RECR – 27

Roland Jackson Well

June 2012
Investigation Report

Souder, Miller & Associates ♦ 2101 San Juan Boulevard ♦ Farmington, NM 87401-2247
(505) 325-7535 ♦ fax (505) 326-0045

June 22, 2012 #5121620

Mr. Jim Griswold (505) 476-3465
Senior Hydrologist *jim.griswold@state.nm.us*
EMNRD/Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: SITE INVESTIGATION REPORT, MAVERIK REFINERY/ ROLAND JACKSON WELL SITE, KIRTLAND AREA, SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Griswold:

Enclosed please find the Initial Site Investigation Report for the Roland Jackson Properties #18 and #20 CR 6271 associated with the Maverik Refinery groundwater impacts located approximately 2.0 miles east of Kirtland High School. This report for the Maverik/Jackson Property site is submitted pursuant to the State of New Mexico General Services Department Purchasing Division price agreement #10-805-00-07208 and ***Purchase Order (PO) #52100-0000035025*** issued by the New Mexico Oil Conservation Division (NMOCD). All work was completed in accordance with the Souder, Miller and Associates (SMA) workplan dated April 2, 2012 and approved by NMOCD.

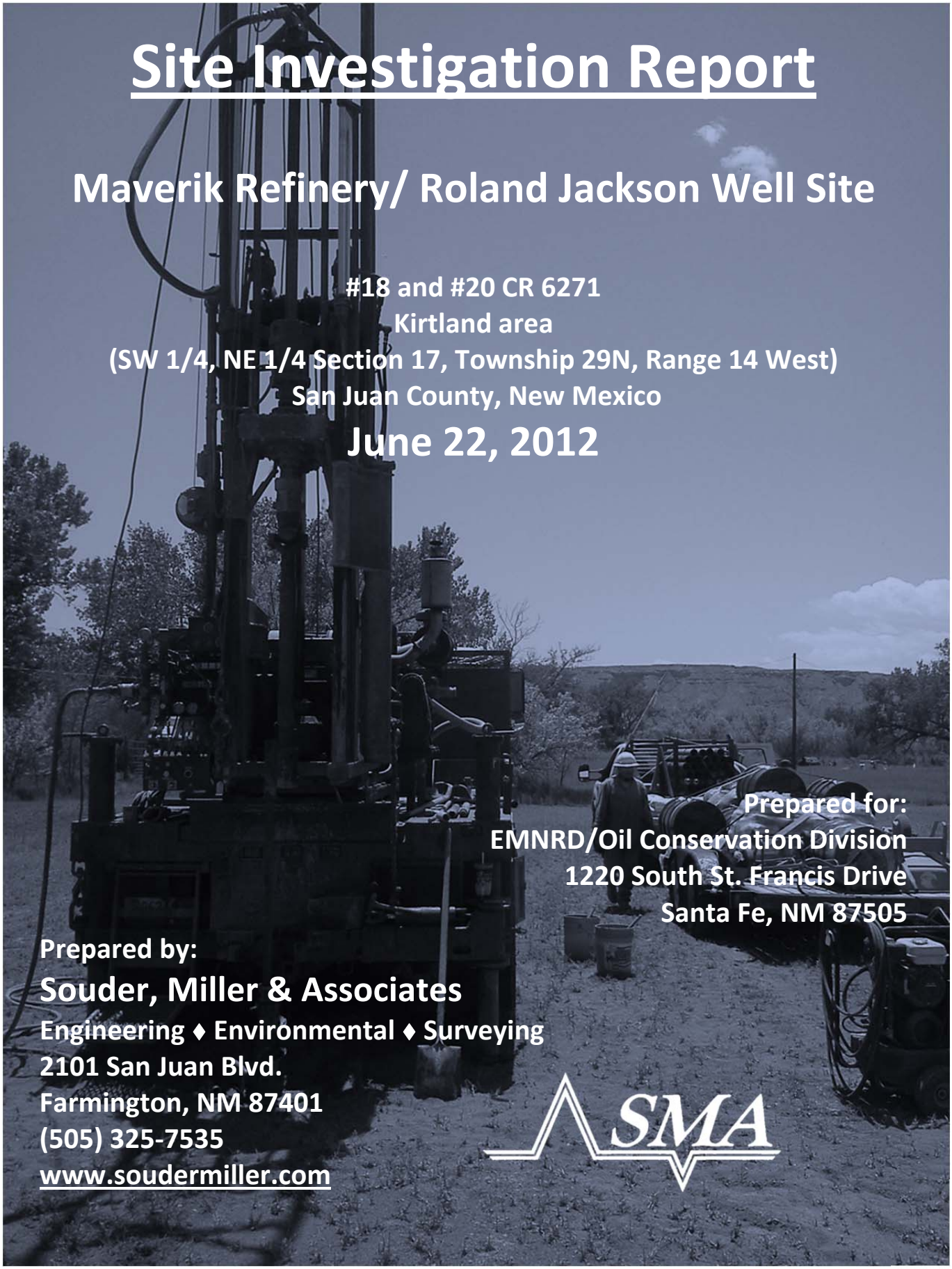
SMA appreciates the opportunity to provide environmental consulting services to NMOCD. If you have any questions or comments concerning the report please feel free to call me at 505-325-7535 or contact me at via e-mail at the address provided below.

Sincerely,

SOUDER, MILLER & ASSOCIATES

Denny G. Foust
Senior Geologist

Reid S. Allan, P.G.
Vice President/Principal Scientist



Site Investigation Report

Maverik Refinery/ Roland Jackson Well Site

#18 and #20 CR 6271
Kirtland area
(SW 1/4, NE 1/4 Section 17, Township 29N, Range 14 West)
San Juan County, New Mexico

June 22, 2012

Prepared for:
EMNRD/Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Prepared by:
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1.0 EXECUTIVE SUMMARY

Souder, Miller & Associates (SMA) has completed the initial investigation of the Roland Jackson Property located at #18 and #20 CR 6271, Kirtland area, San Juan County, New Mexico (SW/4, NE/4 section 17-T29N-R14W). This investigation was completed in accordance with the State of New Mexico General Services Department Purchasing Division Price Agreement #10-805-00-07208AG and Purchase Order (PO) # 52100-0000035025 issued by the New Mexico Oil Conservation Division (NMOCD). The Roland Jackson properties are located approximately 0.5 miles southwest of the former Caribou Four Corners/Maverik Refinery. SMA has drilled two soil borings and five new monitoring wells on the Roland Jackson Property to evaluate possible hydrocarbon impacts on Mr. Jackson's existing shallow irrigation well. The borings were completed May 15-18, 2012 with subsequent water samples taken May 23-24, 2012. The impacted irrigation well was sampled on June 12, 2012.

SMA has reached the following conclusions from this investigation:

1. Based on available data, SMA does not believe that hydrocarbon contamination exists in the soil or ground water from surface to approximately 20 feet bgs at the locations investigated in this study.
2. Based on available data, it does not appear that there is a continuous contaminant plume of either dissolved phase hydrocarbons or NAPL extending from upgradient (northeast) of the Jackson irrigation well to the well itself.
3. However, NAPL does exist in the Jackson irrigation well, and appears to have persisted since at least 2005.
4. The NAPL analyzed indicates that it is derived from diesel range hydrocarbons; however, the age and source of the hydrocarbons cannot be determined at this time.

SMA recommends the following future work for the site:

1. Quarterly monitoring of fluid levels and ground water quality in the monitoring wells and the Jackson irrigation well for a period of 1 year to determine if there are seasonal fluctuations in fluid elevation and/or water quality.
2. Securing the Jackson irrigation well head with a locking cover.
3. Additional characterization of the NAPL from the Jackson well and comparison to analytical results from the Caribou-Maverik refinery investigations to determine any similarities between the products.
4. Consideration of total fluids removal from the Jackson irrigation well by pumping, vacuum extraction, or a multi-phase extraction system. The preferred method is an initial rapid fluid removal event by either pumping or vacuum truck extraction. The fluid levels should be monitored during well recovery and periodically after the fluid removal event to determine if NAPL recovers in the well. Multi-phase extraction would be a longer term remedial approach.

2.0 BACKGROUND

The former Caribou Four Corners/Maverik Refinery is located 0.5 miles to the southeast of the Roland Jackson Property, in the NW/4, NE/4 of section 17-T29N-R14W. Figure 1 is the vicinity map on an aerial photo. The refinery was operated by Caribou Four Corners, Inc/Maverik Country Stores, Inc. from 1963 until April 1982. The refinery had both documented and undocumented releases of petroleum hydrocarbons throughout its operating history. Major releases of refined product occurred as late as 1981. In 1985, groundwater contamination was noted by inspectors from the New Mexico Environmental Improvement Division (EID). In 1987, EID water quality sampling was conducted on 24 private wells in the area.

At different times, hydrocarbon liquids have been documented along the Westside Irrigation Ditch, located near the west boundary of the refinery property. The ditch extended south under CR 6100, along the east edge of the Jackson properties #18 and #20 CR 6271. In 1989, a 12" plastic pipe was installed in the Westside (of the Refinery Property) Irrigation Ditch. The piping extended south to CR 6100. Piping the ditch was a method of eliminating one migration path for contaminants. Continuing groundwater and soil studies in the refinery area resulted in the 1990 construction of a bentonitic slurry wall around the refinery property from 12 to 25 feet in depth. The wall was designed to retain most of the remaining known contamination within the refinery property.

Investigations by Maverik show that ground water flow in the alluvial gravel aquifer overlying basal Kirtland Shale is from the north-northeast to the south-southwest towards the San Juan River. This overall pattern is modified by seepage from irrigation ditches and septic system influx into the ground water. The general gradient is 0.01 ft/ft which mirrors the topographic gradient.

Potential hydrocarbon contamination in the Jackson water wells was first brought to the attention of the NMOCD Aztec office in April 2005 by Roland Jackson, property owner. The NMOCD Environmental Bureau retained Envirotech, Inc. to sample the irrigation well in 2005. Samples were taken August 24, 2005 for laboratory testing. The results are documented in NMOCD files. In 2008, NMOCD again sampled the irrigation well and results are available in NMOCD files (both NMOCD files are included in Appendix A). Maverik continues to do annual reports focused on the slurry wall containment area.

To date, no independent investigation of the Jackson Property site other than sampling of the irrigation well had been conducted. However, historical evidence at the site indicates that potential impact from the Maverik/Caribou Refinery plume may persist. This evidence includes laboratory results of sampling of the Jackson irrigation water supply well in 2005 and the presence of non-aqueous phase liquid (NAPL) in the well visually confirmed by NMOCD personnel on February 2, 2012.

3.0 INVESTIGATION ACTIVITIES

SMA personnel visited the property and residence of Roland Jackson on April 27, 2012. Brandon Powell of NMOCD-Aztec scheduled the meeting to discuss access agreements and actual project activities with Mr. Jackson. SMA and Brandon Powell reviewed the project activities and requirements for signed access agreements for both NMOCD and SMA with Mr. Jackson. On April 30, 2012, Mr. Jackson visited the SMA Farmington office and signed both NMOCD and SMA access agreements before a notary (Appendix B).

On May 11, 2012, SMA and the property owner staked six drilling locations based on the workplan aerial photo plat. The monitoring wells were located to determine the extent and possible origin of NAPL found in the Roland Jackson irrigation well at #20 CR 6271, San Juan County, New Mexico. SMA obtained utility clearance from New Mexico One-Call prior to the start of drilling activities. The site vicinity is shown in Figure 1 and a Jackson property site map is provided in Figure 2.

On May 16, 2012, Enviro-Drill, Inc. mobilized a rig onto the site under SMA supervision to drill two soil borings and four monitoring wells. Brandon Powell of NMOCD approved moving the location a fifth monitoring well proposed in the workplan on an adjacent property onto the Roland Jackson property, due to difficulty in obtaining owner approved access at the originally proposed site. The new location of the fifth monitoring well is shown with the locations of other borings and monitoring wells on Figure 2. All drilling and monitoring well development was completed on May 18, 2012.

Monitoring well casing was secured with evidence tape until surface completions were finished to preserve the integrity of the wells. The final steps of the surface completions were in place May 22, 2012.

On May 23 and 24, 2012, the five monitoring wells were purged and sampled. Photographs of site investigation activities are included in Appendix C. A site specific Health and Safety Plan was also produced by SMA and a copy is included as Appendix D. Copies of all field notes are included in Appendix E.

4.0 SOIL INVESTIGATION ACTIVITIES

4.1 Soil Investigation Procedures

All seven borings were drilled with a 6.5-inch outside diameter (O.D.) hollow stem auger. Total depth for the seven borings ranges from 17-20 feet below ground surface (bgs). During drilling, a properly calibrated photo-ionization detector (PID) was used to conduct field headspace testing of field soil samples for petroleum contamination. Groundwater was encountered at 5.5-6.0 feet in depth. This roughly corresponds to the depth that sands first appear beneath the surface clays. The two borings used to evaluate soil only were backfilled with 3/8" bentonite pellets to within six inches of the surface then filled with native soil.

One split spoon sample for laboratory analysis was taken by SMA from each of the seven borings. Samples were collected at 5.5 to 6.0 feet in depth, just above the clay and sand contact. All soil samples were collected in new, 4-ounce glass jars, labeled, immediately placed on ice and shipped under standard chain of custody procedures to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. Samples were analyzed for gasoline range organics (GRO) using EPA Method 8015B and total lead using EPA Method 6010B. NMOCD personnel witnessed all sampling and drilling activities.

Each monitoring well was completed with 15 feet of 2-inch, factory slotted 0.010 slot size screen. The annulus around the screen was filled with 10-20 silica sand to a depth one (1) foot minimum above the top of the screened interval. The remainder of the annulus was filled with 3/8" bentonite pellets, which were placed from the top of the sand to approximately 0.5 foot bgs and hydrated. Each well was completed using an 8-inch circular, flush mount surface vault which was concreted into place, and locking well caps were installed.

Diagrams summarizing well completions are attached in Appendix F. Photos of the drilling and completion process are included in Appendix C.

The five monitoring well completions were developed by purging four well-casing volumes from MW-J3, MW-J6, and MW-J7. MW-J4 and MW-J5 bailed dry at 2.5 well casing volumes.

4.2 Soil Sampling Results

Soil sample results are summarized in Table 1. All soil samples collected were below laboratory practical quantitation (PQL) for GRO. Lead from soil samples collected for laboratory analysis ranged from 2.9 to 17.0 mg/Kg. No additional speciation of the lead has been completed as part of this investigation. A copy of the laboratory analytical report is provided in Appendix G.

5.0 GROUND WATER INVESTIGATION

5.1 Ground Water Investigation Procedures

On May 23, 2012, all five site monitoring wells were gauged for depth to water and non-aqueous phase liquid (NAPL) prior to purging, utilizing a Geotech Interface Probe. NAPL was not detected in the monitoring wells.

On May 23 and 24, 2012, ground water from all five site monitoring wells was sampled. Using a dedicated, disposable bailer for each well, monitoring wells were purged of three well bore volumes or until the well went dry prior to sampling. Samples collected for EPA Methods 8011/504.1 (EDB), 8015B (GRO), 8260B (volatile organics) were collected in six 40-ml vials, preserved with mercuric chloride, labeled with the date, time, monitoring well number, and the name of the sampler, and stored on ice. Samples collected for Method 6010 (total recoverable lead) were collected in 125 mL polypropylene bottles, preserved with HNO_3, labeled with the date, time, monitoring well number and the name of the sampler, and stored on ice. Sample numbers were recorded on chain of custody forms and field notes prior to delivery to HEAL.

5.2 Jackson Irrigation Well Investigation Procedures

On June 12, 2012, SMA sampled the Roland Jackson irrigation well located east of the residences. An NMOCD representative was present as a witness, and the property owner was also present. The Geotech Interface Probe detected fluid at 5.48 feet below top of casing and detected water at 6.12 feet below top of casing. A total of 0.64 feet of NAPL was present in the well. After discussion and approval from NMOCD, a NAPL grab sample was collected and submitted to HEAL for analysis of GRO/DRO/MRO by EPA Method 8015B and volatile organics by EPA Method 8260B.

5.3 Ground Water Sampling Results

The ground water surface elevation data for the site can be found in Table 1. Figure 3 is a potentiometric surface map. In general, the direction of groundwater flow is to the southwest at an average gradient of 0.006 ft/ft. The groundwater flow direction and gradient is fairly consistent with historical data (Appendix A).

All water samples collected were below laboratory practical quantitation limit (PQL) for all volatile organics, GRO, and EDB. Total lead in water ranged from 0.049 mg/L to 0.31 mg/L. The laboratory analytical report is provided in Appendix G.

Results from the NAPL analyses indicate that the NAPL is composed of diesel range hydrocarbons measured as 100% by weight. Total xylenes and naphthalenes were also detected.

6.0 CONCLUSIONS

SMA has reached the following conclusions from this investigation:

1. Based on available data, SMA does not believe that hydrocarbon contamination exists in the soil or ground water from surface to approximately 20 feet bgs at the locations investigated in this study.
2. Based on available data, it does not appear that there is a continuous contaminant plume of either dissolved phase hydrocarbons or NAPL extending from upgradient (northeast) of the Jackson irrigation well to the well itself.
3. However, NAPL does exist in the Jackson irrigation well, and appears to have persisted since at least 2005.
4. The NAPL analyzed indicates that it is derived from refined diesel product; however, the age and source of the hydrocarbons cannot be determined at this time.

7.0 RECOMMENDATIONS

SMA recommends the following future work for the site:

1. Quarterly monitoring of fluid levels and ground water quality in the monitoring wells and the Jackson irrigation well for a period of 1 year to determine if there are seasonal fluctuations in fluid elevation and/or water quality.
2. Securing the Jackson irrigation well head with a locking cover.
3. Additional characterization of the NAPL from the Jackson well and comparison to analytical results from the Caribou-Maverik refinery investigations to determine any similarities between the products.
4. Consideration of total fluids removal from the Jackson irrigation well by pumping, vacuum extraction, or a multi-phase extraction system. The preferred method is an initial rapid fluid removal event by either pumping or vacuum truck extraction. The fluid levels should be monitored during well recovery and periodically after the fluid removal event to determine if NAPL recovers in the well. Multi-phase extraction would be a longer term remedial approach.

Figures

P:\5-NMOCD MAVERIK-CARIBOU 5121620\DWG\JUNE 2012-5121620EMNRD-MAVERIKSITEMAP.DWG

NOT TO SCALE

DRAWN BLB CHECKED SLC APPROVED RSA	*VICINITY MAP* *MAVERIK REFINERY/ROLAND JACKSON WELL* *SW/4NE/4, SECTION 17, T29N, R14W, N.M.P.M., KIRTLAND, NEW MEXICO*	*FIGURE 1*

REVISIONS

BY _____ DATE _____ DESCR. _____
BY _____ DATE _____ DESCR. _____
BY _____ DATE _____ DESCR. _____

SMA Civil / Environmental Scientists & Engineers

SOUDER, MILLER & ASSOCIATES, 2101 SAN JUAN BLVD,
FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535
Albuquerque - Las Cruces - Santa Fe, NM
Grand Junction - Cortez, CO Monticello, UT

NOT TO SCALE

LEGEND

SB-J1 - EXISTING SOIL BORING

MW-J4 - EXISTING MONITORING WELL

- EXISTING JACKSON WELL

- OVERHEAD UTILITIES

- EXISTING SHED

- EXISTING RESIDENCE

FIGURE 2

SITE PLAN
MAVERIK REFINERY/ROLAND JACKSON WELL ISSUE
KIRTLAND, NEW MEXICO

SOUDER, MILLER & ASSOCIATES, 2101 SAN JUAN BLVD, FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535
Albuquerque - Las Cruces - Santa Fe, NM
Grand Junction - Cortez, CO Monticello, UT

DRAWN BLB
CHECKED SLC
APPROVED RSA

REVISIONS

BY DATE DESCR.
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BY DATE DESCR.

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40 20 0 40

LEGEND

- SB-J1 - EXISTING SOIL BORING
- MW-J4 - EXISTING MONITORING WELL
- EXISTING JACKSON WELL
- OHE - OVERHEAD UTILITIES
- EXISTING SHED
- EXISTING RESIDENCE

FIGURE 3

POTENTIOMETRIC SURFACE MAP
MAVERIK REFINERY/ROLAND JACKSON WELL ISSUE
KIRTLAND, NEW MEXICO

DRAWN BLB
CHECKED SLC
APPROVED RSA

REVISIONS

BY	DATE	DESCR.
BY	DATE	DESCR.
BY	DATE	DESCR.

SOUDER, MILLER & ASSOCIATES. 2101 SAN JUAN BLVD, FARMINGTON, NEW MEXICO 87401 TELE: 505-325-7535
Albuquerque - Las Cruces - Santa Fe, NM
Grand Junction - Cortez, CO Monticello, UT

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Tables

Table 1: Summary of Soil Analytical Results
Maverik/Jackson Investigation
Kirtland, New Mexico

Project #5121620

		Method 8015	Method 6010
		mg/Kg	mg/Kg
Sample ID	**Date**	**GRO**	**Pb**
SB-J1 6'	5/16/2012	<4.9	6.0
SB-J2 5'	5/18/2012	<4.7	17
MW-J3 5.75'	5/17/2012	<4.7	4.5
MW-J4 6'	5/17/2012	<5.0	4.4
MW-J8 6' (MW-J5)	5/17/2012	<4.7	5.8
MW-J6 5.5'	5/17/2012	<4.6	2.9
MW-J7 5'	5/16/2012	<4.9	5.4

Table 2: Summary of Ground Water Elevations **Project #5121620**
Maverik / Jackson Investigation
Kirtland, Mexico

Monitoring Well Identification	Date	Top of Casing (ft)	Depth to Water (ft)	Relative Water Elevation (ft)
MW-J3	5/23/12	5168.63	3.46	5165.17
MW-J4	5/23/12	5168.83	3.16	5165.67
MW-J5	5/23/12	5168.76	3.35	5165.41
MW-J6	5/23/12	5168.48	3.56	5164.92
MW-J7	5/23/12	5168.48	3.22	5165.26

Table 3: Summary of Groundwater Analytical Results
Maverik/Jackson Investigation
Kirtland, New Mexico

Project # 5121620

		Method 8260					Method 504.1	Method 6010	Method 8015	Method 8015	Method 8015
Monitoring Well Identification	**Date**	**Benzene (ug/L)**	**Toluene (ug/L)**	**Ethyl-benzene (ug/L)**	**Total Xylenes (ug/L)**	**BTEX (ug/L)**	**EDB (ug/L)**	**Total Lead (ug/L)**	**GRO (mg/L except as noted*)**	**DRO (weight %)**	**MRO (weight %)**
NMWQCC Standards		10.0	750.0	750.0	620.0						
MW-J3	5/23/2012	<2.0	<2.0	<2.0	<3.0	<3.0	<0.010	0.16	<0.10	NA	NA
MW-J4	5/24/2012	<2.0	<2.0	<2.0	<3.0	<3.0	<0.010	0.049	<0.10	NA	NA
MW-J5	5/24/2012	<2.0	<2.0	<2.0	<3.0	<3.0	<0.010	0.22	<0.10	NA	NA
MW-J6	5/23/2012	<2.0	<2.0	<2.0	<3.0	<3.0	<0.010	0.16	<0.10	NA	NA
MW-J7	5/24/2012	<2.0	<2.0	<2.0	<3.0	<3.0	<0.010	0.31	<0.10	NA	NA
Jackson Irrigation Well #1 (NAPL sample*)	6/12/2012	<120**	<120**	<120**	140**	140**	NA	NA	<2.5*	100*	<9.9*

* GRO, DRO, MRO for NAPL sample reported in weight %
** BTEX for NAPL sample reported as mg/L
NA = not analyzed
ND = not detected at reporting limit

Appendix A – NMOCD Historical Reports

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

New Mexico Oil Conservation Division
1220 South St Francis Drive
Santa Fe, New Mexico 87505

September 2, 2005

Attention: Mr. Ed Martin

Dear Mr. Martin

Attached are the results of the laboratory analysis from the San Juan Basin Health Department/Laboratory in Durango, CO. The samples were taken from the water well at Mr. Roland Jackson residence at # 20 CR 6271 in Kirtland, NM. The well was sampled on 08-24-05 and a sample was submitted to San Juan Labs in Durango for coliform bacteria analysis.

If you have any further questions or concerns, you can contact me and I will assist you in any way that I can.

Best regards,

Envirotech Inc.

C. Jack Collins, PG # 1822
Chief Environmental Scientist/Geologist
NCES #038

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

San Juan Basin Health Department/Laboratory
281 Sawyer Drive
P.O. Box 140
Durango, CO 81302

RECEIVED

Jesse Colbert
Microbiology/Chemistry
970 247 5702 ext 221

Results of Laboratory Analysis

Owner of Facility Envirotech - Jack Collins **County** _____

BillingAddress 5796 US Hwy 64 Farmington, NM 87410

Sampling Location to Kirtland NM **Type Of Sample** Well Water

Sampling Directions on other Side

Date and Time Collected :

05-08-24-10-55
Y Y M M D D Hrs. Min.

If Composite Sample:

□□-□□ To □□-□□
Hrs. Min. Hrs. Min.

Date Received in Laboratory:

05-08-24-14-00
Y Y M M D D Hrs. Min.

Date Reported:

05-08-30
Y Y M M D D

	Price	Lab #	Lab Results	
*Effluent ph 6.0-9.0 (std. Units)				
* Effluent Dissolved Oxygen mg/l				
*Effluent Ttl. Residual Chlorine mg/l				
Influent Suspended Solids mg/l (Gravimetric) Std Methods 20th ed 2540 D	$ 15.00			
Effluent Suspended Solids mg/l (Gravimetric) Std Methods 20th ed2540 D	$15.00			
Fecal Coliform per 100 ml (Five Tube MPN) Std Methods 20th ed 9221 B&E	$38.00			
Total Coliform & E.Coli Per 100 ml (IDEXX MPN) Std Methods 20th ed 9223 D	$ 20.25	#220	TTl. Coliform : 34,480	E.Coli: < 1
Influent BOD mg/l (Winkler) Std Methods 20th ed 5210 B	$ 55.00		BOD:	CBOD:
Effluent BOD mg/l (Winkler) Std Methods 20th ed 5210B	$ 55.00	#160	560	
Ttl. Dissolved Solids mg/l (Gravimetric) Std Methods 20th ed 2540C	$ 15.00		Effluent:	Raw Water:

*Provided by Sampler
H – Holding Time
Q – Questionable

Sampled By: _____ Date: _____

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

New Mexico Oil Conservation Division
1220 South St Francis Drive
Santa Fe, New Mexico 87505

August 30, 2005

3R0077

Attention: Mr. Ed Martin

Dear Mr. Martin

Attached are the water sample laboratory results from the water well at Mr. Roland Jackson residence at # 20 CR 6271 in Kirtland, NM. The well was sampled on 08-24-05 and the sampled analyzed by Envirotech Labs for VOC's using EPA Method 8260 and Cation/Anions. A separate sample was submitted to San Juan Labs in Durango for coliform bacteria analysis.

The water sample was collected from the well after pumping for approximately five minutes using a 2" stainless steel submersible grunfoss pump. The well was pumped dry then allowed to recover, then sampled, using a clean disposable bailer. Recovery time was approximately 10 minutes.

Depth to water was approximately 7.63' and total depth was 10.23' (measured from top of casing, stickup = 8"). Well has 10" steel surface casing and appears to have silted in over the years, as the original depth was reported by the owner to be approximately 18'.

Lab analysis indicate the well water has been impacted with hydrocarbons, including BTEX, Naphthalene, and lesser amounts of chlorinated hydrocarbons including PCE, TCA, & TCE. While the total Coliform and BOD are high, it doesn't contain any fecal coliform, indicating it is not being impacted by raw sewage or a septic system.

Field notes are attached also.

Preliminary results from the fecal coliform analysis: (final results to follow)

Total Coliform: 34,480
Fecal (e coli) < 1.0
BOD 560 mg/l

Best regards,

Envirotech Inc.

C. Jack Collins, PG # 1822
Chief Environmental Scientist/Geologist
NCES #038

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8260B
Volatile Organic Compounds by GC/MS

Client:	NMOCD	Project #:	04093-003
Sample ID:	R. Jackson MW #1	Date Reported:	08-26-05
Chain of Custody:	14450	Date Sampled:	08-24-05
Laboratory Number:	34133	Date Received:	08-24-05
Sample Matrix:	Water	Date Analyzed:	08-26-05
Preservative:	Cool	Analysis Requested:	8260 VOC
Condition:	Cool and Intact		

Parameter	Concentration (ug/L)	Units	Det. Limit	Dilution Factor
Benzene	93.8	(ug/L)	1.0	1
Toluene	1,410	(ug/L)	1.0	10
Ethylbenzene	837	(ug/L)	1.0	10
Xylenes, Total	1,710	(ug/L)	1.0	10
Methyl tert-butyl ether (MTBE)	ND	(ug/L)	1.0	1
1,2,4-Trimethylbenzene	1,620	(ug/L)	1.0	10
1,3,5-Trimethylbenzene	891	(ug/L)	1.0	10
1,2-Dichloroethane (EDC)	ND	(ug/L)	1.0	1
1,2-Dibromoethane (EDB)	ND	(ug/L)	1.0	1
Naphthalene	550	(ug/L)	1.0	10
1-Methylnaphthalene	369	(ug/L)	2.0	10
2-Methylnaphthalene	543	(ug/L)	2.0	10
Bromobenzene	ND	(ug/L)	1.0	1
Bromochloromethane	ND	(ug/L)	1.0	1
Bromodichloromethane	27.4	(ug/L)	1.0	1
Bromoform	ND	(ug/L)	1.0	1
Bromomethane	ND	(ug/L)	1.0	1
Carbon Tetrachloride	ND	(ug/L)	1.0	1
Chlorobenzene	14.9	(ug/L)	1.0	1
Chloroethane	ND	(ug/L)	2.0	1
Chloroform	3.62	(ug/L)	1.0	1
Chloromethane	ND	(ug/L)	1.0	1
2-Chlorotoluene	ND	(ug/L)	1.0	1
4-Chlorotoluene	ND	(ug/L)	1.0	1
cis-1,2-Dichloroethene	ND	(ug/L)	1.0	1
cis-1,3-Dichloropropene	ND	(ug/L)	1.0	1
1,2-Dibromo-3-chloropropane	ND	(ug/L)	2.0	1
Dibromochloromethane	21.2	(ug/L)	1.0	1
Dibromoethane	ND	(ug/L)	2.0	1
1,2-Dichlorobenzene	ND	(ug/L)	1.0	1
1,3-Dichlorobenzene	ND	(ug/L)	1.0	1
1,4-Dichlorobenzene	ND	(ug/L)	1.0	1
Dichlorodifluoromethane	ND	(ug/L)	1.0	1
1,1-Dichloroethane	ND	(ug/L)	1.0	1
1,1-Dichloroethene	ND	(ug/L)	1.0	1
1,2-Dichloropropane	ND	(ug/L)	1.0	1
1,3-Dichloropropane	ND	(ug/L)	1.0	1
2,2-Dichloropropane	ND	(ug/L)	1.0	1

EPA Method 8260B
Volatile Organic Compounds by GC/MS

Client: NMOCD
Sample ID: R. Jackson MW #1
Laboratory Number: 34133

Parameter	Concentration (ug/L)	Units	Det. Limit	Dilution Factor
1,1-Dichloropropene	ND	(ug/L)	1.0	1
Hexachlorobutadiene	ND	(ug/L)	1.0	1
Isopropylbenzene	411	(ug/L)	1.0	10
4-Isopropyltoluene	276	(ug/L)	1.0	10
Methylene Chloride	ND	(ug/L)	3.0	1
n-Butylbenzene	226	(ug/L)	1.0	10
n-Propylbenzene	606	(ug/L)	1.0	10
sec-Butylbenzene	389	(ug/L)	1.0	10
Styrene	ND	(ug/L)	1.0	1
tert-Butylbenzene	485	(ug/L)	1.0	10
Tetrachloroethene (PCE)	14.2	(ug/L)	1.0	1
1,1,1,2-Tetrachloroethane	ND	(ug/L)	1.0	1
1,1,2,2-Tetrachloroethane	232	(ug/L)	1.0	10
trans-1,2-Dichloroethene	ND	(ug/L)	1.0	1
trans-1,3-Dichloropropene	ND	(ug/L)	1.0	1
Trichloroethene (TCE)	7.83	(ug/L)	1.0	1
Trichlorofluoromethane	ND	(ug/L)	1.0	1
1,2,3-Trichlorobenzene	ND	(ug/L)	1.0	1
1,2,4-Trichlorobenzene	22.9	(ug/L)	1.0	1
1,1,1-Trichloroethane	ND	(ug/L)	1.0	1
1,1,2-Trichloroethane	ND	(ug/L)	1.0	1
1,2,3-Trichloropropane	ND	(ug/L)	2.0	1
Vinyl Chloride	ND	(ug/L)	2.0	1

Surrogates:			Rec. Limits	
Dibromofluoromethane	99.9	% Recovery	78.6-115	1
1,2-Dichloroethane-d4	99.9	% Recovery	74.6-123	1
Toluene-d8	100.0	% Recovery	84.2-115	1
4-Bromofluorobenzene	100.1	% Recovery	78.6-115	1

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260,Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry,Test Methods for Evaluating Solid Waste,SW-846, USEPA, July 1992

Comments: **Kirtland, NM.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	08-26-05
Laboratory Number:	08-26 VOA	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-26-05
Condition:	N/A	Analysis Requested:	8260 VOC

Parameter	Concentration (ug/L)	Units	Det. Limit	Dilution Factor
Benzene	ND	(ug/L)	1.0	1
Toluene	ND	(ug/L)	1.0	1
Ethylbenzene	ND	(ug/L)	1.0	1
Xylenes, Total	ND	(ug/L)	1.0	1
Methyl tert-butyl ether (MTBE)	ND	(ug/L)	1.0	1
1,2,4-Trimethylbenzene	ND	(ug/L)	1.0	1
1,3,5-Trimethylbenzene	ND	(ug/L)	1.0	1
1,2-Dichloroethane (EDC)	ND	(ug/L)	1.0	1
1,2-Dibromoethane (EDB)	ND	(ug/L)	1.0	1
Naphthalene	ND	(ug/L)	1.0	1
1-Methylnaphthalene	ND	(ug/L)	2.0	1
2-Methylnaphthalene	ND	(ug/L)	2.0	1
Bromobenzene	ND	(ug/L)	1.0	1
Bromochloromethane	ND	(ug/L)	1.0	1
Bromodichloromethane	ND	(ug/L)	1.0	1
Bromoform	ND	(ug/L)	1.0	1
Bromomethane	ND	(ug/L)	1.0	1
Carbon Tetrachloride	ND	(ug/L)	1.0	1
Chlorobenzene	ND	(ug/L)	1.0	1
Chloroethane	ND	(ug/L)	2.0	1
Chloroform	ND	(ug/L)	1.0	1
Chloromethane	ND	(ug/L)	1.0	1
2-Chlorotoluene	ND	(ug/L)	1.0	1
4-Chlorotoluene	ND	(ug/L)	1.0	1
cis-1,2-Dichloroethene	ND	(ug/L)	1.0	1
cis-1,3-Dichloropropene	ND	(ug/L)	1.0	1
1,2-Dibromo-3-chloropropane	ND	(ug/L)	2.0	1
Dibromochloromethane	ND	(ug/L)	1.0	1
Dibromoethane	ND	(ug/L)	2.0	1
1,2-Dichlorobenzene	ND	(ug/L)	1.0	1
1,3-Dichlorobenzene	ND	(ug/L)	1.0	1
1,4-Dichlorobenzene	ND	(ug/L)	1.0	1
Dichlorodifluoromethane	ND	(ug/L)	1.0	1
1,1-Dichloroethane	ND	(ug/L)	1.0	1
1,1-Dichloroethene	ND	(ug/L)	1.0	1
1,2-Dichloropropane	ND	(ug/L)	1.0	1
1,3-Dichloropropane	ND	(ug/L)	1.0	1
2,2-Dichloropropane	ND	(ug/L)	1.0	1

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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: Laboratory Blank
Laboratory Number: 08-26 VOA

Parameter	Concentration (ug/L)	Units	Det. Limit	Dilution Factor
1,1-Dichloropropene	ND	(ug/L)	1.0	1
Hexachlorobutadiene	ND	(ug/L)	1.0	1
Isopropylbenzene	ND	(ug/L)	1.0	1
4-Isopropyltoluene	ND	(ug/L)	1.0	1
Methylene Chloride	ND	(ug/L)	1.0	1
n-Butylbenzene	ND	(ug/L)	1.0	1
n-Propylbenzene	ND	(ug/L)	1.0	1
sec-Butylbenzene	ND	(ug/L)	1.0	1
Styrene	ND	(ug/L)	1.0	1
tert-Butylbenzene	ND	(ug/L)	1.0	1
Tetrachloroethene (PCE)	ND	(ug/L)	1.0	1
1,1,1,2-Tetrachloroethane	ND	(ug/L)	1.0	1
1,1,2,2-Tetrachloroethane	ND	(ug/L)	1.0	1
trans-1,2-Dichloroethene	ND	(ug/L)	1.0	1
trans-1,3-Dichloropropene	ND	(ug/L)	1.0	1
Trichloroethene (TCE)	ND	(ug/L)	1.0	1
Trichlorofluoromethane	ND	(ug/L)	1.0	1
1,2,3-Trichlorobenzene	ND	(ug/L)	1.0	1
1,2,4-Trichlorobenzene	ND	(ug/L)	1.0	1
1,1,1-Trichloroethane	ND	(ug/L)	1.0	1
1,1,2-Trichloroethane	ND	(ug/L)	1.0	1
1,2,3-Trichloropropane	ND	(ug/L)	2.0	1
Vinyl Chloride	ND	(ug/L)	2.0	1

Surrogates:			Rec. Limits	
Dibromofluoromethane	100.2	% Recovery	78.6-115	1
1,2-Dichloroethane-d4	99.9	% Recovery	74.6-123	1
Toluene-d8	100.1	% Recovery	84.2-115	1
4-Bromofluorobenzene	100.0	% Recovery	78.6-115	1

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260,Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry,Test Methods for Evaluating Solid Waste,SW-846, USEPA, July 1992

Comments: **QA/QC for sample 34133.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spikes	Date Reported:	08-26-05
Laboratory Number:	08-26-VOA - 34133	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-26-05
Condition:	N/A	Analysis Requested:	8260 VOC

Spike Analyte	Units: uG/L Sample	Added	Result	%Recovery	Recovery Limits	Det. Limit
Benzene	**93.8**	**100.0**	**193**	**99.8%**	**85.3 - 120**	**1.0**
Toluene	**1,410**	**100.0**	**1,510**	**100.0%**	**73 - 123**	**1.0**
Chlorobenzene	**14.9**	**100.0**	**114**	**99.5%**	**84.7 - 119**	**1.0**
1,1-Dichloroethene	**ND**	**100.0**	**99.9**	**99.9%**	**83.4 - 122**	**1.0**
Trichloroethene (TCE)	**7.83**	**100.0**	**107**	**99.6%**	**76.1 - 126**	**1.0**

Spike Duplicate Analyte	Units: uG/L Sample	Added	Result	%Recovery	Recovery Limits	Det. Limit
Benzene	**93.8**	**100.0**	**193**	**99.6%**	**85.3 - 120**	**1.0**
Toluene	**1,410**	**100.0**	**1,500**	**99.3%**	**73 - 123**	**1.0**
Chlorobenzene	**14.9**	**100.0**	**114**	**99.5%**	**84.7 - 119**	**1.0**
1,1-Dichloroethene	**ND**	**100.0**	**100**	**100.0%**	**83.4 - 122**	**1.0**
Trichloroethene (TCE)	**7.83**	**100.0**	**107**	**99.6%**	**76.1 - 126**	**1.0**

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260,Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry,Test Methods for Evaluating Solid Waste,SW-846, USEPA, July 1992

Comments: **QA/QC for samples 34133.**

Analyst

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Daily Calibration Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Daily Calibration	Date Reported:	08-26-05
Laboratory Number:	08-26-VOA	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-26-05
Condition:	N/A	Analysis Requested:	8260 VOC

Parameter	Concentration (ug/L)	Result	% Recovered	% Recovery Limits
Benzene	100	99.9	99.9	80 - 120
Toluene	100	99.8	99.8	80 - 120
Ethylbenzene	100	99.9	99.9	80 - 120
Xylenes, Total	100	99.8	99.8	80 - 120
Methyl tert-butyl ether (MTBE)	100	99.9	99.9	80 - 120
1,2,4-Trimethylbenzene	100	99.9	99.9	80 - 120
1,3,5-Trimethylbenzene	100	99.9	99.9	80 - 120
1,2-Dichloroethane (EDC)	100	99.9	99.9	80 - 120
1,2-Dibromoethane (EDB)	100	99.9	99.9	80 - 120
Naphthalene	100	99.9	99.9	80 - 120
1-Methylnaphthalene	100	99.7	99.7	80 - 120
2-Methylnaphthalene	100	99.9	99.9	80 - 120
Bromobenzene	100	99.8	99.8	80 - 120
Bromochloromethane	100	99.7	99.7	80 - 120
Bromodichloromethane	100	99.8	99.8	80 - 120
Bromoform	100	99.8	99.8	80 - 120
Bromomethane	100	99.8	99.8	80 - 120
Carbon Tetrachloride	100	99.9	99.9	80 - 120
Chlorobenzene	100	99.8	99.8	80 - 120
Chloroethane	100	99.9	99.9	80 - 120
Chloroform	100	99.8	99.8	80 - 120
Chloromethane	100	99.7	99.7	80 - 120
2-Chlorotoluene	100	99.6	99.6	80 - 120
4-Chlorotoluene	100	99.8	99.8	80 - 120
cis-1,2-Dichloroethene	100	99.7	99.7	80 - 120
cis-1,3-Dichloropropene	100	99.2	99.2	80 - 120
1,2-Dibromo-3-chloropropane	100	99.8	99.8	80 - 120
Dibromochloromethane	100	99.5	99.5	80 - 120
Dibromoethane	100	99.8	99.8	80 - 120
1,2-Dichlorobenzene	100	99.9	99.9	80 - 120
1,3-Dichlorobenzene	100	99.6	99.6	80 - 120
1,4-Dichlorobenzene	100	99.8	99.8	80 - 120
Dichlorodifluoromethane	100	99.8	99.8	80 - 120
1,1-Dichloroethane	100	99.6	99.6	80 - 120
1,1-Dichloroethene	100	99.8	99.8	80 - 120
1,2-Dichloropropane	100	99.6	99.6	80 - 120
1,3-Dichloropropane	100	99.6	99.6	80 - 120
2,2-Dichloropropane	100	99.3	99.3	80 - 120

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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: Daily Calibration
Laboratory Number: 08-26-VOA

Parameter	Concentration (ug/L)	Result	% Recovered	% Recovery Limits
1,1-Dichloropropene	100	99.4	99.4	80 - 120
Hexachlorobutadiene	100	99.6	99.6	80 - 120
Isopropylbenzene	100	99.9	99.9	80 - 120
4-Isopropyltoluene	100	99.4	99.4	80 - 120
Methylene Chloride	100	99.5	99.5	80 - 120
n-Butylbenzene	100	99.3	99.3	80 - 120
n-Propylbenzene	100	99.9	99.9	80 - 120
sec-Butylbenzene	100	99.4	99.4	80 - 120
Styrene	100	98.9	98.9	80 - 120
tert-Butylbenzene	100	99.8	99.8	80 - 120
Tetrachloroethene (PCE)	100	99.6	99.6	80 - 120
1,1,1,2-Tetrachloroethane	100	99.8	99.8	80 - 120
1,1,2,2-Tetrachloroethane	100	98.9	98.9	80 - 120
trans-1,2-Dichloroethene	100	99.9	99.9	80 - 120
trans-1,3-Dichloropropene	100	99.8	99.8	80 - 120
Trichloroethene (TCE)	100	99.8	99.8	80 - 120
Trichlorofluoromethane	100	99.9	99.9	80 - 120
1,2,3-Trichlorobenzene	100	99.6	99.6	80 - 120
1,2,4-Trichlorobenzene	100	99.3	99.3	80 - 120
1,1,1-Trichloroethane	100	99.5	99.5	80 - 120
1,1,2-Trichloroethane	100	99.7	99.7	80 - 120
1,2,3-Trichloropropane	100	99.5	99.5	80 - 120
Vinyl Chloride	100	99.3	99.3	80 - 120

Surrogates:			Rec. Limits
Dibromofluoromethane	99.5	% Recovery	78.6-115
1,2-Dichloroethane-d4	99.7	% Recovery	74.6-123
Toluene-d8	99.2	% Recovery	84.2-115
4-Bromofluorobenzene	97.2	% Recovery	78.6-115

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260,Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry,Test Methods for Evaluating Solid Waste,SW-846, USEPA, July 1992

Comments: **QA/QC for sample 34133.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	NMOCD	Project #:	04093-003
Sample ID:	R. Jackson MW #1	Date Reported:	08-25-05
Laboratory Number:	34133	Date Sampled:	08-24-05
Chain of Custody:	14450	Date Received:	08-24-05
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-25-05
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**8.41**	s.u.		
Conductivity @ 25° C	**2,290**	umhos/cm		
Total Dissolved Solids @ 180C	**1,160**	mg/L		
Total Dissolved Solids (Calc)	**1,180**	mg/L		
SAR	**21.0**	ratio		
Total Alkalinity as CaCO3	**688**	mg/L		
Total Hardness as CaCO3	**53.3**	mg/L		
Bicarbonate as HCO3	**688**	mg/L	11.28	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**1.0**	mg/L	0.02	meq/L
Nitrite Nitrogen	**0.084**	mg/L	0.00	meq/L
Chloride	**159**	mg/L	4.48	meq/L
Fluoride	**0.48**	mg/L	0.03	meq/L
Phosphate	**7.6**	mg/L	0.24	meq/L
Sulfate	**153**	mg/L	3.18	meq/L
Iron	**0.425**	mg/L	0.02	meq/L
Calcium	**19.2**	mg/L	0.96	meq/L
Magnesium	**5.27**	mg/L	0.43	meq/L
Potassium	**12.4**	mg/L	0.32	meq/L
Sodium	**402**	mg/L	17.49	meq/L
Cations			19.21	meq/L
Anions			19.21	meq/L
Cation/Anion Difference			**0.02%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Kirtland, NM.**

Analyst

Review

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14450

CHAIN OF CUSTODY RECORD

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
NM OCD	Kirtland NM	
Sampler: Jack Rollins	Client No. 04093-003	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	VOC's EPA 8260	Btex Amin					Remarks
R. Jackson NWU #1	8/24/05	1055	34133 ~~31433~~	H_2O	3	✓	✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
C Jack Rollins	8/24/05	1230	Christine M Walters	8/24/05	1230
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

ENVIROTECH INC.
FARMINGTON, NM 5796 HIGHWAY 64
MONITOR WELL DATA

Date: 8-24-05 Project No: 04093-003

Project Name: NM OCD Chain of Custody No: _____

Location: Jackson Water Well

Project Manager: CSC Sampler: CSC / SLC

MONITOR WELL DATA

WELL #	TIME	OVM ppm	pH	COND. µS	TEMP. °F	DEPTH TO WATER FT.	TOTAL DEPTH FT.	WATER COLUMN FT.	BAILED Water Gal.	PRODUCT Ft.	WATER LEVEL FT.
WW#1	10:55		867	1135		7.63	10.23				

Notes: TOC = Top of Casing
Bailed = 3 well volummes:
1.25" well = 0.19 gal/ft.
2.00" well = 0.49 gal/ft.
4.00" well = 1.96 gal/ft.
Note well diameter if not one of the above.

Summary Report

Leonard Lowe
OCD-Santa Fe
1220 S. Saint Francis Dr.
Santa Fe, NM, 87505

Report Date: July 7, 2008

Work Order: 8061928

Project Location: Kirkland, NM
Project Name: R. Jackson

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
164012	R. Jackson	water	2008-06-16	11:00	2008-06-19

Sample - Field Code	TPH 418.1 TRPHC (mg/L)	TPH DRO DRO (mg/L)	TPH GRO GRO (mg/L)
164012 - R. Jackson	**2930**	**3230**	**55.7**

Sample: 164012 - R. Jackson

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		**44.0**	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		**686**	mg/L as CaCo3	4.00
Total Alkalinity		**730**	mg/L as CaCo3	4.00
Specific Conductance		**2080**	uMHOS/cm	0.00
Chloride		**225**	mg/L	3.00
Fluoride		<1.00	mg/L	0.200
Nitrate-N		<1.00	mg/L	0.200
Sulfate		**277**	mg/L	1.00
Naphthalene	[1]	**0.216**	mg/L	0.000200
2-Methylnaphthalene	[2]	**0.393**	mg/L	0.000200
1-Methylnaphthalene	[3]	**0.221**	mg/L	0.000200
Acenaphthylene		<0.000200	mg/L	0.000200
Acenaphthene		**0.00973**	mg/L	0.000200
Dibenzofuran		**0.00755**	mg/L	0.000200
Fluorene		**0.0339**	mg/L	0.000200

continued ...

[1] Estimated concentration value greater than standard range.
[2] Estimated concentration value greater than standard range.
[3] Estimated concentration value greater than standard range.

sample 164012 continued ...

Param	Flag	Result	Units	RL
Anthracene		<0.000200	mg/L	0.000200
Phenanthrene		**0.0364**	mg/L	0.000200
Fluoranthene		<0.000200	mg/L	0.000200
Pyrene		**0.000775**	mg/L	0.000200
Benzo(a)anthracene		<0.000200	mg/L	0.000200
Chrysene		<0.000200	mg/L	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	0.000200
Benzo(a)pyrene		<0.000200	mg/L	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.000200
pH		**8.83**	s.u.	0.00
Total Calcium		**11.6**	mg/L	1.00
Total Magnesium		**13.7**	mg/L	1.00
Total Potassium		**31.5**	mg/L	1.00
Total Sodium		**479**	mg/L	1.00
Pyridine		<0.00500	mg/L	0.00500
N-Nitrosodimethylamine		<0.00500	mg/L	0.00500
2-Picoline		<0.00500	mg/L	0.00500
Methyl methanesulfonate		<0.00500	mg/L	0.00500
Ethyl methanesulfonate		<0.00500	mg/L	0.00500
Phenol	[4]	**0.183**	mg/L	0.00500
Aniline		<0.00500	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00500	mg/L	0.00500
2-Chlorophenol		<0.00500	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00500	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00500	mg/L	0.00500
Benzyl alcohol		<0.00500	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00500	mg/L	0.00500
2-Methylphenol	[5]	**0.508**	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00500	mg/L	0.00500
4-Methylphenol / 3-Methylphenol	[6]	**0.351**	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00500	mg/L	0.00500
Hexachloroethane		<0.00500	mg/L	0.00500
Acetophenone		<0.00500	mg/L	0.00500
Nitrobenzene		<0.00500	mg/L	0.00500
N-Nitrosopiperidine		<0.00500	mg/L	0.00500
Isophorone		<0.00500	mg/L	0.00500
2-Nitrophenol		<0.00500	mg/L	0.00500
2,4-Dimethylphenol	[7]	**0.341**	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00500	mg/L	0.00500
2,4-Dichlorophenol		<0.00500	mg/L	0.00500

continued ...

[4] Estimated concentration value greater than standard range.
[5] Estimated concentration value greater than standard range.
[6] Estimated concentration value greater than standard range.
[7] Estimated concentration value greater than standard range.

sample 164012 continued . . .

Param	Flag	Result	Units	RL
1,2,4-Trichlorobenzene		<0.00500	mg/L	0.00500
Benzoic acid		<0.00500	mg/L	0.00500
Naphthalene	[8]	**0.227**	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00500	mg/L	0.00500
4-Chloroaniline		<0.00500	mg/L	0.00500
2,6-Dichlorophenol		<0.0100	mg/L	0.0100
Hexachlorobutadiene		<0.00500	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00500	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00500	mg/L	0.00500
2-Methylnaphthalene	[9]	**0.408**	mg/L	0.00500
1-Methylnaphthalene	[10]	**0.230**	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00500	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00500	mg/L	0.00500
2,4,6-Trichlorophenol		<0.0100	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00500	mg/L	0.00500
2-Chloronaphthalene		<0.00500	mg/L	0.00500
1-Chloronaphthalene		<0.00500	mg/L	0.00500
2-Nitroaniline		<0.00500	mg/L	0.00500
Dimethylphthalate		<0.00500	mg/L	0.00500
Acenaphthylene		<0.00500	mg/L	0.00500
2,6-Dinitrotoluene		<0.00500	mg/L	0.00500
3-Nitroaniline		<0.00500	mg/L	0.00500
Acenaphthene		**0.0104**	mg/L	0.00500
2,4-Dinitrophenol		<0.00500	mg/L	0.00500
Dibenzofuran		**0.00740**	mg/L	0.00500
Pentachlorobenzene		<0.00500	mg/L	0.00500
4-Nitrophenol		<0.0250	mg/L	0.0250
2,4-Dinitrotoluene		<0.00500	mg/L	0.00500
1-Naphthylamine		**0.0102**	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.0100	mg/L	0.0100
2-Naphthylamine		**0.0106**	mg/L	0.00500
Fluorene		**0.0332**	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00500	mg/L	0.00500
Diethylphthalate		<0.00500	mg/L	0.00500
4-Nitroaniline		<0.00500	mg/L	0.00500
Diphenylhydrazine		<0.00500	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00500	mg/L	0.00500
Diphenylamine		**0.0113**	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00500	mg/L	0.00500
Phenacetin		<0.00500	mg/L	0.00500
Hexachlorobenzene		<0.00500	mg/L	0.00500
4-Aminobiphenyl		**0.00590**	mg/L	0.00500
Pentachlorophenol		<0.0100	mg/L	0.0100
Anthracene		<0.00500	mg/L	0.00500

continued . . .

[8] Estimated concentration value greater than standard range.
[9] Estimated concentration value greater than standard range.
[10] Estimated concentration value greater than standard range.

sample 164012 continued . . .

Param	Flag	Result	Units	RL
Pentachloronitrobenzene		<0.00500	mg/L	0.00500
Pronamide		<0.00500	mg/L	0.00500
Phenanthrene		**0.0395**	mg/L	0.00500
Di-n-butylphthalate		<0.00500	mg/L	0.00500
Fluoranthene		<0.00500	mg/L	0.00500
Benzidine		<0.0250	mg/L	0.0250
Pyrene		<0.00500	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00500	mg/L	0.00500
Butylbenzylphthalate		<0.00500	mg/L	0.00500
Benzo(a)anthracene		<0.00500	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00500	mg/L	0.00500
Chrysene		<0.00500	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00500	mg/L	0.00500
Di-n-octylphthalate		<0.00500	mg/L	0.00500
Benzo(b)fluoranthene		<0.00500	mg/L	0.00500
Benzo(k)fluoranthene		<0.00500	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00500	mg/L	0.00500
Benzo(a)pyrene		<0.00500	mg/L	0.00500
3-Methylcholanthrene		<0.00500	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00500	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00500	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00500	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00500	mg/L	0.00500
Total Dissolved Solids		**1296**	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<0.00500	mg/L	0.00500
Total Barium		**0.0440**	mg/L	0.00100
Total Cadmium		<0.00100	mg/L	0.00100
Total Chromium		**0.0130**	mg/L	0.00100
Total Mercury		<0.000200	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0100	mg/L	0.0100
MTBE		<100	µg/L	1.00
Benzene		**3510**	µg/L	1.00
Toluene		**8070**	µg/L	1.00
Ethylbenzene		**1170**	µg/L	1.00
m,p-Xylene		**3540**	µg/L	1.00
o-Xylene		**1450**	µg/L	1.00

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NELAP Certifications

Lubbock T104704219-08-TX El Paso T104704221-08-TX Midland T104704392-08-TX

Analytical and Quality Control Report

Leonard Lowe
OCD-Santa Fe
1220 S. Saint Francis Dr.
Santa Fe, NM, 87505

Report Date: July 7, 2008

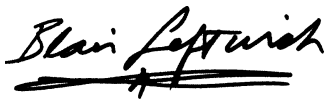
Work Order: 8061928

Project Location: Kirkland, NM
Project Name: R. Jackson
Project Number: R. Jackson

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
164012	R. Jackson	water	2008-06-16	11:00	2008-06-19

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.



Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project R. Jackson were received by TraceAnalysis, Inc. on 2008-06-19 and assigned to work order 8061928. Samples for work order 8061928 were received damaged without headspace and at a temperature of 23.4 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
Ag, Total	S 6010B
Alkalinity	SM 2320B
As, Total	S 6010B
Ba, Total	S 6010B
Ca, Total	S 6010B
Cd, Total	S 6010B
Chloride (IC)	E 300.0
Conductivity	SM 2510B
Cr, Total	S 6010B
Fluoride (IC)	E 300.0
Hg, Total	S 7470A
K, Total	S 6010B
Mg, Total	S 6010B
Na, Total	S 6010B
NO3 (IC)	E 300.0
PAH	S 8270C
Pb, Total	S 6010B
pH	SM 4500-H+
Semivolatiles	S 8270C
Se, Total	S 6010B
SO4 (IC)	E 300.0
TDS	SM 2540C
TPH 418.1	E 418.1
TPH DRO	Mod. 8015B
TPH GRO	S 8015B
Volatiles	S 8260B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 8061928 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	49666	Date Analyzed:	2008-06-24	Analyzed By:	RG
Prep Batch:	42654	Sample Preparation:	2008-06-24	Prepared By:	RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		**44.0**	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		**686**	mg/L as CaCo3	1	4.00
Total Alkalinity		**730**	mg/L as CaCo3	1	4.00

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	49726	Date Analyzed:	2008-06-25	Analyzed By:	RD
Prep Batch:	42697	Sample Preparation:	2008-06-25	Prepared By:	RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		**2080**	uMHOS/cm	1	0.00

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	49956	Date Analyzed:	2008-07-03	Analyzed By:	RD
Prep Batch:	42877	Sample Preparation:	2008-06-26	Prepared By:	RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**225**	mg/L	50	3.00
Fluoride		<1.00	mg/L	5	0.200
Nitrate-N		<1.00	mg/L	5	0.200
Sulfate		**277**	mg/L	50	1.00

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	PAH	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	49676	Date Analyzed:	2008-06-24	Analyzed By:	DS
Prep Batch:	42660	Sample Preparation:	2008-06-20	Prepared By:	DS

Parameter	Flag	RL Result	Units	Dilution	RL
Naphthalene	[1]	**0.216**	mg/L	1	0.000200
2-Methylnaphthalene	[2]	**0.393**	mg/L	1	0.000200
1-Methylnaphthalene	[3]	**0.221**	mg/L	1	0.000200
Acenaphthylene		<0.000200	mg/L	1	0.000200
Acenaphthene		**0.00973**	mg/L	1	0.000200
Dibenzofuran		**0.00755**	mg/L	1	0.000200
Fluorene		**0.0339**	mg/L	1	0.000200
Anthracene		<0.000200	mg/L	1	0.000200
Phenanthrene		**0.0364**	mg/L	1	0.000200
Fluoranthene		<0.000200	mg/L	1	0.000200
Pyrene		**0.000775**	mg/L	1	0.000200
Benzo(a)anthracene		<0.000200	mg/L	1	0.000200
Chrysene		<0.000200	mg/L	1	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	1	0.000200
Benzo(a)pyrene		<0.000200	mg/L	1	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	1	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	1	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	1	0.000200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0592	mg/L	1	0.0800	74	37.4 - 123
2-Fluorobiphenyl		0.0465	mg/L	1	0.0800	58	34.3 - 130
Terphenyl-d14		0.0543	mg/L	1	0.0800	68	10 - 252

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	49616	Date Analyzed:	2008-06-20	Analyzed By:	RG
Prep Batch:	42609	Sample Preparation:	2008-06-20	Prepared By:	RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		**8.83**	s.u.	1	0.00

[1] Estimated concentration value greater than standard range.
[2] Estimated concentration value greater than standard range.
[3] Estimated concentration value greater than standard range.

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Salts, Total	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	49885	Date Analyzed:	2008-06-30	Analyzed By:	TP
Prep Batch:	42752	Sample Preparation:	2008-06-27	Prepared By:	KV

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Calcium		**11.6**		mg/L	1	1.00
Total Magnesium		**13.7**		mg/L	1	1.00
Total Potassium		**31.5**		mg/L	1	1.00
Total Sodium		**479**		mg/L	10	1.00

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3510C
QC Batch:	49675	Date Analyzed:	2008-06-24	Analyzed By:	DS
Prep Batch:	42659	Sample Preparation:	2008-06-20	Prepared By:	DS

Parameter	Flag	Result	RL	Units	Dilution	RL
Pyridine		<0.00500		mg/L	1	0.00500
N-Nitrosodimethylamine		<0.00500		mg/L	1	0.00500
2-Picoline		<0.00500		mg/L	1	0.00500
Methyl methanesulfonate		<0.00500		mg/L	1	0.00500
Ethyl methanesulfonate		<0.00500		mg/L	1	0.00500
Phenol	[4]	**0.183**		mg/L	1	0.00500
Aniline		<0.00500		mg/L	1	0.00500
bis(2-chloroethyl)ether		<0.00500		mg/L	1	0.00500
2-Chlorophenol		<0.00500		mg/L	1	0.00500
1,3-Dichlorobenzene (meta)		<0.00500		mg/L	1	0.00500
1,4-Dichlorobenzene (para)		<0.00500		mg/L	1	0.00500
Benzyl alcohol		<0.00500		mg/L	1	0.00500
1,2-Dichlorobenzene (ortho)		<0.00500		mg/L	1	0.00500
2-Methylphenol	[5]	**0.508**		mg/L	1	0.00500
bis(2-chloroisopropyl)ether		<0.00500		mg/L	1	0.00500
4-Methylphenol / 3-Methylphenol	[6]	**0.351**		mg/L	1	0.00500
N-Nitrosodi-n-propylamine		<0.00500		mg/L	1	0.00500
Hexachloroethane		<0.00500		mg/L	1	0.00500
Acetophenone		<0.00500		mg/L	1	0.00500
Nitrobenzene		<0.00500		mg/L	1	0.00500
N-Nitrosopiperidine		<0.00500		mg/L	1	0.00500

continued . . .

[4] Estimated concentration value greater than standard range.
[5] Estimated concentration value greater than standard range.
[6] Estimated concentration value greater than standard range.

sample 164012 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Isophorone		<0.00500	mg/L	1	0.00500
2-Nitrophenol		<0.00500	mg/L	1	0.00500
2,4-Dimethylphenol	[7]	**0.341**	mg/L	1	0.00500
bis(2-chloroethoxy)methane		<0.00500	mg/L	1	0.00500
2,4-Dichlorophenol		<0.00500	mg/L	1	0.00500
1,2,4-Trichlorobenzene		<0.00500	mg/L	1	0.00500
Benzoic acid		<0.00500	mg/L	1	0.00500
Naphthalene	[8]	**0.227**	mg/L	1	0.00500
a,a-Dimethylphenethylamine		<0.00500	mg/L	1	0.00500
4-Chloroaniline		<0.00500	mg/L	1	0.00500
2,6-Dichlorophenol		<0.0100	mg/L	1	0.0100
Hexachlorobutadiene		<0.00500	mg/L	1	0.00500
N-Nitroso-di-n-butylamine		<0.00500	mg/L	1	0.00500
4-Chloro-3-methylphenol		<0.00500	mg/L	1	0.00500
2-Methylnaphthalene	[9]	**0.408**	mg/L	1	0.00500
1-Methylnaphthalene	[10]	**0.230**	mg/L	1	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00500	mg/L	1	0.00500
Hexachlorocyclopentadiene		<0.00500	mg/L	1	0.00500
2,4,6-Trichlorophenol		<0.0100	mg/L	1	0.0100
2,4,5-Trichlorophenol		<0.00500	mg/L	1	0.00500
2-Chloronaphthalene		<0.00500	mg/L	1	0.00500
1-Chloronaphthalene		<0.00500	mg/L	1	0.00500
2-Nitroaniline		<0.00500	mg/L	1	0.00500
Dimethylphthalate		<0.00500	mg/L	1	0.00500
Acenaphthylene		<0.00500	mg/L	1	0.00500
2,6-Dinitrotoluene		<0.00500	mg/L	1	0.00500
3-Nitroaniline		<0.00500	mg/L	1	0.00500
Acenaphthene		**0.0104**	mg/L	1	0.00500
2,4-Dinitrophenol		<0.00500	mg/L	1	0.00500
Dibenzofuran		**0.00740**	mg/L	1	0.00500
Pentachlorobenzene		<0.00500	mg/L	1	0.00500
4-Nitrophenol		<0.0250	mg/L	1	0.0250
2,4-Dinitrotoluene		<0.00500	mg/L	1	0.00500
1-Naphthylamine		**0.0102**	mg/L	1	0.00500
2,3,4,6-Tetrachlorophenol		<0.0100	mg/L	1	0.0100
2-Naphthylamine		**0.0106**	mg/L	1	0.00500
Fluorene		**0.0332**	mg/L	1	0.00500
4-Chlorophenyl-phenylether		<0.00500	mg/L	1	0.00500
Diethylphthalate		<0.00500	mg/L	1	0.00500

continued . . .

[7] Estimated concentration value greater than standard range.
[8] Estimated concentration value greater than standard range.
[9] Estimated concentration value greater than standard range.
[10] Estimated concentration value greater than standard range.

sample 164012 continued . . .

Parameter	Flag	Result	RL	Units	Dilution	RL
4-Nitroaniline		<0.00500		mg/L	1	0.00500
Diphenylhydrazine		<0.00500		mg/L	1	0.00500
4,6-Dinitro-2-methylphenol		<0.00500		mg/L	1	0.00500
Diphenylamine		**0.0113**		mg/L	1	0.00500
4-Bromophenyl-phenylether		<0.00500		mg/L	1	0.00500
Phenacetin		<0.00500		mg/L	1	0.00500
Hexachlorobenzene		<0.00500		mg/L	1	0.00500
4-Aminobiphenyl		**0.00590**		mg/L	1	0.00500
Pentachlorophenol		<0.0100		mg/L	1	0.0100
Anthracene		<0.00500		mg/L	1	0.00500
Pentachloronitrobenzene		<0.00500		mg/L	1	0.00500
Pronamide		<0.00500		mg/L	1	0.00500
Phenanthrene		**0.0395**		mg/L	1	0.00500
Di-n-butylphthalate		<0.00500		mg/L	1	0.00500
Fluoranthene		<0.00500		mg/L	1	0.00500
Benzidine		<0.0250		mg/L	1	0.0250
Pyrene		<0.00500		mg/L	1	0.00500
p-Dimethylaminoazobenzene		<0.00500		mg/L	1	0.00500
Butylbenzylphthalate		<0.00500		mg/L	1	0.00500
Benzo(a)anthracene		<0.00500		mg/L	1	0.00500
3,3-Dichlorobenzidine		<0.00500		mg/L	1	0.00500
Chrysene		<0.00500		mg/L	1	0.00500
bis(2-ethylhexyl)phthalate		<0.00500		mg/L	1	0.00500
Di-n-octylphthalate		<0.00500		mg/L	1	0.00500
Benzo(b)fluoranthene		<0.00500		mg/L	1	0.00500
Benzo(k)fluoranthene		<0.00500		mg/L	1	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00500		mg/L	1	0.00500
Benzo(a)pyrene		<0.00500		mg/L	1	0.00500
3-Methylcholanthrene		<0.00500		mg/L	1	0.00500
Dibenzo(a,j)acridine		<0.00500		mg/L	1	0.00500
Indeno(1,2,3-cd)pyrene		<0.00500		mg/L	1	0.00500
Dibenzo(a,h)anthracene		<0.00500		mg/L	1	0.00500
Benzo(g,h,i)perylene		<0.00500		mg/L	1	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0225	mg/L	1	0.0800	28	10 - 84.7
Phenol-d5		0.0153	mg/L	1	0.0800	19	10 - 54.9
Nitrobenzene-d5		0.0599	mg/L	1	0.0800	75	10 - 202
2-Fluorobiphenyl		0.0457	mg/L	1	0.0800	57	10 - 199
2,4,6-Tribromophenol		0.0635	mg/L	1	0.0800	79	10 - 141
Terphenyl-d14		0.0539	mg/L	1	0.0800	67	10 - 160

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	49803	Date Analyzed:	2008-06-27	Analyzed By:	RD
Prep Batch:	42759	Sample Preparation:	2008-06-23	Prepared By:	RD

Parameter	Flag	Result	RL Units	Dilution	RL
Total Dissolved Solids		**1296**	mg/L	2	10.00

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Total 8 Metals	Analytical Method:	S 7470A	Prep Method:	N/A
QC Batch:	49583	Date Analyzed:	2008-06-20	Analyzed By:	TP
Prep Batch:	42582	Sample Preparation:	2008-06-20	Prepared By:	TP
Laboratory:	Lubbock				
Analysis:	Total 8 Metals	Analytical Method:	S 6010B	Prep Method:	S 3010A
QC Batch:	49619	Date Analyzed:	2008-06-23	Analyzed By:	RR
Prep Batch:	42606	Sample Preparation:	2008-06-23	Prepared By:	KV

Parameter	Flag	Result	RL Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<0.00500	mg/L	1	0.00500
Total Barium		**0.0440**	mg/L	1	0.00100
Total Cadmium		<0.00100	mg/L	1	0.00100
Total Chromium		**0.0130**	mg/L	1	0.00100
Total Mercury		<0.000200	mg/L	1	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0100	mg/L	1	0.0100

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	TPH 418.1	Analytical Method:	E 418.1	Prep Method:	N/A
QC Batch:	49940	Date Analyzed:	2008-07-02	Analyzed By:	MN
Prep Batch:	42865	Sample Preparation:	2008-07-02	Prepared By:	MN

Parameter	Flag	Result	RL Units	Dilution	RL
TRPHC		**2930**	mg/L	64	1.00

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	49558	Date Analyzed:	2008-06-19	Analyzed By:	MN
Prep Batch:	42562	Sample Preparation:	2008-06-19	Prepared By:	MN

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**3230**		mg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		11.4	mg/L	1	10.0	114	57.2 - 149

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5030B
QC Batch:	49641	Date Analyzed:	2008-06-23	Analyzed By:	ER
Prep Batch:	42633	Sample Preparation:	2008-06-23	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**55.7**		mg/L	50	0.100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		4.56	mg/L	50	5.00	91	67.1 - 120
4-Bromofluorobenzene (4-BFB)		4.74	mg/L	50	5.00	95	63.1 - 122

Sample: 164012 - R. Jackson

Laboratory:	Lubbock				
Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	49702	Date Analyzed:	2008-06-23	Analyzed By:	KB
Prep Batch:	42681	Sample Preparation:	2008-06-23	Prepared By:	KB

Parameter	Flag	Result	RL	Units	Dilution	RL
MTBE		<100		µg/L	100	1.00
Benzene		**3510**		µg/L	100	1.00
Toluene		**8070**		µg/L	100	1.00
Ethylbenzene		**1170**		µg/L	100	1.00
m,p-Xylene		**3540**		µg/L	100	1.00

continued ...

sample 164012 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
o-Xylene		**1450**	µg/L	100	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		5350	µg/L	100	5000	107	89.8 - 111
Toluene-d8		5180	µg/L	100	5000	104	93.2 - 108
4-Bromofluorobenzene (4-BFB)		4830	µg/L	100	5000	97	88.4 - 103

Method Blank (1) QC Batch: 49558

QC Batch: 49558 Date Analyzed: 2008-06-19 Analyzed By: MN
Prep Batch: 42562 QC Preparation: 2008-06-19 Prepared By: MN

Parameter	Flag	MDL Result	Units	RL
DRO		1.43	mg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		10.8	mg/L	1	10.0	108	57.2 - 149

Method Blank (1) QC Batch: 49583

QC Batch: 49583 Date Analyzed: 2008-06-20 Analyzed By: TP
Prep Batch: 42582 QC Preparation: 2008-06-20 Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
Total Mercury		<0.0000251	mg/L	0.0002

Method Blank (1) QC Batch: 49619

QC Batch: 49619 Date Analyzed: 2008-06-23 Analyzed By: RR
Prep Batch: 42606 QC Preparation: 2008-06-23 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silver		<0.00210	mg/L	0.005
Total Arsenic		<0.00430	mg/L	0.005

continued ...

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
Total Barium		<0.00170	mg/L	0.001
Total Cadmium		<0.00140	mg/L	0.001
Total Chromium		<0.000900	mg/L	0.001
Total Lead		<0.00320	mg/L	0.005
Total Selenium		<0.0131	mg/L	0.01

Method Blank (1) QC Batch: 49641

QC Batch: 49641 Date Analyzed: 2008-06-23 Analyzed By: ER
Prep Batch: 42633 QC Preparation: 2008-06-23 Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
GRO		<0.0231	mg/L	0.1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0948	mg/L	1	0.100	95	72.8 - 113
4-Bromofluorobenzene (4-BFB)		0.0777	mg/L	1	0.100	78	69.5 - 115

Method Blank (1) QC Batch: 49666

QC Batch: 49666 Date Analyzed: 2008-06-24 Analyzed By: RG
Prep Batch: 42654 QC Preparation: 2008-06-24 Prepared By: RG

Parameter	Flag	MDL Result	Units	RL
Hydroxide Alkalinity		0.00	mg/L as CaCo3	1
Carbonate Alkalinity		0.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		0.00	mg/L as CaCo3	4
Total Alkalinity		0.00	mg/L as CaCo3	4

Method Blank (1) QC Batch: 49675

QC Batch: 49675 Date Analyzed: 2008-06-24 Analyzed By: DS
Prep Batch: 42659 QC Preparation: 2008-06-20 Prepared By: DS

Parameter	Flag	MDL Result	Units	RL
Pyridine		<0.00128	mg/L	0.005

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
N-Nitrosodimethylamine		<0.00192	mg/L	0.005
2-Picoline		<0.00132	mg/L	0.005
Methyl methanesulfonate		<0.00175	mg/L	0.005
Ethyl methanesulfonate		<0.00122	mg/L	0.005
Phenol		<0.00165	mg/L	0.005
Aniline		<0.00138	mg/L	0.005
bis(2-chloroethyl)ether		<0.00217	mg/L	0.005
2-Chlorophenol		<0.00150	mg/L	0.005
1,3-Dichlorobenzene (meta)		<0.00166	mg/L	0.005
1,4-Dichlorobenzene (para)		<0.00156	mg/L	0.005
Benzyl alcohol		<0.00100	mg/L	0.005
1,2-Dichlorobenzene (ortho)		<0.00164	mg/L	0.005
2-Methylphenol		<0.00158	mg/L	0.005
bis(2-chloroisopropyl)ether		<0.000828	mg/L	0.005
4-Methylphenol / 3-Methylphenol		<0.00124	mg/L	0.005
N-Nitrosodi-n-propylamine		<0.00127	mg/L	0.005
Hexachloroethane		<0.00198	mg/L	0.005
Acetophenone		<0.00127	mg/L	0.005
Nitrobenzene		<0.00193	mg/L	0.005
N-Nitrosopiperidine		<0.00120	mg/L	0.005
Isophorone		<0.00194	mg/L	0.005
2-Nitrophenol		<0.00140	mg/L	0.005
2,4-Dimethylphenol		<0.00109	mg/L	0.005
bis(2-chloroethoxy)methane		<0.00124	mg/L	0.005
2,4-Dichlorophenol		<0.00134	mg/L	0.005
1,2,4-Trichlorobenzene		<0.00193	mg/L	0.005
Benzoic acid		<0.00304	mg/L	0.005
Naphthalene		<0.00165	mg/L	0.005
a,a-Dimethylphenethylamine		<0.000758	mg/L	0.005
4-Chloroaniline		<0.00115	mg/L	0.005
2,6-Dichlorophenol		<0.00120	mg/L	0.01
Hexachlorobutadiene		<0.00184	mg/L	0.005
N-Nitroso-di-n-butylamine		<0.00169	mg/L	0.005
4-Chloro-3-methylphenol		<0.00120	mg/L	0.005
2-Methylnaphthalene		<0.00145	mg/L	0.005
1-Methylnaphthalene		<0.00155	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.00205	mg/L	0.005
Hexachlorocyclopentadiene		<0.00385	mg/L	0.005
2,4,6-Trichlorophenol		<0.00152	mg/L	0.01
2,4,5-Trichlorophenol		<0.00320	mg/L	0.005
2-Chloronaphthalene		<0.00168	mg/L	0.005
1-Chloronaphthalene		<0.00181	mg/L	0.005
2-Nitroaniline		<0.00169	mg/L	0.005
Dimethylphthalate		<0.00178	mg/L	0.005

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
Acenaphthylene		<0.00136	mg/L	0.005
2,6-Dinitrotoluene		<0.00139	mg/L	0.005
3-Nitroaniline		<0.00124	mg/L	0.005
Acenaphthene		<0.00132	mg/L	0.005
2,4-Dinitrophenol		<0.00392	mg/L	0.005
Dibenzofuran		<0.00161	mg/L	0.005
Pentachlorobenzene		<0.00242	mg/L	0.005
4-Nitrophenol		<0.00127	mg/L	0.025
2,4-Dinitrotoluene		<0.00139	mg/L	0.005
1-Naphthylamine		<0.00128	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.00130	mg/L	0.01
2-Naphthylamine		<0.00154	mg/L	0.005
Fluorene		<0.00130	mg/L	0.005
4-Chlorophenyl-phenylether		<0.00173	mg/L	0.005
Diethylphthalate		<0.00161	mg/L	0.005
4-Nitroaniline		<0.00101	mg/L	0.005
Diphenylhydrazine		<0.00125	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.00135	mg/L	0.005
Diphenylamine		<0.00159	mg/L	0.005
4-Bromophenyl-phenylether		<0.00187	mg/L	0.005
Phenacetin		<0.00139	mg/L	0.005
Hexachlorobenzene		<0.00238	mg/L	0.005
4-Aminobiphenyl		<0.00134	mg/L	0.005
Pentachlorophenol		<0.000632	mg/L	0.01
Anthracene		<0.00152	mg/L	0.005
Pentachloronitrobenzene		<0.00307	mg/L	0.005
Pronamide		<0.00159	mg/L	0.005
Phenanthrene		<0.00144	mg/L	0.005
Di-n-butylphthalate		<0.00125	mg/L	0.005
Fluoranthene		<0.00159	mg/L	0.005
Benzidine		<0.000845	mg/L	0.025
Pyrene		<0.00135	mg/L	0.005
p-Dimethylaminoazobenzene		<0.000969	mg/L	0.005
Butylbenzylphthalate		<0.00110	mg/L	0.005
Benzo(a)anthracene		<0.00138	mg/L	0.005
3,3-Dichlorobenzidine		<0.00130	mg/L	0.005
Chrysene		<0.00146	mg/L	0.005
bis(2-ethylhexyl)phthalate		<0.00108	mg/L	0.005
Di-n-octylphthalate		<0.000892	mg/L	0.005
Benzo(b)fluoranthene		<0.00126	mg/L	0.005
Benzo(k)fluoranthene		<0.00149	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.00134	mg/L	0.005
Benzo(a)pyrene		<0.00155	mg/L	0.005
3-Methylcholanthrene		<0.00166	mg/L	0.005

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
Dibenzo(a,j)acridine		<0.00201	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.00195	mg/L	0.005
Dibenzo(a,h)anthracene		<0.00210	mg/L	0.005
Benzo(g,h,i)perylene		<0.00207	mg/L	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0158	mg/L	1	0.0800	20	10 - 66.9
Phenol-d5		0.0100	mg/L	1	0.0800	12	10 - 50.7
Nitrobenzene-d5		0.0276	mg/L	1	0.0800	34	10 - 124
2-Fluorobiphenyl		0.0249	mg/L	1	0.0800	31	10 - 127
2,4,6-Tribromophenol		0.0311	mg/L	1	0.0800	39	10 - 138
Terphenyl-d14		0.0433	mg/L	1	0.0800	54	10 - 143

Method Blank (1) QC Batch: 49676

QC Batch: 49676 | Date Analyzed: 2008-06-24 | Analyzed By: DS
Prep Batch: 42660 | QC Preparation: 2008-06-20 | Prepared By: DS

Parameter	Flag	MDL Result	Units	RL
Naphthalene		<0.0000730	mg/L	0.0002
2-Methylnaphthalene		<0.0000509	mg/L	0.0002
1-Methylnaphthalene		<0.0000748	mg/L	0.0002
Acenaphthylene		<0.0000767	mg/L	0.0002
Acenaphthene		<0.000142	mg/L	0.0002
Dibenzofuran		<0.0000470	mg/L	0.0002
Fluorene		<0.0000569	mg/L	0.0002
Anthracene		<0.0000876	mg/L	0.0002
Phenanthrene		<0.0000552	mg/L	0.0002
Fluoranthene		<0.0000954	mg/L	0.0002
Pyrene		<0.0000497	mg/L	0.0002
Benzo(a)anthracene		<0.0000328	mg/L	0.0002
Chrysene		<0.0000990	mg/L	0.0002
Benzo(b)fluoranthene		<0.0000684	mg/L	0.0002
Benzo(k)fluoranthene		<0.0000830	mg/L	0.0002
Benzo(a)pyrene		<0.0000549	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.0000869	mg/L	0.0002
Dibenzo(a,h)anthracene		<0.0000605	mg/L	0.0002
Benzo(g,h,i)perylene		<0.0000681	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		0.0298	mg/L	1	0.0800	37	10 - 146
2-Fluorobiphenyl		0.0224	mg/L	1	0.0800	28	10 - 141
Terphenyl-d14		0.0541	mg/L	1	0.0800	68	10 - 266

Method Blank (1) QC Batch: 49702

QC Batch: 49702 Date Analyzed: 2008-06-23 Analyzed By: KB
Prep Batch: 42681 QC Preparation: 2008-06-23 Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
MTBE		<0.318	µg/L	1
Benzene		<0.319	µg/L	1
Toluene		<0.268	µg/L	1
Ethylbenzene		<0.245	µg/L	1
m,p-Xylene		<0.517	µg/L	1
o-Xylene		<0.247	µg/L	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		55.2	µg/L	1	50.0	110	89.8 - 111
Toluene-d8		53.6	µg/L	1	50.0	107	93.2 - 108
4-Bromofluorobenzene (4-BFB)		44.8	µg/L	1	50.0	90	88.4 - 103

Method Blank (1) QC Batch: 49726

QC Batch: 49726 Date Analyzed: 2008-06-25 Analyzed By: RD
Prep Batch: 42697 QC Preparation: 2008-06-25 Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Specific Conductance		1.06	uMHOS/cm	

Method Blank (1) QC Batch: 49803

QC Batch: 49803 Date Analyzed: 2008-06-27 Analyzed By: RD
Prep Batch: 42759 QC Preparation: 2008-06-23 Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

Method Blank (1) QC Batch: 49885

QC Batch:	49885	Date Analyzed:	2008-06-30	Analyzed By:	TP
Prep Batch:	42752	QC Preparation:	2008-06-27	Prepared By:	KV

Parameter	Flag	MDL Result	Units	RL
Total Calcium		<0.175	mg/L	1
Total Magnesium		<0.148	mg/L	1
Total Potassium		<0.327	mg/L	1
Total Sodium		1.59	mg/L	1

Method Blank (1) QC Batch: 49940

QC Batch:	49940	Date Analyzed:	2008-07-02	Analyzed By:	MN
Prep Batch:	42865	QC Preparation:	2008-07-02	Prepared By:	MN

Parameter	Flag	MDL Result	Units	RL
TRPHC		<0.946	mg/L	1

Method Blank (1) QC Batch: 49956

QC Batch:	49956	Date Analyzed:	2008-07-03	Analyzed By:	RD
Prep Batch:	42877	QC Preparation:	2008-06-26	Prepared By:	RD

Parameter	Flag	MDL Result	Units	RL
Chloride		<1.74	mg/L	3
Fluoride		<0.0889	mg/L	0.2
Nitrate-N		<0.0805	mg/L	0.2
Sulfate		<0.344	mg/L	1

Duplicates (1)

QC Batch:	49616	Date Analyzed:	2008-06-20	Analyzed By:	RG	
Prep Batch:	42609	QC Preparation:	2008-06-20	Prepared By:	RG	

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	7.80	7.74	s.u.	1	1	1.3

Duplicates (1)

QC Batch: 49666 | Date Analyzed: 2008-06-24 | Analyzed By: RG
Prep Batch: 42654 | QC Preparation: 2008-06-24 | Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	0.00	0.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	0.00	0.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	338	332	mg/L as CaCo3	1	2	20
Total Alkalinity	338	332	mg/L as CaCo3	1	2	35

Duplicates (1)

QC Batch: 49726 | Date Analyzed: 2008-06-25 | Analyzed By: RD
Prep Batch: 42697 | QC Preparation: 2008-06-25 | Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	2080	2080	uMHOS/cm	1	0	4.4

Duplicates (1)

QC Batch: 49803 | Date Analyzed: 2008-06-27 | Analyzed By: RD
Prep Batch: 42759 | QC Preparation: 2008-06-23 | Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	1280	1296	mg/L	2	1	10

Laboratory Control Spike (LCS-1)

QC Batch: 49558 | Date Analyzed: 2008-06-19 | Analyzed By: MN
Prep Batch: 42562 | QC Preparation: 2008-06-19 | Prepared By: MN

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	22.4	mg/L	1	25.0	1.43	84	66.3 - 135

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

control spikes continued ...

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	24.0	mg/L	1	25.0	1.43	90	66.3 - 135	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	11.0	11.1	mg/L	1	10.0	110	111	57.2 - 149

Laboratory Control Spike (LCS-1)

QC Batch: 49583 | Date Analyzed: 2008-06-20 | Analyzed By: TP
Prep Batch: 42582 | QC Preparation: 2008-06-20 | Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.000999	mg/L	1	0.00100	<0.0000251	100	89.6 - 111

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.000975	mg/L	1	0.00100	<0.0000251	98	89.6 - 111	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 49619 | Date Analyzed: 2008-06-23 | Analyzed By: RR
Prep Batch: 42606 | QC Preparation: 2008-06-23 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.118	mg/L	1	0.125	<0.00210	94	86.7 - 113
Total Arsenic	0.512	mg/L	1	0.500	<0.00430	102	85 - 112
Total Barium	1.05	mg/L	1	1.00	<0.00170	105	86.9 - 115
Total Cadmium	0.256	mg/L	1	0.250	<0.00140	102	85.2 - 115
Total Chromium	0.106	mg/L	1	0.100	<0.000900	106	86 - 115
Total Lead	0.503	mg/L	1	0.500	<0.00320	101	87.9 - 112
Total Selenium	0.470	mg/L	1	0.500	<0.0131	94	85 - 109

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.116	mg/L	1	0.125	<0.00210	93	86.7 - 113	2	20
Total Arsenic	0.491	mg/L	1	0.500	<0.00430	98	85 - 112	4	20
Total Barium	1.01	mg/L	1	1.00	<0.00170	101	86.9 - 115	4	20
Total Cadmium	0.253	mg/L	1	0.250	<0.00140	101	85.2 - 115	1	20
Total Chromium	0.106	mg/L	1	0.100	<0.000900	106	86 - 115	0	20
Total Lead	0.493	mg/L	1	0.500	<0.00320	99	87.9 - 112	2	20
Total Selenium	0.473	mg/L	1	0.500	<0.0131	95	85 - 109	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 49641 | Date Analyzed: 2008-06-23 | Analyzed By: ER
Prep Batch: 42633 | QC Preparation: 2008-06-23 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	0.964	mg/L	1	1.00	<0.0231	96	76.2 - 127

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	0.981	mg/L	1	1.00	<0.0231	98	76.2 - 127	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.104	0.0967	mg/L	1	0.100	104	97	75.8 - 126
4-Bromofluorobenzene (4-BFB)	0.0909	0.0901	mg/L	1	0.100	91	90	82.4 - 119

Laboratory Control Spike (LCS-1)

QC Batch: 49675 | Date Analyzed: 2008-06-24 | Analyzed By: DS
Prep Batch: 42659 | QC Preparation: 2008-06-20 | Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Phenol	0.0135	mg/L	1	0.0800	<0.00165	17	10 - 46.1
2-Chlorophenol	0.0363	mg/L	1	0.0800	<0.00150	45	10 - 123
1,4-Dichlorobenzene (para)	0.0312	mg/L	1	0.0800	<0.00156	39	10 - 118
N-Nitrosodi-n-propylamine	0.0322	mg/L	1	0.0800	<0.00127	40	10 - 132
1,2,4-Trichlorobenzene	0.0371	mg/L	1	0.0800	<0.00193	46	10 - 130
Naphthalene	0.0367	mg/L	1	0.0800	<0.00165	46	20.3 - 121

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
4-Chloro-3-methylphenol	0.0435	mg/L	1	0.0800	<0.00120	54	10 - 140
Acenaphthylene	0.0499	mg/L	1	0.0800	<0.00136	62	22.3 - 124
Acenaphthene	0.0486	mg/L	1	0.0800	<0.00132	61	18.8 - 134
Dibenzofuran	0.0495	mg/L	1	0.0800	<0.00161	62	37.5 - 102
4-Nitrophenol	0.0135	mg/L	1	0.0800	<0.00127	17	10 - 135
2,4-Dinitrotoluene	0.0587	mg/L	1	0.0800	<0.00139	73	13.6 - 152
Fluorene	0.0531	mg/L	1	0.0800	<0.00130	66	29.7 - 114
Pentachlorophenol	0.0248	mg/L	1	0.0800	<0.000632	31	10 - 144
Anthracene	0.0558	mg/L	1	0.0800	<0.00152	70	48.2 - 118
Phenanthrene	0.0550	mg/L	1	0.0800	<0.00144	69	45.5 - 121
Fluoranthene	0.0586	mg/L	1	0.0800	<0.00159	73	42.7 - 126
Pyrene	0.0619	mg/L	1	0.0800	<0.00135	77	26.8 - 155
Benzo(a)anthracene	0.0594	mg/L	1	0.0800	<0.00138	74	60.2 - 97.3
Chrysene	0.0600	mg/L	1	0.0800	<0.00146	75	56 - 92.4
Benzo(b)fluoranthene [11]	0.0586	mg/L	1	0.0800	<0.00126	73	73.9 - 102
Benzo(k)fluoranthene	0.0576	mg/L	1	0.0800	<0.00149	72	45.6 - 143
Benzo(a)pyrene	0.0624	mg/L	1	0.0800	<0.00155	78	54.8 - 122
Indeno(1,2,3-cd)pyrene	0.0663	mg/L	1	0.0800	<0.00195	83	61.4 - 118
Dibenzo(a,h)anthracene	0.0645	mg/L	1	0.0800	<0.0210	81	64.9 - 118
Benzo(g,h,i)perylene	0.0637	mg/L	1	0.0800	<0.00207	80	46.8 - 129

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Phenol	0.0136	mg/L	1	0.0800	<0.00165	17	10 - 46.1	1	20
2-Chlorophenol	0.0363	mg/L	1	0.0800	<0.00150	45	10 - 123	0	20
1,4-Dichlorobenzene (para)	0.0312	mg/L	1	0.0800	<0.00156	39	10 - 118	0	20
N-Nitrosodi-n-propylamine	0.0335	mg/L	1	0.0800	<0.00127	42	10 - 132	4	20
1,2,4-Trichlorobenzene	0.0357	mg/L	1	0.0800	<0.00193	45	10 - 130	4	20
Naphthalene	0.0361	mg/L	1	0.0800	<0.00165	45	20.3 - 121	2	20
4-Chloro-3-methylphenol	0.0439	mg/L	1	0.0800	<0.00120	55	10 - 140	1	20
Acenaphthylene	0.0494	mg/L	1	0.0800	<0.00136	62	22.3 - 124	1	20
Acenaphthene	0.0485	mg/L	1	0.0800	<0.00132	61	18.8 - 134	0	20
Dibenzofuran	0.0493	mg/L	1	0.0800	<0.00161	62	37.5 - 102	0	20
4-Nitrophenol	0.0138	mg/L	1	0.0800	<0.00127	17	10 - 135	2	20
2,4-Dinitrotoluene	0.0580	mg/L	1	0.0800	<0.00139	72	13.6 - 152	1	20
Fluorene	0.0531	mg/L	1	0.0800	<0.00130	66	29.7 - 114	0	20
Pentachlorophenol	0.0248	mg/L	1	0.0800	<0.000632	31	10 - 144	0	20
Anthracene	0.0546	mg/L	1	0.0800	<0.00152	68	48.2 - 118	2	20
Phenanthrene	0.0542	mg/L	1	0.0800	<0.00144	68	45.5 - 121	2	20
Fluoranthene	0.0573	mg/L	1	0.0800	<0.00159	72	42.7 - 126	2	20
Pyrene	0.0601	mg/L	1	0.0800	<0.00135	75	26.8 - 155	3	20
Benzo(a)anthracene	0.0584	mg/L	1	0.0800	<0.00138	73	60.2 - 97.3	2	20

continued ...

[11] Benzo(b)fluoranthene out of control limits for LCS/LCSD. Majority of analytes within range show process is within control. •

control spikes continued ...

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chrysene	0.0595	mg/L	1	0.0800	<0.00146	74	56 - 92.4	1	20
Benzo(b)fluoranthene [12]	0.0553	mg/L	1	0.0800	<0.00126	69	73.9 - 102	6	20
Benzo(k)fluoranthene	0.0557	mg/L	1	0.0800	<0.00149	70	45.6 - 143	3	20
Benzo(a)pyrene	0.0617	mg/L	1	0.0800	<0.00155	77	54.8 - 122	1	20
Indeno(1,2,3-cd)pyrene	0.0653	mg/L	1	0.0800	<0.00195	82	61.4 - 118	2	20
Dibenzo(a,h)anthracene	0.0635	mg/L	1	0.0800	<0.0210	79	64.9 - 118	2	20
Benzo(g,h,i)perylene	0.0632	mg/L	1	0.0800	<0.00207	79	46.8 - 129	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
2-Fluorophenol	0.0220	0.0219	mg/L	1	0.0800	28	27	10 - 109
Phenol-d5	0.0142	0.0142	mg/L	1	0.0800	18	18	10 - 61.5
Nitrobenzene-d5	0.0382	0.0370	mg/L	1	0.0800	48	46	10 - 139
2-Fluorobiphenyl	0.0431	0.0418	mg/L	1	0.0800	54	52	10 - 139
2,4,6-Tribromophenol	0.0510	0.0498	mg/L	1	0.0800	64	62	10 - 161
Terphenyl-d14	0.0615	0.0605	mg/L	1	0.0800	77	76	10 - 144

Laboratory Control Spike (LCS-1)

QC Batch: 49676 | Date Analyzed: 2008-06-24 | Analyzed By: DS
Prep Batch: 42660 | QC Preparation: 2008-06-20 | Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Naphthalene	0.0350	mg/L	1	0.0800	<0.0000730	44	10 - 141
2-Methylnaphthalene	0.0408	mg/L	1	0.0800	<0.0000509	51	50 - 150
1-Methylnaphthalene	0.0426	mg/L	1	0.0800	<0.0000748	53	50 - 150
Acenaphthylene	0.0495	mg/L	1	0.0800	<0.0000767	62	10 - 152
Acenaphthene	0.0478	mg/L	1	0.0800	<0.000142	60	10 - 151
Dibenzofuran	0.0538	mg/L	1	0.0800	<0.0000470	67	10 - 148
Fluorene	0.0632	mg/L	1	0.0800	<0.0000569	79	10 - 172
Anthracene	0.0558	mg/L	1	0.0800	<0.0000876	70	22.5 - 172
Phenanthrene	0.0540	mg/L	1	0.0800	<0.0000552	68	19.6 - 172
Fluoranthene	0.0505	mg/L	1	0.0800	<0.0000954	63	17.3 - 187
Pyrene	0.0621	mg/L	1	0.0800	<0.0000497	78	14.9 - 199
Benzo(a)anthracene	0.0580	mg/L	1	0.0800	<0.0000328	72	19.4 - 185
Chrysene	0.0613	mg/L	1	0.0800	<0.0000990	77	18.4 - 188
Benzo(b)fluoranthene	0.0614	mg/L	1	0.0800	<0.0000684	77	10 - 193
Benzo(k)fluoranthene	0.0609	mg/L	1	0.0800	<0.0000830	76	27.8 - 196
Benzo(a)pyrene	0.0686	mg/L	1	0.0800	<0.0000549	86	12.4 - 205

continued ...

[12] Benzo(b)fluoranthene out of control limits for LCS/LCSD. Majority of analytes within range show process is within control. •

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Indeno(1,2,3-cd)pyrene	0.0742	mg/L	1	0.0800	<0.0000869	93	10 - 198
Dibenzo(a,h)anthracene	0.0719	mg/L	1	0.0800	<0.0000605	90	10 - 172
Benzo(g,h,i)perylene	0.0709	mg/L	1	0.0800	<0.0000681	89	10 - 186

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Naphthalene	0.0339	mg/L	1	0.0800	<0.0000730	42	10 - 141	3	20
2-Methylnaphthalene [13]	0.0387	mg/L	1	0.0800	<0.0000509	48	50 - 150	5	20
1-Methylnaphthalene	0.0400	mg/L	1	0.0800	<0.0000748	50	50 - 150	6	20
Acenaphthylene	0.0481	mg/L	1	0.0800	<0.0000767	60	10 - 152	3	20
Acenaphthene	0.0459	mg/L	1	0.0800	<0.000142	57	10 - 151	4	20
Dibenzofuran	0.0521	mg/L	1	0.0800	<0.0000470	65	10 - 148	3	20
Fluorene	0.0623	mg/L	1	0.0800	<0.0000569	78	10 - 172	1	20
Anthracene	0.0532	mg/L	1	0.0800	<0.0000876	66	22.5 - 172	5	20
Phenanthrene	0.0513	mg/L	1	0.0800	<0.0000552	64	19.6 - 172	5	20
Fluoranthene	0.0481	mg/L	1	0.0800	<0.0000954	60	17.3 - 187	5	20
Pyrene	0.0603	mg/L	1	0.0800	<0.0000497	75	14.9 - 199	3	20
Benzo(a)anthracene	0.0559	mg/L	1	0.0800	<0.0000328	70	19.4 - 185	4	20
Chrysene	0.0588	mg/L	1	0.0800	<0.0000990	74	18.4 - 188	4	20
Benzo(b)fluoranthene	0.0586	mg/L	1	0.0800	<0.0000684	73	10 - 193	5	20
Benzo(k)fluoranthene	0.0580	mg/L	1	0.0800	<0.0000830	72	27.8 - 196	5	20
Benzo(a)pyrene	0.0656	mg/L	1	0.0800	<0.0000549	82	12.4 - 205	4	20
Indeno(1,2,3-cd)pyrene	0.0710	mg/L	1	0.0800	<0.0000869	89	10 - 198	4	20
Dibenzo(a,h)anthracene	0.0692	mg/L	1	0.0800	<0.0000605	86	10 - 172	4	20
Benzo(g,h,i)perylene	0.0679	mg/L	1	0.0800	<0.0000681	85	10 - 186	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Nitrobenzene-d5	0.0385	0.0377	mg/L	1	0.0800	48	47	10 - 165
2-Fluorobiphenyl	0.0325	0.0313	mg/L	1	0.0800	41	39	10 - 157
Terphenyl-d14	0.0612	0.0583	mg/L	1	0.0800	76	73	10 - 220

Laboratory Control Spike (LCS-1)

QC Batch:	49702	Date Analyzed:	2008-06-23	Analyzed By:	KB
Prep Batch:	42681	QC Preparation:	2008-06-23	Prepared By:	KB

continued ...

[13] LCSD analyte out of range. LCS/LCSD has an RPD within limits. Therefore, LCS shows extraction occurred properly.

control spikes continued ...

Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
MTBE		52.5	µg/L	1	50.0	<0.318	105	88.3 - 115
Benzene		52.4	µg/L	1	50.0	<0.319	105	87.6 - 107
Toluene		52.5	µg/L	1	50.0	<0.268	105	91.3 - 110
Ethylbenzene	[14]	54.8	µg/L	1	50.0	<0.245	110	90.5 - 107
m,p-Xylene		111	µg/L	1	100	<0.517	111	89.5 - 111
o-Xylene		55.5	µg/L	1	50.0	<0.247	111	91.2 - 112

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param		LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
MTBE		57.5	µg/L	1	50.0	<0.318	115	88.3 - 115	9	20
Benzene	[15]	54.1	µg/L	1	50.0	<0.319	108	87.6 - 107	3	20
Toluene		54.6	µg/L	1	50.0	<0.268	109	91.3 - 110	4	20
Ethylbenzene	[16]	56.6	µg/L	1	50.0	<0.245	113	90.5 - 107	3	20
m,p-Xylene	[17]	115	µg/L	1	100	<0.517	115	89.5 - 111	4	20
o-Xylene	[18]	57.7	µg/L	1	50.0	<0.247	115	91.2 - 112	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	53.5	53.6	µg/L	1	50.0	107	107	89.5 - 107
Toluene-d8	50.8	50.4	µg/L	1	50.0	102	101	92.6 - 102
4-Bromofluorobenzene (4-BFB)	50.8	51.2	µg/L	1	50.0	102	102	95.2 - 103

Laboratory Control Spike (LCS-1)

QC Batch: 49885 | Date Analyzed: 2008-06-30 | Analyzed By: TP
Prep Batch: 42752 | QC Preparation: 2008-06-27 | Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Calcium	52.3	mg/L	1	50.0	<0.175	105	89.7 - 115
Total Magnesium	52.0	mg/L	1	50.0	<0.148	104	85 - 114
Total Potassium	53.9	mg/L	1	50.0	<0.327	108	85.1 - 115

continued ...

[14] Spike recovery outside control limits but within method limits. Majority of analytes have recoveries within limits showing the analysis to be in control. •
[15] LCSD analyte out of range. LCS/LCSD has a RPD within limits. Therfore, LCS shows extraction occured properly.
[16] Spike recovery outside control limits but within method limits. RPD within RPD limits. •
[17] LCSD analyte out of range. LCS/LCSD has a RPD within limits. Therfore, LCS shows extraction occured properly.
[18] LCSD analyte out of range. LCS/LCSD has a RPD within limits. Therfore, LCS shows extraction occured properly.

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Sodium	53.0	mg/L	1	50.0	1.59	103	91.5 - 113

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Calcium	50.6	mg/L	1	50.0	<0.175	101	89.7 - 115	3	20
Total Magnesium	50.4	mg/L	1	50.0	<0.148	101	85 - 114	3	20
Total Potassium	52.2	mg/L	1	50.0	<0.327	104	85.1 - 115	3	20
Total Sodium	51.4	mg/L	1	50.0	1.59	100	91.5 - 113	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 49940 | Date Analyzed: 2008-07-02 | Analyzed By: MN
Prep Batch: 42865 | QC Preparation: 2008-07-02 | Prepared By: MN

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
TRPHC	6.81	mg/L	1	8.50	<0.946	80	76.6 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
TRPHC	6.94	mg/L	1	8.50	<0.946	82	76.6 - 117	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 49956 | Date Analyzed: 2008-07-03 | Analyzed By: RD
Prep Batch: 42877 | QC Preparation: 2008-06-26 | Prepared By: RD

Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	[19]	13.7	mg/L	1	12.5	<1.74	110	90 - 110
Fluoride	[20]	2.63	mg/L	1	2.50	<0.0889	105	90 - 110
Nitrate-N	[21]	2.54	mg/L	1	2.50	<0.0805	102	90 - 110
Sulfate	[22]	13.8	mg/L	1	12.5	<0.344	110	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

[19] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[20] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[21] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[22] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •

Param		LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	[23]	13.8	mg/L	1	12.5	<1.74	110	90 - 110	1	20
Fluoride	[24]	2.55	mg/L	1	2.50	<0.0889	102	90 - 110	3	20
Nitrate-N	[25]	2.74	mg/L	1	2.50	<0.0805	110	90 - 110	8	20
Sulfate	[26]	13.3	mg/L	1	12.5	<0.344	106	90 - 110	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 164012

QC Batch: 49558 | Date Analyzed: 2008-06-19 | Analyzed By: MN
Prep Batch: 42562 | QC Preparation: 2008-06-19 | Prepared By: MN

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	[27]	<1.09	mg/L	1	25.0	<1.09	0	73 - 119

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	[28]	<1.09	mg/L	1	25.0	<1.09	0	73 - 119	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	[29] [30]	0.00	0.00	mg/L	1	10	0	0	57.2 - 149

Matrix Spike (MS-1) Spiked Sample: 163769

QC Batch: 49583 | Date Analyzed: 2008-06-20 | Analyzed By: TP
Prep Batch: 42582 | QC Preparation: 2008-06-20 | Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.000997	mg/L	1	0.00100	<0.0000251	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

[23] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[24] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[25] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[26] Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •
[27] Sample can not be re-extracted and re-ran because there is not enough sample remaining to analyze.
[28] Sample can not be re-extracted and re-ran because there is not enough sample remaining to analyze.
[29] Sample can not be re-extracted and re-ran because there is not enough sample remaining to analyze.
[30] Sample can not be re-extracted and re-ran because there is not enough sample remaining to analyze.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.000989	mg/L	1	0.00100	<0.0000251	99	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 163769

QC Batch: 49619 | Date Analyzed: 2008-06-23 | Analyzed By: RR
Prep Batch: 42606 | QC Preparation: 2008-06-23 | Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.119	mg/L	1	0.125	<0.00210	95	76.1 - 115
Total Arsenic	0.522	mg/L	1	0.500	<0.00430	104	81.6 - 116
Total Barium	1.16	mg/L	1	1.00	0.143	102	75 - 123
Total Cadmium	0.257	mg/L	1	0.250	<0.00140	103	75 - 115
Total Chromium	0.110	mg/L	1	0.100	<0.000900	110	75 - 125
Total Lead	0.500	mg/L	1	0.500	<0.00320	100	82.6 - 114
Total Selenium	0.461	mg/L	1	0.500	<0.0131	92	75 - 106

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.118	mg/L	1	0.125	<0.00210	94	76.1 - 115	1	20
Total Arsenic	0.518	mg/L	1	0.500	<0.00430	104	81.6 - 116	1	20
Total Barium	1.14	mg/L	1	1.00	0.143	100	75 - 123	2	20
Total Cadmium	0.253	mg/L	1	0.250	<0.00140	101	75 - 115	2	20
Total Chromium	0.108	mg/L	1	0.100	<0.000900	108	75 - 125	2	20
Total Lead	0.494	mg/L	1	0.500	<0.00320	99	82.6 - 114	1	20
Total Selenium	0.466	mg/L	1	0.500	<0.0131	93	75 - 106	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 164012

QC Batch: 49641 | Date Analyzed: 2008-06-23 | Analyzed By: ER
Prep Batch: 42633 | QC Preparation: 2008-06-23 | Prepared By: ER

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	98.9	mg/L	50	50.0	55.7	86	24 - 157

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued . . .

matrix spikes continued . . .

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	108	mg/L	50	50.0	55.7	105	24 - 157	9	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5.01	4.90	mg/L	50	5	100	98	53 - 134
4-Bromofluorobenzene (4-BFB)	5.07	5.01	mg/L	50	5	101	100	55 - 138

Standard (ICV-1)

QC Batch: 49558 Date Analyzed: 2008-06-19 Analyzed By: MN

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	275	110	85 - 115	2008-06-19

Standard (CCV-1)

QC Batch: 49558 Date Analyzed: 2008-06-19 Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	219	88	85 - 115	2008-06-19

Standard (ICV-1)

QC Batch: 49583 Date Analyzed: 2008-06-20 Analyzed By: TP

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00100	0.000964	96	90 - 110	2008-06-20

Standard (CCV-1)

QC Batch: 49583 Date Analyzed: 2008-06-20 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.00100	0.000999	100	80 - 120	2008-06-20

Standard (ICV-1)

QC Batch: 49616 Date Analyzed: 2008-06-20 Analyzed By: RG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2008-06-20

Standard (CCV-1)

QC Batch: 49616 Date Analyzed: 2008-06-20 Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.14	102	98 - 102	2008-06-20

Standard (ICV-1)

QC Batch: 49619 Date Analyzed: 2008-06-23 Analyzed By: RR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.123	98	90 - 110	2008-06-23
Total Arsenic		mg/L	1.00	0.988	99	90 - 110	2008-06-23
Total Barium		mg/L	1.00	1.03	103	90 - 110	2008-06-23
Total Cadmium		mg/L	1.00	1.01	101	90 - 110	2008-06-23
Total Chromium		mg/L	1.00	1.01	101	90 - 110	2008-06-23
Total Lead		mg/L	1.00	1.01	101	90 - 110	2008-06-23
Total Selenium		mg/L	1.00	1.01	101	90 - 110	2008-06-23

Standard (CCV-1)

QC Batch: 49619 Date Analyzed: 2008-06-23 Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.118	94	90 - 110	2008-06-23
Total Arsenic		mg/L	1.00	0.976	98	90 - 110	2008-06-23
Total Barium		mg/L	1.00	1.01	101	90 - 110	2008-06-23
Total Cadmium		mg/L	1.00	0.971	97	90 - 110	2008-06-23
Total Chromium		mg/L	1.00	0.969	97	90 - 110	2008-06-23
Total Lead		mg/L	1.00	0.985	98	90 - 110	2008-06-23
Total Selenium		mg/L	1.00	1.09	109	90 - 110	2008-06-23

Standard (ICV-1)

QC Batch: 49641 Date Analyzed: 2008-06-23 Analyzed By: ER

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	1.03	103	85 - 115	2008-06-23

Standard (CCV-1)

QC Batch: 49641 Date Analyzed: 2008-06-23 Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1.00	0.991	99	85 - 115	2008-06-23

Standard (ICV-1)

QC Batch: 49666 Date Analyzed: 2008-06-24 Analyzed By: RG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity		mg/L as CaCo3	250	242	97	90 - 110	2008-06-24

Standard (CCV-1)

QC Batch: 49666 Date Analyzed: 2008-06-24 Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity		mg/L as CaCo3	250	248	99	90 - 110	2008-06-24

Standard (CCV-1)

QC Batch: 49675 Date Analyzed: 2008-06-24 Analyzed By: DS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60.0	51.9	86	80 - 120	2008-06-24
1,4-Dichlorobenzene (para)		mg/L	60.0	59.0	98	80 - 120	2008-06-24
2-Nitrophenol		mg/L	60.0	66.3	110	80 - 120	2008-06-24
2,4-Dichlorophenol		mg/L	60.0	51.0	85	80 - 120	2008-06-24
Hexachlorobutadiene		mg/L	60.0	63.5	106	80 - 120	2008-06-24
4-Chloro-3-methylphenol		mg/L	60.0	58.3	97	80 - 120	2008-06-24
2,4,6-Trichlorophenol		mg/L	60.0	62.3	104	80 - 120	2008-06-24
Acenaphthene		mg/L	60.0	60.1	100	80 - 120	2008-06-24
Diphenylamine		mg/L	60.0	56.6	94	80 - 120	2008-06-24
Pentachlorophenol		mg/L	60.0	50.5	84	80 - 120	2008-06-24
Fluoranthene		mg/L	60.0	56.4	94	80 - 120	2008-06-24
Di-n-octylphthalate		mg/L	60.0	65.1	108	80 - 120	2008-06-24
Benzo(a)pyrene		mg/L	60.0	60.7	101	80 - 120	2008-06-24

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		58.6	mg/L	1	60.0	98	80 - 120
Phenol-d5		50.9	mg/L	1	60.0	85	80 - 120
Nitrobenzene-d5		58.4	mg/L	1	60.0	97	80 - 120
2-Fluorobiphenyl		58.5	mg/L	1	60.0	98	80 - 120
2,4,6-Tribromophenol		67.6	mg/L	1	60.0	113	80 - 120
Terphenyl-d14		61.7	mg/L	1	60.0	103	80 - 120

Standard (CCV-1)

QC Batch: 49676 Date Analyzed: 2008-06-24 Analyzed By: DS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60.0	56.1	94	80 - 120	2008-06-24
2-Methylnaphthalene		mg/L	60.0	53.2	89	80 - 120	2008-06-24
1-Methylnaphthalene		mg/L	60.0	52.6	88	80 - 120	2008-06-24
Acenaphthylene		mg/L	60.0	59.0	98	80 - 120	2008-06-24

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Acenaphthene		mg/L	60.0	58.7	98	80 - 120	2008-06-24
Dibenzofuran		mg/L	60.0	61.4	102	80 - 120	2008-06-24
Fluorene		mg/L	60.0	67.3	112	80 - 120	2008-06-24
Anthracene		mg/L	60.0	58.1	97	80 - 120	2008-06-24
Phenanthrene		mg/L	60.0	55.5	92	80 - 120	2008-06-24
Fluoranthene		mg/L	60.0	56.3	94	80 - 120	2008-06-24
Pyrene		mg/L	60.0	63.2	105	80 - 120	2008-06-24
Benzo(a)anthracene		mg/L	60.0	56.2	94	80 - 120	2008-06-24
Chrysene		mg/L	60.0	57.3	96	80 - 120	2008-06-24
Benzo(b)fluoranthene		mg/L	60.0	59.5	99	80 - 120	2008-06-24
Benzo(k)fluoranthene		mg/L	60.0	58.8	98	80 - 120	2008-06-24
Benzo(a)pyrene		mg/L	60.0	63.6	106	80 - 120	2008-06-24
Indeno(1,2,3-cd)pyrene		mg/L	60.0	69.1	115	80 - 120	2008-06-24
Dibenzo(a,h)anthracene		mg/L	60.0	69.3	116	80 - 120	2008-06-24
Benzo(g,h,i)perylene		mg/L	60.0	67.8	113	80 - 120	2008-06-24

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		58.4	mg/L	1	60.0	97	80 - 120
2-Fluorobiphenyl		57.6	mg/L	1	60.0	96	80 - 120
Terphenyl-d14		62.1	mg/L	1	60.0	104	80 - 120

Standard (CCV-2)

QC Batch: 49702 Date Analyzed: 2008-06-23 Analyzed By: KB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		µg/L	50.0	58.6	117	70 - 130	2008-06-23
Benzene		µg/L	50.0	49.5	99	70 - 130	2008-06-23
Toluene		µg/L	50.0	49.8	100	80 - 120	2008-06-23
Ethylbenzene		µg/L	50.0	51.0	102	80 - 120	2008-06-23
m,p-Xylene		µg/L	100	104	104	70 - 130	2008-06-23
o-Xylene		µg/L	50.0	52.1	104	70 - 130	2008-06-23

Standard (ICV-1)

QC Batch: 49726 Date Analyzed: 2008-06-25 Analyzed By: RD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1410	1490	106	90 - 110	2008-06-25

Standard (CCV-1)

QC Batch: 49726 Date Analyzed: 2008-06-25 Analyzed By: RD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1410	1330	94	90 - 110	2008-06-25

Standard (ICV-1)

QC Batch: 49803 Date Analyzed: 2008-06-27 Analyzed By: RD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1048	105	90 - 110	2008-06-27

Standard (CCV-1)

QC Batch: 49803 Date Analyzed: 2008-06-27 Analyzed By: RD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	989.0	99	90 - 110	2008-06-27

Standard (ICV-1)

QC Batch: 49885 Date Analyzed: 2008-06-30 Analyzed By: TP

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	50.0	50.3	101	90 - 110	2008-06-30
Total Magnesium		mg/L	50.0	50.3	101	90 - 110	2008-06-30
Total Potassium		mg/L	50.0	51.6	103	90 - 110	2008-06-30
Total Sodium		mg/L	50.0	49.8	100	90 - 110	2008-06-30

Standard (CCV-1)

QC Batch: 49885 Date Analyzed: 2008-06-30 Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	50.0	50.6	101	90 - 110	2008-06-30
Total Magnesium		mg/L	50.0	50.4	101	90 - 110	2008-06-30
Total Potassium		mg/L	50.0	52.0	104	90 - 110	2008-06-30
Total Sodium		mg/L	50.0	52.8	106	90 - 110	2008-06-30

Standard (ICV-1)

QC Batch: 49940 Date Analyzed: 2008-07-02 Analyzed By: MN

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/L	100	114	114	80 - 120	2008-07-02

Standard (CCV-1)

QC Batch: 49940 Date Analyzed: 2008-07-02 Analyzed By: MN

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
TRPHC		mg/L	100	109	109	80 - 120	2008-07-02

Standard (ICV-1)

QC Batch: 49956 Date Analyzed: 2008-07-03 Analyzed By: RD

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	13.7	110	90 - 110	2008-07-03
Fluoride		mg/L	2.50	2.48	99	90 - 110	2008-07-03
Nitrate-N		mg/L	2.50	2.57	103	90 - 110	2008-07-03
Sulfate		mg/L	12.5	13.8	110	90 - 110	2008-07-03

Standard (CCV-1)

QC Batch: 49956 Date Analyzed: 2008-07-03 Analyzed By: RD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	13.8	110	90 - 110	2008-07-03
Fluoride		mg/L	2.50	2.53	101	90 - 110	2008-07-03
Nitrate-N		mg/L	2.50	2.73	109	90 - 110	2008-07-03
Sulfate		mg/L	12.5	13.7	110	90 - 110	2008-07-03

LAB Order ID # 8061928 Page _____ of _____

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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Company Name: New Mexico Oil Conservation Division (OCD) Phone #: 505-476-3492
Address: (Street, City, Zip) 1220 S. St. Francis Fax #:
Contact Person: Leonard Lowe E-mail: Leonard.Lowe@State.nm.us
Invoice to: (If different from above)
Project #: ~~R Jackson~~ Project Name: R Jackson
Project Location (including state): ~~NM~~ Kirtland NM Sampler Signature:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE		SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	(TPH 418.1) / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	8015 / DRO	SVOC / 8270C	Gen. Chem.			Turn Around Time if different from standard	Hold
164012	VOCs	3	VOA	X					X							6/16	11:00am	X																						
	GRO	3	VOA	X					X							6/16	11:10am				X																			
	DRO	3	VOA	X					X								11:10am																X						
	~~SVOC~~ PAH	1	1L	X										X			11:20am					X												X					
	SVOC	1	1L											X			11:20am																						
	TPH	1	1L						X								11:20am			X																			
	Metals	1	500 mL							X							11:20am						X																
	Gen Chem	1	1L											X			11:20am																			X			

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
[signature]	OCD	6.16.08	13:00					
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Relinquished by:	Company:	Date:	Time:	Received by: [signature]	Company:	061808	1215	

LAB USE ONLY
Intact Y / N
Headspace Y / N / NA
23.4
Log-in-Review MA

REMARKS:

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

Carrier # Bus GLI 305746180

ORIGINAL COPY

Appendix B – Signed Access Agreements

Oil and Gas Reclamation Fund
Oil Conservation Division
Energy, Minerals and Natural Resources Department
1220 South St. Francis
Santa Fe, New Mexico 87505

CONSENT TO ENTRY FOR INVESTIGATION, RECLAMATION, & MONITORING

Groundwater investigation PROJECT

San Juan County COUNTY (IES)

G, 17, 29N, 14W UNIT LETTER, SECTION, TOWNSHIP, RANGE

Pursuant to Chapter 70, Article 2, Section 38 of the Oil and Gas Act, the Director of the Oil Conservation Division (OCD) proposes to utilize the Oil and Gas Reclamation Fund in order to restore and remediate abandoned well sites and associated production facilities to protect public health and the environment.

To achieve this objective, it will be necessary for OCD, its employees, agents, and contractors to enter upon the property described below:

Residential Properties located at #18 & #20 Road 6271 Kirtland NM

A(n) Deeded, interest in such property is held by Jackson Roland E and Gloria (name of interest holder). Such interest was acquired by Deed (deed, patent, etc.) as recorded in Book 1050 and 1368/_____ page(s) 206 & 853, in San Juan County Assessor's records.

NOW, THEREFORE, in consideration of the benefits that will accrue to the Interest Holder and to the general public, the Interest Holder does hereby grant to the OCD, its employees, agents, contractors, and subcontractors a right of entry into, over, and upon the property described above, including all necessary and convenient rights of ingress, egress, and regress, with all materials and equipment necessary to conduct the proposed investigation and reclamation activities and to do any and all things necessary and convenient to effectively carry on said activities in a good and workmanlike manner, including but not limited to the temporary storage of equipment and materials, the right to remove or dispose of materials necessary to reclamation, and the construction of temporary roadways on the property. Said right of entry is granted to complete the reclamation activities and to conduct inspections of, and perform maintenance and repairs to, the reclamation activities completed on the property.

The Interest Holder understands and acknowledges that the success of the project cannot be warranted and the proposed work may not accomplish the intended result. The Interest Holder also acknowledges

that the OCD has no responsibility or liability for any oil and gas related damage to the property that occurred prior to or that might occur during or after the reclamation work.
It is understood the work performed in the project area shall be done by contractors for the OCD and the OCD is without authority to assume the risk of injury to persons or damage to persons or property resulting from the action of the contractors, however the OCD shall require contractors performing the work on the property to obtain and keep in force liability insurance in the minimum amount of $1,000,000 per occurrence and $2,000,000 per aggregrate.

Execution of this Consent to Entry does not obligate OCD to perform any part of the contemplated or proposed reclamation work.

Interest Holder agrees that any sale, assignment, mortgage, or other encumbrance or conveyance of this property shall be made subject to this Consent to Entry. Additionally, Interest Holder agrees to provide written notice to the OCD ten (10) days in advance of any such event.

Witness my hand or seal this 30th day of April 20 12.

Roland E. Jackson
Signature of Interest Holder

ACKNOWLEDGEMENT

STATE OF New Mexico)
COUNTY OF San Juan)
The foregoing Consent to Entry was acknowledged before me this 30th day of April, 20 12,
by Roland E. Jackson.

My commission expires: 2-22-2016
(Seal)

Pamelia Shirley
Notary Public

OFFICIAL SEAL
PAMELIA SHIRLEY
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 2-22-2016

ACKNOWLEDGEMENT FOR CORPORATION

STATE OF _____)
COUNTY OF _____)
The foregoing Consent to Entry was acknowledged before me this _____ day of _____, 20_____,
by_____ (name of Interest Holder) the _____ (title)
of _____ (name of Corporation) a _____ (state) corporation.

My commission expires:
(Seal)

_____
Notary Public

Souder, Miller & Associates ♦ 2101 San Juan Boulevard ♦ Farmington, NM 87401-2247
(505) 325-7535 ♦ fax (505) 326-0045

CONSENT FOR ACCESS TO PROPERTY FOR PURPOSES OF GROUNDWATER SAMPLING

Project: Maverik Refinery Project #5121620

Project Location: #18 and #20 CR 6271, Kirtland, New Mexico

Date: April 30, 2012

Name of Property Owner: Roland E. Jackson aka Ron Jackson

Address of Property Owner: #20 CR 6271, Kirtland,, NM 87417

Telephone Number: Home 505-598-5955
Cell 505-402-6252

Location of the property on which access is sought: #18 CR 6271 Lots 1, 2, 3 and 4
#20 CR 6271 Lots 5, 6, 7 and 8
Kirtland, NM 87417

I hereby consent to allow the employees and contractors of Souder, Miller & Associates (SMA) to enter and have access to the property located at the above address ("the property") for the following purposes:

1. As shown on attached Figure 1, SMA proposes to drill four monitoring wells and two sample boreholes with a truck mounted rig in the noted approximate locations to a total depth of 15 to 20 feet.
2. All waste fluids and solids resulting from drilling will be removed from the property.
3. Boreholes will be plugged with hydrated bentonite to 18 inches below ground surface (bgs) and the remaining 18 inches will be filled with native soil.
4. The monitoring wells will be completed with 2" casing sealed with bentonitic cement.
5. The wells will be completed with a well cover flush with the ground surface; the well cover will be surrounded by approximately a two foot by two foot concrete pad.
6. Sampling of the wells will continue by SMA or successor contractors for a minimum of two years.
7. SMA understands that the landowner may want to retain one or more of these wells for irrigation at the termination of this project.

8. The landowner is responsible for obtaining state permission, permits and proper paperwork for the conversions.

Drilling activities are projected to begin in May of 2012 and be completed in June of 2012. In order to conduct the drilling and sampling activities, I understand that vehicles will be on my property for the time period through May and June, 2012. I understand that SMA is performing this work on behalf of the New Mexico Oil Conservation Division for ground water quality monitoring. I understand that by granting this consent, I am in no way responsible for the actions or the consequences of the persons conducting these investigations. I have also been told that the Project Manager for this site is Denny Foust or Cindy Gray whom I may contact at 505-325-7535, if I have any questions or concerns about this Consent for Access or any work performed as a result of it.

After all access permission has been acquired, SMA will schedule the field activities associated with the investigations.

In return for this permission, SMA agrees to the following:

A. To notify Mr. Roland Jackson by telephone 24 hours prior to accessing the property. SMA will extend the same courtesy for subsequent sampling events. A message left on the answering machine shall constitute notification.

B. To exercise reasonable professional care to ensure that the property's landscaping and structures are not damaged during the investigation activities. In the event of any property damaged as a result of SMA or its subcontractor's activities, the damage will be repaired to original condition, as possible, within 30 calendar days after the damage occurred.

C. To ensure all equipment is promptly removed from the property.

Property Owner or Authorized Representative	Souder, Miller and Associates
By: Roland E. Jackson	By:
Roland E. Jackson, Owner Printed Name and Title	Reid S. Allan, Vice President Printed Name and Title

Appendix C – Site Investigation Photographs

Photo 1: 1 Roland Jackson Irrigation Well

Photo 1: 2 Drilling Rig at Jackson Property

Photo 1: 3 Soil Sampling

Photo 1: 4 Soil Sampling

Photo 1: 5 Monitoring Well Completion

Photo 1: 6 Monitoring Well Secured with SMA Lock

Photo 1: 7 Monitoring Well Open for Ground Water Sampling

Appendix D – Health & Safety Plan

SITE SAFETY AND HEALTH PLAN

Location:
#20 CR 6172
Kirtland, New Mexico

PREPARED FOR:
State of New Mexico Oil Conservation Division

PREPARED BY:
SOUDER, MILLER & ASSOCIATES
2101 SAN JUAN BLVD.
FARMINGTON, NEW MEXICO 87401-2247
505-325-7535
FAX 505-326-0045

DATE: May 16-18, 2012

TABLE OF CONTENTS

I. Introduction:

The health and safety of ***Souder, Miller & Associates*** employees, subcontractors, and the general public is the primary concern. The inherent dangers involved in the handling of hazardous materials or waste, and hazards associated with any job site require that all participants in this project become familiar with the contents of this Health and Safety plan.

II. SITE DESCRIPTION

Date: **May 16-18, 2012**

Location: **#20 CR 6271**
(Address)
Kirtland, New Mexico
(City, State)

Hazards: Potential hazards may include; heavy equipment, exposure to hydrocarbon vapors and soil contamination, overhead hazards, and falling tripping hazards and:

Area affected: **Jackson Property**
(Site Description)

The specific areas of interest are eastern portions of property behind house and near property wells.

Surrounding population: The surrounding area will consist of one or more of the following: Rural, Rural Residential, Residential, Commercial, Industrial.

III. ENTRY OBJECTIVES

A. Task 1 Advance seven soil borings to approx. 20' depth

B. Task 2 Complete 4 of the borings as monitoring wells

C. Task 3

D. Task 4

IV. ON-SITE ORGANIZATION & COORDINATION

The following personnel are designated to carry out the stated job functions on site. *(Note: one person may carry out more than one job function.)*

Souder, Miller & Associates:

PROJECT TEAM LEADER: Mr. Denny Foust

FIELD TEAM LEADER: Matt Earthman

ALTERNATES: _____

Subcontractors:

SITE CREW CHIEF: Enviro-Drill, Inc.

Owner: _____

FEDERAL AGENCIES: EPA _____

_____

STATE AGENCIES: NM OCD

_____

_____

Other Agencies: _____

_____

V. ON-SITE CONTROL

The occupancy of the area will be minimal. Only key personnel will be in attendance. Representatives of ***Souder, Miller & Associates*** may include the following: Matt Earthman, Denny Foust

EPA or State Agency personnel will be varied.

Control boundaries will be established and prior to Task 1, and the Exclusion Zone (the contaminated area), Contamination Reduction (decontamination) Zone, and Support Zone (clean area) will be identified as noted.
All personnel involved in the project will be required to adhere to all boundaries and rules regarding the project. All personnel will be required to show proof of 40 Hour HAZWOPER and other applicable training.

Boundaries to be marked:

Containment: Orange temp fencing & yellow caution tape.
Traffic/Hotline: Orange Cones.
Decontamination: Orange Cones & White Tape.
Support/Staging area: Vehicles & As needed.

VI. HAZARDS EVALUATION

Table 1 and 2 list several potential hazards that might be associated with execution of this project. This list is by no means all inclusive and other unforeseen hazards may be contingent upon conditions.

Table 1
Possible Chemicals

Substances Involved	Concentration	Fire	Eyes	Skin	Respiratory
Anti-Freeze	Ethylene Glycol Variable				
Used Oil	Petroleum Hydrocarbons Variable				
Gasoline	Variable				
Diesel	Variable				
Grease	Variable				
Solvent/Cleaners pH Approximate Range 3.5 To 11 (Irritating Liquids) and possible Chorinated Hydrocarbons	Variable				
Off-Spec Paint (Liquid/Solid)	Lead And Chromium Variable 8% - 15%				
Tar & MC 250 & MC-70	Variable				
Polychlorinated Biphenyl (PCB)	Variable, Halogens				
Organic Solvents	Variable				
Acids	Variable				
Bases	Variable				
Organic Peroxides	Variable				

Legend :

Slt.	Slight	Mod	Moderate
Hi.	High	IDLH	Immediately Dangerous to Life and Health
NA	Not Applicable		

Table 2
Potential Health And Safety Hazards

Hazard	Task 1:	Task 2:	Task 3	Task 4
Inhalation Hazard	X	X		
Contaminated Soil/Liquid Contact	X	X		
Noise	X	X		
Heat/Cold Stress	X	X		
Electrical (Transformers And Buried Powerlines)				
Potential Fire/Explosion	X	X		
High Pressure Liquids				
Collapsing Of Sidewalls				
Confined Spaces				
Physical Injury	X	X		
Overhead Powerlines	X	X		
Buried Piping/Tanks				
Skin Hazards				
Ventilation Problems				
Vandalism				
Heavy Equipment/Trucking /Traffic	X	X		
Level Of Protection	D	D		
Air Monitoring	NA	NA		
Buried Line Detection	One-Call 48 hr Notice			

VII. PERSONAL PROTECTIVE EQUIPMENT

Based on the OVM (PID) readings in the breathing zone, the criteria for levels of protection are as follows:

Background-25 (PPM)	Level D
25-50(PPM)	Level C
50-100(PPM)	Level B
>100 (PPM)	Level A

NOTE: Deviations from these levels will be based on the types of products and constituents. No changes to the specified levels given in table 1 and the above table shall be made without the approval of the site safety officer and the project team leader.

A. Personal Protective Equipment Matrix:

	COVERALL	HARDHAT	GLOVES	SAFETY BOOTS	NOMEX	HEARING PROTECTION	SAFETY GLASSES W/SIDE	LEVEL C	LEVEL B	LEVEL A	OTHER
DAILY ROUTINE		X	X	X		X	X				
SAMPLING (OIL FIELD)											1
SAMPLING (NON-OIL FIELD)											
EXCAVATION (OIL FIELD)											1
EXCAVATION (NON OIL FIELD)											
DRILLING (INVESTIGATION)											
FACILITY INVENTORY											
CHEMICAL INVENTORY											2
UNDERGROUND STORAGE TANK REMOVAL											
EMERGENCY RESPONSE											2

1. Minimum required will be determined by Client's current policy
2. MSDS will be consulted to determine proper Personal Protective Equipment.

VIII. PROTOCOL

The following briefly describes the protocol to be followed for any soil and water samples to be taken at a site. A working knowledge of applicable EPA SW-846, sampling and analytical procedures and proper use of field testing equipment is necessary. New disposable Nitrile gloves shall be worn for all water and soil sampling activities.

A. Water samples:

Volatile Organic Analysis (VOA)- Use of a 40 mL VOA glass vial with Teflon closure, leave no airspace present, and preserve as required; keep cool with ice in cooler, use chain-of-custody sample handling procedures, and transport to Laboratory. For other analyses, see detailed procedures.

B. Soil samples for assessment/verification:

Field vapor headspace - 475 mL wide mouth glass container, fill 1/2 full, seal with aluminum foil, or use heavy zip-locking plastic bags.

Laboratory analysis for hydrocarbons (standard) - Use laboratory supplied sterile glass container, with Teflon closure. Fill completely, keep cool with ice in cooler, use chain-of custody sample handling procedures, transport to Laboratory. For NMED USTB Methanol Extraction, see detailed procedure.

C. Air Monitoring:

Air monitoring for the site will be accomplished with an MHSA approved LEL continuous meter, calibrated to pentane, and with and alarm at 10% LEL. An OVM (PID) calibrated to isobutylene can be substituted to an LEL. All air monitoring for exposure is to be in breathing area. (for frequencies, see Section VI, Table 2).

IX. SITE WORK PLAN

This project will be completed in the Tasks outlined in Section B. The following outlines the key personnel and their responsibilities:

Project Team Leader:

Denny Foust
Souder, Miller & Associates
Farmington, NM (505) 325-7535

Alternates:

Matt Earthman

The Project Team Leader will function as the Project Manager, Site Health & Safety Officer, Site Supervisor, and sampler for this Project.

Tailgate safety meetings will be held and all personnel will be briefed on the contents of this plan prior to initiating any efforts. Tailgates will also cover any safety and/or health issues not anticipated or addressed in this plan. The Project Manager will be responsible for briefing and record keeping.

X. COMMUNICATION PROCEDURES

Radio communication is not anticipated to be essential for this project. Personnel in the Exclusion Zone should be in visual contact of the Project Team Leader.

The following standard hand signals will be used:

Hand gripping throat	Out of air, can't breathe
Grip partner's wrist or both hands around waist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I'm all right, I understand
Thumbs down	NO, Negative

Others as needed while handling, moving, or loading materials, are acceptable provided that all personnel involved agree to their meaning.

Telephone communication will be available in the Staging Area by mobile phone.

XI. DECONTAMINATION PROCEDURES

The following are a brief summary of decontamination procedures. Common sense should be used at all times.

A. Personal Decontamination:

The following procedure assumes level "D" Personal Protective Equipment (PPE). Prior to entering a vehicle and leaving the site, coveralls are to be doffed and placed in appropriate laundry/duffel bags in the reduction zone, and hands and face are to be washed.

For all other levels of PPE, PPE to be doffed in the reduction zone, Tyvek and other disposables will be placed with the waste for off-site disposal, and all other reusable PPE will be washed with brushes or soapy rags and rinsed by hand sprayers. All exposed skin to be washed in reduction zone also.

B. Excavation/Exploratory Equipment:

All equipment will be decontaminated by high pressure wash, and/or steam cleaned as necessary, initially in the exclusion zone and final rinsed in the reduction zone. Rinse and wash media to be disposed of with contaminated soil/groundwater.

C. Sampling Equipment:

Reusable sampling equipment is to be triple rinsed with alconox soap, tap water and deionized water. Disposable sampling equipment is to be consolidated with waste for off-site disposal.

XII. CONTINGENCIES

A. FIRST AID MEASURES/MEDICAL EMERGENCIES

The nearest hospital is located at:

San Juan Regional Medical Center
801 W. Maple St., Farmington, NM 87401

In the event that personnel exposure symptoms occur, the following procedures will be used:`

B. PETROLEUM PRODUCTS / IRRITATING LIQUIDS:

1. Eye contact:

Flush eye immediately with copious amounts of water and repeat until irritation is eliminated. If prolonged irritation occurs for more than 15 minutes, seek medical attention.

2. Skin contact:

Wash exposed area with soap and water. If dermatitis or severe reddening occurs, seek medical attention.

3. Inhalation:

Remove person into fresh air. If symptom occurs for more than 15 minutes, seek medical attention.

4. Ingestion:

Do not induce vomiting, seek medical attention.

C. PHONE LIST:

AMBULANCE	911
POLICE, FIRE & RESCUE	911
STATE POLICE	505-841-9256
POISON CONTROL	1-800-362-0101
CHEMTREC	1-800-424-8802

First aid and emergency fire equipment will be available in ***Souder, Miller & Associates*** vehicles.

D. ENVIRONMENTAL MONITORING

The following environmental monitoring instruments will be used on site:

The following instruments will be used continuously to monitor air quality.

Combustible gas Indicator: Trigger level will be 10%. The alarm will be audible or vibratory in the event of extreme noise levels.

FID/OVA: Will measure in the parts per million. It will indicate organic volatiles.

pH meter. The pH meter will be used to indicate the pH of each separate sample.

E. EMERGENCY PROCEDURES (to be modified as required for project or incident)

The following standard emergency procedures will be used by on site personnel. The Site Safety Officer shall be notified of any on site emergencies and be responsible for ensuring that the appropriate procedures are followed.

1. Personal Injury in the Exclusion Zone:

Upon notification of an injury in the Exclusion Zone, all site personnel shall assemble in the Reduction Zone. The rescue team will enter the Exclusion Zone (if required) to remove the injured person to the hotline. The Site Safety Officer and Project Team Leader shall evaluate the nature of the injury, prior to movement to the Support Zone. Appropriate first aid will be initiated, and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall reenter the Exclusion Zone until the cause of the injury or symptoms is determined.

2. Personal Injury in the Support Zone:

Upon notification of an injury in the Support Zone, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of remaining personnel, operations may continue. If the injury increases the risk to others, the designated emergency signal horn shall be sounded and all site personnel shall move to the Reduction Zone for further instructions.

In any case, the appropriate first aid will be initiated and necessary follow-up as stated above.

3. Fire / Explosion:

Upon notification of a fire or explosion on site, the designated emergency signal horn shall be sounded and all site personnel assembled at the Reduction Zone . The fire department shall be alerted and all personnel moved to a safe distance from the involved area. *Fire extinguishers shall be used with discretion to minimize the risk of fire and explosion that would result in injuries.*

4. Personal Protective Equipment Failure:

If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the Exclusive Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

5. Other Equipment Failure:

If any other equipment on site fails to operate properly, the Project Team Leader and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Exclusion Zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on site emergency results in evacuation of the Exclusion Zone, personnel shall not reenter until:

1. ***The hazards have been reassessed.***
2. ***The conditions resulting in the emergency have been corrected.***
3. ***The Site Safety Plan has been reviewed.***
    3. ***Site personnel have been briefed on any changes in the Site Safety Plan.***

XIII. CLOSURES AND SIGNATURES

This plan has been reviewed and has the full approval of the following Management.

Owner:

NAME:_____
TITLE:_____
DATE:_____

Consultant ***Souder, Miller & Associates.***

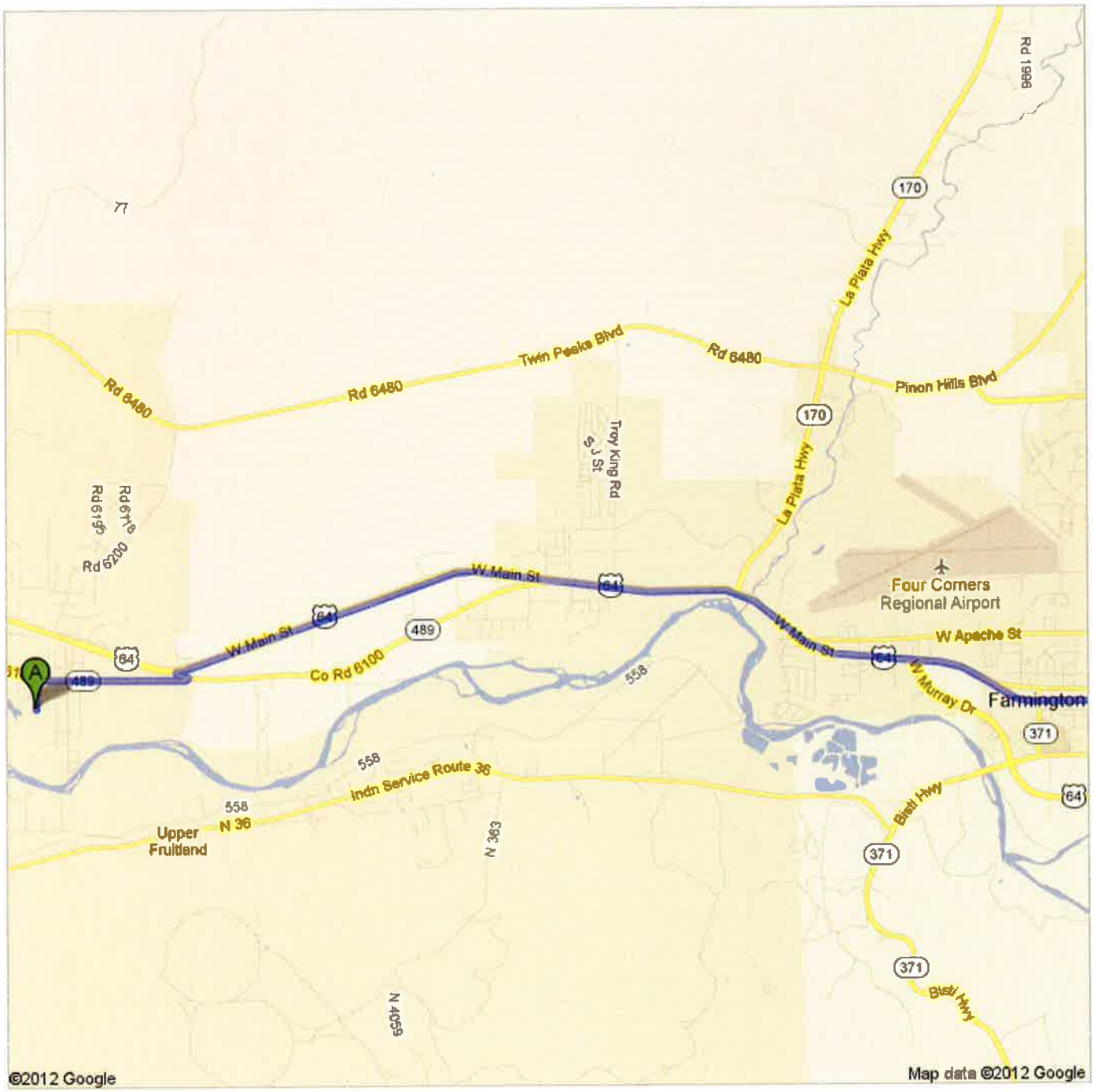
NAME:_____
TITLE:_____
DATE:_____

All site personnel have read the above plan and are familiar with its provisions.

	Print Name	Signature
Site Safety Officer	Matt Earthman	
Project Team Leader	LOUIE CHAVEZ	
Other Site Personnel	Kordell Saenz	
	Shad Bethis	
	Brandon Powell	
	Jonathan D. Kelly	

Google

Directions to San Juan Regional Medical Center
301 South Auburn Avenue, Farmington, NM 87401 - (505) 609-6575
7.3 mi – about **14 mins**



20 Road 6271, Kirtland, NM 87417

	1. Head **north** on **Rd 6271** toward **Rd 6275** About 1 min	go 0.2 mi total 0.2 mi
	2. Turn right onto **Co Rd 6100** About 2 mins	go 0.9 mi total 1.1 mi
	3. Turn left to stay on **Co Rd 6100** About 1 min	go 495 ft total 1.2 mi
64	4. Turn right onto **US-64 E/W Main St** Continue to follow US-64 E About 10 mins	go 6.1 mi total 7.3 mi
	5. Turn right onto **S Auburn Ave** Destination will be on the right	go 318 ft total 7.3 mi

San Juan Regional Medical Center
301 South Auburn Avenue, Farmington, NM 87401 - (505) 609-6575

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.

Appendix E – Field Notes

Maverik-Jackson Property

ELAN

ONE JOB FIELD BOOK

Project Name: Maverick OCD Investigation

Project Number: 5121620

Date: 5/16 - 5/22/2012

Mathew Earthman

Notes

16 Pages

50% cotton content

water-resistant paper

#18 and #20 CR 6271

section 17-29N-R14W

PL

5/16/2012

Maverik / Jackson OCD Site

Matt Earthman

Weather - sunny, warm ~ 80°F

1135 On site, setting up rig @ MW-J7. Will attempt to auger first, & switch to ODEX if necessary

1150 Went over HASP with drilling crew

1200 PID Calibrated - MiniRAE 3000, used 100ppm Isobutylene.

1203 Began augering @ MW-J7

1250 TD at MW-J7 @ 19'. Water encountered @ 6' bgs, will set well screen from 18 - 3' bgs. Sand to 2' bgs, bentonite to 0.5 bgs, & set well vault.

1400 still sanding well - bags HH 1' Sand @ 2' bgs

5/16/12 Maverik P2

1330 Measured irrigation well
DTP = 5.15
DTW = 5.85

1410 Applying bentonite to well 3/8" bentonite chips will fill to near surface.

1500 Repositioned @ soil boring # SB-~~1~~ Will continuously sample with spoon to 10', then every 5.

1515 Drilling of SB-J1 started.

1610 SB-J1 completed, TD of 17'
No contamination found, 1 sample collected from 6' @ 1530.

1615 ~~Began~~ MAE mixing concrete grout / bentonite to plug hole.

1620 SB-J1 plugged, began clean up. Off site.

5/17/12 Maverik P3

0710 On site, drill crew already present.

0715 Brief morning Safety meeting began to set up on MW-J4.

0720 Began drilling MW-J4

0820 Drilling complete, TD @ 19' with auger. Water encountered @ 6' bgs. No contamination present.

0830 Began completing well.
Will set 15' screen from 18' to 3' bgs.
Sand to 1.5' bgs, + then apply bentonite to near surface.
Sand bags = ~~11~~

5/17/12 P4

0915 Well MW-J4 set, moving rig & setting up @ MW-J6.

0930 Drilling of MW-J6 started

1030 MW-J6 complete, TD@ 19'. Will set well screen from 3-18' bgs, sand to 1.5' bgs, & bentonite to surface.

Sandbags = IIII

1130 MW-J6 set, complete.

1140 Drillers breaking for lunch, getting water for drilling

Approval for additional MW-J8 well received, will install.

1240 Water full on drill truck, began setting up @ MW-J3

1248 Drilling started on MW-J3

5/17/12 P5

1320 Pre-calibrated PID

1340 MW-J3 complete, will set well screen from 18-3', sand to 1.5', bentonite to near surface.

1420 MW-J3 completed, will move rig to MW-J8 crew off site to pick up additional crew.

1525 Drilling @ MW-J8 started.

1615 MW-J8 complete, began installing well. Screen from 18-3' bgs, sand to 1.5', bentonite to near surface

1700 MW-J8 well complete, surface completions of 3 wells (J3, J7, & J4) installed

1715 Off site

P6

5/18/12

0715 On site, drillers on site positioning rig @ SB-J2.

0720 Jonathan with OSE on site. Tamper seals @ wells undisturbed.

0730 Began drilling SB-J2

Had to step over 1.5' to collect 4-6 + 8-10 intervals.
- Holes complete, plugged with bentonite hole plug & hydrated.

0820 Drilling complete, no major contamination found.

0840 Began developing wells - purged 4 well casing volumes from each well.

~~Will not gauge @ this time with~~ MAG

P7

5/18/12

	DTW	TD	Purged (gal)
MW-J3	3.82	17.5	7
MW-J4	3.34	18.1	8/5 still Dry
MW-J6	4.34	17.35	7
MW-J7	3.9	18.15	7.5
MW-J8	3.90	17.70	7.5/5 Dry

0955 Wells developed, MW-J4, J8 bailed dry @ ~2.5 well case volumes,

1010 Wells closed, sealed with custody tape to ensure any well tampering will be discovered. Jonathan with State witnessed/applied tape.

1020 Off site with OCD.

5/22/12 Maverik

Well Cap Installation - pm

V, S, T

Matt Earthman

1430 On site, will cut PVC of MW-7, MW-3, & MW-6 to allow locking caps to fit in vault.

1435 Custody tape still present on wells - no signs of tampering.

1500 Well caps installed & locked on all site wells.

1515 Cuttings thin spread @ site - no more piles around wells - bentonite

1520 off site.

WELL PURGE RECORD

JOB NUMBER: 5121620	DATE: 5-23-12 TIME: 1518
JOB NAME: Maverik/Jackson RD	SMA REPRESENTIVE: SLC

WELL ID: J3

SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS: Sunny, warm, breezy

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

TOTAL DEPTH OF WELL: 12.5 FEET

DEPTH TO WATER BEFORE PUMPING: 3.46 FEET SAMPLE TIME: 1541

HEIGHT OF WATER COLUMN	WELL PVC DIAMETER 2-INCH	WELL PVC DIAMETER 4-INCH	VOLUME IN GALLONS	MINIMUM QUANTITY OF WELL VOLUMES TO PURGE	VOLUME TO PURGE IN GALLONS
9.04	0.163	0.653	1.47	3	4.4

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE IN °C	COMMENTS
1526	1.0	"Er 1"	1545	15.9	
1531	2.0	7.74	1450	15.4	
1534	3.0	7.78	1398	14.5	
1538	4.0	7.79	1280	14.6	

revised 4/4/2008

WELL PURGE RECORD

JOB NUMBER: 5121620 DATE: 5-23-12 TIME: 1518

JOB NAME: Maverik/Jacksonville SMA REPRESENTIVE: SLC

WELL ID: ~~J3~~ J4

SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS: Sunny, warm, very windy

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

TOTAL DEPTH OF WELL: 18.1 FEET

DEPTH TO WATER BEFORE PUMPING: 3.16 FEET

5/24/12 09:50 Sampled

SAMPLE TIME: ~~1613~~

HEIGHT OF WATER COLUMN	WELL PVC DIAMETER		VOLUME IN GALLONS	MINIMUM QUANTITY OF WELL VOLUMES TO PURGE	VOLUME TO PURGE IN GALLONS
	2-INCH	4-INCH			
14.94	0.163	0.653	24	3	7.3

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE IN °C	COMMENTS
1604	2.0	8.20	1160	14.8	
1609	3.0	8.12	1169	13.4	
1613	bailed dry, take sample				
1615	dropped bailer in well and sample filled VOAs only,				
	wind causing sediment on top of bottles				
	→ discard, re-sample tomorrow after				
	bailer is removed				
	Recovered bailer		5/24/12 0930 hrs		
0945	1.0	7.99	1211	13.6	Sampled

revised 4/4/2008

WELL PURGE RECORD

JOB NUMBER: 512(620 DATE: 5.23.12 TIME: 1654 (WL only)

JOB NAME: Maersk/Jackson CO SMA REPRESENTIVE: SC/LD2

WELL ID: JS(J5 - relocation)

SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS: Sunny warm with Breeze

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

TOTAL DEPTH OF WELL: 17.70 FEET

DEPTH TO WATER BEFORE PUMPING: 3.35 FEET SAMPLE TIME: 10:44

HEIGHT OF WATER COLUMN	WELL PVC DIAMETER 2-INCH	WELL PVC DIAMETER 4-INCH	VOLUME IN GALLONS	MINIMUM QUANTITY OF WELL VOLUMES TO PURGE	VOLUME TO PURGE IN GALLONS
14.35	0.163	0.653	2.34	3	7.0

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE IN °C	COMMENTS
10:30	1.0	8.08	"Ev-1	14.1	Muddy
10:35	2.0	8.09	|	13.3	|
10:42	3.0	8.00	|	13.1	|
10:44		Sampled	—		

revised 4/4/2008

WELL PURGE RECORD

JOB NUMBER: 212620 DATE: 5-23-12 TIME: 1411

JOB NAME: Maverik/Jackson Cty SMA REPRESENTIVE: SLC

WELL ID: MW-6

SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS: Sunny, Warm

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

TOTAL DEPTH OF WELL: 17.45 FEET

DEPTH TO WATER BEFORE PUMPING: 3.56 FEET SAMPLE TIME: 1457

HEIGHT OF WATER COLUMN	WELL PVC DIAMETER		VOLUME IN GALLONS	MINIMUM QUANTITY OF WELL VOLUMES TO PURGE	VOLUME TO PURGE IN GALLONS
	2-INCH	4-INCH			
13.89	0.163	0.653	2.26	3	10.5

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE IN °C	COMMENTS
1426	3.0	7.57	"E>1"	18.9	
1432	4.0	7.56	990	16.0	
1439	5.0	7.51	951	16.0	
1444	6.0	7.52	927	15.2	

revised 4/4/2008

WELL PURGE RECORD

JOB NUMBER: 512620 DATE: 5-23-12 TIME: 1629 (WL only)

JOB NAME: Maverik/Jackson (OCD) SMA REPRESENTIVE: SLC

WELL ID: 57

SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS: Sunny, Warm with Breeze

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

TOTAL DEPTH OF WELL: 18.15 FEET

DEPTH TO WATER BEFORE PUMPING: 3.22 FEET SAMPLE TIME: 5/24/12 11:36

HEIGHT OF WATER COLUMN	WELL PVC DIAMETER 2-INCH	WELL PVC DIAMETER 4-INCH	VOLUME IN GALLONS	MINIMUM QUANTITY OF WELL VOLUMES TO PURGE	VOLUME TO PURGE IN GALLONS
14.93	0.163	0.653	2.43	3	7.3

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE IN °C	COMMENTS
5/24/12 11:25	1.0	7.83		14.2	Muddy
11:30	2.0	7.77		14.1	
11:34	3.0	7.76		13.8	
11:34	dry pkd	7.75		13.6	

revised 4/4/2008

WELL PURGE RECORD

JOB NUMBER: 51216.20	DATE: 6-12-12 TIME: 0944
JOB NAME: Mavrik/Jackson (OU)	SMA REPRESENTIVE: SLC

WELL ID: Jackson Well

SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS: Sunny, Warm

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

TOTAL DEPTH OF WELL: 9.90 FEET NAPL depth = 5.48 (-0.64)

DEPTH TO WATER BEFORE PUMPING: 6.12 FEET SAMPLE TIME: 1030

HEIGHT OF WATER COLUMN	WELL PVC DIAMETER 2-INCH	WELL PVC DIAMETER 4-INCH	VOLUME IN GALLONS	MINIMUM QUANTITY OF WELL VOLUMES TO PURGE	VOLUME TO PURGE IN GALLONS
	0.163	0.653			

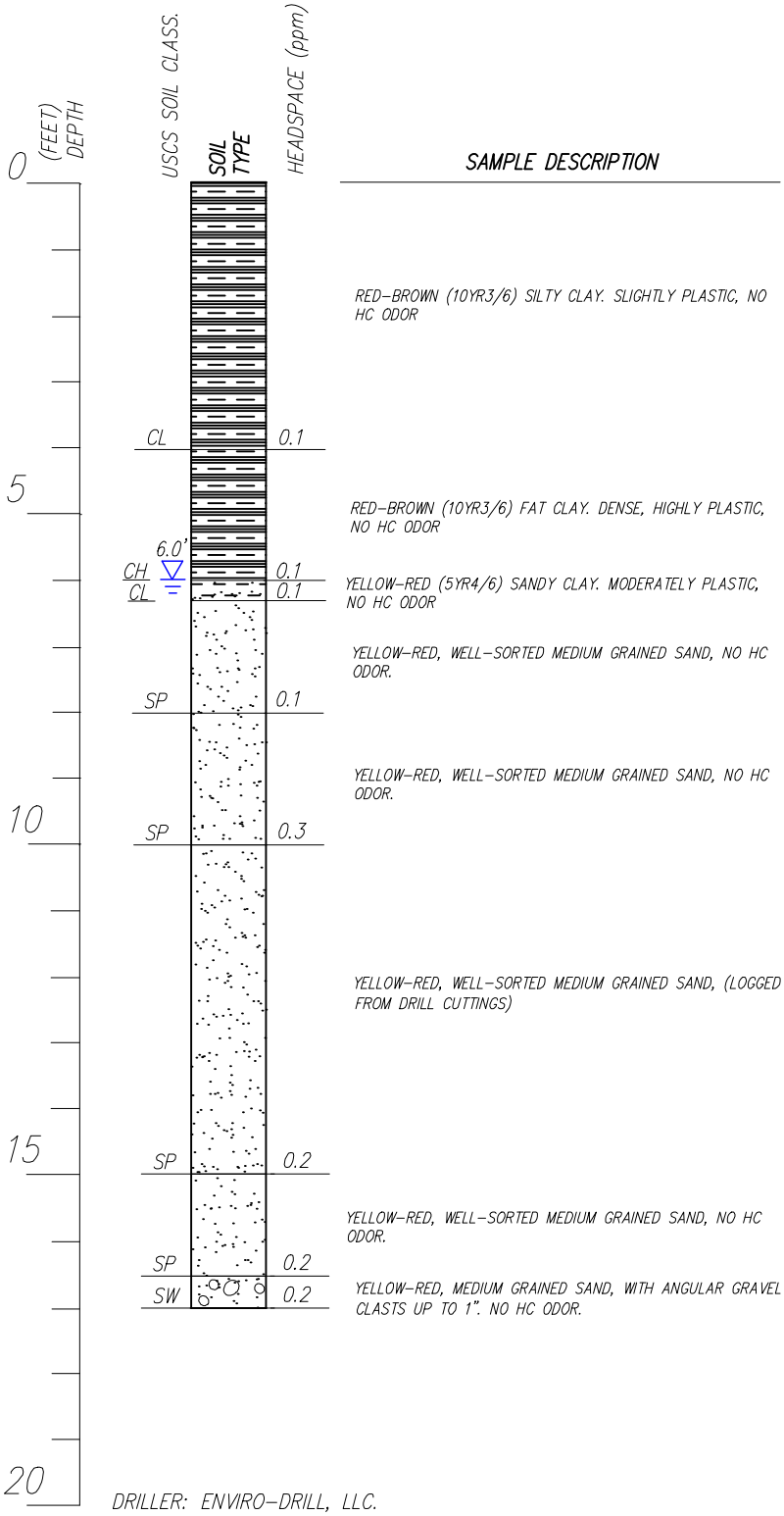
6-inch well

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE IN °C	COMMENTS
After discussion w/ Jonathan Kelly + Brandon Powell (SCD), the decision was made to collect a NAPL sample only, no water					
NAPL was collected with bailer, only on surface, so no water was included. Took several times to fill sample bottles					

revised 4/4/2008

Appendix F – Soil Boring Logs and Well Completion Data

SOIL BORING LOG



DRILLER: ENVIRO-DRILL, LLC.
DATE COMPLETED: MAY 16, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 17.0 FT.
DEPTH TO WATER: 6.0' (MAY 16, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

LOG LEGEND

PREDOMINANTLY SAND
CLAY
GRAVELS
BEDROCK

SB-J1

SOIL BORING SB-J1 LITHOLOGICAL LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

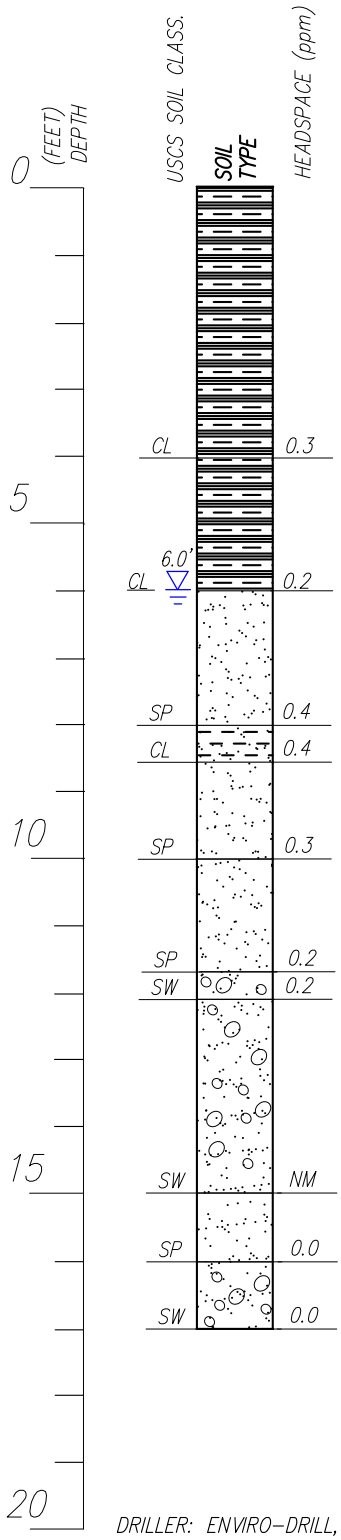
2101 SAN JUAN BOULEVARD
FARMINGTON, NEW MEXICO 87401-2247
(505) 325-7535
SERVING THE SOUTHWEST AND ROCKY MOUNTAINS

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
BY DATE DESCR.
BY DATE DESCR.

511476
06/07/2012

SOIL BORING LOG



SAMPLE DESCRIPTION

YELLOW–RED, FAT CLAY. DENSE, SLIGHTLY PLASTIC, NO HC ODOR. WHITE EVAPORITE MINERAL VEINING THROUGHOUT CLAY

YELLOW–RED, FAT CLAY. DENSE, SLIGHTLY PLASTIC, NO HC ODOR. WHITE EVAPORITE MINERAL VEINING THROUGHOUT CLAY

YELLOW–RED, WELL–SORTED MEDIUM GRAINED SAND WITH THEN LENSES (<2") OF CLAYEY SANDS. NO HC ODOR.

YELLOW–RED (5YR4/6) SANDY CLAY. SLIGHTLY PLASTIC, NO HC ODOR

YELLOW–RED, WELL–SORTED MEDIUM GRAINED SAND, NO HC ODOR.

YELLOW–RED, WELL–SORTED MEDIUM GRAINED SAND, NO HC ODOR.

YELLOW–RED, MEDIUM–GRAINED SAND WITH GRAVELS UP TO 1" DIAMETER OF VOLCANIC AND METAMORPHIC ORIGIN. NO HC ODOR

YELLOW–RED SAND WITH GRAVELS UP TO 1" DIAMETER OF VOLCANIC AND METAMORPHIC ORIGIN, (LOGGED FROM DRILL CUTTINGS)

YELLOW–RED, WELL–SORTED MEDIUM GRAINED SAND, NO HC ODOR.

YELLOW–RED, MEDIUM GRAINED SAND, WITH SUB–ANGULAR GRAVEL CLASTS UP TO 1". CLASTS OF VOLCANIC AND METAMORPHIC ORIGIN. NO HC ODOR.

DRILLER: ENVIRO–DRILL, LLC.
DATE COMPLETED: MAY 18, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 17.0 FT.
DEPTH TO WATER: 6.0' (MAY 18, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

LOG LEGEND

PREDOMINANTLY SAND
GRAVELS
CLAY
BEDROCK

SB–J2

SOIL BORING SB–J2 LITHOLOGICAL LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

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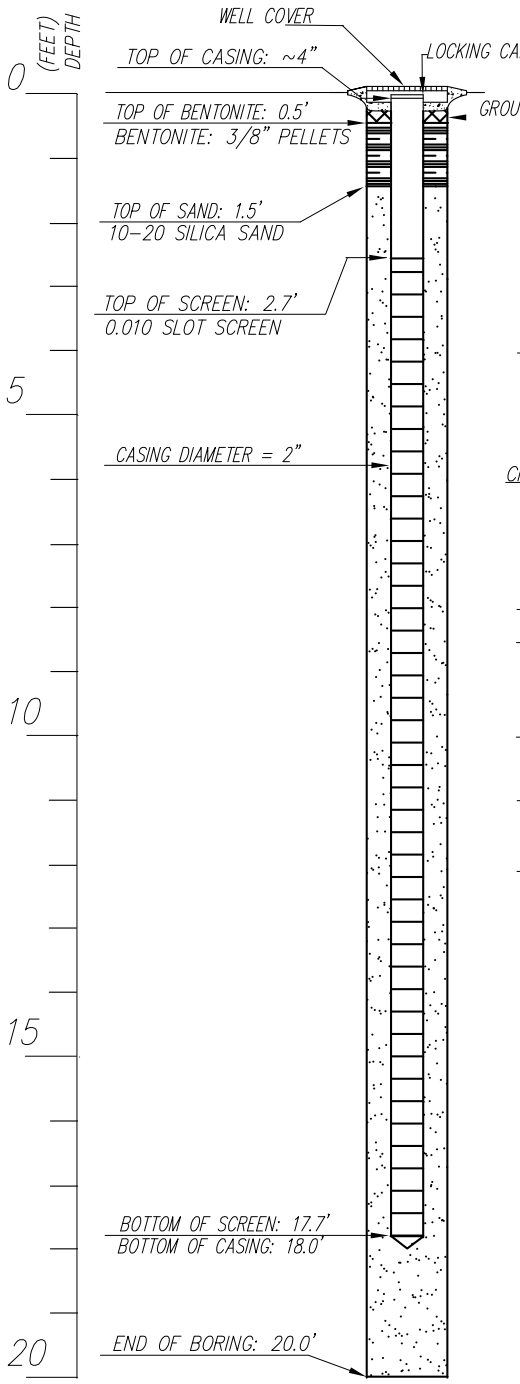
(505) 325–7535
SERVING THE SOUTHWEST AND ROCKY MOUNTAINS

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
DATE DESCR.
DATE DESCR.
BY
BY

3114716
06/07/2012

WELL COMPLETION DATA



SOIL BORING LOG

USCS SOIL CLASS.	SOIL TYPE	HEADSPACE (ppm)	SAMPLE DESCRIPTION
			BROWN, DENSE CLAY, NO HC ODOR.
CL		0.0	
			YELLOW-RED(5YR4/6), FAT CLAY, HIGHLY PLASTIC, NO HC ODOR.
6.0' CH ▽		0.0	
			POOR RECOVERY. SILTY CLAY WITH LARGE 2" CLAST OF METAMORPHIC ROCK RIVER GRAVEL. NO HC ODOR.
CL		0.0	
SC		0.0	YELLOW-RED, WELL-SORTED CLAYEY SAND. FINE-GRAINED, NO HC ODOR.
			YELLOW-RED, WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.0	
			YELLOW-RED, WELL-SORTED CLAYEY SAND. FINE-GRAINED, NO HC ODOR.
SC		0.0	
			YELLOW-RED, WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.0	
			YELLOW-RED SAND. (LOGGED FROM DRILL CUTTINGS)
SP		NM	
			YELLOW-RED, WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.9	
SW		0.9	YELLOW-RED, FINE-GRAINED SAND, WITH ANGULAR GRAVEL CLASTS UP TO 1". CLASTS OF VOLCANIC AND METAMORPHIC ORIGIN. NO HC ODOR.
			YELLOW-RED, MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.0	
			GRAY-BLACK SILTSTONE ROCK WITH THIN LAYERS OF BLACK SHALE. NO HC ODOR.

DRILLER: ENVIRO-DRILL, LLC.
DATE COMPLETED: MAY 17, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 20.0 FT.
DEPTH TO WATER: 6.0' (MAY 17, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

LOG LEGEND

- PREDOMINANTLY SAND
- CLAY
- GRAVELS
- BEDROCK

MW-J3

MONITORING WELL MW-J4 WELL COMPLETION DIAGRAM AND SOIL BORING LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

2101 SAN JUAN BOULEVARD
FARMINGTON, NEW MEXICO 87401-2247
(505) 325-7535
SERVING THE SOUTHWEST AND ROCKY MOUNTAINS

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
BY DATE DESCR.
BY DATE DESCR.

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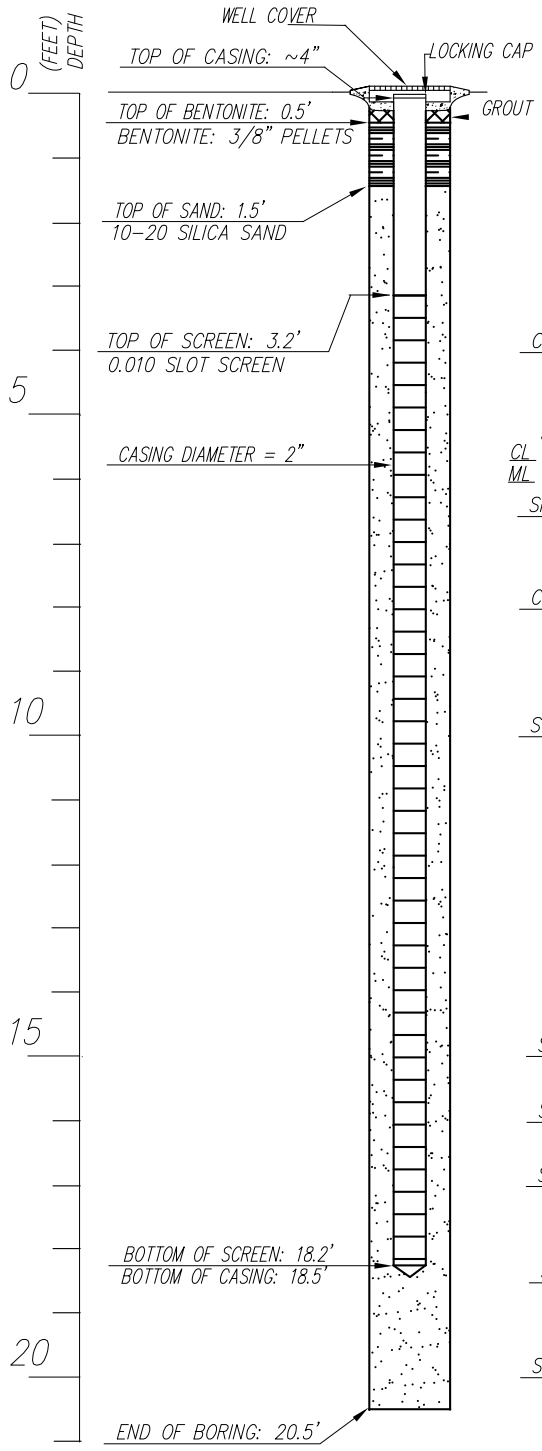
06/07/2012

WELL COMPLETION DATA



SOIL BORING LOG

USCS SOIL CLASS.	SOIL TYPE	HEADSPACE (ppm)	SAMPLE DESCRIPTION
			YELLOW-RED(5YR4/6), FAT CLAY, MODERATELY PLASTIC, NO HC ODOR.
CL		0.0	
		5.8	YELLOW-RED(5YR4/6), FAT CLAY, MODERATELY PLASTIC, NO HC ODOR.
CL		0.0	YELLOW-RED (5YR4/6) SANDY CLAY, SLIGHTLY PLASTIC, NO HC ODOR
ML		0.0	
SP		0.0	YELLOW-RED, WELL-SORTED FINE GRAINED SAND, NO HC ODOR.
			YELLOW-RED (5YR4/6) SANDY CLAY, SLIGHTLY PLASTIC, NO HC ODOR
CL		0.0	
			YELLOW-RED, WELL-SORTED FINE-GRAINED CLAYEY SAND, NO HC ODOR.
SC		0.0	
			YELLOW-RED, WELL-SORTED FINE-GRAINED CLAYEY SAND, NO HC ODOR (LOGGED FROM CUTTINGS)
SC		NM	
			YELLOW-RED, WELL-SORTED FINE-GRAINED CLAYEY SAND, NO HC ODOR
SC		6.0	
SW		0.7	YELLOW-RED, MEDIUM-GRAINED SAND, WITH ANGULAR GRAVEL CLASTS UP TO 1". CLASTS OF VOLCANIC AND METAMORPHIC ORIGIN. NO HC ODOR.
			YELLOW-RED, MEDIUM-GRAINED SAND, WITH ANGULAR GRAVEL CLASTS UP TO 1". (LOGGED FROM CUTTINGS)
SW		NM	
			YELLOW-RED, WELL-SORTED FINE-GRAINED CLAYEY SAND, NO HC ODOR
SC		0.1	
		2.6	GRAY-BLACK SILTSTONE ROCK WITH THIN LAYERS OF BLACK SHALE. NO HC ODOR.

DRILLER: ENVIRO-DRILL, LLC.
DATE COMPLETED: MAY 17, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 18.5 FT.
DEPTH TO WATER: 5.8' (MAY 17, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

LOG LEGEND

- PREDOMINANTLY SAND
- CLAY
- GRAVELS
- BEDROCK

MW-J4

MONITORING WELL MW-J4 WELL COMPLETION DIAGRAM AND SOIL BORING LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

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FARMINGTON, NEW MEXICO 87401-2247
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SMA

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
BY DATE DESCR.
BY DATE DESCR.

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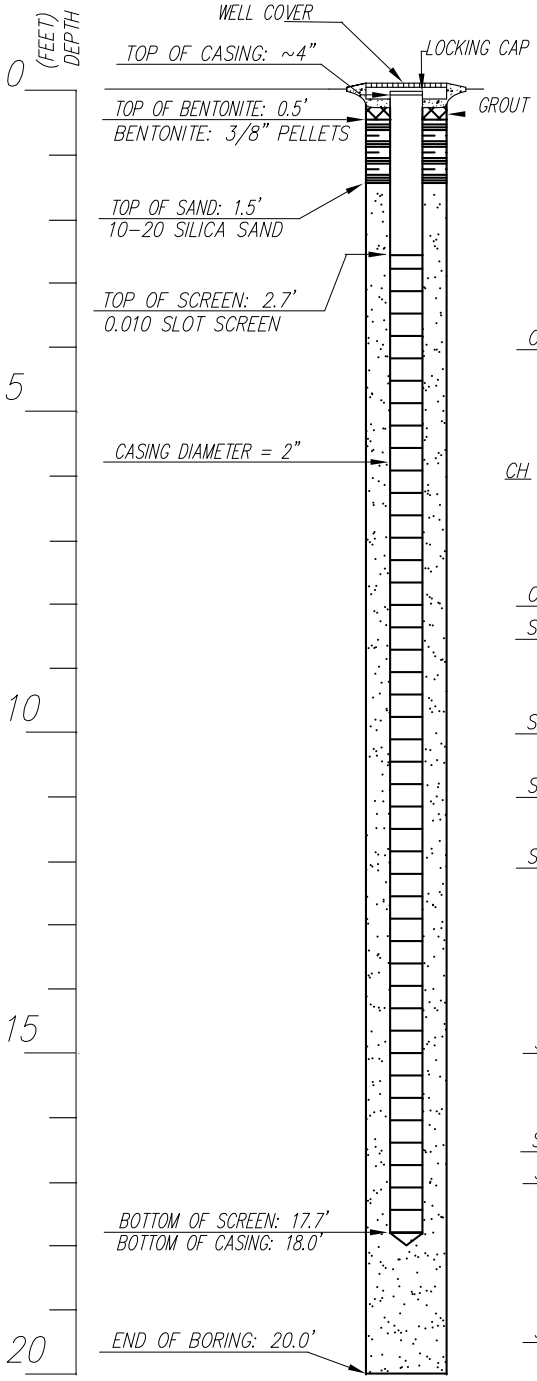
06/07/2012

WELL COMPLETION DATA



DRILLER: ENVIRO-DRILL, LLC.
DATE COMPLETED: MAY 17, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 20.0 FT.
DEPTH TO WATER: 6.0' (MAY 17, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

SOIL BORING LOG

USCS SOIL CLASS.	SOIL TYPE	HEADSPACE (ppm)	SAMPLE DESCRIPTION
			BROWN, DENSE CLAY, NO HC ODOR.
CL		0.0	
			YELLOW-RED(5YR4/6), FAT CLAY, HIGHLY PLASTIC, NO HC ODOR.
6.0' ▽ CH		0.0	
			POOR RECOVERY. SILTY CLAY WITH LARGE 2" CLAST OF METAMORPHIC ROCK RIVER GRAVEL. NO HC ODOR.
CL		0.0	
SC		0.0	YELLOW-RED, WELL-SORTED CLAYEY SAND. FINE-GRAINED, NO HC ODOR.
			YELLOW-RED, WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.0	
SC		0.0	YELLOW-RED, WELL-SORTED CLAYEY SAND. FINE-GRAINED, NO HC ODOR.
SP		0.0	YELLOW-RED, WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
			YELLOW-RED SAND. (LOGGED FROM DRILL CUTTINGS)
SP		NM	
			YELLOW-RED, WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.9	
SW		0.9	YELLOW-RED, FINE-GRAINED SAND, WITH ANGULAR GRAVEL CLASTS UP TO 1". CLASTS OF VOLCANIC AND METAMORPHIC ORIGIN. NO HC ODOR.
			YELLOW-RED, MEDIUM-GRAINED SAND. NO HC ODOR.
SP		0.0	
			GRAY-BLACK SILTSTONE ROCK WITH THIN LAYERS OF BLACK SHALE. NO HC ODOR.

LOG LEGEND

- PREDOMINANTLY SAND
- CLAY
- GRAVELS
- BEDROCK

MW-J5

MONITORING WELL MW-J5 WELL COMPLETION DIAGRAM AND SOIL BORING LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
DESCR. DATE BY
DESCR. DATE BY

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FARMINGTON, NEW MEXICO 87401-2247
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SERVING THE SOUTHWEST AND ROCKY MOUNTAINS

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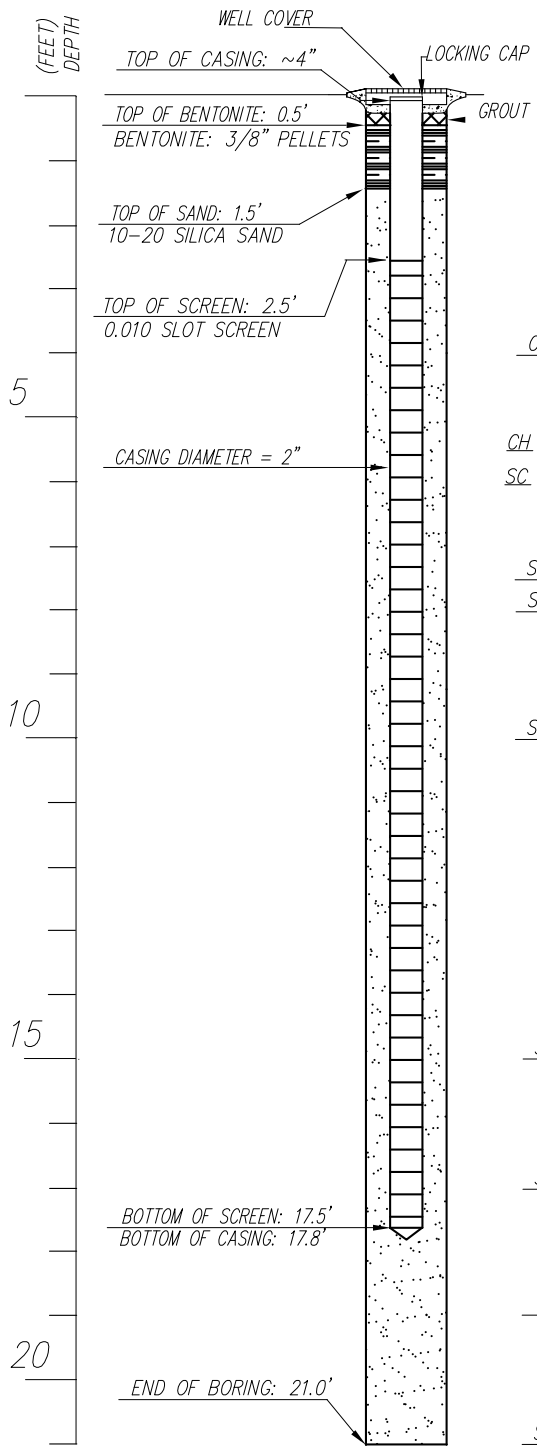
06/07/2012

WELL COMPLETION DATA



SOIL BORING LOG

USCS SOIL CLASS.	SOIL TYPE	HEADSPACE (ppm)	SAMPLE DESCRIPTION
			YELLOW-RED(5YR4/6), FAT CLAY, SLIGHTLY PLASTIC, NO HC ODOR.
CH		0.2	
			YELLOW-RED(5YR4/6), FAT CLAY, SLIGHTLY SILTY, NO HC ODOR.
5.5' CH		0.0	
SC		0.0	YELLOW-RED (5YR4/6) CLAYEY SAND, NO HC ODOR
			YELLOW-RED, WELL-SORTED FINE GRAINED SAND WITH CLAYEY LENSES UP TO 2" THICK, NO HC ODOR.
SP		0.0	
SW		0.0	YELLOW-RED, FINE-GRAINED SAND, WITH ANGULAR GRAVEL CLASTS UP TO 1.0". NO HC ODOR.
			YELLOW-RED, COARSE-GRAINED SAND, WITH ANGULAR GRAVEL CLASTS UP TO 1.5". NO HC ODOR.
SW		0.0	
			YELLOW-RED SAND WITH GRAVELS UP TO 1" DIAMETER. (LOGGED FROM DRILL CUTTINGS)
SW		NM	
			BROWN (10YR5/3), COARSE-GRAINED SAND, WITH ANGULAR METAMORPHIC GRAVEL CLASTS UP TO 1.0". NO HC ODOR.
SW		0.1	
			YELLOW-RED, MEDIUM SAND WITH SOME GRAVEL (LOGGED FROM CUTTINGS)
		NM	
			YELLOW-RED, WELL-SORTED MEDIUM GRAINED SAND, NO HC ODOR.
SP		NM	

DRILLER: ENVIRO-DRILL, LLC.
DATE COMPLETED: MAY 17, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 21.0 FT.
DEPTH TO WATER: 5.5' (MAY 17, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

LOG LEGEND

- PREDOMINANTLY SAND
- CLAY
- GRAVELS
- BEDROCK

MW-J6

MONITORING WELL MW-J6 WELL COMPLETION DIAGRAM AND SOIL BORING LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

2101 SAN JUAN BOULEVARD
FARMINGTON, NEW MEXICO 87401-2247
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SERVING THE SOUTHWEST AND ROCKY MOUNTAINS

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
BY DATE DESCR.
BY DATE DESCR.

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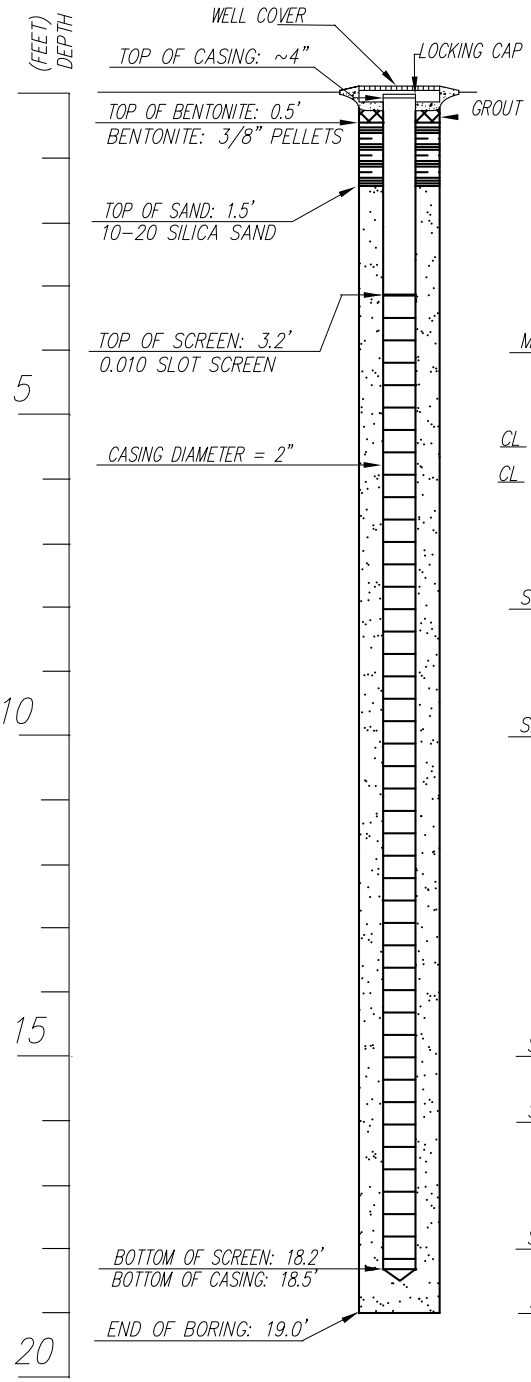
06/07/2012

WELL COMPLETION DATA



SOIL BORING LOG

USCS SOIL CLASS.	SOIL TYPE	HEADSPACE (ppm)	SAMPLE DESCRIPTION
			YELLOW-RED(5YR4/6), CLAYEY SILT, SLIGHTLY PLASTIC, NO HC ODOR.
ML		0.7	
			YELLOW-RED(5YR4/6), SILTY CLAY, DENSE, NO HC ODOR.
5.5' CL		60.5	
CL		13.1	DARK BROWN, SANDY CLAY, NO HC ODOR.
			DARK BROWN, WELL-SORTED FINE GRAINED SAND, NO HC ODOR.
SP		12.7	
			AS ABOVE, DARK BROWN, WELL-SORTED FINE GRAINED SAND, NO HC ODOR.
SP		12.7	
			BROWN SAND (LOGGED FROM DRILL CUTTINGS)
SP		NM	
SP		0.1	BROWN (10YR5/3), WELL-SORTED MEDIUM-GRAINED SAND. NO HC ODOR.
			BROWN (10YR5/3), MEDIUM-GRAINED SAND, WITH SUB-ANGULAR GRAVEL CLASTS UP TO 1". CLASTS OF VOLCANIC AND METAMORPHIC ORIGIN. NO HC ODOR.
SW		0.1	
SP		0.1	BROWN (10YR5/3), WELL-SORTED MEDIUM-GRAINED SAND, NO HC ODOR.

LOG LEGEND

PREDOMINANTLY SAND
SILT
CLAY
GRAVELS
BEDROCK

DRILLER: ENVIRO-DRILL, LLC.
DATE COMPLETED: MAY 16, 2012
BOREHOLE DIAMETER: 6.5" O.D.
SAMPLER TYPE: SPLIT SPOON
DRILLING METHOD: HOLLOW STEM AUGER
HEADSPACE: OVA WITH PID
TOTAL BORING DEPTH: 19.0 FT.
DEPTH TO WATER: 5.5' (MAY 16, 2012)
LOGGED BY: MATT EARTHMAN
NM: HEADSPACE NOT MEASURED (POOR RECOVERY, FLOWING SANDS, ETC.)

MW-J7

MONITORING WELL MW-J7 WELL COMPLETION DIAGRAM AND SOIL BORING LOG
MAVERIK REFINERY/ROLAND JACKSON WATER WELL ISSUE
KIRTLAND, NEW MEXICO

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FARMINGTON, NEW MEXICO 87401-2247
(505) 325-7535
SERVING THE SOUTHWEST AND ROCKY MOUNTAINS

DRAWN MAE
CHECKED MAE
APPROVED SAM

REVISIONS
BY DATE DESCR.
BY DATE DESCR.

3114716
06/07/2012

Appendix G – Laboratory Analytical Reports

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

May 24, 2012

Denny Foust

Souder, Miller and Associates
2101 San Juan Boulevard
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Maverik OCD Investigation OrderNo.: 1205837

Dear Denny Foust:

Hall Environmental Analysis Laboratory received 7 sample(s) on 5/18/2012 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.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SB-J1 6'
Project: Maverik OCD Investigation
Collection Date: 5/16/2012 12:30:00 PM
Lab ID: 1205837-001 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/23/2012 8:55:15 PM
Surr: BFB	91.0	69.7-121		%REC	1	5/23/2012 8:55:15 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	6.0	1.2		mg/Kg	5	5/23/2012 10:55:30 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: SB-J2 5'
Project: Maverik OCD Investigation
Collection Date: 5/18/2012 8:10:00 AM
Lab ID: 1205837-002 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2012 10:21:40 PM
Surr: BFB	90.8	69.7-121		%REC	1	5/23/2012 10:21:40 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	17	1.2		mg/Kg	5	5/23/2012 10:57:10 AM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: MW-J3 5.75'
Project: Maverik OCD Investigation
Collection Date: 5/17/2012 12:54:00 PM
Lab ID: 1205837-003 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/23/2012 10:50:27 PM
Surr: BFB	91.3	69.7-121		%REC	1	5/23/2012 10:50:27 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	4.5	1.2		mg/Kg	5	5/23/2012 11:21:20 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: MW-J6 5.5'
Project: Maverik OCD Investigation
Collection Date: 5/17/2012 9:40:00 AM
Lab ID: 1205837-004 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/23/2012 11:19:13 PM
Surr: BFB	91.1	69.7-121		%REC	1	5/23/2012 11:19:13 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	2.9	1.2		mg/Kg	5	5/23/2012 11:22:59 AM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: MW-J4 6'
Project: Maverik OCD Investigation
Collection Date: 5/17/2012 7:35:00 AM
Lab ID: 1205837-005 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 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	5/23/2012 11:47:56 PM
Surr: BFB	91.5	69.7-121		%REC	1	5/23/2012 11:47:56 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	4.4	1.2		mg/Kg	5	5/23/2012 11:24:36 AM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: MW-J7 5'
Project: Maverik OCD Investigation
Collection Date: 5/16/2012 12:10:00 PM
Lab ID: 1205837-006 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/24/2012 12:16:41 AM
Surr: BFB	90.9	69.7-121		%REC	1	5/24/2012 12:16:41 AM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	5.4	1.2		mg/Kg	5	5/23/2012 11:26:13 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: MW-J8 6'
Project: Maverik OCD Investigation
Collection Date: 5/17/2012 3:35:00 PM
Lab ID: 1205837-007 **Matrix:** SOIL **Received Date:** 5/18/2012 3:14:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/24/2012 12:45:25 AM
Surr: BFB	90.8	69.7-121		%REC	1	5/24/2012 12:45:25 AM
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**
Lead	5.8	1.2		mg/Kg	5	5/23/2012 11:27:48 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205837**

24-May-12

Client: Souder, Miller and Associates

Project: Maverik OCD Investigation

Sample ID **MB-2045**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **2045**	RunNo: **3004**
Prep Date: **5/21/2012**	Analysis Date: **5/24/2012**	SeqNo: **83270** 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	920		1,000		91.7	69.7	121			

Sample ID **LCS-2045**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **2045**	RunNo: **3004**
Prep Date: **5/21/2012**	Analysis Date: **5/24/2012**	SeqNo: **83271** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	98.5	133			
Surr: BFB	970		1,000		97.0	69.7	121			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205837**

24-May-12

Client: Souder, Miller and Associates

Project: Maverik OCD Investigation

Sample ID	**MB-2053**	SampType:	**MBLK**	TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**PBS**	Batch ID:	**2053**	RunNo:	**2973**				
Prep Date:	**5/22/2012**	Analysis Date:	**5/23/2012**	SeqNo:	**82594**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.25								

Sample ID	**LCS-2053**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**LCSS**	Batch ID:	**2053**	RunNo:	**2973**				
Prep Date:	**5/22/2012**	Analysis Date:	**5/23/2012**	SeqNo:	**82595**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	25	0.25	25.00	0	100	80	120			

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-FARM Work Order Number: 1205837

Received by/date: AG 05/18/12

Logged By: **Anne Thorne** 5/18/2012 3:14:00 PM Anne Thorne

Completed By: **Anne Thorne** 5/21/2012 Anne Thorne

Reviewed By: IO 05/21/12

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? Courier

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:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			

Chain-of-Custody Record

Client: Souder, Miller & Associates, Farmington office

Mailing Address: 2101 San Juan Blvd Farmington, NM 87401

Phone #: 505-325-7535

email or Fax#: denny.foust@souderamiller.com

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: Maverik OCD Investigation

Project #: 5121620

Project Manager: Denny Foust

Sampler: Matt Ganthmas

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1205837	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	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)	Total Lead (6010)				Air Bubbles (Y or N)
5/16/12	1230	soil	SB-J1 6'	1 soil jar	none	-001			X									X				
5/18/12	0810		SB-J2 5'			-002			X									X				
5/17/12	1254		MW-J3 5.75'			-003			X									X				
↓	0940		MW-J6 5.5'			-004			X									X				
↓	0735		MW-J4 6'			-005			X									X				
5/16/12	1210		MW-J7 5'			-006			X									X				
5/17/12	1535	↓	MW-J8 6'	↓	↓	-007			X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
5/18/12	1514			05/18/12	1514
Date	Time	Relinquished by:	Received by:	Date	Time

Remarks:

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

June 06, 2012

Reid Allan

Souder, Miller and Associates
2101 San Juan Boulevard
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Maverik/Jackson OCD OrderNo.: 1205A69

Dear Reid Allan:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/25/2012 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.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J6
Project: Maverik/Jackson OCD
Collection Date: 5/23/2012 1:57:00 PM
Lab ID: 1205A69-001
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **LRW**
1,2-Dibromoethane	ND	0.010		µg/L	1	5/29/2012 4:24:07 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.10		mg/L	2	5/31/2012 7:39:02 PM
Surr: BFB	95.1	69.3-120		%REC	2	5/31/2012 7:39:02 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**
Lead	0.16	0.050		mg/L	5	6/1/2012 3:49:10 PM
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Benzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Toluene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Ethylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Naphthalene	ND	4.0		µg/L	2	5/30/2012 5:38:43 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 5:38:43 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 5:38:43 PM
Acetone	ND	20		µg/L	2	5/30/2012 5:38:43 PM
Bromobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Bromodichloromethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Bromoform	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Bromomethane	ND	6.0		µg/L	2	5/30/2012 5:38:43 PM
2-Butanone	ND	20		µg/L	2	5/30/2012 5:38:43 PM
Carbon disulfide	ND	20		µg/L	2	5/30/2012 5:38:43 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Chlorobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Chloroethane	ND	4.0		µg/L	2	5/30/2012 5:38:43 PM
Chloroform	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Chloromethane	ND	6.0		µg/L	2	5/30/2012 5:38:43 PM
2-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
4-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
cis-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	5/30/2012 5:38:43 PM
Dibromochloromethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Dibromomethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J6
Project: Maverik/Jackson OCD
Collection Date: 5/23/2012 1:57:00 PM
Lab ID: 1205A69-001
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Dichlorodifluoromethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	5/30/2012 5:38:43 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
2-Hexanone	ND	20		µg/L	2	5/30/2012 5:38:43 PM
Isopropylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	5/30/2012 5:38:43 PM
Methylene Chloride	ND	6.0		µg/L	2	5/30/2012 5:38:43 PM
n-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
n-Propylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
sec-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Styrene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
tert-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	5/30/2012 5:38:43 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
trans-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	5/30/2012 5:38:43 PM
Vinyl chloride	ND	2.0		µg/L	2	5/30/2012 5:38:43 PM
Xylenes, Total	ND	3.0		µg/L	2	5/30/2012 5:38:43 PM
Surr: 1,2-Dichloroethane-d4	107	70-130		%REC	2	5/30/2012 5:38:43 PM
Surr: 4-Bromofluorobenzene	113	70-130		%REC	2	5/30/2012 5:38:43 PM
Surr: Dibromofluoromethane	86.8	69.8-130		%REC	2	5/30/2012 5:38:43 PM
Surr: Toluene-d8	101	70-130		%REC	2	5/30/2012 5:38:43 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J3
Project: Maverik/Jackson OCD
Collection Date: 5/23/2012 3:41:00 PM
Lab ID: 1205A69-002
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **LRW**
1,2-Dibromoethane	ND	0.010		µg/L	1	5/29/2012 4:36:48 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.10		mg/L	2	5/31/2012 8:09:55 PM
Surr: BFB	79.8	69.3-120		%REC	2	5/31/2012 8:09:55 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**
Lead	0.16	0.050		mg/L	5	6/4/2012 1:54:08 PM
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Benzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Toluene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Ethylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Naphthalene	ND	4.0		µg/L	2	5/30/2012 6:08:12 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 6:08:12 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 6:08:12 PM
Acetone	ND	20		µg/L	2	5/30/2012 6:08:12 PM
Bromobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Bromodichloromethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Bromoform	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Bromomethane	ND	6.0		µg/L	2	5/30/2012 6:08:12 PM
2-Butanone	ND	20		µg/L	2	5/30/2012 6:08:12 PM
Carbon disulfide	ND	20		µg/L	2	5/30/2012 6:08:12 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Chlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Chloroethane	ND	4.0		µg/L	2	5/30/2012 6:08:12 PM
Chloroform	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Chloromethane	ND	6.0		µg/L	2	5/30/2012 6:08:12 PM
2-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
4-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
cis-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	5/30/2012 6:08:12 PM
Dibromochloromethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Dibromomethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J3
Project: Maverik/Jackson OCD
Collection Date: 5/23/2012 3:41:00 PM
Lab ID: 1205A69-002
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Dichlorodifluoromethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	5/30/2012 6:08:12 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
2-Hexanone	ND	20		µg/L	2	5/30/2012 6:08:12 PM
Isopropylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	5/30/2012 6:08:12 PM
Methylene Chloride	ND	6.0		µg/L	2	5/30/2012 6:08:12 PM
n-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
n-Propylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
sec-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Styrene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
tert-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	5/30/2012 6:08:12 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
trans-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	5/30/2012 6:08:12 PM
Vinyl chloride	ND	2.0		µg/L	2	5/30/2012 6:08:12 PM
Xylenes, Total	ND	3.0		µg/L	2	5/30/2012 6:08:12 PM
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	2	5/30/2012 6:08:12 PM
Surr: 4-Bromofluorobenzene	109	70-130		%REC	2	5/30/2012 6:08:12 PM
Surr: Dibromofluoromethane	90.0	69.8-130		%REC	2	5/30/2012 6:08:12 PM
Surr: Toluene-d8	100	70-130		%REC	2	5/30/2012 6:08:12 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J4
Project: Maverik/Jackson OCD
Collection Date: 5/24/2012 9:50:00 AM
Lab ID: 1205A69-003
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **LRW**
1,2-Dibromoethane	ND	0.010		µg/L	1	5/29/2012 4:49:28 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.10		mg/L	2	6/1/2012 12:46:14 AM
Surr: BFB	77.6	69.3-120		%REC	2	6/1/2012 12:46:14 AM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**
Lead	0.049	0.010		mg/L	1	6/1/2012 3:17:50 PM
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Benzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Toluene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Ethylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Naphthalene	ND	4.0		µg/L	2	5/30/2012 6:37:44 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 6:37:44 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 6:37:44 PM
Acetone	ND	20		µg/L	2	5/30/2012 6:37:44 PM
Bromobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Bromodichloromethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Bromoform	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Bromomethane	ND	6.0		µg/L	2	5/30/2012 6:37:44 PM
2-Butanone	ND	20		µg/L	2	5/30/2012 6:37:44 PM
Carbon disulfide	ND	20		µg/L	2	5/30/2012 6:37:44 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Chlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Chloroethane	ND	4.0		µg/L	2	5/30/2012 6:37:44 PM
Chloroform	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Chloromethane	ND	6.0		µg/L	2	5/30/2012 6:37:44 PM
2-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
4-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
cis-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	5/30/2012 6:37:44 PM
Dibromochloromethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Dibromomethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J4
Project: Maverik/Jackson OCD
Collection Date: 5/24/2012 9:50:00 AM
Lab ID: 1205A69-003
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Dichlorodifluoromethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	5/30/2012 6:37:44 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
2-Hexanone	ND	20		µg/L	2	5/30/2012 6:37:44 PM
Isopropylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	5/30/2012 6:37:44 PM
Methylene Chloride	ND	6.0		µg/L	2	5/30/2012 6:37:44 PM
n-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
n-Propylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
sec-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Styrene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
tert-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	5/30/2012 6:37:44 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
trans-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	5/30/2012 6:37:44 PM
Vinyl chloride	ND	2.0		µg/L	2	5/30/2012 6:37:44 PM
Xylenes, Total	ND	3.0		µg/L	2	5/30/2012 6:37:44 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	2	5/30/2012 6:37:44 PM
Surr: 4-Bromofluorobenzene	111	70-130		%REC	2	5/30/2012 6:37:44 PM
Surr: Dibromofluoromethane	91.6	69.8-130		%REC	2	5/30/2012 6:37:44 PM
Surr: Toluene-d8	102	70-130		%REC	2	5/30/2012 6:37:44 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J8
Project: Maverik/Jackson OCD
Collection Date: 5/24/2012 10:44:00 AM
Lab ID: 1205A69-004
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **LRW**
1,2-Dibromoethane	ND	0.010		µg/L	1	5/29/2012 5:02:07 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.10		mg/L	2	6/1/2012 1:17:03 AM
Surr: BFB	98.4	69.3-120		%REC	2	6/1/2012 1:17:03 AM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**
Lead	0.22	0.050		mg/L	5	6/4/2012 2:10:27 PM
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Benzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Toluene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Ethylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Naphthalene	ND	4.0		µg/L	2	5/30/2012 7:07:06 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 7:07:06 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 7:07:06 PM
Acetone	ND	20		µg/L	2	5/30/2012 7:07:06 PM
Bromobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Bromodichloromethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Bromoform	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Bromomethane	ND	6.0		µg/L	2	5/30/2012 7:07:06 PM
2-Butanone	ND	20		µg/L	2	5/30/2012 7:07:06 PM
Carbon disulfide	ND	20		µg/L	2	5/30/2012 7:07:06 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Chlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Chloroethane	ND	4.0		µg/L	2	5/30/2012 7:07:06 PM
Chloroform	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Chloromethane	ND	6.0		µg/L	2	5/30/2012 7:07:06 PM
2-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
4-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
cis-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	5/30/2012 7:07:06 PM
Dibromochloromethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Dibromomethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J8
Project: Maverik/Jackson OCD
Collection Date: 5/24/2012 10:44:00 AM
Lab ID: 1205A69-004
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Dichlorodifluoromethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	5/30/2012 7:07:06 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
2-Hexanone	ND	20		µg/L	2	5/30/2012 7:07:06 PM
Isopropylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	5/30/2012 7:07:06 PM
Methylene Chloride	ND	6.0		µg/L	2	5/30/2012 7:07:06 PM
n-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
n-Propylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
sec-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Styrene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
tert-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	5/30/2012 7:07:06 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
trans-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	5/30/2012 7:07:06 PM
Vinyl chloride	ND	2.0		µg/L	2	5/30/2012 7:07:06 PM
Xylenes, Total	ND	3.0		µg/L	2	5/30/2012 7:07:06 PM
Surr: 1,2-Dichloroethane-d4	107	70-130		%REC	2	5/30/2012 7:07:06 PM
Surr: 4-Bromofluorobenzene	112	70-130		%REC	2	5/30/2012 7:07:06 PM
Surr: Dibromofluoromethane	91.6	69.8-130		%REC	2	5/30/2012 7:07:06 PM
Surr: Toluene-d8	103	70-130		%REC	2	5/30/2012 7:07:06 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J7
Project: Maverik/Jackson OCD
Collection Date: 5/24/2012 11:36:00 AM
Lab ID: 1205A69-005
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **LRW**
1,2-Dibromoethane	ND	0.010		µg/L	1	5/29/2012 5:14:51 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.10		mg/L	2	6/1/2012 1:47:55 AM
Surr: BFB	71.4	69.3-120		%REC	2	6/1/2012 1:47:55 AM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **JLF**
Lead	0.31	0.050		mg/L	5	6/4/2012 2:14:01 PM
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Benzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Toluene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Ethylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Naphthalene	ND	4.0		µg/L	2	5/30/2012 7:36:28 PM
1-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 7:36:28 PM
2-Methylnaphthalene	ND	8.0		µg/L	2	5/30/2012 7:36:28 PM
Acetone	ND	20		µg/L	2	5/30/2012 7:36:28 PM
Bromobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Bromodichloromethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Bromoform	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Bromomethane	ND	6.0		µg/L	2	5/30/2012 7:36:28 PM
2-Butanone	ND	20		µg/L	2	5/30/2012 7:36:28 PM
Carbon disulfide	ND	20		µg/L	2	5/30/2012 7:36:28 PM
Carbon Tetrachloride	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Chlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Chloroethane	ND	4.0		µg/L	2	5/30/2012 7:36:28 PM
Chloroform	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Chloromethane	ND	6.0		µg/L	2	5/30/2012 7:36:28 PM
2-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
4-Chlorotoluene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
cis-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	5/30/2012 7:36:28 PM
Dibromochloromethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Dibromomethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,3-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,4-Dichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: J7
Project: Maverik/Jackson OCD
Collection Date: 5/24/2012 11:36:00 AM
Lab ID: 1205A69-005
Matrix: AQUEOUS
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Dichlorodifluoromethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,1-Dichloroethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,1-Dichloroethene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,3-Dichloropropane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
2,2-Dichloropropane	ND	4.0		µg/L	2	5/30/2012 7:36:28 PM
1,1-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Hexachlorobutadiene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
2-Hexanone	ND	20		µg/L	2	5/30/2012 7:36:28 PM
Isopropylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
4-Isopropyltoluene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
4-Methyl-2-pentanone	ND	20		µg/L	2	5/30/2012 7:36:28 PM
Methylene Chloride	ND	6.0		µg/L	2	5/30/2012 7:36:28 PM
n-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
n-Propylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
sec-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Styrene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
tert-Butylbenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	5/30/2012 7:36:28 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
trans-1,2-DCE	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Trichloroethene (TCE)	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Trichlorofluoromethane	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
1,2,3-Trichloropropane	ND	4.0		µg/L	2	5/30/2012 7:36:28 PM
Vinyl chloride	ND	2.0		µg/L	2	5/30/2012 7:36:28 PM
Xylenes, Total	ND	3.0		µg/L	2	5/30/2012 7:36:28 PM
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	2	5/30/2012 7:36:28 PM
Surr: 4-Bromofluorobenzene	111	70-130		%REC	2	5/30/2012 7:36:28 PM
Surr: Dibromofluoromethane	90.3	69.8-130		%REC	2	5/30/2012 7:36:28 PM
Surr: Toluene-d8	107	70-130		%REC	2	5/30/2012 7:36:28 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: Trip Blank
Project: Maverik/Jackson OCD
Collection Date:
Lab ID: 1205A69-006
Matrix: TRIP BLANK
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **LRW**
1,2-Dibromoethane	ND	0.010		µg/L	1	5/29/2012 5:40:25 PM
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
Benzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Toluene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Ethylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Naphthalene	ND	2.0		µg/L	1	5/30/2012 8:05:52 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	5/30/2012 8:05:52 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	5/30/2012 8:05:52 PM
Acetone	ND	10		µg/L	1	5/30/2012 8:05:52 PM
Bromobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Bromodichloromethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Bromoform	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Bromomethane	ND	3.0		µg/L	1	5/30/2012 8:05:52 PM
2-Butanone	ND	10		µg/L	1	5/30/2012 8:05:52 PM
Carbon disulfide	ND	10		µg/L	1	5/30/2012 8:05:52 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Chlorobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Chloroethane	ND	2.0		µg/L	1	5/30/2012 8:05:52 PM
Chloroform	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Chloromethane	ND	3.0		µg/L	1	5/30/2012 8:05:52 PM
2-Chlorotoluene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
4-Chlorotoluene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
cis-1,2-DCE	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/30/2012 8:05:52 PM
Dibromochloromethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Dibromomethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	5/30/2012 8:05:52 PM

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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: Trip Blank
Project: Maverik/Jackson OCD
Collection Date:
Lab ID: 1205A69-006
Matrix: TRIP BLANK
Received Date: 5/25/2012 10:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **MMS**
1,1-Dichloropropene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
2-Hexanone	ND	10		µg/L	1	5/30/2012 8:05:52 PM
Isopropylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	5/30/2012 8:05:52 PM
Methylene Chloride	ND	3.0		µg/L	1	5/30/2012 8:05:52 PM
n-Butylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
n-Propylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
sec-Butylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Styrene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
tert-Butylbenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/30/2012 8:05:52 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
trans-1,2-DCE	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/30/2012 8:05:52 PM
Vinyl chloride	ND	1.0		µg/L	1	5/30/2012 8:05:52 PM
Xylenes, Total	ND	1.5		µg/L	1	5/30/2012 8:05:52 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	5/30/2012 8:05:52 PM
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	5/30/2012 8:05:52 PM
Surr: Dibromofluoromethane	92.2	69.8-130		%REC	1	5/30/2012 8:05:52 PM
Surr: Toluene-d8	107	70-130		%REC	1	5/30/2012 8:05:52 PM

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID	**MB-2135**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**2135**	RunNo:	**3071**					
Prep Date:	**5/29/2012**	Analysis Date:	**5/29/2012**	SeqNo:	**84971**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-2135**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**2135**	RunNo:	**3071**					
Prep Date:	**5/29/2012**	Analysis Date:	**5/29/2012**	SeqNo:	**84972**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.093	0.010	0.1000	0	93.0	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8015B: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**R3145**	RunNo:	**3145**					
Prep Date:		Analysis Date:	**5/31/2012**	SeqNo:	**86907**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	16		20.00		79.9	69.3	120			

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8015B: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**R3145**	RunNo:	**3145**					
Prep Date:		Analysis Date:	**5/31/2012**	SeqNo:	**86908**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0	108	101	123			
Surr: BFB	20		20.00		97.7	69.3	120			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/30/2012**	SeqNo: **86304** Units: **µg/L**

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/30/2012**	SeqNo: **86304** 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	1.0								
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	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.0	69.8	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/30/2012**	SeqNo: **86307** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.3	84.1	126			
Toluene	20	1.0	20.00	0	101	80	120			
Chlorobenzene	19	1.0	20.00	0	96.0	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.6	83	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	76.2	119			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/30/2012**	SeqNo: **86307** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	9.0		10.00		89.8	69.8	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID **b5**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/30/2012**	SeqNo: **86342** Units: **µg/L**

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID **b5**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/30/2012**	SeqNo: **86342** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	1.0								
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	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.5	69.8	130			
Surr: Toluene-d8	10		10.00		103	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R3118**	RunNo: **3118**
Prep Date:	Analysis Date: **5/31/2012**	SeqNo: **86343** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.6	84.1	126			
Toluene	21	1.0	20.00	0	103	80	120			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	83	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	76.2	119			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.9	69.8	130			
Surr: Toluene-d8	11		10.00		107	70	130			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1205A69**

06-Jun-12

Client: Souder, Miller and Associates

Project: Maverik/Jackson OCD

Sample ID	**MB-2152**	SampType:	**MBLK**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**PBW**	Batch ID:	**2152**	RunNo:	**3170**					
Prep Date:	**5/30/2012**	Analysis Date:	**6/1/2012**	SeqNo:	**87551**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID	**LCS-2152**	SampType:	**LCS**	TestCode:	**EPA 6010B: Total Recoverable Metals**					
Client ID:	**LCSW**	Batch ID:	**2152**	RunNo:	**3170**					
Prep Date:	**5/30/2012**	Analysis Date:	**6/1/2012**	SeqNo:	**87552**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.49	0.0050	0.5000	0	97.0	80	120			

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 8710[illegible]
TEL: 505-345-3975 FAX: 505-345-410[illegible]
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-FARM Work Order Number: 1205A69

Received by/date: AT 05/25/12

Logged By: **Lindsay Mangin** 5/25/2012 10:25:00 AM

Completed By: **Lindsay Mangin** 5/25/2012 12:26:44 PM

Reviewed By: AT 05/25/12

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 ☑ MJ	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 ☐	

Added 1mL HNO_3 to -001C, -004C, -005C for acceptable pH. MJ

# of preserved bottles checked for pH: 5 (<2 or >12 unless noted)

Adjusted? Yes

Checked by: MJ

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: SMA

Mailing Address: 2401 San Juan Blvd Farmington, NM 87401

Phone #: (505) 333-5607

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Maverik/Jackson CO

Project #: 512162.0

Project Manager: Reid Allan

Sampler: SLC/DD

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1205A69	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	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)	6010 - Total Ca				Air Bubbles (Y or N)
5/23/12	1357	H2O	J6	6 40mL 1 HDPE	HCl/2 HNO3	-001			X		X					X		X				
5/23/12	1541	H2O	J3	"	"	-002			X		X					X		X				
5/24/12	0950	H2O	J4	6 40mL 1 HDPE	H2SO4/HNO3	-003			X		X					X		X				
5/24/12	10:44	H2O	J8	"	"	-004			X		X					X		X				
5/24/12	11:36	H2O	J7	"	"	-005			X		X					X		X				
			Trip Blank			-006					+					X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/24/12	1635			5/24/12	1635
5/24/12	1748			05/25/12	1025

Remarks:

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

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

June 20, 2012

Denny Foust

Souder, Miller and Associates
2101 San Juan Boulevard
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: MMOCD Maverick/Jackson OrderNo.: 1206507

Dear Denny Foust:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/13/2012 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates
Client Sample ID: Jackson Well
Project: MMOCD Maverick/Jackson
Collection Date: 6/12/2012 10:30:00 AM
Lab ID: 1206507-001 **Matrix:** PRODUCT **Received Date:** 6/13/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
DRO BY 8015B						Analyst: **JMP**
Diesel Range Organics (DRO)	100	2.0		wt%	20	6/18/2012 8:05:27 PM
Motor Oil Range Organics (MRO)	ND	9.9		wt%	20	6/18/2012 8:05:27 PM
Surr: DNOP	0	80-120	S	%REC	20	6/18/2012 8:05:27 PM
GRO BY 8015B						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	2.5		wt%	1	6/16/2012 5:43:09 AM
Surr: BFB	106	89.7-125		%REC	1	6/16/2012 5:43:09 AM
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
Benzene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Toluene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Ethylbenzene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Methyl tert-butyl ether (MTBE)	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2,4-Trimethylbenzene	670	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,3,5-Trimethylbenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,2-Dichloroethane (EDC)	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2-Dibromoethane (EDB)	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Naphthalene	ND	500		mg/Kg	100	6/18/2012 4:51:27 PM
1-Methylnaphthalene	1000	1000		mg/Kg	100	6/18/2012 4:51:27 PM
2-Methylnaphthalene	1700	1000		mg/Kg	100	6/18/2012 4:51:27 PM
Acetone	ND	1200		mg/Kg	50	6/17/2012 3:34:27 PM
Bromobenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
Bromodichloromethane	ND	380		mg/Kg	50	6/17/2012 3:34:27 PM
Bromoform	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
Bromomethane	ND	380		mg/Kg	50	6/17/2012 3:34:27 PM
2-Butanone	ND	1200		mg/Kg	50	6/17/2012 3:34:27 PM
Carbon disulfide	ND	1200		mg/Kg	50	6/17/2012 3:34:27 PM
Carbon Tetrachloride	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Chlorobenzene	ND	250		mg/Kg	50	6/17/2012 3:34:27 PM
Chloroethane	ND	250		mg/Kg	50	6/17/2012 3:34:27 PM
Chloroform	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Chloromethane	ND	380		mg/Kg	50	6/17/2012 3:34:27 PM
2-Chlorotoluene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
4-Chlorotoluene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
cis-1,2-DCE	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
cis-1,3-Dichloropropene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2-Dibromo-3-chloropropane	ND	500		mg/Kg	100	6/18/2012 4:51:27 PM
Dibromochloromethane	ND	250		mg/Kg	50	6/17/2012 3:34:27 PM
Dibromomethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2-Dichlorobenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,3-Dichlorobenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,4-Dichlorobenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
Dichlorodifluoromethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM

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: Souder, Miller and Associates
Client Sample ID: Jackson Well
Project: MMOCD Maverick/Jackson
Collection Date: 6/12/2012 10:30:00 AM
Lab ID: 1206507-001 **Matrix:** PRODUCT **Received Date:** 6/13/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
1,1-Dichloroethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,1-Dichloroethene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2-Dichloropropane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,3-Dichloropropane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
2,2-Dichloropropane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,1-Dichloropropene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Hexachlorobutadiene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
2-Hexanone	ND	1200		mg/Kg	50	6/17/2012 3:34:27 PM
Isopropylbenzene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
4-Isopropyltoluene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
4-Methyl-2-pentanone	ND	1200		mg/Kg	50	6/17/2012 3:34:27 PM
Methylene Chloride	ND	380		mg/Kg	50	6/17/2012 3:34:27 PM
n-Butylbenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
n-Propylbenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
sec-Butylbenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
Styrene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
tert-Butylbenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,1,1,2-Tetrachloroethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,1,2,2-Tetrachloroethane	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
Tetrachloroethene (PCE)	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
trans-1,2-DCE	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
trans-1,3-Dichloropropene	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2,3-Trichlorobenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,2,4-Trichlorobenzene	ND	250		mg/Kg	100	6/18/2012 4:51:27 PM
1,1,1-Trichloroethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,1,2-Trichloroethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Trichloroethene (TCE)	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Trichlorofluoromethane	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
1,2,3-Trichloropropane	ND	500		mg/Kg	100	6/18/2012 4:51:27 PM
Vinyl chloride	ND	120		mg/Kg	50	6/17/2012 3:34:27 PM
Xylenes, Total	140	120		mg/Kg	50	6/17/2012 3:34:27 PM
Surr: 1,2-Dichloroethane-d4	95.3	56.8-108		%REC	50	6/17/2012 3:34:27 PM
Surr: 4-Bromofluorobenzene	78.9	83.1-108	S	%REC	100	6/18/2012 4:51:27 PM
Surr: Dibromofluoromethane	120	49.4-117	S	%REC	50	6/17/2012 3:34:27 PM
Surr: Toluene-d8	96.0	88.3-103		%REC	50	6/17/2012 3:34:27 PM

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206507**

20-Jun-12

Client: Souder, Miller and Associates

Project: MMOCD Maverick/Jackson

Sample ID **MB-2446**	SampType: **MBLK**	TestCode: **DRO by 8015B**						
Client ID: **PBW**	Batch ID: **2446**	RunNo: **3482**						
Prep Date: **6/18/2012**	Analysis Date: **6/18/2012**	SeqNo: **98731**	Units: **wt%**					

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.10								
Motor Oil Range Organics (MRO)	ND	0.50								
Surr: DNOP	0.11		0.1000		106	80	120			

Sample ID **LCS-2446**	SampType: **LCS**	TestCode: **DRO by 8015B**						
Client ID: **LCSW**	Batch ID: **2446**	RunNo: **3482**						
Prep Date: **6/18/2012**	Analysis Date: **6/18/2012**	SeqNo: **98732**	Units: **wt%**					

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.44	0.10	0.5000	0	87.5	80	120			
Surr: DNOP	0.054		0.05000		108	80	120			

Sample ID **LCSD-2446**	SampType: **LCSD**	TestCode: **DRO by 8015B**						
Client ID: **LCSS02**	Batch ID: **2446**	RunNo: **3482**						
Prep Date: **6/18/2012**	Analysis Date: **6/18/2012**	SeqNo: **98733**	Units: **wt%**					

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.40	0.10	0.5000	0	80.7	80	120	8.13	20	
Surr: DNOP	0.046		0.05000		92.0	80	120	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206507**

20-Jun-12

Client: Souder, Miller and Associates

Project: MMOCD Maverick/Jackson

Sample ID **MB-2397**	SampType: **MBLK**	TestCode: **GRO by 8015B**							
Client ID: **PBW**	Batch ID: **2397**	RunNo: **3464**							
Prep Date: **6/14/2012**	Analysis Date: **6/15/2012**	SeqNo: **98184**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	2.5								
Surr: BFB	910		1000		90.5	89.7	125			

Sample ID **LCS-2397**	SampType: **LCS**	TestCode: **GRO by 8015B**							
Client ID: **LCSW**	Batch ID: **2397**	RunNo: **3464**							
Prep Date: **6/14/2012**	Analysis Date: **6/15/2012**	SeqNo: **98185**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	2.5	25.00	0	120	69.5	120			S
Surr: BFB	1000		1000		101	89.7	125			

Sample ID **LCSD-2397**	SampType: **LCSD**	TestCode: **GRO by 8015B**							
Client ID: **LCSS02**	Batch ID: **2397**	RunNo: **3464**							
Prep Date: **6/14/2012**	Analysis Date: **6/15/2012**	SeqNo: **98186**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	32	2.5	25.00	0	127	69.5	120	4.99	8.39	S
Surr: BFB	1100		1000		111	89.7	125	0	0	

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206507**

20-Jun-12

Client: Souder, Miller and Associates

Project: MMOCD Maverick/Jackson

Sample ID **mb-2397**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**	
Client ID: **PBW**	Batch ID: **2397**	RunNo: **3493**	
Prep Date: **6/14/2012**	Analysis Date: **6/17/2012**	SeqNo: **98255**	Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	2.5								
Toluene	ND	2.5								
Ethylbenzene	ND	2.5								
Methyl tert-butyl ether (MTBE)	ND	2.5								
1,2,4-Trimethylbenzene	ND	2.5								
1,3,5-Trimethylbenzene	ND	2.5								
1,2-Dichloroethane (EDC)	ND	2.5								
1,2-Dibromoethane (EDB)	ND	2.5								
Naphthalene	ND	5.0								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
Acetone	ND	25								
Bromobenzene	ND	2.5								
Bromodichloromethane	ND	7.5								
Bromoform	ND	2.5								
Bromomethane	ND	7.5								
2-Butanone	ND	25								
Carbon disulfide	ND	25								
Carbon Tetrachloride	ND	2.5								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	2.5								
Chloromethane	ND	7.5								
2-Chlorotoluene	ND	2.5								
4-Chlorotoluene	ND	2.5								
cis-1,2-DCE	ND	2.5								
cis-1,3-Dichloropropene	ND	2.5								
1,2-Dibromo-3-chloropropane	ND	5.0								
Dibromochloromethane	ND	5.0								
Dibromomethane	ND	2.5								
1,2-Dichlorobenzene	ND	2.5								
1,3-Dichlorobenzene	ND	2.5								
1,4-Dichlorobenzene	ND	2.5								
Dichlorodifluoromethane	ND	2.5								
1,1-Dichloroethane	ND	2.5								
1,1-Dichloroethene	ND	2.5								
1,2-Dichloropropane	ND	2.5								
1,3-Dichloropropane	ND	2.5								
2,2-Dichloropropane	ND	2.5								
1,1-Dichloropropene	ND	2.5								
Hexachlorobutadiene	ND	2.5								

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206507**

20-Jun-12

Client: Souder, Miller and Associates

Project: MMOCD Maverick/Jackson

Sample ID **mb-2397**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBW**	Batch ID: **2397**	RunNo: **3493**
Prep Date: **6/14/2012**	Analysis Date: **6/17/2012**	SeqNo: **98255** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	25								
Isopropylbenzene	ND	2.5								
4-Isopropyltoluene	ND	2.5								
4-Methyl-2-pentanone	ND	25								
Methylene Chloride	ND	7.5								
n-Butylbenzene	ND	2.5								
n-Propylbenzene	ND	2.5								
sec-Butylbenzene	ND	2.5								
Styrene	ND	2.5								
tert-Butylbenzene	ND	2.5								
1,1,1,2-Tetrachloroethane	ND	2.5								
1,1,2,2-Tetrachloroethane	ND	2.5								
Tetrachloroethene (PCE)	ND	2.5								
trans-1,2-DCE	ND	2.5								
trans-1,3-Dichloropropene	ND	2.5								
1,2,3-Trichlorobenzene	ND	2.5								
1,2,4-Trichlorobenzene	ND	2.5								
1,1,1-Trichloroethane	ND	2.5								
1,1,2-Trichloroethane	ND	2.5								
Trichloroethene (TCE)	ND	2.5								
Trichlorofluoromethane	ND	2.5								
1,2,3-Trichloropropane	ND	5.0								
Vinyl chloride	ND	2.5								
Xylenes, Total	ND	2.5								
Surr: 1,2-Dichloroethane-d4	23		25.00		91.9	56.8	108			
Surr: 4-Bromofluorobenzene	26		25.00		106	83.1	108			
Surr: Dibromofluoromethane	29		25.00		116	49.4	117			
Surr: Toluene-d8	23		25.00		92.0	88.3	103			

Sample ID **lcs-2397**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSW**	Batch ID: **2397**	RunNo: **3493**
Prep Date: **6/14/2012**	Analysis Date: **6/17/2012**	SeqNo: **98256** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	53	2.5	50.00	0	105	67.4	102			S
Toluene	42	2.5	50.00	0	83.8	90.5	109			S
Chlorobenzene	47	5.0	50.00	0	93.5	85.7	114			
1,1-Dichloroethene	53	2.5	50.00	0	106	50	114			
Trichloroethene (TCE)	47	2.5	50.00	0	93.1	70	130			
Surr: 1,2-Dichloroethane-d4	23		25.00		93.2	56.8	108			
Surr: 4-Bromofluorobenzene	26		25.00		103	83.1	108			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206507**

20-Jun-12

Client: Souder, Miller and Associates

Project: MMOCD Maverick/Jackson

Sample ID	**lcs-2397**	SampType:	**LCS**	TestCode:	**EPA Method 8260B: Volatiles**
Client ID:	**LCSW**	Batch ID:	**2397**	RunNo:	**3493**
Prep Date:	**6/14/2012**	Analysis Date:	**6/17/2012**	SeqNo:	**98256** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	29		25.00		118	49.4	117			S
Surr: Toluene-d8	22		25.00		89.8	88.3	103			

Sample ID	**lcsd-2397**	SampType:	**LCSD**	TestCode:	**EPA Method 8260B: Volatiles**
Client ID:	**LCSS02**	Batch ID:	**2397**	RunNo:	**3493**
Prep Date:	**6/14/2012**	Analysis Date:	**6/17/2012**	SeqNo:	**98257** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	53	2.5	50.00	0	105	67.4	102	0.228	20	S
Toluene	44	2.5	50.00	0	88.4	90.5	109	5.32	20	S
Chlorobenzene	47	5.0	50.00	0	93.6	85.7	114	0.150	20	
1,1-Dichloroethene	54	2.5	50.00	0	107	50	114	1.44	20	
Trichloroethene (TCE)	46	2.5	50.00	0	92.4	70	130	0.747	20	
Surr: 1,2-Dichloroethane-d4	23		25.00		90.6	56.8	108	0	0	
Surr: 4-Bromofluorobenzene	27		25.00		107	83.1	108	0	0	
Surr: Dibromofluoromethane	29		25.00		117	49.4	117	0	0	
Surr: Toluene-d8	22		25.00		89.6	88.3	103	0	0	

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-FARM

Work Order Number: 1206507

Received by/date: 06/13/12

Logged By: Lindsay Mangin 6/13/2012 10:00:00 AM

Completed By: Lindsay Mangin 6/13/2012 10:21:30 AM

Reviewed By: 06/13/12

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?	Courier			

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:

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	4.9	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 2101 San Juan Blvd Farmington NM

Phone #: (505) 325-7535

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: NMOCD - Maverik / Jackson

Project #:

Project Manager: Denny Foust

Sampler: SLC

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
6-12-12	1030	Product	Jackson well	3 40mL	—	1206507 -001

Analysis Request

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

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/12/12	1740		Chris Walters	6/12/12	1740
6/12/12	1758	Chris Walters		06/13/12	1000

Remarks: 8015-MRO/DRO/GRO
Need results by 6/19 if possible