL VAPOR CONC. PID (ppmV)	GAC/FI CONC. PID (ppmV)	AIR TEMP (degrees F)	BAROM PRESSURE "Hg	BW-18	BW-11	BW-10	BW-28	BW-21	BW-26	BW-36	BW-51	BW-34			
																				Distance to Observation Wells from Well (in Feet)		
14:20	Background after 50 minutes equilibrium from BW-21																					
14:25	36.3	0.58	0	83	71	8400	1200	0.0	28.86	80	28.86	-0.32	-0.74	-0.74	-0.65	-1.24	-1.09	-0.40	-0.40	-0.41		
14:45	38.4	0.56	0	83	69	9900	1380	0.0	28.86	79	28.86	-0.26	-0.66	-0.93	-0.47	-1.50				-0.38		
15:05	39.2	0.56	0	83	69	13000	1520	0.0	28.85	78.5	28.85	-0.18	-0.71	-1.13	-0.37	-1.73				-0.26	-0.33	
15:25	39.5	0.56	0	83	69	14000	1760	0.0	28.84	78.1	28.84	-0.15	-0.80	-1.31	-0.30	-1.84				-0.32	-0.41	
15:55	40	0.56	0	83	69	7600	1480	0.0	28.85	78	28.85	-0.16	-0.90	-1.46	-0.38	-2.03				-0.36	-0.48	
16:25	40.3	0.56	0	83	69	14000	1760	0.0	29.84	77	29.84	-0.26	-1.08	-1.65	-0.43	-2.28				-0.48	-0.60	
16:55	40.7	0.56	0	83	69	13000	1640	0.0	28.86	75	28.86	-0.32	-1.19	-1.81	-0.49	-2.38				-0.59	-0.71	
17:25	41.1	0.56	0	83	69	12000	1620	0.3	28.86	73	28.86	-0.41	-1.33	-1.96	-0.60	-2.58				-0.71	-0.85	
17:55	41.6	0.56	0	83	69	14000	1620	0.1	28.88	70	28.88	-0.58	-1.55	-2.18	-0.78	-2.79				-0.92	-1.06	
18:25	42.0	0.56	0	83	69	13000	1800	0.2	28.9	66	28.9	-0.73	-1.74	-2.39	-0.88	-3.01				-1.07	-1.23	
18:55	42	0.56	0	83	69			0.0	28.92	64	28.92	-0.83	-1.89	-2.53	-1.07	-3.15				-1.23	-1.38	
19:25	42.2	0.56	0	83	69	18000	2325	0.5	28.89	62	28.89	-1.08	-2.17	-2.82	-1.33	-3.45				-1.48	-1.63	
19:55	43.0	0.56	0	83	69	16000	2350	3.9	28.89	61	28.89	-1.12	-2.28	-2.90	-1.39	-3.55				-1.55	-1.70	
20:30	43.1	0.56	0	83	69	12000	1560	7.4	28.91	60	28.91	-1.25	-2.45	-3.12	-1.52	-3.75				-1.70	-1.89	
21:00	43.2	0.57	0	84	69	13000	1840	30	28.91	58	28.91	-1.32	-2.56	-3.25	-1.60	-3.87				-1.85	-2.02	
21:30	43.3	0.57	0	84	69	13000	1800	107	28.93	57	28.93	-1.46	-2.73	-3.42	-1.73	-4.03				-2.08	-2.22	
22:00	43.4	0.57	0	84	69	12000	1800	157	28.95	56	28.95	-1.57	-2.89	-3.59	-1.85	-4.17				-2.18	-2.37	
22:25	43.3	0.57	0	84	69	12000	1800	185	28.96	56	28.96	-1.78	-3.14	-3.85	-1.99	-4.32				-2.43	-2.63	
23:00	43.7	0.57	0	84	69	12000	1720	251	28.97	55	28.97	-1.74	-3.13	-3.84	-2.04	-4.44				-2.40	-2.61	

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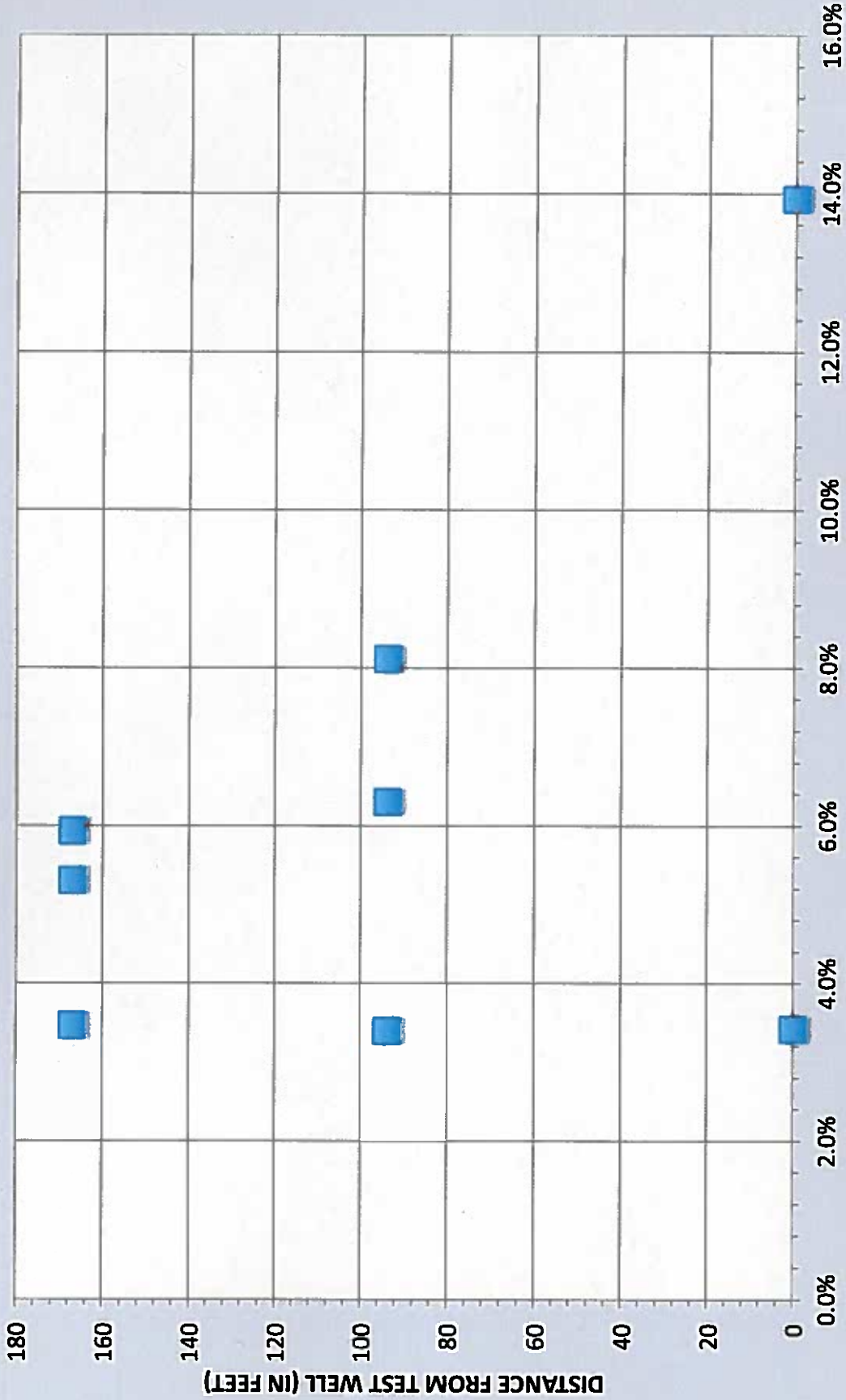
COMMENTS

Test No. 18 Well BW-28 Blower: 7.5 Hp PD Blower
 Extraction Well ID DTW-322.22 TO-327 Extraction Pipe Dia 2.25" OULMAN
 Date of Test 10/18/12
 Test Start 10/17/12 @ 14:25
 Test End 10/18/12 @ 7:25:00
 Well Completion Description Screen Interval 287-347

TIME (Day/Hour/Minute)	SVE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION												
	APPLIED VACUUM WELL-HEAD (inches H2O)	TOTAL EXTRACTION FLOW Pallet Tube (CH2O)	DELUTION BYPASS FLOW vapor (actm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC FID (ppmV)	SOIL VAPOR CONC PID (ppmV)	SOIL VAPOR CONC FID (ppmV)	GAC/FI VAPOR CONC FID (ppmV)	AIR TEMP (degrees F)	BAROM PRESSURE "Hg	BW-18	BW-11	BW-1d	BW-28	BW-21	BW-2J	BW-3s	BW-3d	BW-51	BW-263	BW-347	
10/18/12 7:25	45.3	0.57	0	94	69	21000	2120	280	43	30.17	-2.12	-3.78	-4.57	-2.46	-5.09	-2.01	-3.02	-3.30					
8:00	0.0	Collected 1 bedair bag at 7:25 for lab analysis- STOPPED TESTING AT 7:25 after running overnight								30.17	-2.30	-3.82	-4.28	-2.80	-4.39	-5.10	-2.10	-3.22	-3.45				
8:30	0.0									30.20	-2.50	-3.76	-4.01	-2.75	-4.04	-4.39	-2.38	-3.39	-3.58				
9:00	0.0									30.20	-2.53	-3.66	-3.65	-2.75	-3.63	-4.11	-2.42	-3.38	-3.54				

1 2012 DEC 31 P 1:27
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ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-2D



1 7017 DEC 31 P. 11 27
NORMALIZED OBSERVATION WELL RESPONSE

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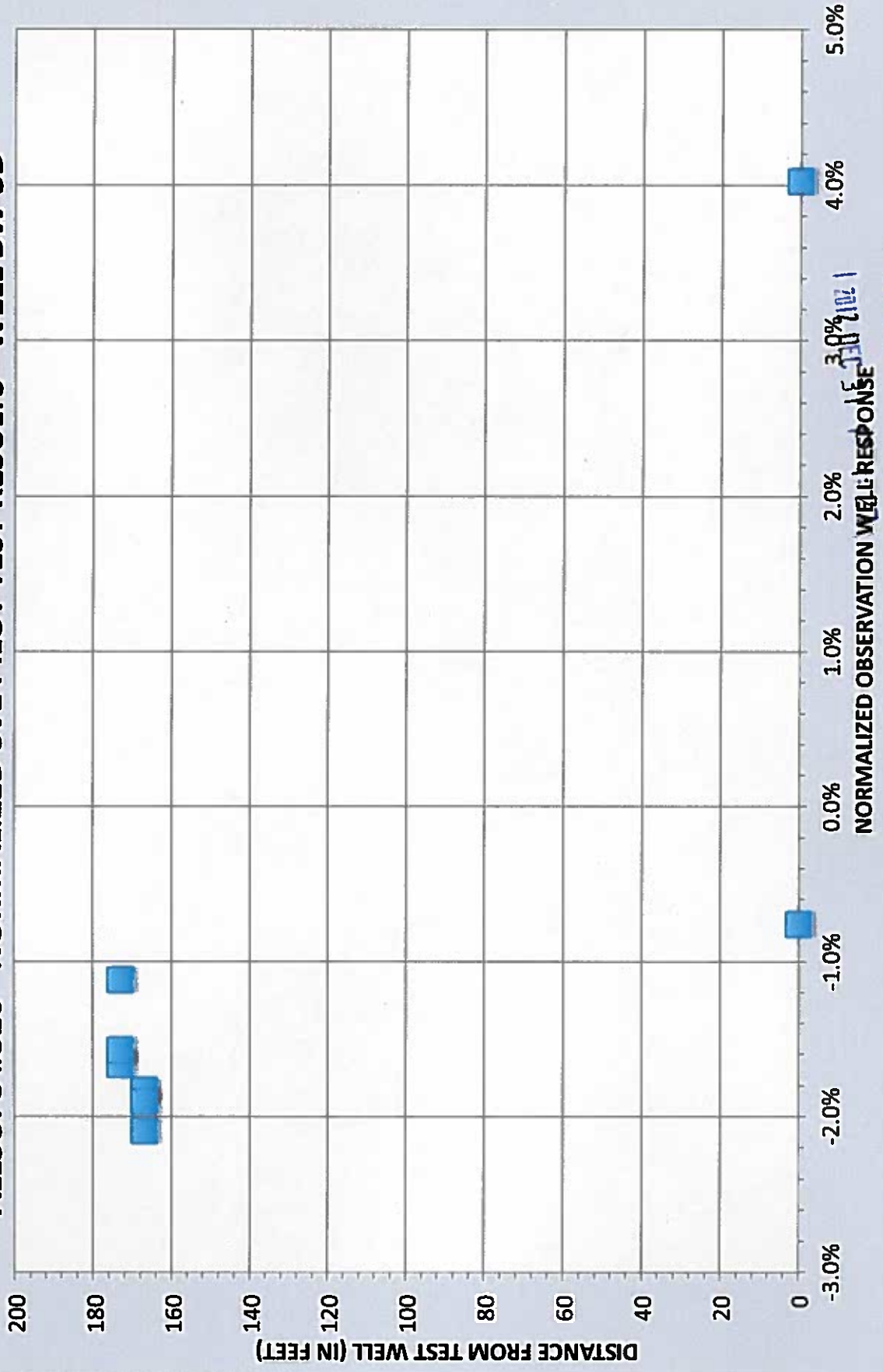
Test 47 Well BW-34 Blower: 7.5 Hp PD Blower
 Extraction Well DTW 322.4E TD= 247 Extraction Pipe Dia 2" ON MAIN
 Date of Test 12/12/12 Test Start 9:00 Test End 12:09/13:10
 Data Logged by: WJ/DF Well Completion Description screen interval 287-347

TIME (Day/Hour/Minute)	SVE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION																
	APPLIED VACUUM WELLS (inches H ₂ O)	TOTAL EXTRACTION FLOW (gpm)	DILUTION BYPASS FLOW (gpm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR CONC (ppmv)	SOIL VAPOR CONC (ppmv)	SOL VAPOR CONC (ppmv)	SOL VAPOR CONC (ppmv)	GAC/FI VAPOR CONC (ppmv)	AMBIENT AIR TEMP (degrees F)	BAROMETRIC PRESSURE (Hg)	BW-18	BW-1	BW-11	BW-28	BW-29	BW-21	BW-26	BW-3	BW-35	BW-21	BW-24	BW-26	BW-3	BW-35	BW-34	
9:00	Background readings after testing wells recovered 90 minutes after 17 hour long BW-26 pilot test																										
9:00	start test	0.82	0	98	69	69				52	30.20																
9:05	38	0.82	0	98	69	3,200	1,000	170		54	30.20	-2.49	-3.56	-3.73	-2.69	-3.68	-3.84	-2.41	-3.98								
9:25	40.7	0.59	0	95	69	2,700	1,160	206		55	30.20	-2.42	-3.46	-3.60	-2.60	-3.56	-3.83	-2.39	-4.24								
9:55	41.8	0.59	0	95	69	3,400	1,080			56	30.22	-2.36	-3.40	-3.60	-3.76	-2.54	-3.47	-2.37	-4.75								
10:05	42.0	0.59	0	95	69	3,600	1,040	198		56	30.21	-2.33	-3.38	-3.59	-2.52	-3.43	-3.72	-2.35	-4.82								
10:35	42.2	0.59	0	95	69	5,800	1,440	209		59	30.21	-2.15	-3.20	-3.47	-2.32	-3.23	-3.60	-2.25	-4.96								
11:05	42.3	0.6	0	96	69	6,140	1,460	192		58	30.20	-2.04	-3.11	-3.38	-2.22	-3.13	-3.52	-2.20	-5.05								
11:35	42.5	0.60	0	96	69	5,480	1,400	177		57	30.21	-1.98	-3.02	-3.32	-2.14	-3.11	-3.47	-2.18	-5.13								
12:05	42.5	0.60	0	96	69	5,840	1,440	212		57	30.20	-1.83	-3.19	-3.19	-1.98	-2.95	-3.31	-2.10	-5.07								
12:09	stop SVE test	0	0	0	0	0	0	0		58	30.19																
12:29	0											-1.68	-3.08	-3.08	-1.83	-2.79	-3.18	-1.89	-4.16								
13:10	0											-1.35	-2.58	-1.50	-2.39	-2.72	-1.80	-3.08	-3.43								

STATE ENGINEER OFFICE
 ROSWELL, GEORGIA
 1207 DEC 31 P 1:27

COMMENTS

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-3D



STATE ENGINEER OFFICE
ROSWELL

Test # 18 Well BW-31 Blower: 7.8 HD PD Motor
 Extraction Well DTW N.A. TO 28' Extraction Pipe Dia 2 1/2" ON MAIN
 Date of Test 10-16-12
 Test Start 13:20 Test End 15:00:15.30
 Data Logged by: WJ/MPJ
 Well Completion Description screen Interval 295-298'

TIME (Day/Hour/Minute)	SVE OPERATING PARAMETERS				VAPOR CONCENTRATIONS				ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION												
	APPLIED VACUUM WELL HEAD (inches H2O)	TOTAL EXTRACTION FLOW (gpm)	DILUTION BYPASS FLOW (gpm)	AIR FLOW FROM WELL (scfm)	WELL SOIL VAPOR TEMP (degrees F)	SOIL VAPOR CONC. PID (ppmv)	SOIL VAPOR CONC. FID (ppmv)	SOIL VAPOR CONC. PID (ppmv)	SOIL VAPOR CONC. FID (ppmv)	SOIL VAPOR CONC. PID (ppmv)	SOIL VAPOR CONC. FID (ppmv)	BW-18	BW-11	BW-16	BW-23	BW-21	BW-21	BW-21	BW-39	BW-31	BW-33	BW-33	
13:10	Background - 1 hour after BW-33 test										59	30.15	-2.38	-2.59	-2.39	-2.72	-2.39	-2.72	-1.60	-3.05	-3.43	-3.43	
13:20 Start Test	53.0	0.58	0	93	69						59	30.15	2.20	-2.39	-2.48	-2.48	-2.48	-1.49	test well	0	0		
13:25	53.8	0.56	0	93	69	7,200	1,960	222			59	30.15	-2.06	-2.30	-2.07	-2.35	-2.07	-1.68	test well	0	0		
13:40	54.0	0.56	0	93	69	6,200	1,800	196			60	30.14	-1.03	-2.05	-1.14	-1.90	-1.14	-1.72	test well	0	0		
14:00	54.2	0.56	0	93	66	7,400	1,800	193			60	30.14	-1.09	-2.04	-0.98	-1.81	-1.87	-1.80	test well	0	0		
14:20	54.1	0.55	0	92	68	7,400	1,950	281			60	30.14	-0.87	-1.78	-0.96	-1.66	-1.88	-1.75	test well	0	0		
14:50	54.1	0.55	0	0	66	8,700	1,920	287			61	30.12	-0.86	-1.75	-0.96	-1.66	-1.88	-1.77	test well	0	0		
15:00	54	0.55	0	92	68						61	30.11	-0.86	-1.75	-0.96	-1.62	-1.89	-1.77	test well	0	0		
15:00	Stop SVE Test	0		0																			
15:15	0	0	0	0							61	30.11	-0.84	-1.68	-1.02	-1.68	-1.87	-1.62	-3.55	test well	0	0	
15:30	0	0	0	0							61	30.11	-0.90	-1.63	-0.88	-1.62	-1.60	-1.44	-2.82	test well	0	0	

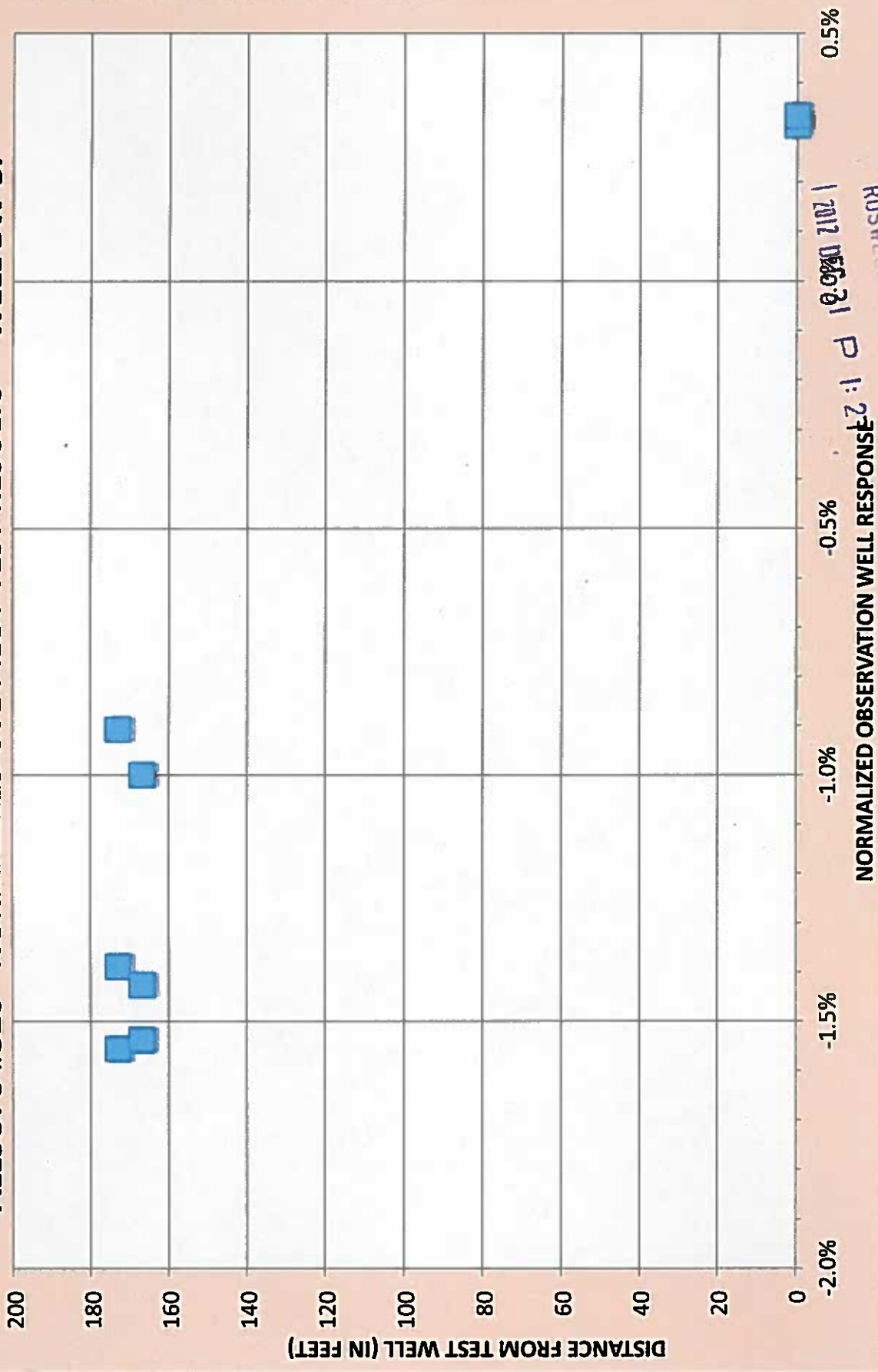
collected lab sample for 60156021 analysis @ 14:00

1 2012 DEC 31 P 1:21
 STATE ENGINEER OFFICE
 ROSWELL, GA

100 minute test

COMMENTS

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-3I



STATE ENGINEER OFFICE
ROSWELL

1 2012 06 21 P 1: 2

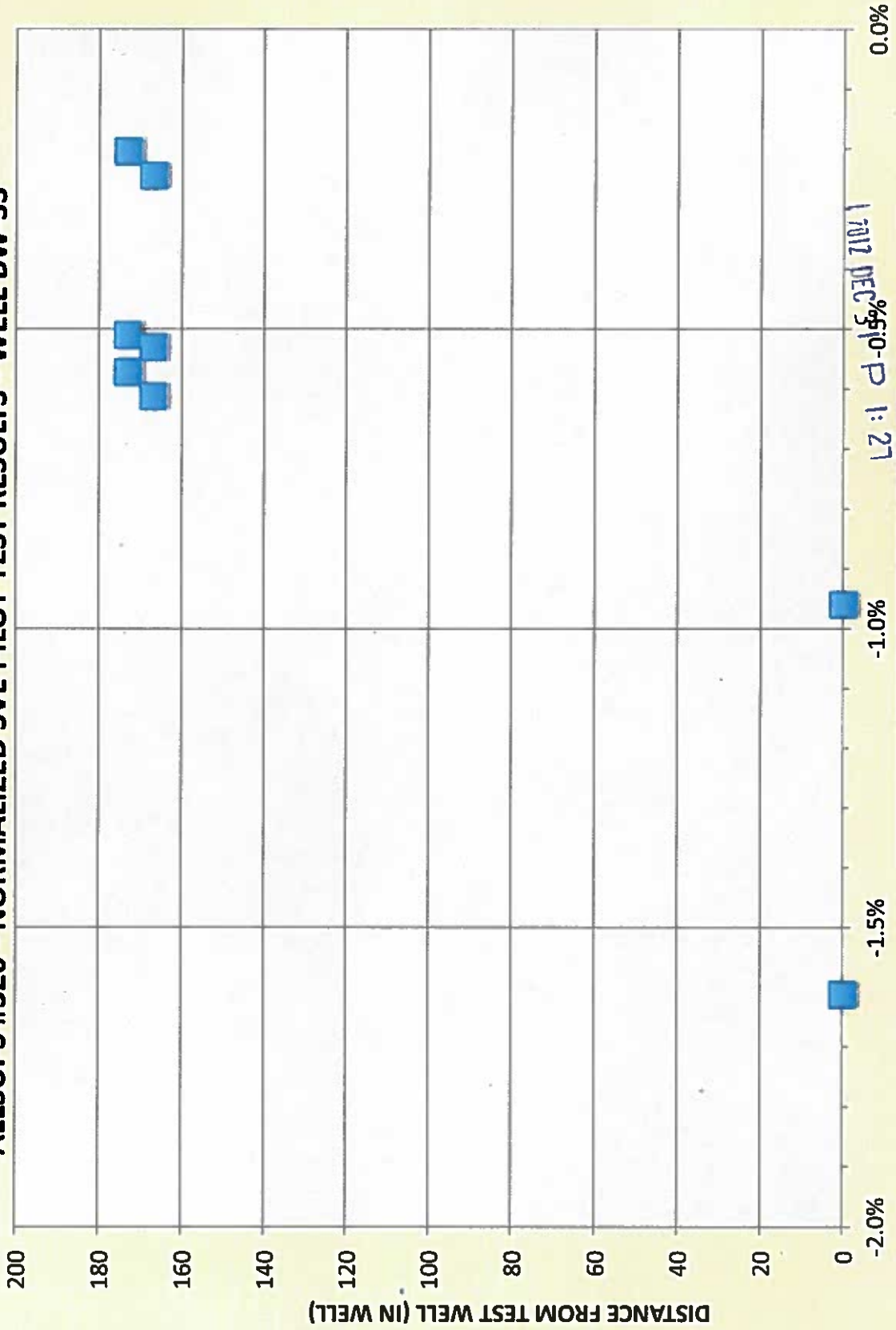
NORMALIZED OBSERVATION WELL RESPONSE

Test ID: Well_BW-3a Blower: 7.8 Hp PD Blower
 Extraction Well ID: DTW, N.A., TD=JRF Extraction Pipe ID: XZ1 ON MAIN
 Date of Test: 10/18/12
 Test Start: 15:31
 Test End: 17:00
 Well Completion Description: spiral interval 128'-138'

TIME (Day/Hours/Minutes)	SITE OPERATING PARAMETERS				VAPOR CONCENTRATIONS			ATMOSPHERIC CONDITIONS		WELL IDENTIFICATION																		
	APPLIED VACUUM WELLS (inches H2O)	TOTAL EXTRACTION FLOW (l/min)	DILUTION BYPASS FLOW (l/min)	AIR FLOW FROM WELL (scfm)	SOIL VAPOR CONC FID (ppmV)	SOIL VAPOR CONC PID (ppmV)	GAC/FI VAPOR CONC FID (ppmV)	AIR TEMP (degrees F)	BARO. PRESSURE (Hg)	BW-18	BW-17	BW-16	BW-15	BW-14	BW-13	BW-12	BW-11	BW-10	BW-9	BW-8	BW-7	BW-6	BW-5	BW-4	BW-3	BW-2	BW-1	
	(inches H2O)	(l/min)	(l/min)	(scfm)	(ppmV)	(ppmV)	(ppmV)	(degrees F)	(Hg)	80-100'	173'	173'	173'	173'	173'	204-264'	287-347'	125-183'	205-265'	122-182'	167'	167'	167'	167'	167'	167'	167'	167'
15:30	Background 30 minutes after BW-3i test																											
15:31 Start Test	48.4	0.63	0	99	520	285	329	62	30.11	-0.90	-1.63	-1.75	-0.88	-1.82	-1.80	-1.44	-2.92	-2.79										
15:45	49.5	0.62	0	99	540	285	316	61	30.12	-0.94	-1.52	-1.68	-0.84	-1.52	-1.68													
16:00	50.0	0.61	0	97	590	327	259	63	30.11	-0.82	-1.48	-1.58	-0.89	-1.45	-1.62													
16:15	50.2	0.60	0	95	540	300	304	62	30.10	-0.80	-1.38	-1.47	-0.86	-1.36	-1.50													
16:20	Stop Test at 50 minutes collected leader at 16:20 for 8015-6021 lab analysis																											
16:40	0	0	0	0				60	30.09	-0.72	-1.23	-1.29	-0.77	-1.20	-1.33													
17:00																												
17:20	End of Testing - lock up wells; mobilize back to Albuquerque																											

COMMENTS
 11/17 DEC 31 P 1:27
 STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO

ALLSUPS #320 - NORMALIZED SVE PILOT TEST RESULTS - WELL BW-3S



STATE ENGINEER OFFICE
ROSWELL

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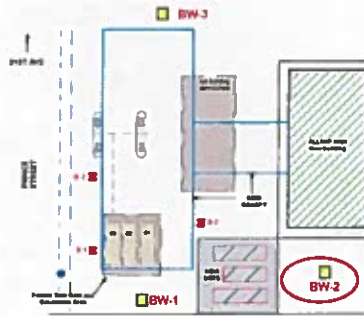
ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.

Borehole ID: BW-2

page 1 of 5

DATE OF DRILLING: 7/9/12-7/14/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9 5/8"
 DRILLING METHOD: ARCH - Stralex / Air Rotary
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: 4280.53
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347.5'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 122'-182'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 204'-264'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample ID	PID Reading (ppm) / Lab Sample (ppm)	Depth (in feet)	Sample Interval	Simplified Lithology
	6" casing			±1.9 no	5	
	2" casing			±1.8 no	10	
	2" casing			±1.5 no	15	
				±1.9 no	20	
				±0.8 no	25	
				±0.9 no	30	
				±0.7 no	35	
				±0.2 no	40	
				±0.4 no	45	
				±0.5 no	50	
				±0.5 no	55	
				±0.1 no	60	
				caliche zone		
				±0.3 no	65	
				±0.5 no	70	

Surface Conditions: 0-6" Concrete

0.5'-5.0' Cuttings/Posthole 0.5'-1.0' (GC/GM) Gravely silt-clay 1.0'-4.0' (ML/SC) Silt-very fine sand-clay mixture with localized coarser grained zones, changes to (ML) at base, (10YR) brown. 4.0'-5.0' (ML/SM) Light tan silt to very fine sand with Stage 2+ calcium carbonate, no apparent hydrocarbon odor, slightly moist throughout.

5.0'-14.0' Cuttings (ML/SC) Very fine sand-clay-silt with Stage 2 to 3 calcium carbonate, slightly moist, weakly plastic, no apparent hydrocarbon odor, light tan to white (10YR) to light brown, carbonate is variable, grades to:

14.0'-20.0' Cuttings (SM/ML) Silt to very fine sand (7.5YR) reddish-brown to light tan-red with up to Stage 2+ calcium carbonate in localized zones, locally consolidated, slightly moist, no apparent hydrocarbon odor in cuttings.

20.0'-31.0' Cuttings (SM/ML) As above but (7.5YR) reddish brown with only minor calcium carbonate, slightly moist, no apparent hydrocarbon odor in cuttings.

31.0'-37.5' Cuttings (SM) (7.5YR to 5YR) Reddish-yellow very fine silty sand, unconsolidated with ~5% cemented sandstone clasts, slightly moist, no apparent hydrocarbon odor in cuttings, grades to (SM/ML) silt to very fine sand at base.

37.5'-39.5' Split Spoon 2.0' sample. (SM/ML) As above (7.5YR) unconsolidated, massive, silt to very fine sand with ~5% calcium carbonate cemented nodules to 1" across, slightly moist, no apparent hydrocarbon odor.

39.5'-49.0' Cuttings (SM/ML) As above with Stage 2 calcium carbonate zone from ~42'-44', otherwise 5-10% calcium carbonate nodules in silt to very fine sand matrix.

49.0'-62.0' Cuttings (SM/ML) Unconsolidated, little or no calcium carbonate, slightly moist.

62.0'-66.5' Cuttings Caliche, Stage 3+ to 4 cemented calcium carbonate with (SM/ML) matrix, top has greatest cement, no apparent hydrocarbon odor in cuttings, white to light tan.

66.5'-68.0' Cuttings (SM/ML) calcium carbonate cement decreases with depth, light brown.

68.0'-77.5' Cuttings (SM) Silty very fine to fine sand (10YR) light brown, unconsolidated, slightly moist, no apparent hydrocarbon odor in cuttings, grades to (SM/ML) at base.

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 STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO



BROWN ENVIRONMENTAL, INC

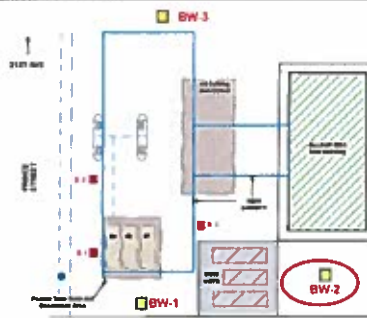
6799 ACADEMY ROAD, NE, SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 856-1886 FAX: (505) 856-0707

ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.
Borehole ID: BW-2

page 2 of 5

DATE OF DRILLING: 7/9/12-7/14/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9 5/8"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/ Split Spoon
 TOP OF CASING ELEV: 4,280.53
 DEPTH TO WATER: -324'
 TOTAL DEPTH: 347.5'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 122'-182'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 204'-264'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Date	Borehole/ Monitor Well Construction	Laboratory Sample Information Sample ID TPH-TPH gas range	PID Reading (ppm) Lab Sample (ppm)	Depth (in feet) Sample Interval	Simplified Lithology
				75.0' - 77.5'	Split Spoon 1.2' sample. (SM/ML) (7.5YR) Reddish yellow silty very fine sand, unconsolidated sand for ~5-10% calcium carbonate cemented nodules, slightly moist, no apparent hydrocarbon odor in cuttings.
				77.5' - 81.0'	Cuttings (SM/ML) As above.
				81.0' - 111.0'	Cuttings (SM) Light brownish to yellow very fine sand with trace silt, unconsolidated, slightly moist, overall with localized moist zones at 86'-92' and 97'-110', no apparent hydrocarbon odor in cuttings.
				111.0' - 115.0'	Cuttings (SM/ML) Silty very fine sand (10YR) light brown to yellow, abundant calcium carbonate cemented sandstone nodules in top foot, slightly moist, no apparent hydrocarbon odor in cuttings.
				115.0' - 117.5'	Cuttings (SM) As above.
				117.5' - 118.5'	Split Spoon 1.1' sample. (SM) (10YR) Light brown-yellow very fine to fine sand with trace silt, unconsolidated, slightly moist, no apparent hydrocarbon odor, more calcium carbonate nodules.
				118.5' - 131.0'	Cuttings (SM) Very fine to fine sand with trace silt, (10YR), light brown-yellow, slightly moist to moist, unconsolidated, no apparent hydrocarbon odor in cuttings, weakly cemented calcium carbonate nodules from 120'-122'.
				131.0' - 157.5'	Cuttings (SM) Light brown-yellow (10YR), unconsolidated (?), minor disseminated calcium carbonate in this zone, less moisture than above, very fine sand with trace silt, no apparent hydrocarbon odor in cuttings.

77.5'-78.7' Split Spoon 1.2' sample. (SM/ML) (7.5YR) Reddish yellow silty very fine sand, unconsolidated sand for ~5-10% calcium carbonate cemented nodules, slightly moist, no apparent hydrocarbon odor in cuttings.

78.7'-81.0' Cuttings (SM/ML) As above.

81.0'-111.0' Cuttings (SM) Light brownish to yellow very fine sand with trace silt, unconsolidated, slightly moist, overall with localized moist zones at 86'-92' and 97'-110', no apparent hydrocarbon odor in cuttings.

111.0'-115.0' Cuttings (SM/ML) Silty very fine sand (10YR) light brown to yellow, abundant calcium carbonate cemented sandstone nodules in top foot, slightly moist, no apparent hydrocarbon odor in cuttings.

115.0'-117.5' Cuttings (SM) As above.

117.5'-118.5' Split Spoon 1.1' sample. (SM) (10YR) Light brown-yellow very fine to fine sand with trace silt, unconsolidated, slightly moist, no apparent hydrocarbon odor, more calcium carbonate nodules.

118.5'-131.0' Cuttings (SM) Very fine to fine sand with trace silt, (10YR), light brown-yellow, slightly moist to moist, unconsolidated, no apparent hydrocarbon odor in cuttings, weakly cemented calcium carbonate nodules from 120'-122'.

131.0'-157.5' Cuttings (SM) Light brown-yellow (10YR), unconsolidated (?), minor disseminated calcium carbonate in this zone, less moisture than above, very fine sand with trace silt, no apparent hydrocarbon odor in cuttings.

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STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO



BROWN ENVIRONMENTAL, INC

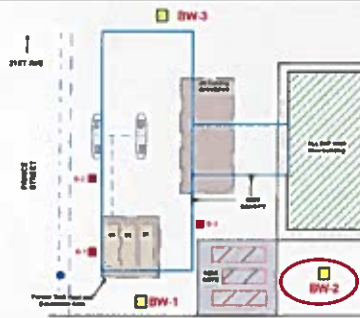
6759 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 858-4888 FAX: (505) 858-0707

ALLSUPS #320

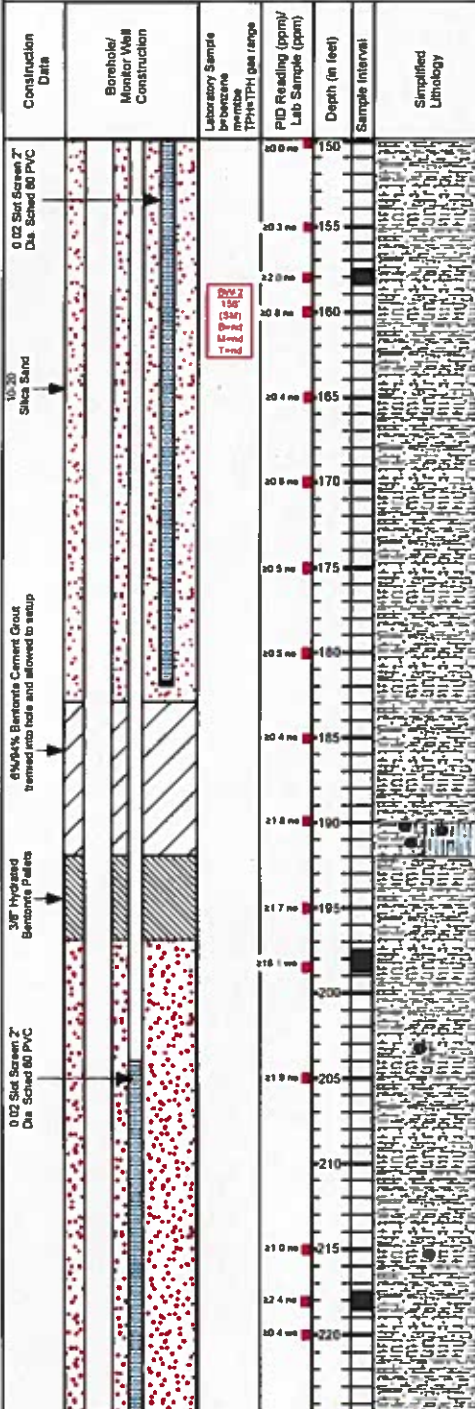
CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-2

page 3 of 5

DATE OF DRILLING: 7/9/12-7/14/12
 LOGGED BY: WJB
 DRILLER: Del Leavit/WOC
 BOREHOLE DIAMETER: 9.5/8"
 DRILLING METHOD: ARCH - StrateX / Air Rotary
 SAMPLING METHOD: Cuttings/ Split Spoon
 TOP OF CASING ELEV: 4,280.53
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347.5'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 122'-182'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 204'-264'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION



157.5'-158.5' Split Spoon 0.8' sample. Entire core is (SM) light brown yellow (10YR) very fine sand with trace silt and fine sand, unconsolidated, slightly moist, no apparent hydrocarbon odor in cuttings.

158.5'-190.0' Cuttings (SM) As above, higher moisture content than above.

190.0'-192.0' Cuttings Weakly cemented (SM) nodules, breaks easily in hand.

192.0'-197.5' Cuttings (SM) Silty very fine sand, firmer than above with less moisture, (10YR) light tan brown, no apparent hydrocarbon odor in cuttings, unconsolidated.

197.5'-199.0' Split Spoon 1.4' sample (SM) As above, unconsolidated, slightly moist silty very fine sand (10YR), light tan-brown, trace to weak hydrocarbon odor in cuttings, calcium carbonate in localized areas.

199.0'-246.0' Cuttings Same as above with generally less moisture, slightly moist, (10YR) light tan to brown, no apparent hydrocarbon odor in cuttings, locally minor calcium carbonate cemented clasts.

217.5'-219' Split Spoon 1.4' sample. Entire core is (SM) light brown (10YR) very fine to fine sand with trace silt, unconsolidated, slightly moist, no apparent hydrocarbon odor in cuttings.

2012 DEC 31 P 1:23

STATE ENGINEER OFFICE
RDSWELL BEAUFORT



BROWN ENVIRONMENTAL, INC

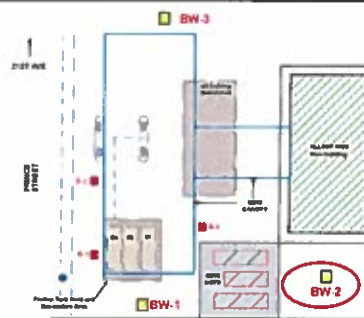
6759 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 858-1888 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.
Borehole ID: BW-2

page 4 of 5

DATE OF DRILLING: 7/9/12-7/14/12
LOGGED BY: WJB
DRILLER: Del Leavit/WDC
BOREHOLE DIAMETER: 9.5/8"
DRILLING METHOD: ARCH - Stratex / Air Rotary
SAMPLING METHOD: Cuttings/Split Spoon
TOP OF CASING ELEV: 4,280.53
DEPTH TO WATER: -324'
TOTAL DEPTH: 347.5'
SHALLOW WELL: 2" Sched 80 PVC; Screen 122'-182'
INTERMEDIATE WELL: 2" Sched 80 PVC; Screen 204'-264'
DEEP WELL: 4" Sched 80 PVC; Screen 287'-347'
SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole Monitor Well Construction	Laboratory Sample benzene methane TPH+TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simplified Lithology
0.07 Slot Screen 7" Dia Sched 80 PVC				207 no 225	
10-20 Silica Sand				210 no 230	
				235	
				240	
				241 no 240	
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				351 no 350	

237.5'-238.5' Split Spoon 1.0' sample. (10YR) Light tan to brown very fine to fine sand with trace silt, well sorted, unconsolidated, slightly moist, no calcium carbonate nodules, trace h/c odor.

248.0'-256.0' Cuttings (SM) Light tan to brown (10YR) very fine to fine sand with trace silt. ~5-10% calcium carbonate cemented sandstone nodules rounded to 1" across, no apparent hydrocarbon odor in cuttings, slightly moist.

256.0'-257.5' Cuttings (SM) Very fine sand. no apparent hydrocarbon odor in cuttings.

12:15 Stop drilling for lunch @ 257.5'. Let hole sit prior to split spoon collection.

257.5'-258.5' Split Spoon 0.7' sample. (10YR) (SM) Light tan to brown very fine sand with trace silt, well sorted, unconsolidated, slightly moist, no calcium carbonate nodules.

258.5'-266.0' Cuttings (SM) As above, slightly moist.

266.0'-287.0' Cuttings (SM) Very fine to fine sand with minor silt, more moisture than above, (10YR), light brown to tan, unconsolidated, no apparent hydrocarbon odor in cuttings.

277.5'-278.5' Split Spoon 0.8' sample. (SM) As above, no apparent hydrocarbon odor, massive, no bedding.

287.0'-311.0' Cuttings (SM) Very fine to fine sand with trace silt, (10YR) tan to brown with only minor moisture content, slightly moist, unconsolidated, no apparent hydrocarbon odor, (SM/ML) zone from 296' to ~300' depth, silt to very fine sand mixture, slightly moist to moist.

297.5'-299.0' Split Spoon 1.3' sample. (SM/ML) Silt to very fine sand, (10YR), brownish-yellow, unconsolidated, slightly moist to moist with localized Stage 1 calcium carbonate, no apparent hydrocarbon odor.

STATE ENGINEER OFFICE
 2012 DEC 31 P 1:23



BROWN ENVIRONMENTAL, INC
 6799 ACADEMY ROAD, NE. SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 858-1888 FAX: (505) 858-0707

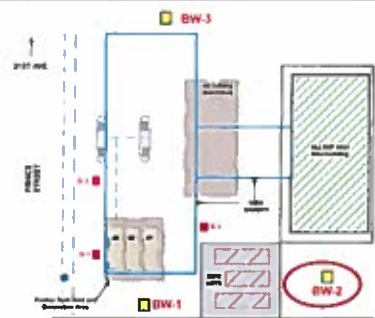
ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.

Borehole ID: BW-2

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DATE OF DRILLING: 7/9/12 7/14/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9 5/8"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: 4,280.53
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347.5'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 122'-182'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 204'-264'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample Parameters m/m TPH-TPH gas range	PID Reading (ppmv) Lab Sample (ppmv)	Depth (in feet)	Simplified Lithology
10-20 Silica Sand	0.01 Split Screen 4" Dia. Sched 80 PVC			303	
				304	
				310	
				315	
			22.9 on 1st spoon 234.0 on 2nd spoon 383 ppmv on off gas	320	
			BW-2 320' (SM/ML) B=0.009 Y=9.35	325	
				330	
				335	
				340	
				345	
				350	
				355	
				360	
				365	
				370	
total depth = 347.5'					

311.0'-317.0' Cuttings (SM) (10YR) Light tan to brown silty very fine to fine sand, similar to above but with minor calcium carbonate cemented clasts and greater moisture, no apparent hydrocarbon odor.

317.0'-319.0' Cuttings (SM/ML) Greater silt content.

319.0'-320.5' Split Spoon #1 - 1.3' (SM/ML) Silt to very fine sand mixture with minor (ML) stratification, coarsens with depth, slightly moist to moist, trace localized calcium carbonate Stage 1+, no apparent hydrocarbon odor.

Allowed hole to sit overnight before collecting 2nd sample.

319.0'-320.5' Split Spoon #2 - 1.4' (SM/ML) Collected after letting hole sit overnight. 1.4' sample. (SM/ML) Silt to very fine sand with minor (ML) stratification, coarsens with depth, weak to moderate hydrocarbon gasoline odor, moist.

7/12/12 Blew out hole at 7:58 after letting sit all night. PID's 383 ppmv on offgas; concentrations dropped off rapidly.

320.5'-324' Cuttings (SM/ML) As above grading to:

324' - 333' Cuttings (SM) very fine to fine sand with trace silt (10YR) light tan to brown, unconsolidated, moist to water saturated below 324'

329.0'-334.0' Cuttings Localized calcium carbonate cemented zones as shown on graphic log.

334.0'-337.5' Cuttings (SM/ML) and (SM) zones with lesser/greater silt content, very fine sand is most abundant throughout, water saturated, no apparent hydrocarbon odor.

337.5'-339.5' Split Spoon 1.9' sample (SM/ML) Silt to very fine sand mixture, (10YR) brown, water saturated, unconsolidated, no apparent hydrocarbon odor, no apparent bedding, localized sandstone clast to 1" across with calcium carbonate cement, dense.

339.5'-342.0' Cuttings (SM/ML) As above.

342.0'-347.5' Cuttings (SM) Silty very fine sand with interbeds of cemented sandstone (SAS) and (SM/ML) Silt to very fine sand. Entire interval is (10YR) brown, water saturated.

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 PRODUCTION DIVISION
 17012 DEC 31 P 1:23

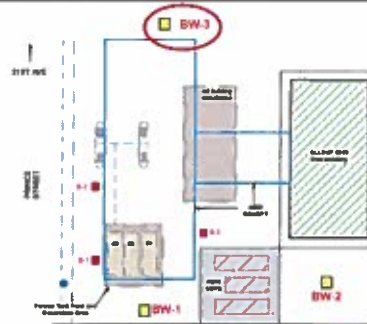


BROWN ENVIRONMENTAL, INC
 6759 ACADEMY ROAD, NE SUITE 254, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 858-4888 FAX: (505) 858-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-3 page 1 of 5

DATE OF DRILLING: 7/14/12-7/19/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9 5/8"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/ Split Spoon
 TOP OF CASING ELEV: 4,280.17'
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 125'-185'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 205'-265'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Lab Sample	Depth (in feet)	Sample Interval	Simplified Lithology
	6" casing		22.2 no	5	
	2" casing		21.8 no	10	
	2" casing		21.1 no	15	
			20.8 no	20	
			21.2 no	25	
			21.3 no	30	
			22.0 no	35	
			23.1 no	40	
			22.8 no	45	
			21.9 no	50	
			20.8 no	55	
			21.0 no	60	
			20.7 no	65	
			21.0 no	70	

Surface Conditions: 0-0.5' Reinforced concrete.

0.5'-5.0' Posthole 0.5'-5.0' Postholed to clear for utilities, dark brown (10YR) (SM/SC), clayey very fine sand and (SM/ML) silt to very fine sand, slightly moist, no apparent hydrocarbon odor.

5.0'-21.0' Cuttings (SC/ML) Clay-silt-very fine sand mixture with localized coarser grained (SM/ML) zones, brown (10YR) slightly moist, Stage 1+ calcium carbonate, no apparent hydrocarbon odor.

21.0'-37.0' Cuttings Stage 3 to 4 pedogenic carbonate, matrix is (SM/ML) silt to very fine sand, light tan to light brown-tan, indurated, slightly moist, no apparent hydrocarbon odor.

37.0'-40.0' Cuttings (SM/ML) with Stage 2 to 3 calcium carbonate lessening with depth, slightly moist, no apparent hydrocarbon odor, light brown (10YR), unable to collect split spoon in this zone.

40.0'-47.5' Cuttings (SM/ML) (7.5YR) Reddish yellow silt-very fine sand, unconsolidated with localized calcium carbonate nodules, slightly moist, no apparent hydrocarbon odor.

47.5'-49.0' Split Spoon 1.4' sample 0.0'-1.4' (7.5YR) Reddish-yellow (SM/ML) silty very fine sand, unconsolidated with 55% weakly cemented nodules to 3/4" across, slightly moist, no apparent hydrocarbon odor, massive.

49.0'-60.0' Cuttings (SM/ML) As above grading to (SM) silty very fine sand with depth, abundant (10%) calcium carbonate cemented nodules increasing with depth, (7.5YR) reddish-yellow, slightly moist, no apparent hydrocarbon odor in cuttings.

60.0'-66.0' Cuttings Stage 4 to 3 laminar pedogenic calcium carbonate, very hard locally to lesser cemented zones with (SM/ML) silt to very fine sand matrix, no apparent hydrocarbon odor in cuttings, light tan to white, grades to Stage 2 calcium carbonate at base.

66.0'-77.5' Cuttings (SM/ML) Silty very fine sand, moist to slightly moist, unconsolidated, trace s1/2" calcium carbonate nodules, (10YR), brown to tan, no apparent hydrocarbon odor in cuttings.

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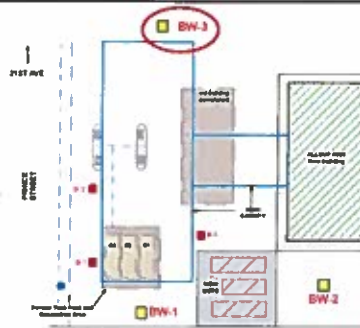
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ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.
Borehole ID: BW-3

page 2 of 5

DATE OF DRILLING: 7/14/12-7/19/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9 5/8"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/ Split Spoon
 TOP OF CASING ELEV: 4,280.17'
 DEPTH TO WATER: -324'
 TOTAL DEPTH: 347'
 SHALLOW WELL: 2" Sched 80 PVC; Screen 125'-185'
 INTERMEDIATE WELL: 2" Sched 80 PVC; Screen 205'-265'
 DEEP WELL: 4" Sched 80 PVC; Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample Information TPH/TPH gas range PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet) Sample Interval	Simplified Lithology
0 1/2" Sched Screen 2" Dia Sched 80 PVC	2" casing		75	
10-20" Silt Sand	2" casing		75-80	
30" Hydrated Bentonite Pellets	2" casing		80-85	
6 1/2" 4 1/2" Borehole Cement Grout truncated pipe hole and allowed to set up	2" casing		85-145	
			145	

77.5'-79.5' Split Spoon 2.0' sample. (SM/ML) (10YR) Light brown to tan silt to very fine sand, slightly moist to moist, unconsolidated, no apparent hydrocarbon odor in cuttings, massive, no bedding, only trace calcium carbonate.

79.5'-81.0' Cuttings (SM/ML) As above, slightly moist.

81.0'-107.5' Cuttings (SM) Light tan brown (10YR) silty very fine to fine grained sand, unconsolidated, slightly moist to moist, trace 1/2" diameter calcium carbonate cemented clasts, no apparent hydrocarbon odor in cuttings

107.5'-108.5' Split Spoon 0.9' sample. 0.0'-0.6' (SM/ML) With Stage 2+ calcium carbonate cement, slightly moist to moist, light brown at top grading to light tan at base, no apparent hydrocarbon odor in cuttings.

108.5'-111.0' Cuttings (SM/ML) With some calcium carbonate, grading to:

111.0'-139.0' Cuttings (SM) Light tan to brown (10YR), very fine to fine sand with trace silt, coarser grained than above, slightly moist to moist, no apparent hydrocarbon odor in cuttings, unconsolidated, trace calcium carbonate nodules to 1/2", poorly cemented when present.

139.0'-146.0' Cuttings (SM/ML) Light brown to tan (10YR), silt to very fine sand, unconsolidated, slightly moist - less moisture than surrounding zones, no apparent hydrocarbon odor in cuttings.

146.0'-157.5' Cuttings (SM) Light tan to brown (10YR), very fine to fine sand with trace silt as above, slightly moist to moist, unconsolidated, no apparent hydrocarbon odor in cuttings.

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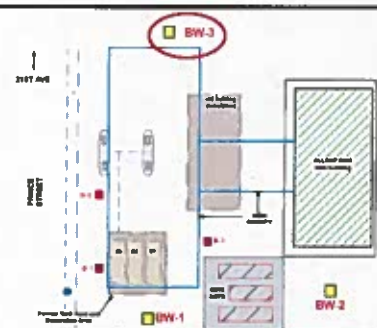
BROWN ENVIRONMENTAL, INC
 6799 ACADEMY ROAD, NE, SUITE 234, ALBUQUERQUE, NEW MEXICO 87109
 PHONE: (505) 856-4888 FAX: (505) 856-0707

ALLSUPS #320

CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-3

page 3 of 5

DATE OF DRILLING: 7/14/12-7/19/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9.58"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: 4,280.17'
 DEPTH TO WATER: -324'
 TOTAL DEPTH: 347'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 125-185'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 205-265'
 DEEP WELL: 4" Sched 80 PVC, Screen 287-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/Monitor Well Construction	Laboratory Sample Parameters pH, TSS, TPH, gas range	PID Reading (ppmv) Lab Sample (ppmv)	Depth (in feet)	Sample Interval	Simplified Lithology
0.02 Slot Screen 7" Dia. Sched 80 PVC				20.4 no	150	
10-20 Silica Sand				20.5 no	155	
				27.6 no	160	
				22.2 no	160	
				21.8 no	165	
				21.7 no	170	
				21.3 no	175	
				21.5 no	180	
				21.7 no	185	
				21.7 no	190	
				21.7 no	195	
		47 ppmv trace			200	
				25.1 no	205	
				24.2 no	210	
				26.4 no	215	
				25.5 no	220	
				24.1 no		

7/15/12 @ 17:50 157.5' Stop drilling for today

7/16/12 @ 17:45 Blow down from hole = 58 ppmv with light gasoline odor.

157.5'-158.5' Split Spoon 0.7' sample. 0.0'-0.7' (SM) Silty very fine grained sand with some calcium carbonate cementation in layers, slightly moist to moist, weak hydrocarbon odor.

158.5'-208.0' Cuttings (SM) Tan to brown (10YR) very fine to fine sand with minor silt, some calcium carbonate lightly cemented nodules, slightly moist to moist, no apparent hydrocarbon odor in cuttings, some zones have more moisture as outlined below.

175'-185' Moist zone.

197.5'-198.5' Split Spoon 0.8' sample. Entire core is (SM) silty very fine to fine grained sand (7.5YR) reddish brown to tan, unconsolidated to partially cemented with minor calcium carbonate cement, slightly moist to moist, weak hydrocarbon odor. Note: Hole sat for -30 minutes prior to collection and use of air.

208.0'-249.0' Cuttings (SM/ML) Reddish brown (7.5YR) silt to very fine sand, moist, unconsolidated, no apparent hydrocarbon odor in cuttings, trace calcium carbonate cemented nodules.

217.5'-218.5' Split Spoon 0.9' sample. 0.0'-0.9' (SM/ML) Silt to very fine sand with several large calcium carbonate cement nodules to 1" across, otherwise massive, unconsolidated silt to sand (7.5YR) reddish-brown, fairly moist, weak hydrocarbon odor.

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 PHONE: (505) 858-1868 FAX: (505) 858-0707

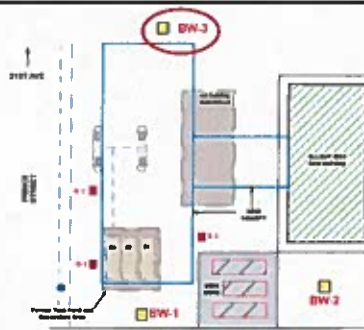
ALLSUPS #320

CLIENT: Allsup's Petroleum, Inc.

Borehole ID: BW-3

page 4 of 5

DATE OF DRILLING: 7/14/12-7/19/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9.58"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/Spit Spoon
 TOP OF CASING ELEV: 4,280.17'
 DEPTH TO WATER: -324'
 TOTAL DEPTH: 347'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 125'-185'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 205'-265'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12"X12" Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION

Construction Data	Borehole/ Monitor Well Construction	Laboratory Sample benzene n-hexane TPH-TPH gas range	PID Reading (ppm)/ Lab Sample (ppm)	Depth (in feet)	Simulated Lithology
0.02 Slot Screen 2" Dia Sched 80 PVC				225	
10-20 Sand Sand				230	
				235	
				240	
				245	
				250	
				255	
				260	
				265	
				270	
				275	
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				960	
				965	
				970	
				975	
				980	
				985	
				990	
				995	
				1000	

237.5' Rig down for ~80 minutes to replace drive head top seal and repair engine oil leak.

237.5'-239.0' Split Spoon 1.4' sample. Entire core is (SM/ML) light tan to brown (10YR) silt to very fine sand, unconsolidated, slightly moist, no apparent hydrocarbon odor.

Blowdown on hole @ 90 minutes = 13 ppm/v.

240.0'-249.0' Cuttings ~10% rounded calcium carbonate cemented nodules in (SM/ML) or (SM) matrix.

249.0'-257.5' Cuttings (SM) Tan to brown (10YR) very fine to fine sand with minor silt, unconsolidated, some moisture, no apparent hydrocarbon odor in cuttings.

257.5'-259.5' Split Spoon 0.9' sample. Entire core is (SM) (10YR) tan to brown very fine to fine sand with minor silt, unconsolidated, slightly moist to moist, a few small calcium carbonate cemented (SM) concretions, no apparent hydrocarbon odor.

262.0'-288.0' Cuttings ~5-10% rounded carbonate cemented nodules to 1" across. No apparent hydrocarbon odor in cuttings.

277.5' Stop drilling - rig breakdown.

Note: Higher PID readings below ~250' due in part to the presence of concretions/calcium carbonate nodules in cuttings which are more resistant to aeration during air rotary retrieval process.

277.5'-278.0' Split Spoon 0.5' sample with refusal at base. 0.0'-0.2' (SM) As above. 0.2'-0.5' (SAS) Hard carbonate cemented very fine sandstone, light tan to gray. Collected this split spoon after allowing hole to sit for 60 minutes.

Blowdown on hole = 22.1 ppm/v

278.0'-289.0' Cuttings (SM) As above.

289.0'-301.0' Cuttings (SM/ML) Tan to brown (10YR) silt - very fine sand, locally cemented with calcium carbonate, as (SST/SAS) siltstone to very fine sandstone, slightly moist, no apparent hydrocarbon odor in cuttings.

297.5'-298.0' Split Spoon 0.4' sample. 0.0'-0.1' (SM/ML) As above with some disseminated calcium carbonate, massive. 0.1'-0.4' (SAS/SST) Siltstone to very fine sandstone, calcium carbonate, indurated, spoon refusal.

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 12/31/12 DEC 31 P 1:21



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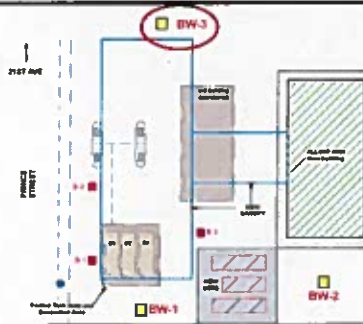
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 PHONE: (505) 858-4868 FAX: (505) 858-0707

ALLSUPS #320

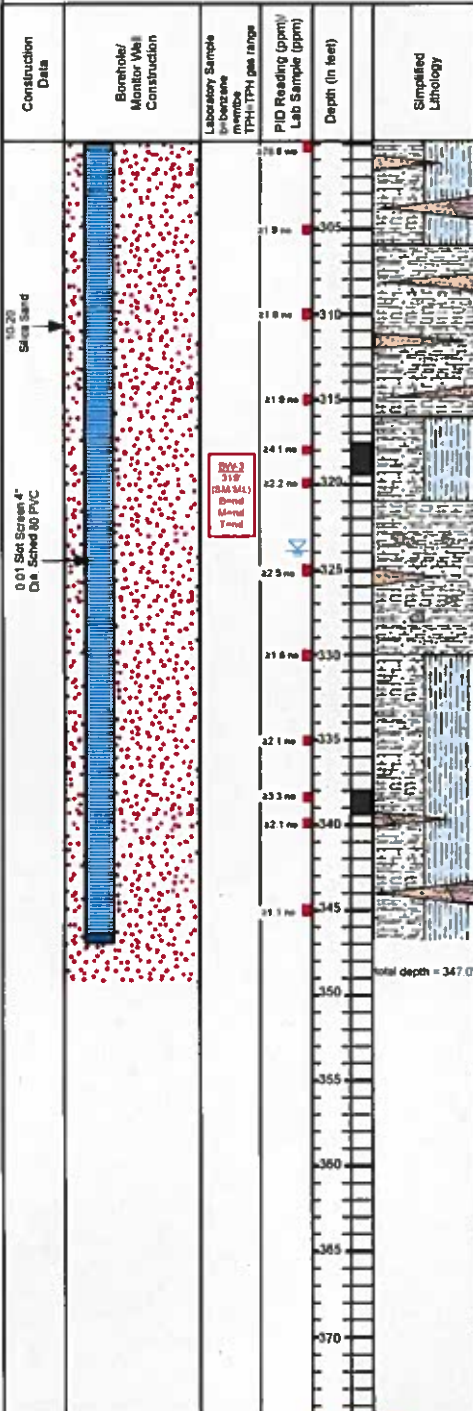
CLIENT: Allsup Petroleum, Inc.
Borehole ID: BW-3

page 5 of 5

DATE OF DRILLING: 7/14/12-7/19/12
 LOGGED BY: WJB
 DRILLER: Del Leavitt/WDC
 BOREHOLE DIAMETER: 9.58"
 DRILLING METHOD: ARCH - Stratex / Air Rotary
 SAMPLING METHOD: Cuttings/Split Spoon
 TOP OF CASING ELEV: 4280.17'
 DEPTH TO WATER: ~324'
 TOTAL DEPTH: 347'
 SHALLOW WELL: 2" Sched 80 PVC, Screen 125'-185'
 INTERMEDIATE WELL: 2" Sched 80 PVC, Screen 205'-265'
 DEEP WELL: 4" Sched 80 PVC, Screen 287'-347'
 SURFACE COMPLETION: 12'X12' Manway w/Concrete Pad



USCS - LITHOLOGIC DESCRIPTION



301.0'-306.0' Cuttings (SM/ML) As above, ~10% (SAS/SST) nodules, localized thin (SAS/SST).

306.0'-316.0' Cuttings (SM) Tan to brown (10YR) silty very fine to fine sand, unconsolidated with localized thin (SAS) very fine sandstone layers <2" thick, decreases below 312' most, no apparent hydrocarbon odor in cuttings.

317.5' Stop drilling for 7-16-12 at 13:20 will collect split spoon tomorrow morning.
 7/17/12 at 7:35 collected split spoon @ 317.5'-319.5' Blow down from hole = 187ppmv.

317.5'-319.5' Split Spoon 1.9' sample. Entire core is (SM/ML), tan to brown (10YR) silty to very fine sand, unconsolidated with ~5% rounded calcium carbonate cemented nodules to 3/4" moist, especially at base, no apparent hydrocarbon odor in cuttings.

319.5'-321.0' Cuttings (SM/ML) bordering on (SM), silty very fine sand, moist, no apparent hydrocarbon odor

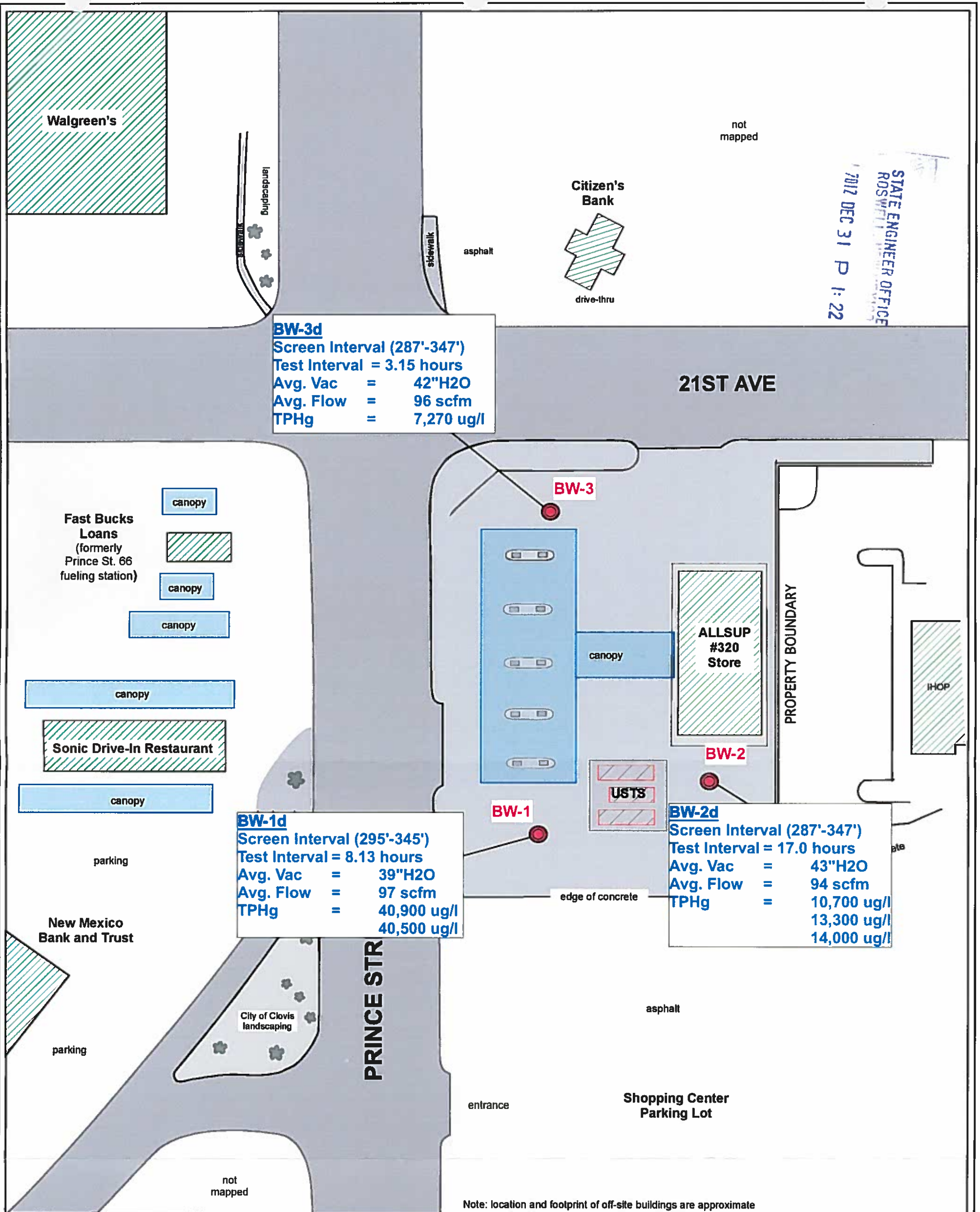
321.0'-330.0' Cuttings (SM) bordering on (SM/ML) silty very fine sand, unconsolidated, moist to wet below ~324', no apparent hydrocarbon odor in cuttings, (10YR) light tan to brown, ~5-10% calcium carbonate cemented nodules in localized intervals, possibly thin (SAS) zones.

330.0'-347.0' Cuttings (SM/ML) Silt - very fine sand, medium brown (10YR), darker brown than above with greater silt content, water saturated, unconsolidated, trace calcium carbonate nodules in top half, in lower half localized zones up to 10% of interval, likely thin (SAS/SST) zones. No apparent hydrocarbon odor in cuttings.

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 PHONE: (505) 858-4868 FAX: (505) 858-0707



STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2017 DEC 31 P 1:22

EXPLANATION

BW-3 Monitor Well Location

Building

Asphalt/Road/Concrete

Vegetation

Fence

Feasibility Testing Summary Data
 BW-1i = Test well identification
 Screen Interval = Test well screen interval in depth below land surface
 Test Interval = Active SVE test length in hours
 Avg. Vac = Average applied vacuum in "H2O
 Avg. Flow = Generated well flow in standard cubic feet/minute
 TPHg = Total Petroleum Hydrocarbons (gasoline range) extracted vapor concentration

0 50 ft
Scale

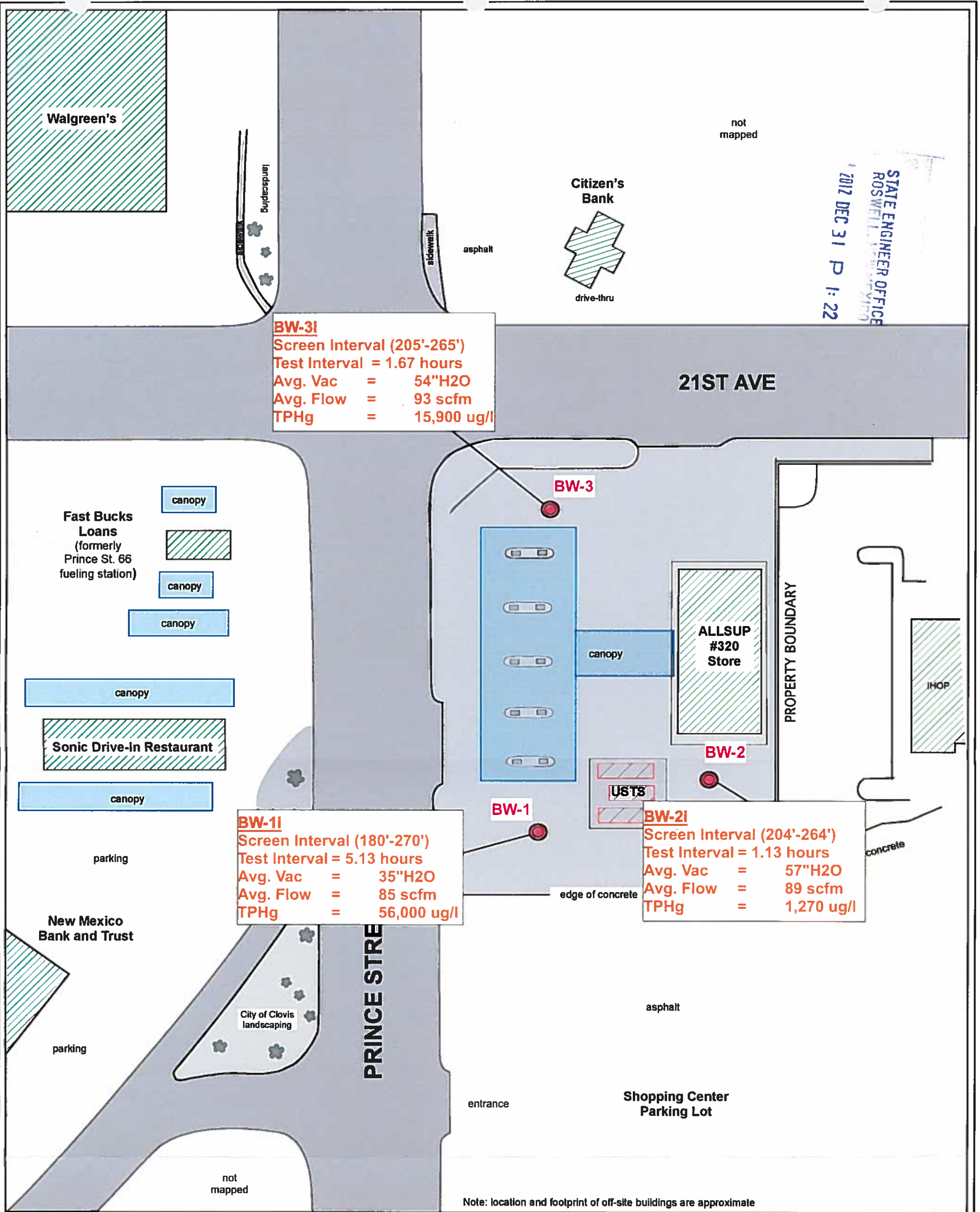
NORTH

RESULTS OF SVE FEASIBILITY TESTING - DEEP ZONE WELLS

Allsup's 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

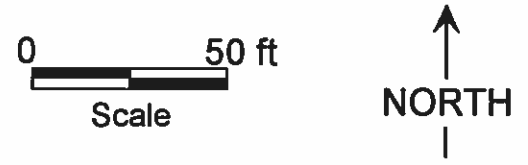
Drawn by:	WJB	12/12	Client: Allsup's
Drafted by:	EMB	12/12	Job #1070
Reviewed by:	WJB	12/12	Figure 6c



- EXPLANATION**
- BW-3** Monitor Well Location
 - Building
 - Asphalt/Road/Concrete
 - Vegetation
 - Fence

Feasibility Testing Summary Data

BW-1i = Test well identification
 Screen Interval = Test well screen interval in depth below land surface
 Test Interval = Active SVE test length in hours
 Avg. Vac = Average applied vacuum in "H2O
 Avg. Flow = Generated well flow in standard cubic feet/minute
 TPHg = Total Petroleum Hydrocarbons (gasoline range) extracted vapor concentration



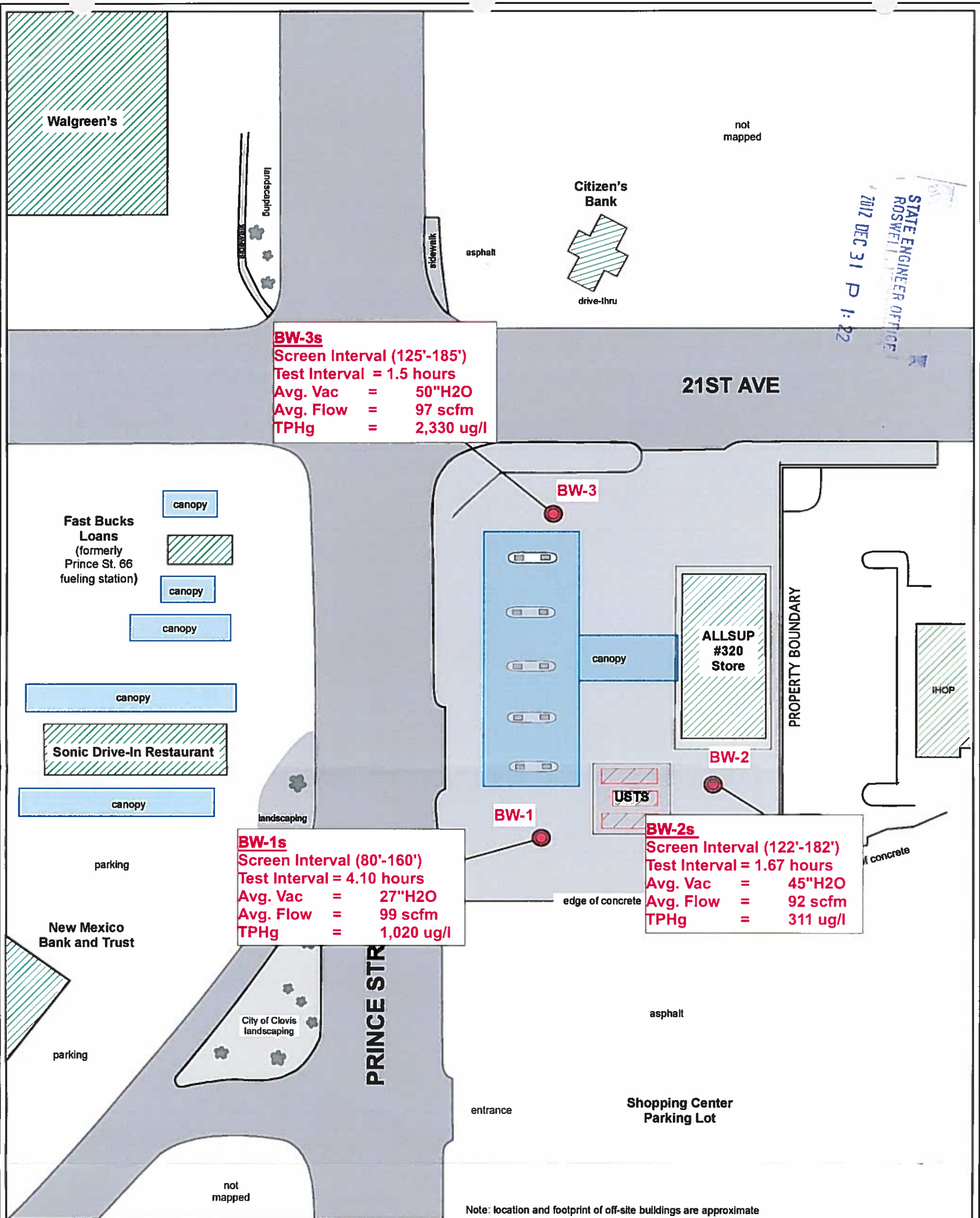
RESULTS OF SVE FEASIBILITY TESTING - INTERMEDIATE ZONE WELLS

Allsup's 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

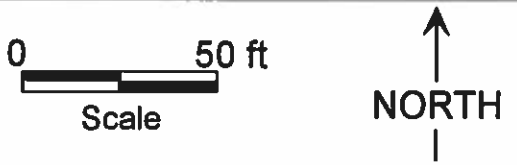
Drawn by:	WJB	12/12	Client: Allsup's
Drafted by:	EMB	12/12	Job #1070
Reviewed by:	WJB	12/12	Figure 6b



EXPLANATION

- BW-3 Monitor Well Location
- Building
- Asphalt/Road/Concrete
- Vegetation
- Fence

Feasibility Testing Summary Data
 BW-1s = Test well identification
 Screen Interval=Test well screen interval in depth below land surface
 Test Interval = Active SVE test length in hours
 Avg. Vac = Average applied vacuum in "H2O
 Avg. Flow = Generated well flow in standard cubic feet/minute
 TPHg= Total Petroleum Hydrocarbons (gasoline range) extracted vapor concentration



RESULTS OF SVE FEASIBILITY TESTING - SHALLOW ZONE WELLS

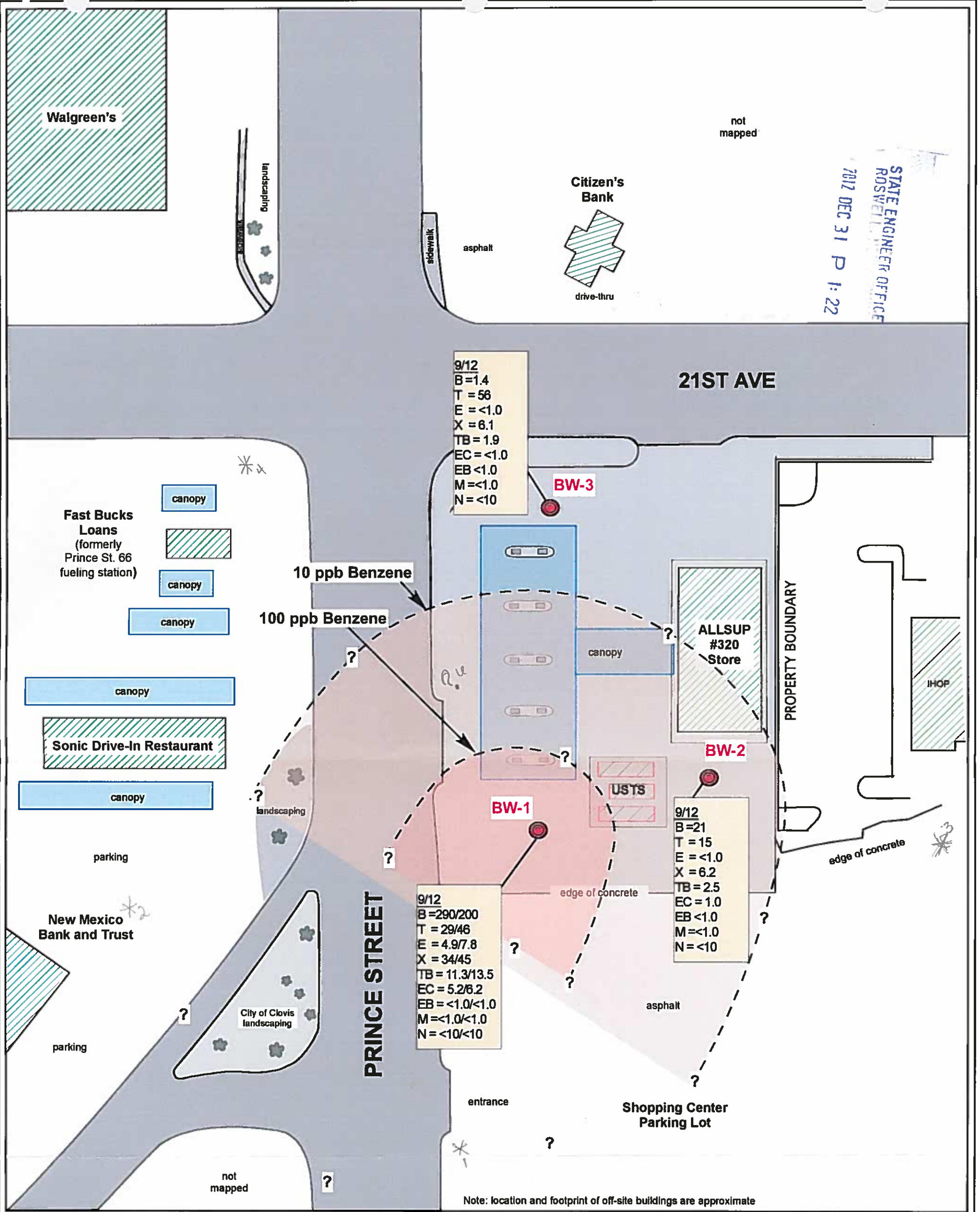
Allsup's Store #320
 Clovis, New Mexico



BROWN ENVIRONMENTAL, INC.

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

Drawn by:	WJB	12/12	Client: Allsup's
Drafted by:	EMB	12/12	Job #1070
Reviewed by:	WJB	12/12	Figure 6a



EXPLANATION

BW-3 Monitor Well Location

Building

Asphalt/Road/Concrete

Vegetation

Fence

Benzene Isocontour (in ppb)

10 ppb

GROUNDWATER QUALITY DATA

9/12	9/12= 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

0 50 ft
Scale

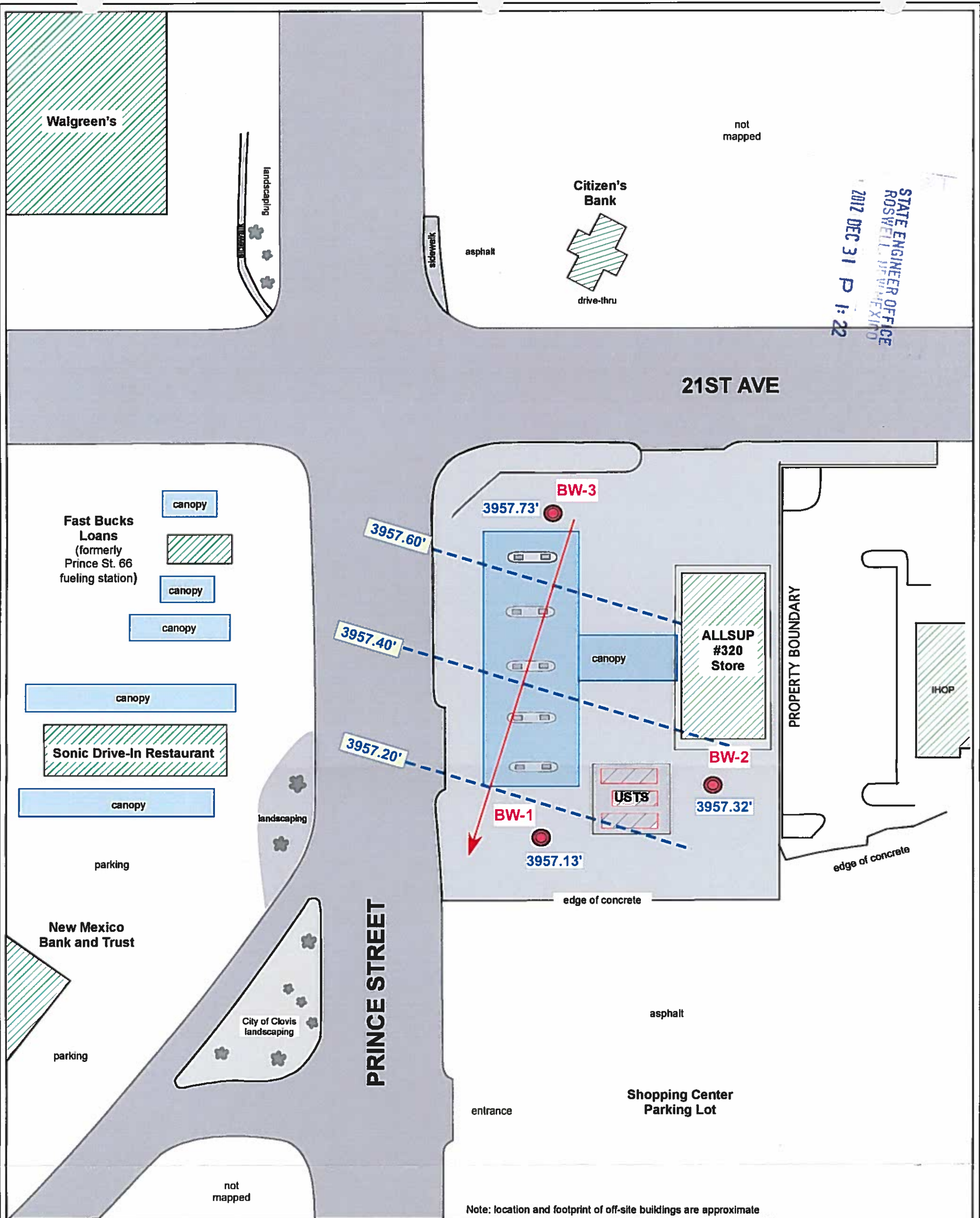
NORTH

GROUNDWATER QUALITY MAP - 9/12 SAMPLING EVENT

Allsup's 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	12/12	Client: Allsup's
Drafted by:	EMB	12/12	Job #1070
Reviewed by:	WJB	12/12	Figure: 5

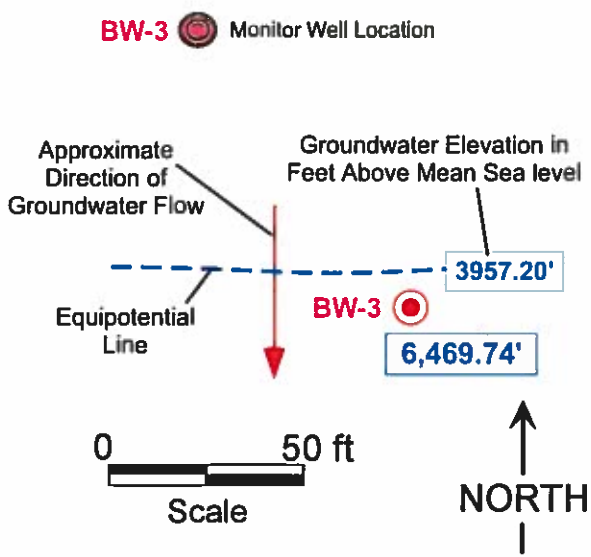


STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2012 DEC 31 P 1:22

Note: location and footprint of off-site buildings are approximate

EXPLANATION

- Building
- Asphalt/Road/Concrete
- Traffic Box
- Fire Hydrant
- Light Pole/sign
- Vegetation
- Fence



GROUNDWATER POTENTIOMETRIC SURFACE MAP 9/24/12

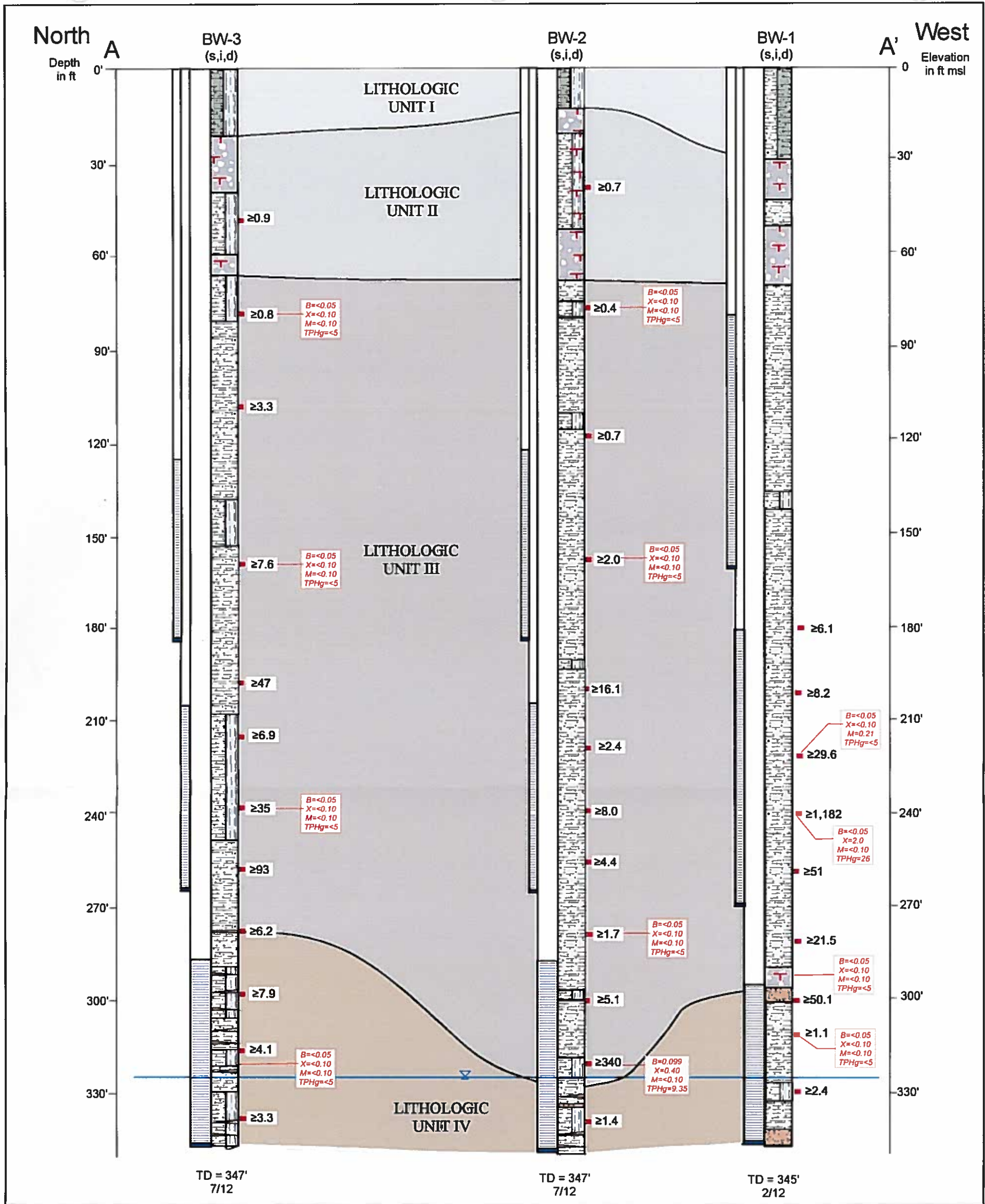
Allsup's Store #320
 Clovis, New Mexico



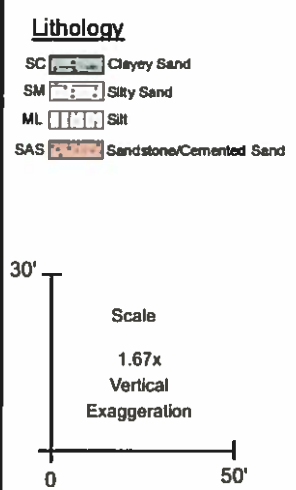
BROWN ENVIRONMENTAL, INC.

6739 Academy Road NE, NE., Suite 254
 Albuquerque, NM 87109
 Phone: (505) 358-1818 Fax: (505) 358-0707

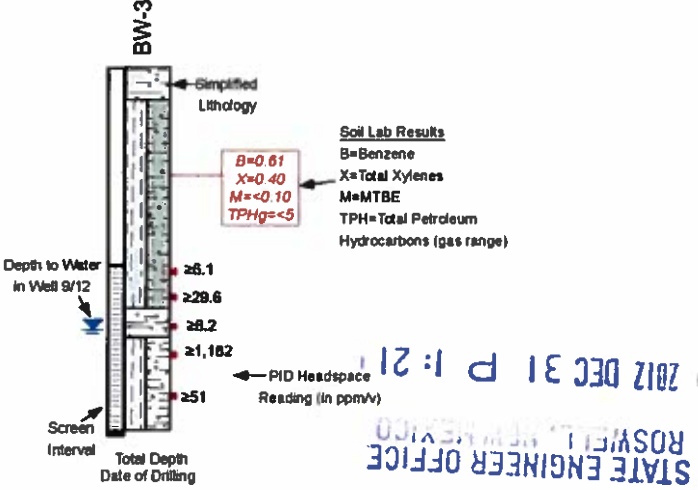
Drawn by:	WJB	12/12	Client: Allsup's
Drafted by:	EMB	12/12	Job #1070
Reviewed by:	WJB	12/12	Figure: 4



EXPLANATION



Well Completion Summary



SIMPLIFIED GEOLOGIC AND HYDROCARBON CONTAMINANT CROSS SECTION A-A'

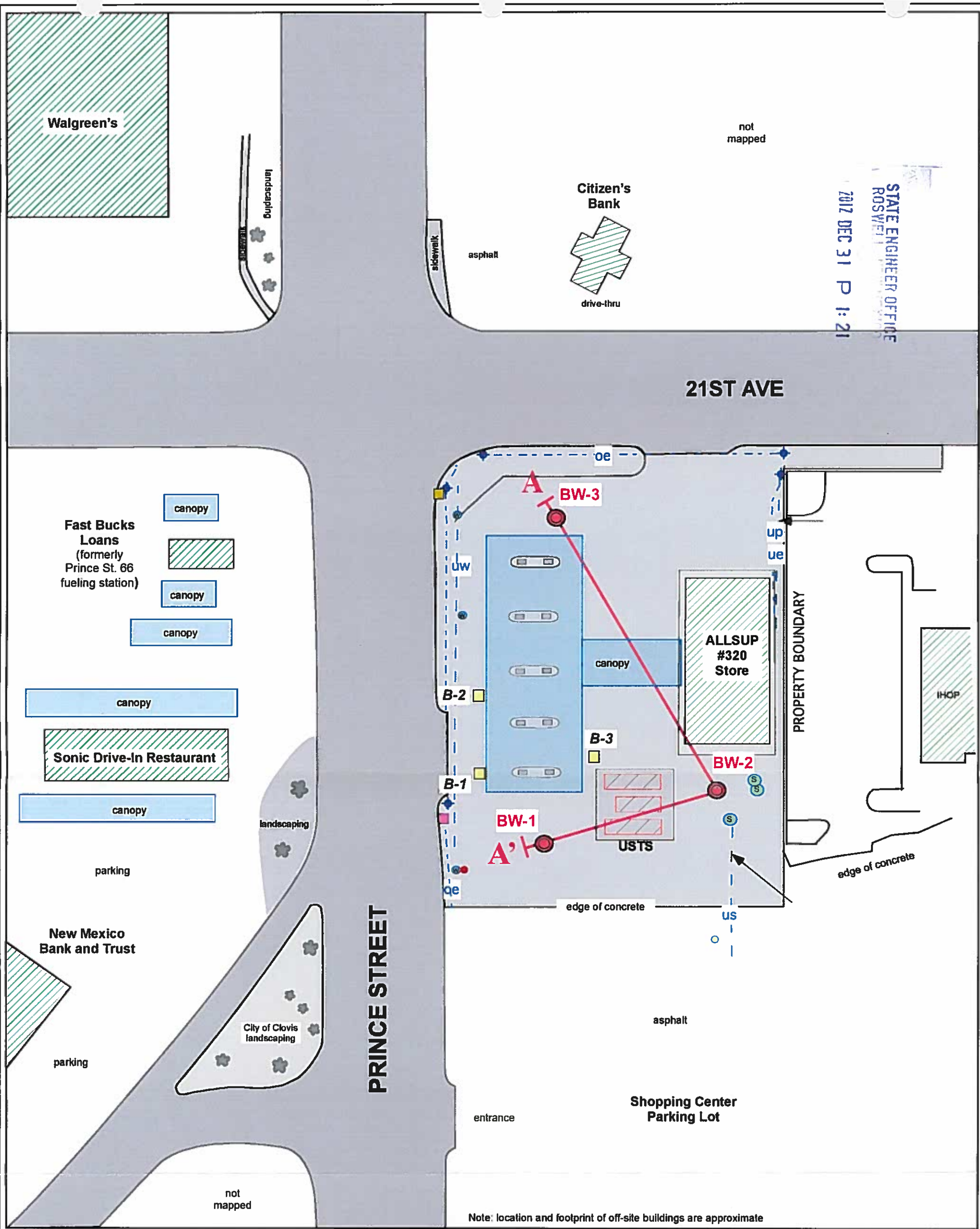
Allsups Store #320, Clovis, NM

Drawn by:	WJB	12/12	Client: NMED
Drafted by:	EMB	12/12	Job # 1070
Reviewed by:	WJB	12/12	Figure 3



BROWN ENVIRONMENTAL, INC

8799 Academy Road NE, Suite 254
 Albuquerque, New Mexico 87109
 Phone: (505) 858-1818 Fax: 858-0707



Note: location and footprint of off-site buildings are approximate

EXPLANATION

- Building
- Asphalt/Road/Concrete
- Soil Cover
- Traffic Box
- Fire Hydrant
- Light Pole/sign
- Water Valve
- Utility Pole/Box
- Vegetation
- Fence
- Manhole Cover
- Underground Utility
- Overhead Electric
- BW-3 Monitor Well Location
- B-1 Soil Boring Location
- Cross Section Location



SITE BASE MAP WITH CROSS SECTION LOCATION

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	12/12	Client: Allsup's
Drafted by:	EMB	12/12	Job #1070
Reviewed by:	WJB	12/12	Figure: 2

Contaminated Soils Shipment Manifest

1. Manifest Document No.

115315

2. Page

1 of 1

3. Generator's Name and Mailing Address

Brown Enviro. % Allsup's
Clariss NM

4. Generator Phone No.

5. Generator Contact

6. Transporter 1 Company Name

R-Marley LLC

7. ID No.

1670486

8. Transporter 2 Company Name

9. ID No.

10. Designated Disposal Facility Name and Site Address

Gandy Marley, Inc. Contaminated Soils Landfarm
7200 East Second Street
PO Box 1658
Roswell, NM 88201

11. Facility Permit Number

DP-1041

12. Facility Phone No.

(575) 398-0107

13. Description of Waste

14. Containers

15. Total

16. Unit

No

Type

Quantity

Wt. Vol.

a.

Ust Soil - non hazardous

18

yd

18

b.

c.

17. Special Handling Instructions and Additional Information

STATE ENGINEER
ROSWELL, NM
1 10 12 DEC 31

18. Generator's Certification:

I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state, and international laws.

FURTHER, I represent and warrant that the waste material as described on this manifest is either exempt from the Resource Conservation and Recovery Act of 1976, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Printed/Typed Name

Signature

Date

19. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

David Males

David Males

07/26/12

20. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

21. Discrepancy Information

22. Facility Owner or Operator Certification of receipt of materials described on this manifest except as noted in item 21.

Printed/Typed Name

Signature

Date

[Signature]

[Signature]

01/20/12

GENERATOR

TRANSPORTER

GMI

Contaminated Soils Shipment Manifest

1. Manifest Document No. 11531215

2. Page 1 of 1

3. Generator's Name and Mailing Address

Brown Enviro. % Allsup's
Clariss NM

4. Generator Phone No.

5. Generator Contact

6. Transporter 1 Company Name

R-Marley LLC

7. ID No.

16704861

8. Transporter 2 Company Name

9. ID No.

10. Designated Disposal Facility Name and Site Address

Gandy Marley, Inc. Contaminated Soils Landfarm
7200 East Second Street
PO Box 1658
Roswell, NM 88201

11. Facility Permit Number

DP-1041

12. Facility Phone No.

(575) 398-0107

13. Description of Waste

14. Containers

15. Total

16. Unit

No

Type

Quantity

Wt. Vol.

a.

Ust Soil - non hazardous

18

yd

18

b.

c.

17. Special Handling Instructions and Additional Information

18. Generator's Certification:

I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state, and international laws.

FURTHER, I represent and warrant that the waste material as described on this manifest is either exempt from the Resource Conservation and Recovery Act of 1976, OR has been characterized as non-hazardous material by virtue of appropriate laboratory analysis done in accordance with EPA-approved testing methods.

Printed/Typed Name

Signature

Date

19. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

David Madley

David Madley

07/26/12

20. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

21. Discrepancy Information

22. Facility Owner or Operator Certification of receipt of materials described on this manifest except as noted in item 21.

Printed/Typed Name

Signature

Date

David Madley

David Madley

07/26/12

GENERATOR

TRANSPORTER

GMI

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
DEC 31 2011



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

July 30, 2012

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.: 120794

STATE ENGINEER OF FICE
ROSWELL, NEW MEXICO
2012 DEC 31 1:21

Dear Bill Brown:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/20/2012 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. 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. 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.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a faint, illegible typed name.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2-78' (SM/ML)

Project: Allsups #320

Collection Date: 7/10/2012 8:30:00 AM

Lab ID: 1207941-001

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 11:36:15 AM
Surr: BFB	99.6	69.7-121		%REC	1	7/23/2012 11:36:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 11:36:15 AM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 11:36:15 AM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 11:36:15 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 11:36:15 AM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 11:36:15 AM
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	7/23/2012 11:36:15 AM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2-158' (SM)

Project: Allsup #320

Collection Date: 7/11/2012 7:30:00 AM

Lab ID: 1207941-002

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 12:04:59 PM
Surr: BFB	101	69.7-121		%REC	1	7/23/2012 12:04:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 12:04:59 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 12:04:59 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 12:04:59 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 12:04:59 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 12:04:59 PM
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	7/23/2012 12:04:59 PM

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 1 2017 DEC 31 P 1: 24

Qualifiers: */X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2-278' (SM)

Project: Allsups #320

Collection Date: 7/11/2012 1:45:00 PM

Lab ID: 1207941-003

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 12:33:51 PM
Surr: BFB	101	69.7-121		%REC	1	7/23/2012 12:33:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 12:33:51 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 12:33:51 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 12:33:51 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 12:33:51 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 12:33:51 PM
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	7/23/2012 12:33:51 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2-320' (SM/ML)

Project: Allsups #320

Collection Date: 7/12/2012 7:40:00 AM

Lab ID: 1207941-004

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	9.35	5.00		mg/Kg	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C05-C6	5.30	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C06-C7	16.5	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C07-C8	14.1	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C08-C9	11.5	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C09-C10	16.4	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C10-C11	28.7	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C11-C12	7.20	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C12-C14	0.300	0		%	1	7/23/2012 1:02:36 PM
% GRO Hydrocarbons: C14+	ND	0		%	1	7/23/2012 1:02:36 PM
Surr: BFB	109	69.7-121		%REC	1	7/23/2012 1:02:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 1:02:36 PM
Benzene	0.099	0.050		mg/Kg	1	7/23/2012 1:02:36 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 1:02:36 PM
Ethylbenzene	0.081	0.050		mg/Kg	1	7/23/2012 1:02:36 PM
Xylenes, Total	0.40	0.10		mg/Kg	1	7/23/2012 1:02:36 PM
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	7/23/2012 1:02:36 PM

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 1 2012 DEC 31 P 1:24

Qualifiers: * / X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3-78.5' (SM/ML)

Project: Allsups #320

Collection Date: 7/15/2012 11:25:00 AM

Lab ID: 1207941-005

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 2:57:52 PM
Surr: BFB	102	69.7-121		%REC	1	7/23/2012 2:57:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 2:57:52 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 2:57:52 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 2:57:52 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 2:57:52 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 2:57:52 PM
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	7/23/2012 2:57:52 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3-158' (SM)

Project: Allsups #320

Collection Date: 7/16/2012 7:45:00 AM

Lab ID: 1207941-006

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 3:26:40 PM
Surr: BFB	102	69.7-121		%REC	1	7/23/2012 3:26:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 3:26:40 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 3:26:40 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 3:26:40 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 3:26:40 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 3:26:40 PM
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	7/23/2012 3:26:40 PM

STATE ENGINEER OFFICE
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 1 2012 DEC 31 P 1: 24

Qualifiers:

*X 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
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3-239' (SM/ML)

Project: Allsup #320

Collection Date: 7/16/2012 10:50:00 AM

Lab ID: 12079-41-007

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 3:55:27 PM
Surr: BFB	102	69.7-121		%REC	1	7/23/2012 3:55:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 3:55:27 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 3:55:27 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 3:55:27 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 3:55:27 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 3:55:27 PM
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	7/23/2012 3:55:27 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1207941

Date Reported: 7/30/2012

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3-319' (SM/ML)

Project: Allsups #320

Collection Date: 7/17/2012 7:35:00 AM

Lab ID: 1207941-008

Matrix: SOIL

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 4:24:11 PM
Surr: BFB	102	69.7-121		%REC	1	7/23/2012 4:24:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 4:24:11 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 4:24:11 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 4:24:11 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 4:24:11 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 4:24:11 PM
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	7/23/2012 4:24:11 PM

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2012 DEC 31 P 1:24

Qualifiers: *X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: Methanol Blank

Project: Allsup #320

Collection Date:

Lab ID: 1207941-009

Matrix: MEOH (SOIL)

Received Date: 7/20/2012 3:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/23/2012 4:52:59 PM
Surr: BFB	102	69.7-121		%REC	1	7/23/2012 4:52:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	7/23/2012 4:52:59 PM
Benzene	ND	0.050		mg/Kg	1	7/23/2012 4:52:59 PM
Toluene	ND	0.050		mg/Kg	1	7/23/2012 4:52:59 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/23/2012 4:52:59 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/23/2012 4:52:59 PM
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	7/23/2012 4:52:59 PM

Qualifiers: */X Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 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
 RL Reporting Detection Limit
 U Samples with CalcVal < MDL

QC SUMMARY REPORT

WO#: 1207941

Hall Environmental Analysis Laboratory, Inc.

30-Jul-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	MB-2940	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBS	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121848	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	1000		1000		102	69.7	121			

Sample ID	LCS-2940	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSS	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121849	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	100	85	115			
Surr: BFB	1100		1000		107	69.7	121			

Sample ID	1207838-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121860	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	4.7	23.41	0	76.9	85.4	147			S
Surr: BFB	990		936.3		106	69.7	121			

Sample ID	1207838-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121861	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.9	24.44	0	86.7	85.4	147	16.2	19.2	
Surr: BFB	1000		977.5		104	69.7	121	0	0	

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- Modifiers:**
- A 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
 - R RPD outside accepted recovery limits
 - RL Reporting Detection Limit

QC SUMMARY REPORT

WO#: 1207941

Hall Environmental Analysis Laboratory, Inc.

30-Jul-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	MB-2940	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121864	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		110	80	120			

Sample ID	LCS-2940	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121865	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.90	0.10	1.000	0	89.9	62	122			
Benzene	0.98	0.050	1.000	0	98.3	76.3	117			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	77	116			
Xylenes, Total	3.2	0.10	3.000	0	106	76.7	117			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	80	120			

Sample ID	1207841-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BatchQC	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121876	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.84	0.098	0.9775	0	86.1	61.3	215			
Benzene	0.94	0.049	0.9775	0	96.4	67.2	113			
Toluene	0.96	0.049	0.9775	0	98.6	62.1	116			
Ethylbenzene	0.99	0.049	0.9775	0	101	67.9	127			
Xylenes, Total	3.0	0.098	2.933	0	101	60.6	134			
Surr: 4-Bromofluorobenzene	1.1		0.9775		111	80	120			

Sample ID	1207841-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BatchQC	Batch ID:	2940	RunNo:	4376					
Prep Date:	7/20/2012	Analysis Date:	7/23/2012	SeqNo:	121877	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.82	0.098	0.9785	0	84.0	61.3	215	2.37	19.6	
Benzene	0.93	0.049	0.9785	0	95.1	67.2	113	1.29	14.3	
Toluene	0.98	0.049	0.9785	0	100	62.1	116	1.52	15.9	
Ethylbenzene	1.0	0.049	0.9785	0	102	67.9	127	1.54	14.4	
Xylenes, Total	3.1	0.098	2.935	0	105	60.6	134	3.59	12.6	
Surr: 4-Bromofluorobenzene	1.1		0.9785		115	80	120	0	0	

Qualifiers:

- * / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD 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
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Brown Env** Work Order Number: **1207941**

Received by/date: AT 07/20/12

Logged By: **Anne Thome** 7/20/2012 3:00:00 PM *Anne Thome*

Completed By: **Anne Thome** 7/23/2012 *Anne Thome*

Reviewed By: KMS 7/23/12

Chain of Custody

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

Log In

- 4. Coolers are present? (see 19. for cooler specific information) Yes No NA
- 5. Was an attempt made to cool the samples? Yes No NA
- 6. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 7. Sample(s) in proper container(s)? Yes No
- 8. Sufficient sample volume for indicated test(s)? Yes No
- 9. Are samples (except VOA and ONG) properly preserved? Yes No
- 10. Was preservative added to bottles? Yes No NA
- 11. VOA vials have zero headspace? Yes No No VOA Vials
- 12. Were any sample containers received broken? Yes No
- 13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
- 14. Are matrices correctly identified on Chain of Custody? Yes No
- 15. Is it clear what analyses were requested? Yes No
- 16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

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

Special Handling (if applicable)

- 17. 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: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

Chain-of-Custody Record

Client: Ground Environmental, Inc.
 Mailing Address: 8739 Helmsley Rd NE, STE 254
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)

Turn-Around Time: Standard Rush
 Project Name: ASUPS #320
 Project #: 1070

Project Manager: William Brown
 Sampler: W. Brown

On Site: Yes No
 Sample Temperature: 70

Container Type and #
140Z JTB - W. PROS.
2 x 20ML METH VIALS

Preservative Type
-001
-002
-003
-004
-005
-006
-007
-008
-009

Sample Request ID
BW-2-78 (SM/ML)
BW-2-158 (SM)
BW-2-278 (SM)
BW-2-320 (SM/ML)
BW-3-78.5 (SM/ML)
BW-3-158 (SM)
BW-3-239 (SM/ML)
BW-3-319 (SM/ML)
METHY
REIP SENT
AT 07/24/12

Date Time
10/12 9:30
11/12 7:35
11/12 13:45
12/12 7:40
15/12 11:25
16/12 7:45
11/12 10:50
17/12 7:35

Date Time
120/12 15:30
120/12 15:30



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

Analysis Request	
<input checked="" type="checkbox"/>	BTEX + MTBE + TMB's (8021)
<input checked="" type="checkbox"/>	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)
	Air Bubbles (Y or N)

Remarks:
PLEASE PROVIDE H/C RANGES

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2s INFLUENT @ 10:40

Project: Allsups #320

Collection Date: 10/17/2012 10:40:00 AM

Lab ID: 1210973-010

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	311	25.0		µg/L	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C05-C6	8.00	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C06-C7	15.9	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C07-C8	19.4	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C08-C9	7.40	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C09-C10	13.8	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C10-C11	30.2	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C11-C12	5.20	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C12-C14	0.100	0		%	5	10/25/2012 3:49:33 PM
% GRO Hydrocarbons: C14+	ND	0		%	5	10/25/2012 3:49:33 PM
Surr: BFB	121	43.1-185		%REC	5	10/25/2012 3:49:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	1.2		µg/L	5	10/25/2012 3:49:33 PM
Benzene	1.7	0.50		µg/L	5	10/25/2012 3:49:33 PM
Toluene	4.7	0.50		µg/L	5	10/25/2012 3:49:33 PM
Ethylbenzene	0.72	0.50		µg/L	5	10/25/2012 3:49:33 PM
Xylenes, Total	7.1	1.5		µg/L	5	10/25/2012 3:49:33 PM
Surr: 4-Bromofluorobenzene	106	66.1-135		%REC	5	10/25/2012 3:49:33 PM

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 17/12 DEC 31 P 1:25

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2i INFLUENT @ 13:30

Project: Allsups #320

Collection Date: 10/17/2012 1:30:00 PM

Lab ID: 1210973-011

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1270	100		µg/L	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C05-C6	14.2	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C06-C7	28.2	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C07-C8	27.5	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C08-C9	8.10	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C09-C10	11.9	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C10-C11	8.70	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C11-C12	1.40	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C12-C14	ND	0		%	20	10/26/2012 11:49:36 AM
% GRO Hydrocarbons: C14+	ND	0		%	20	10/26/2012 11:49:36 AM
Surr: BFB	111	43.1-185		%REC	20	10/26/2012 11:49:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	20	10/26/2012 11:49:36 AM
Benzene	22	2.0		µg/L	20	10/26/2012 11:49:36 AM
Toluene	33	2.0		µg/L	20	10/26/2012 11:49:36 AM
Ethylbenzene	4.1	2.0		µg/L	20	10/26/2012 11:49:36 AM
Xylenes, Total	45	6.0		µg/L	20	10/26/2012 11:49:36 AM
Surr: 4-Bromofluorobenzene	107	66.1-135		%REC	20	10/26/2012 11:49:36 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d INFLUENT @ 15:25

Project: Allsups #320

Collection Date: 10/17/2012 3:25:00 PM

Lab ID: 1210973-012

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	10700	500		µg/L	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C05-C6	44.1	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C06-C7	39.9	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C07-C8	10.8	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C08-C9	1.30	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C09-C10	2.70	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C10-C11	1.00	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C11-C12	0.200	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	100	10/25/2012 4:44:16 PM
% GRO Hydrocarbons: C14+	ND	0		%	100	10/25/2012 4:44:16 PM
Surr: BFB	107	43.1-185		%REC	100	10/25/2012 4:44:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	100	10/25/2012 4:44:16 PM
Benzene	140	10		µg/L	100	10/25/2012 4:44:16 PM
Toluene	26	10		µg/L	100	10/25/2012 4:44:16 PM
Ethylbenzene	ND	10		µg/L	100	10/25/2012 4:44:16 PM
Xylenes, Total	ND	30		µg/L	100	10/25/2012 4:44:16 PM
Surr: 4-Bromofluorobenzene	101	66.1-135		%REC	100	10/25/2012 4:44:16 PM

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 1 2012 DEC 31 P 1:25

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d INFLUENT @ 7:25

Project: Allsups #320

Collection Date: 10/18/2012 7:25:00 AM

Lab ID: 1210973-013

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	14000	250		µg/L	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C05-C6	47.7	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C06-C7	39.4	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C07-C8	9.90	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C08-C9	1.30	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C09-C10	1.30	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C10-C11	0.400	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C11-C12	ND	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	50	10/26/2012 12:44:13 PM
% GRO Hydrocarbons: C14+	ND	0		%	50	10/26/2012 12:44:13 PM
Surr: BFB	110	43.1-185		%REC	50	10/26/2012 12:44:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	50	10/26/2012 12:44:13 PM
Benzene	190	5.0		µg/L	50	10/26/2012 12:44:13 PM
Toluene	43	5.0		µg/L	50	10/26/2012 12:44:13 PM
Ethylbenzene	8.9	5.0		µg/L	50	10/26/2012 12:44:13 PM
Xylenes, Total	37	15		µg/L	50	10/26/2012 12:44:13 PM
Surr: 4-Bromofluorobenzene	105	66.1-135		%REC	50	10/26/2012 12:44:13 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d INFLUENT @ 12.05

Project: Allsups #320

Collection Date: 10/18/2012 12:05:00 PM

Lab ID: 1210973-014

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	7270	500		µg/L	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C05-C6	25.5	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C06-C7	34.4	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C07-C8	26.2	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C08-C9	5.80	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C09-C10	6.00	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C10-C11	1.90	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C11-C12	0.100	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C12-C14	0.100	0		%	100	10/26/2012 2:11:58 PM
% GRO Hydrocarbons: C14+	ND	0		%	100	10/26/2012 2:11:58 PM
Surr: BFB	110	43.1-185		%REC	100	10/26/2012 2:11:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	100	10/26/2012 2:11:58 PM
Benzene	80	10		µg/L	100	10/26/2012 2:11:58 PM
Toluene	180	10		µg/L	100	10/26/2012 2:11:58 PM
Ethylbenzene	26	10		µg/L	100	10/26/2012 2:11:58 PM
Xylenes, Total	130	30		µg/L	100	10/26/2012 2:11:58 PM
Surr: 4-Bromofluorobenzene	105	66.1-135		%REC	100	10/26/2012 2:11:58 PM

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 2012 DEC 31 P 1:25

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3i INFLUENT @ 14:00

Project: Allsup #320

Collection Date: 10/18/2012 2:00:00 PM

Lab ID: 1210973-015

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	15900	1000		µg/L	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C05-C6	20.0	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C06-C7	33.2	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C07-C8	27.7	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C08-C9	8.30	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C09-C10	7.40	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C10-C11	2.90	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C11-C12	0.300	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	200	10/26/2012 2:39:10 PM
% GRO Hydrocarbons: C14+	ND	0		%	200	10/26/2012 2:39:10 PM
Surr: BFB	113	43.1-185		%REC	200	10/26/2012 2:39:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	200	10/26/2012 2:39:10 PM
Benzene	230	20		µg/L	200	10/26/2012 2:39:10 PM
Toluene	570	20		µg/L	200	10/26/2012 2:39:10 PM
Ethylbenzene	84	20		µg/L	200	10/26/2012 2:39:10 PM
Xylenes, Total	440	60		µg/L	200	10/26/2012 2:39:10 PM
Surr: 4-Bromofluorobenzene	107	66.1-135		%REC	200	10/26/2012 2:39:10 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3s INFLUENT @ 16:20

Project: Allsups #320

Collection Date: 10/18/2012 4:20:00 PM

Lab ID: 1210973-016

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	2330	25.0		µg/L	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C05-C6	23.2	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C06-C7	36.3	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C07-C8	27.1	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C08-C9	6.10	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C09-C10	4.00	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C10-C11	3.00	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C11-C12	0.300	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	5	10/26/2012 3:06:36 PM
% GRO Hydrocarbons: C14+	ND	0		%	5	10/26/2012 3:06:36 PM
Surr: BFB	107	43.1-185		%REC	5	10/26/2012 3:06:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	1.2		µg/L	5	10/26/2012 3:06:36 PM
Benzene	42	0.50		µg/L	5	10/26/2012 3:06:36 PM
Toluene	63	2.5		µg/L	25	10/26/2012 4:01:28 PM
Ethylbenzene	9.2	0.50		µg/L	5	10/26/2012 3:06:36 PM
Xylenes, Total	47	1.5		µg/L	5	10/26/2012 3:06:36 PM
Surr: 4-Bromofluorobenzene	109	66.1-135		%REC	5	10/26/2012 3:06:36 PM

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 12012 DEC 31 P 1:25

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
	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 INFLUENT @ 22:25

Project: Allsups #320

Collection Date: 10/17/2012 10:25:00 PM

Lab ID: 1210973-017

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	13300	250		µg/L	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C05-C6	47.1	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C06-C7	39.6	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C07-C8	10.1	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C08-C9	1.30	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C09-C10	1.40	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C10-C11	0.500	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C11-C12	ND	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	50	10/26/2012 3:33:59 PM
% GRO Hydrocarbons: C14+	ND	0		%	50	10/26/2012 3:33:59 PM
Surr: BFB	111	43.1-185		%REC	50	10/26/2012 3:33:59 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	50	10/26/2012 3:33:59 PM
Benzene	180	5.0		µg/L	50	10/26/2012 3:33:59 PM
Toluene	39	5.0		µg/L	50	10/26/2012 3:33:59 PM
Ethylbenzene	8.6	5.0		µg/L	50	10/26/2012 3:33:59 PM
Xylenes, Total	37	15		µg/L	50	10/26/2012 3:33:59 PM
Surr: 4-Bromofluorobenzene	106	66.1-135		%REC	50	10/26/2012 3:33:59 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: Not Indicated
Client Sample ID: 1210973-002A; BW-1s Influent @ 18.05
Location:
Lab ID: G12100550-001

Report Date: 10/25/12
Collection Date: 10/16/12 18:00
Date Received: 10/23/12
Sampled By: Not Provided

Analyses Result Units Qualifier Method Analysis Date / By

NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	5.411 Mol %		GPA 2261	10/25/12 10:07 / djb
Nitrogen	85.894 Mol %		GPA 2261	10/25/12 10:07 / djb
Carbon Dioxide	8.695 Mol %		GPA 2261	10/25/12 10:07 / djb
Hydrogen Sulfide	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
Methane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
Ethane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
Propane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
Isobutane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
n-Butane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
Isopentane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
n-Pentane	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb
Hexanes plus	< 0.001 Mol %		GPA 2261	10/25/12 10:07 / djb

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

GPM Ethane	< 0.0003 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM Propane	< 0.0003 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM Isobutane	< 0.0003 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM n-Butane	< 0.0003 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM Isopentane	< 0.0004 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM n-Pentane	< 0.0004 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM Hexanes plus	< 0.0004 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM Pentanes plus	< 0.0004 gal/MCF		GPA 2261	10/25/12 10:07 / djb
GPM Total	< 0.0004 gal/MCF		GPA 2261	10/25/12 10:07 / djb

CALCULATED PROPERTIES

Calculation Pressure Base	14.730 psia		GPA 2261	10/25/12 10:07 / djb
Calculation Temperature Base	60 °F		GPA 2261	10/25/12 10:07 / djb
Compressibility Factor, Z	0.99949 unitless		GPA 2261	10/25/12 10:07 / djb
Molecular Weight	29.62 unitless		GPA 2261	10/25/12 10:07 / djb
Pseudo-critical Pressure, psia	557 psia		GPA 2261	10/25/12 10:07 / djb
Pseudo-critical Temperature, deg R	258 deg R		GPA 2261	10/25/12 10:07 / djb
Specific Gravity (air=1.000)	1.026 unitless		GPA 2261	10/25/12 10:07 / djb
Gross BTU per cu ft @ std cond, dry	< 0.01 BTU/cu. ft.		GPA 2261	10/25/12 10:07 / djb
Gross BTU per cu ft @ std cond, wet	< 0.01 BTU/cu. ft.		GPA 2261	10/25/12 10:07 / djb

1 7012 DEC 31 P 1: 26
 STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: Not Indicated
Client Sample ID 1210973-004A; BW-1i Influent @ 9.05
Location:
Lab ID: G12100550-002

Report Date: 10/25/12
Collection Date: 10/16/12 09:05
Date Received: 10/23/12
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
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NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	3.624	Mol %		GPA 2261	10/25/12 10:28 / djb
Nitrogen	88.033	Mol %		GPA 2261	10/25/12 10:26 / djb
Carbon Dioxide	7.918	Mol %		GPA 2261	10/25/12 10:28 / djb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	10/25/12 10:26 / djb
Methane	< 0.001	Mol %		GPA 2261	10/25/12 10:28 / djb
Ethane	< 0.001	Mol %		GPA 2261	10/25/12 10:26 / djb
Propane	< 0.001	Mol %		GPA 2261	10/25/12 10:28 / djb
Isobutane	< 0.001	Mol %		GPA 2261	10/25/12 10:26 / djb
n-Butane	0.021	Mol %		GPA 2261	10/25/12 10:28 / djb
Isopentane	0.088	Mol %		GPA 2261	10/25/12 10:26 / djb
n-Pentane	0.080	Mol %		GPA 2261	10/25/12 10:28 / djb
Hexanes plus	0.237	Mol %		GPA 2261	10/25/12 10:26 / djb

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

GPM Ethane	< 0.0003	gal/MCF		GPA 2261	10/25/12 10:26 / djb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	10/25/12 10:26 / djb
GPM Isobutane	< 0.0003	gal/MCF		GPA 2261	10/25/12 10:28 / djb
GPM n-Butane	0.0065	gal/MCF		GPA 2261	10/25/12 10:26 / djb
GPM Isopentane	0.0322	gal/MCF		GPA 2261	10/25/12 10:28 / djb
GPM n-Pentane	0.0288	gal/MCF		GPA 2261	10/25/12 10:26 / djb
GPM Hexanes plus	0.1030	gal/MCF		GPA 2261	10/25/12 10:26 / djb
GPM Pentanes plus	0.1641	gal/MCF		GPA 2261	10/25/12 10:28 / djb
GPM Total	0.1706	gal/MCF		GPA 2261	10/25/12 10:26 / djb

CALCULATED PROPERTIES

Calculation Pressure Base	14.730	psia		GPA 2261	10/25/12 10:26 / djb
Calculation Temperature Base	60	°F		GPA 2261	10/25/12 10:26 / djb
Compressibility Factor, Z	0.99947	unitless		GPA 2261	10/25/12 10:26 / djb
Molecular Weight	29.66	unitless		GPA 2261	10/25/12 10:28 / djb
Pseudo-critical Pressure, psia	548	psia		GPA 2261	10/25/12 10:26 / djb
Pseudo-critical Temperature, deg R	258	deg R		GPA 2261	10/25/12 10:26 / djb
Specific Gravity (air=1.000)	1.027	unitless		GPA 2261	10/25/12 10:26 / djb
Gross BTU per cu ft @ std cond, dry	19.60	BTU/cu. ft.		GPA 2261	10/25/12 10:28 / djb
Gross BTU per cu ft @ std cond, wet	19.28	BTU/cu. ft.		GPA 2261	10/25/12 10:26 / djb

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: Not Indicated
Client Sample ID 1210973-007A; BW-1d Influent @ 15.35
Location:
Lab ID: G12100550-003

Report Date: 10/25/12
Collection Date: 10/16/12 15:35
Date Received: 10/23/12
Sampled By: Not Provided

Analyzes	Result	Units	Qualifier	Method	Analysis Date / By
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NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	1.733	Mol %		GPA 2261	10/25/12 10:52 / djb
Nitrogen	88.923	Mol %		GPA 2261	10/25/12 10:52 / djb
Carbon Dioxide	8.284	Mol %		GPA 2261	10/25/12 10:52 / djb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	10/25/12 10:52 / djb
Methane	< 0.001	Mol %		GPA 2261	10/25/12 10:52 / djb
Ethane	< 0.001	Mol %		GPA 2261	10/25/12 10:52 / djb
Propane	< 0.001	Mol %		GPA 2261	10/25/12 10:52 / djb
Isobutane	0.002	Mol %		GPA 2261	10/25/12 10:52 / djb
n-Butane	0.044	Mol %		GPA 2261	10/25/12 10:52 / djb
Isopentane	0.202	Mol %		GPA 2261	10/25/12 10:52 / djb
n-Pentane	0.196	Mol %		GPA 2261	10/25/12 10:52 / djb
Hexanes plus	0.616	Mol %		GPA 2261	10/25/12 10:52 / djb

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

GPM Ethane	< 0.0003	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM Isobutane	0.0007	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM n-Butane	0.0139	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM Isopentane	0.0736	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM n-Pentane	0.0708	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM Hexanes plus	0.2680	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM Pentanes plus	0.4124	gal/MCF		GPA 2261	10/25/12 10:52 / djb
GPM Total	0.4269	gal/MCF		GPA 2261	10/25/12 10:52 / djb

CALCULATED PROPERTIES

Calculation Pressure Base	14.730	psia		GPA 2261	10/25/12 10:52 / djb
Calculation Temperature Base	60	°F		GPA 2261	10/25/12 10:52 / djb
Compressibility Factor, Z	0.99939	unitless		GPA 2261	10/25/12 10:52 / djb
Molecular Weight	29.99	unitless		GPA 2261	10/25/12 10:52 / djb
Pseudo-critical Pressure, psia	546	psia		GPA 2261	10/25/12 10:52 / djb
Pseudo-critical Temperature, deg R	262	deg R		GPA 2261	10/25/12 10:52 / djb
Specific Gravity (air=1.000)	1.039	unitless		GPA 2261	10/25/12 10:52 / djb
Gross BTU per cu ft @ std cond, dry	49.15	BTU/cu. ft.		GPA 2261	10/25/12 10:52 / djb
Gross BTU per cu ft @ std cond, wet	48.29	BTU/cu. ft.		GPA 2261	10/25/12 10:52 / djb

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.

2012 DEC 31 P 1:26
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 ROSWELL, NEW MEXICO

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: Not Indicated
Client Sample ID 1210973-009A; BW-1d Influent @ 22.40
Location:
Lab ID: G12100550-004

Report Date: 10/25/12
Collection Date: 10/16/12 22:40
Date Received: 10/23/12
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
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NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	3.219	Mol %		GPA 2261	10/25/12 11:33 / djb
Nitrogen	88.278	Mol %		GPA 2261	10/25/12 11:33 / djb
Carbon Dioxide	7.627	Mol %		GPA 2261	10/25/12 11:33 / djb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	10/25/12 11:33 / djb
Methane	< 0.001	Mol %		GPA 2261	10/25/12 11:33 / djb
Ethane	< 0.001	Mol %		GPA 2261	10/25/12 11:33 / djb
Propane	< 0.001	Mol %		GPA 2261	10/25/12 11:33 / djb
Isobutane	< 0.001	Mol %		GPA 2261	10/25/12 11:33 / djb
n-Butane	0.038	Mol %		GPA 2261	10/25/12 11:33 / djb
Isopentane	0.174	Mol %		GPA 2261	10/25/12 11:33 / djb
n-Pentane	0.172	Mol %		GPA 2261	10/25/12 11:33 / djb
Hexanes plus	0.492	Mol %		GPA 2261	10/25/12 11:33 / djb

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

GPM Ethane	< 0.0003	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM Isobutane	< 0.0003	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM n-Butane	0.0119	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM Isopentane	0.0635	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM n-Pentane	0.0820	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM Hexanes plus	0.2141	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM Pentanes plus	0.3398	gal/MCF		GPA 2261	10/25/12 11:33 / djb
GPM Total	0.3515	gal/MCF		GPA 2261	10/25/12 11:33 / djb

CALCULATED PROPERTIES

Calculation Pressure Base	14.730	psia		GPA 2261	10/25/12 11:33 / djb
Calculation Temperature Base	60	°F		GPA 2261	10/25/12 11:33 / djb
Compressibility Factor, Z	0.99942	unitless		GPA 2261	10/25/12 11:33 / djb
Molecular Weight	29.84	unitless		GPA 2261	10/25/12 11:33 / djb
Pseudo-critical Pressure, psia	545	psia		GPA 2261	10/25/12 11:33 / djb
Pseudo-critical Temperature, deg R	260	deg R		GPA 2261	10/25/12 11:33 / djb
Specific Gravity (air=1.000)	1.034	unitless		GPA 2261	10/25/12 11:33 / djb
Gross BTU per cu ft @ std cond, dry	40.42	BTU/cu. ft.		GPA 2261	10/25/12 11:33 / djb
Gross BTU per cu ft @ std cond, wet	39.72	BTU/cu. ft.		GPA 2261	10/25/12 11:33 / djb

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: Not Indicated
Client Sample ID: 1210973-018A; BW-2d Influent @ 22:25
Location:
Lab ID: G12100550-005

Report Date: 10/25/12
Collection Date: 10/17/12 22:25
Date Received: 10/23/12
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
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NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	1.748	Mol %		GPA 2261	10/25/12 11:50 / djb
Nitrogen	89.192	Mol %		GPA 2261	10/25/12 11:50 / djb
Carbon Dioxide	8.829	Mol %		GPA 2261	10/25/12 11:50 / djb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	10/25/12 11:50 / djb
Methane	< 0.001	Mol %		GPA 2261	10/25/12 11:50 / djb
Ethane	< 0.001	Mol %		GPA 2261	10/25/12 11:50 / djb
Propane	< 0.001	Mol %		GPA 2261	10/25/12 11:50 / djb
Isobutane	< 0.001	Mol %		GPA 2261	10/25/12 11:50 / djb
n-Butane	0.011	Mol %		GPA 2261	10/25/12 11:50 / djb
Isopentane	0.056	Mol %		GPA 2261	10/25/12 11:50 / djb
n-Pentane	0.055	Mol %		GPA 2261	10/25/12 11:50 / djb
Hexanes plus	0.110	Mol %		GPA 2261	10/25/12 11:50 / djb

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

GPM Ethane	< 0.0003	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM Isobutane	< 0.0003	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM n-Butane	0.0035	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM Isopentane	0.0204	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM n-Pentane	0.0198	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM Hexanes plus	0.0479	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM Pentanes plus	0.0881	gal/MCF		GPA 2261	10/25/12 11:50 / djb
GPM Total	0.0916	gal/MCF		GPA 2261	10/25/12 11:50 / djb

CALCULATED PROPERTIES

Calculation Pressure Base	14.730	psia		GPA 2261	10/25/12 11:50 / djb
Calculation Temperature Base	60	°F		GPA 2261	10/25/12 11:50 / djb
Compressibility Factor, Z	0.99948	unitless		GPA 2261	10/25/12 11:50 / djb
Molecular Weight	29.62	unitless		GPA 2261	10/25/12 11:50 / djb
Pseudo-critical Pressure, psia	549	psia		GPA 2261	10/25/12 11:50 / djb
Pseudo-critical Temperature, deg R	258	deg R		GPA 2261	10/25/12 11:50 / djb
Specific Gravity (air=1.000)	1.026	unitless		GPA 2261	10/25/12 11:50 / djb
Gross BTU per cu ft @ std cond, dry	10.47	BTU/cu. ft.		GPA 2261	10/25/12 11:50 / djb
Gross BTU per cu ft @ std cond, wet	10.29	BTU/cu. ft.		GPA 2261	10/25/12 11:50 / djb

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 STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO

Report Definitions: RL - Analyte reporting limit.
 QCL - Quality control limit.

MCL - Maximum contaminant level.
 ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental

Report Date: 10/25/12

Project: Not Indicated

Work Order: G12100550

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: GPA 2261										Analytical Run: Varian GC_121025A	
Sample ID: ICV-1210250928	12 Initial Calibration Verification Standard							10/25/12 09:28			
Oxygen		0.492	Mol %	0.001	100	90	110				
Nitrogen		5.217	Mol %	0.001	100	90	110				
Carbon Dioxide		4.951	Mol %	0.001	98	90	110				
Hydrogen Sulfide		0.132	Mol %	0.001	129	90	150				
Methane		72.389	Mol %	0.001	99	90	110				
Ethane		5.206	Mol %	0.001	104	90	110				
Propane		5.137	Mol %	0.001	102	90	110				
Isobutane		2.054	Mol %	0.001	103	90	110				
n-Butane		2.048	Mol %	0.001	102	90	110				
Isopentane		1.026	Mol %	0.001	103	90	110				
n-Pentane		1.021	Mol %	0.001	102	90	110				
Hexanes plus		0.326	Mol %	0.001	107	90	120				

Method: GPA 2261										Batch: R198821	
Sample ID: LCS-1210250935	12 Laboratory Control Sample							Run: Varian GC_121025A		10/25/12 09:38	
Oxygen		0.995	Mol %	0.001	99	90	110				
Nitrogen		1.018	Mol %	0.001	101	90	110				
Carbon Dioxide		0.939	Mol %	0.001	94	90	110				
Hydrogen Sulfide		0.026	Mol %	0.001	102	80	120				
Methane		93.506	Mol %	0.001	100	90	110				
Ethane		1.010	Mol %	0.001	101	90	110				
Propane		0.973	Mol %	0.001	97	90	110				
Isobutane		0.497	Mol %	0.001	99	90	110				
n-Butane		0.492	Mol %	0.001	99	90	110				
Isopentane		0.197	Mol %	0.001	99	90	110				
n-Pentane		0.198	Mol %	0.001	99	90	110				
Hexanes plus		0.148	Mol %	0.001	99	80	120				

Sample ID: G12100550-001ADUP	12 Sample Duplicate							Run: Varian GC_121025A		10/25/12 10:13	
Oxygen		5.402	Mol %	0.001				0.2	10		
Nitrogen		85.901	Mol %	0.001				0.0	10		
Carbon Dioxide		8.697	Mol %	0.001				0.0	10		
Hydrogen Sulfide		< 0.001	Mol %	0.001					10		
Methane		< 0.001	Mol %	0.001					10		
Ethane		< 0.001	Mol %	0.001					10		
Propane		< 0.001	Mol %	0.001					10		
Isobutane		< 0.001	Mol %	0.001					10		
n-Butane		< 0.001	Mol %	0.001					10		
Isopentane		< 0.001	Mol %	0.001					10		
n-Pentane		< 0.001	Mol %	0.001					10		
Hexanes plus		< 0.001	Mol %	0.001					10		

Sample ID: LCS-1210251227	12 Laboratory Control Sample							Run: Varian GC_121025A		10/25/12 12:28	
Oxygen		0.995100	Mol %	0.0010	99	90	110				
Nitrogen		1.01410	Mol %	0.0010	101	90	110				

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental

Report Date: 10/25/12

Project: Not Indicated

Work Order: G12100550

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: GPA 2261											
Batch: R198821											
Sample ID: LCS-1210251227	12 Laboratory Control Sample			Run: Varian GC_121025A				10/25/12 12:28			
Carbon Dioxide		0.938400	Mol %	0.0010	94	90	110				
Hydrogen Sulfide		0.0259000	Mol %	0.0010	104	80	120				
Methane		93.5129	Mol %	0.0010	100	90	110				
Ethane		1.00830	Mol %	0.0010	101	90	110				
Propane		0.970800	Mol %	0.0010	97	90	110				
Isobutane		0.497200	Mol %	0.0010	99	90	110				
n-Butane		0.493200	Mol %	0.0010	98	90	110				
Isopentane		0.197500	Mol %	0.0010	99	90	110				
n-Pentane		0.197900	Mol %	0.0010	99	90	110				
Hexanes plus		0.148800	Mol %	0.0010	98	80	120				

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 ROSWELL, NEW MEXICO
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Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210973

01-Nov-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID: 1210973-001ADUP	SampType: DUP	TestCode: EPA Method 8015B: Gasoline Range									
Client ID: BW-1s INFLUENT @	Batch ID: R6507	RunNo: 6507									
Prep Date:	Analysis Date: 10/25/2012	SeqNo: 187732		Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	920	25						10.4	21		
Surr: BFB	12000		10000		124	43.1	185	0	0		

Sample ID: 1210973-011ADUP	SampType: DUP	TestCode: EPA Method 8015B: Gasoline Range									
Client ID: BW-2i INFLUENT @	Batch ID: R6515	RunNo: 6515									
Prep Date:	Analysis Date: 10/26/2012	SeqNo: 187944		Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	1500	100						17.6	21		
Surr: BFB	47000		40000		118	43.1	185	0	0		

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

WO#: 1210973

Hall Environmental Analysis Laboratory, Inc.

01-Nov-12

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID: 1210973-001ADUP	SampType: DUP	TestCode: EPA Method 8021B: Volatiles								
Client ID: BW-1s INFLUENT @	Batch ID: R6507	RunNo: 6507								
Prep Date:	Analysis Date: 10/25/2012	SeqNo: 187756 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	2.3	1.2						5.24	25	
Benzene	2.5	0.50						8.99	105	
Toluene	8.8	0.50						5.92	34	
Ethylbenzene	0.57	0.50						13.7	22.1	
Xylenes, Total	6.0	1.5						9.34	21.9	
Surr: 4-Bromofluorobenzene	11		10.00		108	66.1	135	0	0	

Sample ID: 1210973-011ADUP	SampType: DUP	TestCode: EPA Method 8021B: Volatiles								
Client ID: BW-2I INFLUENT @	Batch ID: R6515	RunNo: 6515								
Prep Date:	Analysis Date: 10/26/2012	SeqNo: 187972 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	5.0						0	25	
Benzene	23	2.0						6.89	105	
Toluene	36	2.0						8.85	34	
Ethylbenzene	4.5	2.0						9.92	22.1	
Xylenes, Total	50	6.0						12.1	21.9	
Surr: 4-Bromofluorobenzene	43		40.00		107	66.1	135	0	0	

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- Modifiers:
- V Value exceeds Maximum Contaminant Level.
 - E Value above quantitation range
 - J Analyte detected below quantitation limits
 - P Sample pH greater than 2
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - R RPD outside accepted recovery limits

Sample Log-In Check List

Client Name: Brown Env Work Order Number: 1210973
 Received by/date: AT 10/19/12
 Logged By: Anne Thorne 10/19/2012 10:37:00 AM Anne Thorne
 Completed By: Anne Thorne 10/22/2012 Anne Thorne
 Reviewed By: IO 10/22/2012

Chain of Custody

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

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes No NA
5. Was an attempt made to cool the samples? Yes No NA
6. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
7. Sample(s) in proper container(s)? Yes No
8. Sufficient sample volume for indicated test(s)? Yes No
9. Are samples (except VOA and ONG) properly preserved? Yes No
10. Was preservative added to bottles? Yes No NA
11. VOA vials have zero headspace? Yes No No VOA Vials
12. Were any sample containers received broken? Yes No
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No
14. Are matrices correctly identified on Chain of Custody? Yes No
15. Is it clear what analyses were requested? Yes No
16. 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)

17. 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: _____

18. Additional remarks:

for BB analyze BW-11 INFLUENT @ 13:30 for BTEX MTBE & GRO

19. Cooler Information

BW-15 INFLUENT @ 18:00 18:05 collection date AT 10/22/12
AS 10/16/12 AT 10/22/12

Chain of-Custody Record

Client: Brown Environmental Int.

Mailing Address: 6739 Alameda Blvd NE

Suite 254, Albuquerque, NM 87109

Phone #: 505 858-1818

email or Fax#: 505 858-0707

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation

NELAP Other _____

EDD (Type) _____

Turn-Around Time:

Standard Rush

Project Name: Asus # 320

Project #: 1070

Project Manager: Wilm Am Brown

Sampler: W. Brown

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type
10/15/12	18:20	AIR	BW-1S INFLUENT @ 18:00	1001	
"	18:00		BW-1S INFLUENT @ 18:05	1002	
11/16/12	9:00		BW-Li INFLUENT @ 9:00	1003	
"	9:05		BW-Li INFLUENT @ 9:05	1004	
"	13:30		BW-Li INFLUENT @ 13:30	1005	
"	15:30		BW-1d INFLUENT @ 15:30	1006	
"	15:35		BW-1d Inflow @ 15:35	1007	
"	22:40		BW-1d INFLUENT @ 22:40	1008	
"	22:40		BW-1d INFLUENT @ 22:40	1009	
11/12	10:10		BW-2S INFLUENT @ 10:10	1010	
11/12	13:30		BW-2S INFLUENT @ 13:30	1011	
11/12	15:25		BW-2S INFLUENT @ 15:25	1012	

Relinquished by: _____

Date: 10/19/12

Relinquished by: _____

Date: 10/19/12

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas/Diesel)	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)
X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	
X	X	X	X	X	X	X	X	X	X	

Remarks: STATE ENGINEER OF NEW MEXICO

KRISHN RANGAS PLOHSG

Chain-of-Custody Record

Client: Brown Environmental
 Mailing Address: 8739 Academy Blvd NE
Suite 254 Albuquerque NM 87109
 Phone #: (505) 858-1818
 email or Fax#: (505) 858-0707

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

Turn-Around Time: _____
 Standard Rush
 Project Name: Allsup's #320
 Project #: 1070
 Project Manager: WILLIAM BROWN
 Sampler: W.B. / PF

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	Sample Temperature	HEAVY METALS
10/18/12	22:25	Air	BW-2d Influent @ 22:25			-013	
	22:05		BW-3d Influent @ 22:05			-014	
	14:00		BW-3i Influent @ 14:00			-015	
	16:20		BW-3s Influent @ 16:20			-016	
10/17/12	22:25		BW-2d Influent @ 22:25			-017	
"	22:25		BW-2d Influent @ 22:25			-018	

Date: _____ Time: _____
 Relinquished by: _____
 Date: 10/31/12 Time: _____
 Relinquished by: _____

Received by: _____ Date: 10/19/12
 Received by: _____ Date: 10/19/12

Remarks: H/C RANGES PURS.



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

Analysis Request	
BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas only)	X
TPH Method 8015B (Gas/Diesel)	
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)	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d

Project: Allsups #320

Collection Date: 9/25/2012 4:00:00 PM

Lab ID: 1209C51-006

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	290	10		µg/L	10	9/29/2012 4:11:31 AM
Toluene	29	1.0		µg/L	1	10/1/2012 4:59:30 PM
Ethylbenzene	4.9	1.0		µg/L	1	10/1/2012 4:59:30 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2,4-Trimethylbenzene	6.6	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,3,5-Trimethylbenzene	4.7	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2-Dichloroethane (EDC)	5.2	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Naphthalene	ND	2.0		µg/L	1	10/1/2012 4:59:30 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 4:59:30 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 4:59:30 PM
Acetone	ND	10		µg/L	1	10/1/2012 4:59:30 PM
Bromobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Bromoform	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Bromomethane	ND	3.0		µg/L	1	10/1/2012 4:59:30 PM
2-Butanone	ND	10		µg/L	1	10/1/2012 4:59:30 PM
Carbon disulfide	ND	10		µg/L	1	10/1/2012 4:59:30 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Chlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Chloroethane	ND	2.0		µg/L	1	10/1/2012 4:59:30 PM
Chloroform	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Chloromethane	ND	3.0		µg/L	1	10/1/2012 4:59:30 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/1/2012 4:59:30 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Dibromomethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/1/2012 4:59:30 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
2-Hexanone	ND	10		µg/L	1	10/1/2012 4:59:30 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d Pump

Project: Allsups #320

Collection Date: 9/25/2012 2:50:00 PM

Lab ID: 1209C51-005

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	9/29/2012 3:40:44 AM
Methylene Chloride	ND	3.0		µg/L	1	9/29/2012 3:40:44 AM
n-Butylbenzene	ND	3.0		µg/L	1	9/29/2012 3:40:44 AM
n-Propylbenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
sec-Butylbenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Styrene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
tert-Butylbenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/29/2012 3:40:44 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
trans-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/29/2012 3:40:44 AM
Vinyl chloride	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Xylenes, Total	5.7	1.5		µg/L	1	9/29/2012 3:40:44 AM
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	9/29/2012 3:40:44 AM
Surr: 4-Bromofluorobenzene	91.0	70-130		%REC	1	9/29/2012 3:40:44 AM
Surr: Dibromofluoromethane	102	70-130		%REC	1	9/29/2012 3:40:44 AM
Surr: Toluene-d8	103	70-130		%REC	1	9/29/2012 3:40:44 AM

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 ROSWELL, NEW MEXICO
 1 2012 DEC 31 P 1:25

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d Pump

Project: Allsup #320

Collection Date: 9/25/2012 2:50:00 PM

Lab ID: 1209C51-005

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	44	1.0		µg/L	1	9/29/2012 3:40:44 AM
Toluene	4.9	1.0		µg/L	1	9/29/2012 3:40:44 AM
Ethylbenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2,4-Trimethylbenzene	1.0	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2-Dichloroethane (EDC)	2.7	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Naphthalene	ND	2.0		µg/L	1	9/29/2012 3:40:44 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 3:40:44 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 3:40:44 AM
Acetone	ND	10		µg/L	1	9/29/2012 3:40:44 AM
Bromobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Bromodichloromethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Bromoform	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Bromomethane	ND	3.0		µg/L	1	9/29/2012 3:40:44 AM
2-Butanone	ND	10		µg/L	1	9/29/2012 3:40:44 AM
Carbon disulfide	ND	10		µg/L	1	9/29/2012 3:40:44 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Chlorobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Chloroethane	ND	2.0		µg/L	1	9/29/2012 3:40:44 AM
Chloroform	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Chloromethane	ND	3.0		µg/L	1	9/29/2012 3:40:44 AM
2-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
4-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
cis-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/29/2012 3:40:44 AM
Dibromochloromethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Dibromomethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	9/29/2012 3:40:44 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	9/29/2012 3:40:44 AM
2-Hexanone	ND	10		µg/L	1	9/29/2012 3:40:44 AM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d

Project: Allsups #320

Collection Date: 9/25/2012 12:30:00 PM

Lab ID: 1209C51-004

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/1/2012 4:28:41 PM
Methylene Chloride	ND	3.0		µg/L	1	10/1/2012 4:28:41 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/1/2012 4:28:41 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Styrene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/1/2012 4:28:41 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/1/2012 4:28:41 PM
Vinyl chloride	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Xylenes, Total	6.2	1.5		µg/L	1	10/1/2012 4:28:41 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	10/1/2012 4:28:41 PM
Surr: 4-Bromofluorobenzene	92.7	70-130		%REC	1	10/1/2012 4:28:41 PM
Surr: Dibromofluoromethane	93.8	70-130		%REC	1	10/1/2012 4:28:41 PM
Surr: Toluene-d8	112	70-130		%REC	1	10/1/2012 4:28:41 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 1 2012 DEC 31 P 1:25

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d Pump

Project: Allsup #320

Collection Date: 9/25/2012 11:20:00 AM

Lab ID: 1209C51-003

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Methylene Chloride	ND	3.0		µg/L	1	9/29/2012 2:39:05 AM
n-Butylbenzene	ND	3.0		µg/L	1	9/29/2012 2:39:05 AM
n-Propylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
sec-Butylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Styrene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
tert-Butylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
trans-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
Vinyl chloride	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Xylenes, Total	ND	1.5		µg/L	1	9/29/2012 2:39:05 AM
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%REC	1	9/29/2012 2:39:05 AM
Surr: 4-Bromofluorobenzene	93.5	70-130		%REC	1	9/29/2012 2:39:05 AM
Surr: Dibromofluoromethane	98.8	70-130		%REC	1	9/29/2012 2:39:05 AM
Surr: Toluene-d8	107	70-130		%REC	1	9/29/2012 2:39:05 AM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 12012 DEC 31 P 1:25

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d

Project: Allsups #320

Collection Date: 9/25/2012 12:30:00 PM

Lab ID: 1209C51-004

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	21	1.0		µg/L	1	10/1/2012 4:28:41 PM
Toluene	15	1.0		µg/L	1	10/1/2012 4:28:41 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2,4-Trimethylbenzene	1.4	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,3,5-Trimethylbenzene	1.1	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2-Dichloroethane (EDC)	1.0	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Naphthalene	ND	2.0		µg/L	1	10/1/2012 4:28:41 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 4:28:41 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 4:28:41 PM
Acetone	ND	10		µg/L	1	10/1/2012 4:28:41 PM
Bromobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Bromoform	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Bromomethane	ND	3.0		µg/L	1	10/1/2012 4:28:41 PM
2-Butanone	ND	10		µg/L	1	10/1/2012 4:28:41 PM
Carbon disulfide	ND	10		µg/L	1	10/1/2012 4:28:41 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Chlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Chloroethane	ND	2.0		µg/L	1	10/1/2012 4:28:41 PM
Chloroform	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Chloromethane	ND	3.0		µg/L	1	10/1/2012 4:28:41 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/1/2012 4:28:41 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Dibromomethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/1/2012 4:28:41 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/1/2012 4:28:41 PM
2-Hexanone	ND	10		µg/L	1	10/1/2012 4:28:41 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d Pump

Project: Allsups #320

Collection Date: 9/25/2012 11:20:00 AM

Lab ID: 1209C51-003

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	6.7	1.0		µg/L	1	9/29/2012 2:39:05 AM
Toluene	2.6	1.0		µg/L	1	9/29/2012 2:39:05 AM
Ethylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Naphthalene	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 2:39:05 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 2:39:05 AM
Acetone	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Bromobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Bromodichloromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Bromoform	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Bromomethane	ND	3.0		µg/L	1	9/29/2012 2:39:05 AM
2-Butanone	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Carbon disulfide	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Chlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Chloroethane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
Chloroform	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Chloromethane	ND	3.0		µg/L	1	9/29/2012 2:39:05 AM
2-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
4-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
cis-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
Dibromochloromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Dibromomethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
2-Hexanone	ND	10		µg/L	1	9/29/2012 2:39:05 AM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d

Project: Allsups #320

Collection Date: 9/24/2012 5:30:00 PM

Lab ID: 1209C51-002

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/1/2012 3:57:51 PM
Methylene Chloride	ND	3.0		µg/L	1	10/1/2012 3:57:51 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/1/2012 3:57:51 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Styrene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/1/2012 3:57:51 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/1/2012 3:57:51 PM
Vinyl chloride	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Xylenes, Total	6.1	1.5		µg/L	1	10/1/2012 3:57:51 PM
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%REC	1	10/1/2012 3:57:51 PM
Surr: 4-Bromofluorobenzene	99.8	70-130		%REC	1	10/1/2012 3:57:51 PM
Surr: Dibromofluoromethane	89.1	70-130		%REC	1	10/1/2012 3:57:51 PM
Surr: Toluene-d8	117	70-130		%REC	1	10/1/2012 3:57:51 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-2d Pump

Project: Allsup #320

Collection Date: 9/25/2012 11:20:00 AM

Lab ID: 1209C51-003

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	6.7	1.0		µg/L	1	9/29/2012 2:39:05 AM
Toluene	2.6	1.0		µg/L	1	9/29/2012 2:39:05 AM
Ethylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Naphthalene	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 2:39:05 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 2:39:05 AM
Acetone	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Bromobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Bromodichloromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Bromoform	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Bromomethane	ND	3.0		µg/L	1	9/29/2012 2:39:05 AM
2-Butanone	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Carbon disulfide	ND	10		µg/L	1	9/29/2012 2:39:05 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Chlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Chloroethane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
Chloroform	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Chloromethane	ND	3.0		µg/L	1	9/29/2012 2:39:05 AM
2-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
4-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
cis-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
Dibromochloromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Dibromomethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	9/29/2012 2:39:05 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	9/29/2012 2:39:05 AM
2-Hexanone	ND	10		µg/L	1	9/29/2012 2:39:05 AM

Qualifiers: * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d

Project: Allsup #320

Collection Date: 9/24/2012 5:30:00 PM

Lab ID: 1209C51-002

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	1.4	1.0		µg/L	1	10/1/2012 3:57:51 PM
Toluene	56	1.0		µg/L	1	10/1/2012 3:57:51 PM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2,4-Trimethylbenzene	1.9	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Naphthalene	ND	2.0		µg/L	1	10/1/2012 3:57:51 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 3:57:51 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 3:57:51 PM
Acetone	ND	10		µg/L	1	10/1/2012 3:57:51 PM
Bromobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Bromoform	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Bromomethane	ND	3.0		µg/L	1	10/1/2012 3:57:51 PM
2-Butanone	ND	10		µg/L	1	10/1/2012 3:57:51 PM
Carbon disulfide	ND	10		µg/L	1	10/1/2012 3:57:51 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Chlorobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Chloroethane	ND	2.0		µg/L	1	10/1/2012 3:57:51 PM
Chloroform	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Chloromethane	ND	3.0		µg/L	1	10/1/2012 3:57:51 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/1/2012 3:57:51 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Dibromomethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/1/2012 3:57:51 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/1/2012 3:57:51 PM
2-Hexanone	ND	10		µg/L	1	10/1/2012 3:57:51 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d Pump

Project: Allsups #320

Collection Date: 9/24/2012 4:36:00 PM

Lab ID: 1209C51-001

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	9/28/2012 11:34:21 PM
Methylene Chloride	ND	3.0		µg/L	1	9/28/2012 11:34:21 PM
n-Butylbenzene	ND	3.0		µg/L	1	9/28/2012 11:34:21 PM
n-Propylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
sec-Butylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Styrene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
tert-Butylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/28/2012 11:34:21 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
trans-1,2-DCE	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/28/2012 11:34:21 PM
Vinyl chloride	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Xylenes, Total	ND	1.5		µg/L	1	9/28/2012 11:34:21 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	9/28/2012 11:34:21 PM
Surr: 4-Bromofluorobenzene	99.4	70-130		%REC	1	9/28/2012 11:34:21 PM
Surr: Dibromofluoromethane	104	70-130		%REC	1	9/28/2012 11:34:21 PM
Surr: Toluene-d8	113	70-130		%REC	1	9/28/2012 11:34:21 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO
 12012 DEC 31 P 11:31

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-3d Pump

Project: Allsups #320

Collection Date: 9/24/2012 4:36:00 PM

Lab ID: 1209C51-001

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Toluene	5.6	1.0		µg/L	1	9/28/2012 11:34:21 PM
Ethylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Naphthalene	ND	2.0		µg/L	1	9/28/2012 11:34:21 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2012 11:34:21 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2012 11:34:21 PM
Acetone	ND	10		µg/L	1	9/28/2012 11:34:21 PM
Bromobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Bromodichloromethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Bromoform	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Bromomethane	ND	3.0		µg/L	1	9/28/2012 11:34:21 PM
2-Butanone	ND	10		µg/L	1	9/28/2012 11:34:21 PM
Carbon disulfide	ND	10		µg/L	1	9/28/2012 11:34:21 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Chlorobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Chloroethane	ND	2.0		µg/L	1	9/28/2012 11:34:21 PM
Chloroform	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Chloromethane	ND	3.0		µg/L	1	9/28/2012 11:34:21 PM
2-Chlorotoluene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
4-Chlorotoluene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
cis-1,2-DCE	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/28/2012 11:34:21 PM
Dibromochloromethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Dibromomethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	9/28/2012 11:34:21 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	9/28/2012 11:34:21 PM
2-Hexanone	ND	10		µg/L	1	9/28/2012 11:34:21 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits



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

October 05, 2012

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.: 1209C51

Dear Bill Brown:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/27/2012 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. 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. 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.

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
1 2012 DEC 31 P 1:24

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d

Project: Allsup #320

Collection Date: 9/25/2012 4:00:00 PM

Lab ID: 1209C51-006

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/1/2012 4:59:30 PM
Methylene Chloride	ND	3.0		µg/L	1	10/1/2012 4:59:30 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/1/2012 4:59:30 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Styrene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/1/2012 4:59:30 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/1/2012 4:59:30 PM
Vinyl chloride	ND	1.0		µg/L	1	10/1/2012 4:59:30 PM
Xylenes, Total	34	1.5		µg/L	1	10/1/2012 4:59:30 PM
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%REC	1	10/1/2012 4:59:30 PM
Surr: 4-Bromofluorobenzene	111	70-130		%REC	1	10/1/2012 4:59:30 PM
Surr: Dibromofluoromethane	86.9	70-130		%REC	1	10/1/2012 4:59:30 PM
Surr: Toluene-d8	100	70-130		%REC	1	10/1/2012 4:59:30 PM

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1dd

Project: Allsups #320

Collection Date: 9/25/2012 4:30:00 PM

Lab ID: 1209C51-007

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	200	10		µg/L	10	9/29/2012 4:42:16 AM
Toluene	46	1.0		µg/L	1	10/1/2012 6:01:06 PM
Ethylbenzene	7.8	1.0		µg/L	1	10/1/2012 6:01:06 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2,4-Trimethylbenzene	8.2	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,3,5-Trimethylbenzene	5.3	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2-Dichloroethane (EDC)	6.2	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Naphthalene	ND	2.0		µg/L	1	10/1/2012 6:01:06 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 6:01:06 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	10/1/2012 6:01:06 PM
Acetone	ND	10		µg/L	1	10/1/2012 6:01:06 PM
Bromobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Bromofom	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Bromomethane	ND	3.0		µg/L	1	10/1/2012 6:01:06 PM
2-Butanone	ND	10		µg/L	1	10/1/2012 6:01:06 PM
Carbon disulfide	ND	10		µg/L	1	10/1/2012 6:01:06 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Chlorobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Chloroethane	ND	2.0		µg/L	1	10/1/2012 6:01:06 PM
Chloroform	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Chloromethane	ND	3.0		µg/L	1	10/1/2012 6:01:06 PM
2-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
4-Chlorotoluene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
cis-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/1/2012 6:01:06 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Dibromomethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	10/1/2012 6:01:06 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
2-Hexanone	ND	10		µg/L	1	10/1/2012 6:01:06 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1dd

Project: Allsups #320

Collection Date: 9/25/2012 4:30:00 PM

Lab ID: 1209C51-007

Matrix: AQUEOUS

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	10/1/2012 6:01:06 PM
Methylene Chloride	ND	3.0		µg/L	1	10/1/2012 6:01:06 PM
n-Butylbenzene	ND	3.0		µg/L	1	10/1/2012 6:01:06 PM
n-Propylbenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
sec-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Styrene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
tert-Butylbenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	10/1/2012 6:01:06 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
trans-1,2-DCE	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	10/1/2012 6:01:06 PM
Vinyl chloride	ND	1.0		µg/L	1	10/1/2012 6:01:06 PM
Xylenes, Total	45	1.5		µg/L	1	10/1/2012 6:01:06 PM
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%REC	1	10/1/2012 6:01:06 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%REC	1	10/1/2012 6:01:06 PM
Surr: Dibromofluoromethane	88.2	70-130		%REC	1	10/1/2012 6:01:06 PM
Surr: Toluene-d8	117	70-130		%REC	1	10/1/2012 6:01:06 PM

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: TRIP BLANK

Project: Allsups #320

Collection Date:

Lab ID: 1209C51-008

Matrix: TRIP BLANK

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Toluene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Ethylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Naphthalene	ND	2.0		µg/L	1	9/29/2012 5:13:01 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 5:13:01 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	9/29/2012 5:13:01 AM
Acetone	ND	10		µg/L	1	9/29/2012 5:13:01 AM
Bromobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Bromodichloromethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Bromoform	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Bromomethane	ND	3.0		µg/L	1	9/29/2012 5:13:01 AM
2-Butanone	ND	10		µg/L	1	9/29/2012 5:13:01 AM
Carbon disulfide	ND	10		µg/L	1	9/29/2012 5:13:01 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Chlorobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Chloroethane	ND	2.0		µg/L	1	9/29/2012 5:13:01 AM
Chloroform	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Chloromethane	ND	3.0		µg/L	1	9/29/2012 5:13:01 AM
2-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
4-Chlorotoluene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
cis-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/29/2012 5:13:01 AM
Dibromochloromethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Dibromomethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	9/29/2012 5:13:01 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
2-Hexanone	ND	10		µg/L	1	9/29/2012 5:13:01 AM

Qualifiers: * Value exceeds Maximum Contaminant Level
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: TRIP BLANK

Project: Allsups #320

Collection Date:

Lab ID: 1209C51-008

Matrix: TRIP BLANK

Received Date: 9/27/2012 11:23:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	9/29/2012 5:13:01 AM
Methylene Chloride	ND	3.0		µg/L	1	9/29/2012 5:13:01 AM
n-Butylbenzene	ND	3.0		µg/L	1	9/29/2012 5:13:01 AM
n-Propylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
sec-Butylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Styrene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
tert-Butylbenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/29/2012 5:13:01 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
trans-1,2-DCE	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/29/2012 5:13:01 AM
Vinyl chloride	ND	1.0		µg/L	1	9/29/2012 5:13:01 AM
Xylenes, Total	ND	1.5		µg/L	1	9/29/2012 5:13:01 AM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	9/29/2012 5:13:01 AM
Surr: 4-Bromofluorobenzene	99.5	70-130		%REC	1	9/29/2012 5:13:01 AM
Surr: Dibromofluoromethane	96.6	70-130		%REC	1	9/29/2012 5:13:01 AM
Surr: Toluene-d8	112	70-130		%REC	1	9/29/2012 5:13:01 AM

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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
	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#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	5mf-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/28/2012	SeqNo:	169288	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

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

QC SUMMARY REPORT

WO#: 1209C51

Hall Environmental Analysis Laboratory, Inc.

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES
Client ID:	PBW	Batch ID:	R5879	RunNo:	5879
Prep Date:		Analysis Date:	9/28/2012	SeqNo:	169288
				Units:	µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.8	70	130			
Surr: Toluene-d8	12		10.00		120	70	130			

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Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES
Client ID:	LCSW	Batch ID:	R5879	RunNo:	5879
Prep Date:		Analysis Date:	9/28/2012	SeqNo:	169290
				Units:	µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.8	70	130			
Toluene	19	1.0	20.00	0	96.6	80	120			
Chlorobenzene	19	1.0	20.00	0	97.5	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	92.6	73.7	122			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.9	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/28/2012	SeqNo:	169290	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	11		10.00		110	70	130			

Sample ID	1209b11-001a ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/28/2012	SeqNo:	169291	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	66.8	128			
Toluene	18	1.0	20.00	0	89.8	70	130			
Chlorobenzene	20	1.0	20.00	0	98.5	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.3	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.4	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID	1209b11-001a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/28/2012	SeqNo:	169292	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.1	66.8	128	16.7	16.7	R
Toluene	20	1.0	20.00	0	97.5	70	130	8.29	18.7	
Chlorobenzene	19	1.0	20.00	0	94.1	70	130	4.60	19.5	
1,1-Dichloroethene	19	1.0	20.00	0	94.5	70	130	1.28	16.7	
Trichloroethene (TCE)	20	1.0	20.00	0	97.9	70	130	9.34	17.5	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	11		10.00		113	70	130	0	0	

Sample ID	b4	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/29/2012	SeqNo:	169309	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								

Qualifiers:

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

QC SUMMARY REPORT

WO#: 1209C51

Hall Environmental Analysis Laboratory, Inc.

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID: b4	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R5879	RunNo: 5879
Prep Date:	Analysis Date: 9/29/2012	SeqNo: 169309 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

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- Modifiers:**
- V Value exceeds Maximum Contaminant Level
 - E Value above quantitation range
 - J Analyte detected below quantitation limits
 - P Sample pH greater than 2
 - B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	b4	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/29/2012	SeqNo:	169309	Units:	µg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	9.4		10.00		93.6	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.6	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R5879	RunNo:	5879					
Prep Date:		Analysis Date:	9/29/2012	SeqNo:	169311	Units:	µg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	70	130			
Toluene	17	1.0	20.00	0	86.2	80	120			
Chlorobenzene	19	1.0	20.00	0	95.3	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	73.7	122			
Trichloroethene (TCE)	19	1.0	20.00	0	94.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.8	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	70	130			

Qualifiers:

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

QC SUMMARY REPORT

WO#: 1209C51

Hall Environmental Analysis Laboratory, Inc.

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	1209c84-002a ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	BatchQC	Batch ID:	R5879	RunNo:	5879						
Prep Date:		Analysis Date:	9/29/2012	SeqNo:	169313	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chlorobenzene	190	10	200.0	0	93.2	70	130				
1,1-Dichloroethene	200	10	200.0	0	100	70	130				
Trichloroethene (TCE)	190	10	200.0	0	96.7	70	130				
Surr: 1,2-Dichloroethane-d4	140		100.0		140	70	130			S	
Surr: 4-Bromofluorobenzene	96		100.0		95.7	70	130				
Surr: Dibromofluoromethane	95		100.0		95.4	70	130				
Surr: Toluene-d8	86		100.0		86.0	70	130				

Sample ID	1209c84-002a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	BatchQC	Batch ID:	R5879	RunNo:	5879						
Prep Date:		Analysis Date:	9/29/2012	SeqNo:	169314	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chlorobenzene	170	10	200.0	0	87.5	70	130	6.38	19.5		
1,1-Dichloroethene	170	10	200.0	0	83.1	70	130	18.4	16.7	R	
Trichloroethene (TCE)	190	10	200.0	0	96.4	70	130	0.342	17.5		
Surr: 1,2-Dichloroethane-d4	150		100.0		150	70	130	0	0	S	
Surr: 4-Bromofluorobenzene	87		100.0		87.0	70	130	0	0		
Surr: Dibromofluoromethane	100		100.0		105	70	130	0	0		
Surr: Toluene-d8	110		100.0		110	70	130	0	0		

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID:	R5910	RunNo:	5910						
Prep Date:		Analysis Date:	10/1/2012	SeqNo:	170224	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									

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 ROSWELL, NEW MEXICO

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R5910	RunNo:	5910					
Prep Date:		Analysis Date:	10/1/2012	SeqNo:	170224	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51
05-Oct-12

Client: Brown Environmental Inc.
Project: Allsup #320

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R5910	RunNo:	5910					
Prep Date:		Analysis Date:	10/1/2012	SeqNo:	170224					
				Units:	µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	10		10.00		99.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	10		10.00		99.7	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R5910	RunNo:	5910					
Prep Date:		Analysis Date:	10/1/2012	SeqNo:	170227					
				Units:	µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	87.4	70	130			
Toluene	20	1.0	20.00	0	97.9	80	120			
Chlorobenzene	18	1.0	20.00	0	90.6	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.5	73.7	122			
Trichloroethene (TCE)	19	1.0	20.00	0	97.0	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.4	70	130			
Surr: Toluene-d8	11		10.00		114	70	130			

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 STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles, Table I					
Client ID:	PBW	Batch ID:	R5910	RunNo:	5910					
Prep Date:		Analysis Date:	10/1/2012	SeqNo:	170239	Units:	µg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
1,2-Dibromoethane (EDB)	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	10								
Benzene	ND	1.0								
Bromochloromethane	ND	2.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	2.0								
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	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	0.50								
Ethylbenzene	ND	1.0								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	1.0								
Styrene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
Tetrachloroethene (PCE)	ND	0.50								
Toluene	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsup #320

Sample ID	5ml-rb	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID:	PBW	Batch ID: R5910	RunNo: 5910							
Prep Date:		Analysis Date: 10/1/2012	SeqNo: 170239	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
Vinyl chloride	ND	0.40								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	10		10.00		99.7	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID	100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID:	LCSW	Batch ID: R5910	RunNo: 5910							
Prep Date:		Analysis Date: 10/1/2012	SeqNo: 170240	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	87.4	70	130			
Chlorobenzene	18	1.0	20.00	0	90.6	70	130			
Dichloroethene	18	1.0	20.00	0	89.5	73.7	122			
Toluene	20	1.0	20.00	0	97.9	80	120			
Trichloroethene (TCE)	19	1.0	20.00	0	97.0	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.4	70	130			
Surr: Toluene-d8	11		10.00		114	70	130			

Sample ID	1209d12-001a ms	SampType: MS	TestCode: EPA Method 8260B: Volatiles, Table I							
Client ID:	BatchQC	Batch ID: R5910	RunNo: 5910							
Prep Date:		Analysis Date: 10/1/2012	SeqNo: 170241	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	66.8	128			
Chlorobenzene	18	1.0	20.00	0	91.0	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	91.6	70	130			
Toluene	18	1.0	20.00	0	91.8	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0.3300	86.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1209C51

05-Oct-12

Client: Brown Environmental Inc.

Project: Allsups #320

Sample ID	1209d12-001a msd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles, Table I						
Client ID:	BatchQC	Batch ID:	R5910	RunNo:	5910						
Prep Date:		Analysis Date:	10/1/2012	SeqNo:	170242	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	16	1.0	20.00	0	80.8	66.8	128	26.8	16.7	R	
Chlorobenzene	16	1.0	20.00	0	80.2	70	130	12.5	19.5		
1,1-Dichloroethene	16	1.0	20.00	0	80.2	70	130	13.3	16.7		
Toluene	16	1.0	20.00	0	81.1	70	130	12.4	18.7		
Trichloroethene (TCE)	14	1.0	20.00	0.3300	68.8	70	130	22.0	17.5	SR	
Surr: 1,2-Dichloroethane-d4	8.8		10.00		87.7	70	130	0	0		
Surr: 4-Bromofluorobenzene	10		10.00		99.5	70	130	0	0		
Surr: Dibromofluoromethane	7.9		10.00		79.1	70	130	0	0		
Surr: Toluene-d8	11		10.00		107	70	130	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

Sample Log-In Check List

Client Name: **Brown Env** Work Order Number: **1209C51**

Received by/date: *[Signature]* **09/27/12**

Logged By: **Ashley Gallegos** 9/27/2012 11:23:00 AM *[Signature]*

Completed By: **Ashley Gallegos** 9/27/2012 5:21:04 PM *[Signature]*

Reviewed By: *[Signature]* **09/28/12**

Chain of Custody

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

Log In

- 4. Coolers are present? (see 19. for cooler specific information) Yes No NA
- 5. Was an attempt made to cool the samples? Yes No NA
- 6. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 7. Sample(s) in proper container(s)? Yes No
- 8. Sufficient sample volume for indicated test(s)? Yes No
- 9. Are samples (except VOA and ONG) properly preserved? Yes No
- 10. Was preservative added to bottles? Yes No NA
- 11. VOA vials have zero headspace? Yes No No VOA Vials
- 12. Were any sample containers received broken? Yes No
- 13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No # of preserved bottles checked for pH:
- 14. Are matrices correctly identified on Chain of Custody? Yes No (<2 or >12 unless noted)
- 15. Is it clear what analyses were requested? Yes No Adjusted?
- 16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No Checked by:

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Special Handling (if applicable)

- 17. 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: _____

18. Additional remarks:

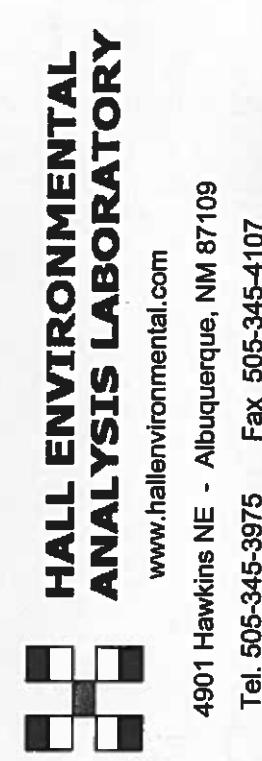
19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Not Present			

Chain-of-Custody Record

Client: Brown Env. Remedial
Zinc
 Mailing Address: 6739 Academy Rd
Suite 254 ABO, NM 87109
 Phone #: (505) 858-1818
 email or Fax#: (505) 858-0707
 QA/QC Package: Standard Level 4 (Full Validation)
 Accreditation NELAP Other
 EDD (Type)

Turn-Around Time: Standard Rush
 Project Name: Alsup's #320
 Project #: _____
 Project Manager: Bill Brown
 Sampler: P. Ferant
 Sample Temperature: 85
 Ice No Ice



Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	Analysis Request
12/29/12	1636	160	BW-3rd pump	30 ml Hg Cl ₂	-001	BTEX + MTBE + TMB's (6021)
12/29/12	1730		BW-3rd		-002	BTEX + MTBE + TPH (Gas only)
12/29/12	11:20		BW-2nd pump		-003	TPH 8015B (GRO / DRO / MRO)
12/29/12	1230		BW-2d		-004	TPH (Method 418.1)
12/29/12	1450		BW-1st pump		-005	EDB (Method 504.1)
12/29/12	1600		BW-1d		-006	PAH's (8310 or 8270 SIMS)
12/29/12	1630		BW-1dd		-007	RCRA 8 Metals
			Trip Black 200ml		-008	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
						8081 Pesticides / 8082 PCB's
						8260B (VOA)
						8270 (Semi-VOA)

Remarks: _____

Relinquished by: [Signature] Date: 12/26/12 19:00
 Relinquished by: [Signature] Date: 12/27/12 11:23



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

November 01, 2012

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.: 1210973

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Dear Bill Brown:

Hall Environmental Analysis Laboratory received 18 sample(s) on 10/19/2012 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. 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. 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.

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.
 Project: Allsups #320
 Lab ID: 1210973-001

Client Sample ID: BW-1s INFLUENT @ 18:00
 Collection Date: 10/16/2012 6:00:00 PM
 Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1020	25.0		µg/L	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C05-C6	10.0	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C06-C7	23.9	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C07-C8	42.6	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C08-C9	9.40	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C09-C10	6.90	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C10-C11	6.00	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C11-C12	1.10	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C12-C14	0.100	0		%	5	10/25/2012 1:33:23 PM
% GRO Hydrocarbons: C14+	ND	0		%	5	10/25/2012 1:33:23 PM
Surr: BFB	138	43.1-185		%REC	5	10/25/2012 1:33:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	2.4	1.2		µg/L	5	10/25/2012 1:33:23 PM
Benzene	2.8	0.50		µg/L	5	10/25/2012 1:33:23 PM
Toluene	9.3	0.50		µg/L	5	10/25/2012 1:33:23 PM
Ethylbenzene	0.66	0.50		µg/L	5	10/25/2012 1:33:23 PM
Xylenes, Total	6.6	1.5		µg/L	5	10/25/2012 1:33:23 PM
Surr: 4-Bromofluorobenzene	110	66.1-135		%REC	5	10/25/2012 1:33:23 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
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-1i INFLUENT @ 9:00

Project: Allsups #320

Collection Date: 10/16/2012 9:00:00 AM

Lab ID: 1210973-003

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	27800	1000		µg/L	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C05-C6	25.8	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C06-C7	32.4	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C07-C8	21.1	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C08-C9	7.00	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C09-C10	7.70	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C10-C11	5.20	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C11-C12	0.800	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C12-C14	ND	0		%	200	10/25/2012 11:57:14 AM
% GRO Hydrocarbons: C14+	ND	0		%	200	10/25/2012 11:57:14 AM
Surr: BFB	125	43.1-185		%REC	200	10/25/2012 11:57:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	200	10/25/2012 11:57:14 AM
Benzene	480	20		µg/L	200	10/25/2012 11:57:14 AM
Toluene	770	20		µg/L	200	10/25/2012 11:57:14 AM
Ethylbenzene	90	20		µg/L	200	10/25/2012 11:57:14 AM
Xylenes, Total	710	60		µg/L	200	10/25/2012 11:57:14 AM
Surr: 4-Bromofluorobenzene	105	66.1-135		%REC	200	10/25/2012 11:57:14 AM

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1i INFLUENT @ 13:30

Project: Allsups #320

Collection Date: 10/16/2012 1:30:00 PM

Lab ID: 1210973-005

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	56000	1000		µg/L	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C05-C6	28.6	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C06-C7	33.0	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C07-C8	19.8	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C08-C9	6.50	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C09-C10	6.40	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C10-C11	4.90	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C11-C12	0.800	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	200	10/25/2012 2:28:05 PM
% GRO Hydrocarbons: C14+	ND	0		%	200	10/25/2012 2:28:05 PM
Surr: BFB	140	43.1-185		%REC	200	10/25/2012 2:28:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	200	10/25/2012 2:28:05 PM
Benzene	1000	20		µg/L	200	10/25/2012 2:28:05 PM
Toluene	1500	20		µg/L	200	10/25/2012 2:28:05 PM
Ethylbenzene	170	20		µg/L	200	10/25/2012 2:28:05 PM
Xylenes, Total	1300	60		µg/L	200	10/25/2012 2:28:05 PM
Surr: 4-Bromofluorobenzene	110	66.1-135		%REC	200	10/25/2012 2:28:05 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d INFLUENT @ 15:30

Project: Allsups #320

Collection Date: 10/16/2012 3:30:00 PM

Lab ID: 1210973-006

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	40900	1000		µg/L	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C05-C6	40.5	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C06-C7	40.7	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C07-C8	12.4	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C08-C9	2.30	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C09-C10	2.50	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C10-C11	1.30	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C11-C12	0.300	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	200	10/25/2012 2:55:22 PM
% GRO Hydrocarbons: C14+	ND	0		%	200	10/25/2012 2:55:22 PM
Surr: BFB	109	43.1-185		%REC	200	10/25/2012 2:55:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	200	10/25/2012 2:55:22 PM
Benzene	800	20		µg/L	200	10/25/2012 2:55:22 PM
Toluene	320	20		µg/L	200	10/25/2012 2:55:22 PM
Ethylbenzene	53	20		µg/L	200	10/25/2012 2:55:22 PM
Xylenes, Total	240	60		µg/L	200	10/25/2012 2:55:22 PM
Surr: 4-Bromofluorobenzene	105	66.1-135		%REC	200	10/25/2012 2:55:22 PM

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Brown Environmental Inc.

Client Sample ID: BW-1d INFLUENT @ 22:40

Project: Allsups #320

Collection Date: 10/16/2012 10:40:00 PM

Lab ID: 1210973-008

Matrix: AIR

Received Date: 10/19/2012 10:37:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	40500	1000		µg/L	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C05-C6	41.3	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C06-C7	41.0	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C07-C8	12.5	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C08-C9	2.30	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C09-C10	2.20	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C10-C11	0.600	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C11-C12	0.100	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C12-C14	ND	0		%	200	10/25/2012 3:22:30 PM
% GRO Hydrocarbons: C14+	ND	0		%	200	10/25/2012 3:22:30 PM
Surr: BFB	106	43.1-185		%REC	200	10/25/2012 3:22:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	200	10/25/2012 3:22:30 PM
Benzene	790	20		µg/L	200	10/25/2012 3:22:30 PM
Toluene	400	20		µg/L	200	10/25/2012 3:22:30 PM
Ethylbenzene	54	20		µg/L	200	10/25/2012 3:22:30 PM
Xylenes, Total	230	60		µg/L	200	10/25/2012 3:22:30 PM
Surr: 4-Bromofluorobenzene	103	66.1-135		%REC	200	10/25/2012 3:22:30 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 P Sample pH greater than 2
 RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits