Form C-141 Revised April 3, 2017

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

						<b>OPERATOR</b> Initial Report Final Repo					
Name of Co	ompany: B	IYA Operate	ors, Inc.		(	Contact: Jubal Terry					
Address: 17	89 W. Litt	leton Blvd.,	Littleton	CO 80120	·	Telephone 1	No. (303) 797-5	417			
Facility Na	ne: Ute #2				]	Facility Typ	e: Oil Well				
Surface Ow	ner: Ute N	1ountain Ute	e Tribe	Mineral O	Owner: I	Ute Mounta	in Ute Tribe		API No	. 30-045-	10463
				LOCA	ATION	N OF REI	LEASE				
Jnit Letter J	Section 23	Township 31N	Range 16W	Feet from the	North/ 660 FS	South Line SL	Feet from the	East/V 1980	West Line FEL	County San Juan	County
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#### NCS1725638225

Operator/Responsible Party,

#### 7/27/17

The OCD has received the form C-141 you provided on \_\_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number \_\_\_\_\_\_has been assigned. Please refer to this case number in all future correspondence. NCS1725638225

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete <u>division-approved corrective action</u> for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before n/a If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

• Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

• Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

• Nominal detection limits for field and laboratory analyses must be provided.

• Composite sampling is not generally allowed.

• Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us

# SOIL REMEDIATION WORK PLAN

# FOR

# **BIYA OPERATORS, INC.**

HICKS #2 LINE LEAK SECTION 23, T31N R16W, NMPM SAN JUAN COUNTY, NM



Prepared for: BIYA Operators, Inc. 1789 West Littleton Blvd. Littleton, CO 80120

Prepared by: Souder, Miller & Associates 401 W Broadway Farmington, NM 87401 505-325-7535

May 17, 2017 **SMA Reference** 5124920 BG9



Souder, Miller & Associates Engineering \* Environmental \* Surveying

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#### 1.0 Introduction

Souder, Miller & Associates (SMA) is pleased to submit this work plan for excavation and remediation at the BIYA Operators, Inc., Hicks #2 Line Leak release site. The site is located in Unit O (SW ¼ SE ¼), Section 23, Township 31 North, Range 16 West; GPS: 36.881443°, -108.493920°, in San Juan County, New Mexico on Ute Mountain Ute Tribal lands within the jurisdiction of the Bureau of Land Management (BLM).

#### 2.0 Site Ranking and Land Jurisdiction

The Hicks #2 Line Leak release is located on Ute Mountain Ute tribal land with an elevation of approximately 5,619 feet above sea level. After evaluation of the site using aerial photography and topographic maps and review of ground water information provided by Colin Larrick, Water Quality Program Manager, Ute Mountain Ute Tribe, depth to groundwater is estimated to be less than 50 feet below ground surface (bgs).

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No wells are located within a 1000 foot radius of the site. The physical location of this release is within the jurisdiction of Ute Mountain Ute tribal land.

This release location has been assigned soil remediation standards of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Remediation standards have been assigned by Scott Clow, Ute Mountain Ute Tribe Environmental Programs Director, and are contingent upon BLM approval.

#### 3.0 Assessment and Initial Results

On October 18, 2016 SMA personnel guided Mo-Te Drilling, Inc. onsite utilizing a drill rig to collect soil boring samples. Sample locations are noted on Figure 1, Site Details and Sample Location Map. All samples were collected and processed per New Mexico Oil Conservation Division (NMOCD) soil sampling procedures. The laboratory samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0.

The results allowed vertical and lateral delineation of impacted soils. Delineation results indicated that affected soil is present at three (3) feet bgs at SB-1 and at one (1) foot bgs at SB-2. A summary of the laboratory reports can be found in the attached Table 1.

#### 4.0 Soil Remediation Work Plan

Collin Larrick, Ute Mountain Ute Tribe, will review submitted remediation and reclamation plans and advise accordingly. On April 18, 2017, Curtis Pattillo, SMA Project Scientist submitted a Pre-Construction Notification (PCN) for Army Corps of Engineers (ACOE) Nation Wide Permit (NWP) #38 to Mr. Larrick for Tribal review. On April 24, 2017 SMA received a request for additional information from Mr. Larrick regarding the submitted NWP #38. SMA is currently working to address this request. Upon receiving approval from the BLM and Mr. Larrick, SMA will submit the PCN for NWP #38 on behalf of BIYA to the ACOE. Upon approval from the BLM, Ute Mountain Ute Tribe, and ACOE, BIYA Operators, Inc. will guide excavation activities in the currently excavated area at the pipeline release site, removing hydrocarbon impacted soil and rock until no visual staining and odor is present or sandstone is reached. Affected soils will be removed from this area before discreet closure samples are collected at the final depth of excavation and sidewalls at which time SMA will be contacted to conduct discreet closure sampling. BLM and/or Ute Mountain Ute Tribe representatives will be notified to witness collection of discreet samples.

Excavated material spoils are to be placed on a 40 mill plastic liner and within a bermed area at a BLM approved location for temporary storage. Berms will be constructed using BLM Gold Book Standards for containment structures. All excavated material is to be transported for disposal at a BLM approved facility within 10 days of excavation commencing. BLM Gold Book Standards will be applied to areas that require storm water management.

If impacted sandstone is identified during excavation activities to the south of the pipeline release not identified as part of the natural drainage area, SMA recommends the use of a bentonite geosynthetic clay liner, such as or similar to BENTOMAT, engineered liners. An SMA engineer will review data based on the extent of the final excavation to determine the product type and thickness of bentonite liner required for the site. BLM will be provided product type and thickness requirements for BLM approval prior to installation. Bentonite geosynthetic clay liner is not to be applied to the exposed sandstone surface that is considered surface area of the natural drainage.

The soil boring investigation conducted on October 18, 2016 delineated the vertical extent of hydrocarbon impact of the sandstone in the natural drainage in the area of SB-1 and SB-2 as identified in Figure 1. SMA recommends minimizing further impact to surrounding vegetation and bank stabilization in the natural drainage by removing impacted soils via nonmechanical hand tools. Impacted vegetation will be sprayed with a biodegradable soap solution such as or similar to Dr. Bronner's Castile or Dawn soap. SMA also recommends third party semi-annual monitoring of the natural drainage. Monitoring will provide a minimal impact means of determining if the hydrocarbon stained surface in the natural drainage is traveling down gradient via storm water runoff. Semi-annual monitoring is to occur after spring time runoff and in the fall following the monsoon season, and will occur at the same GPS located spot estimated in Figure 1. Monitoring will include visual observation monitoring and if present, documentation of impacted soils and vegetation. In the area where runoff pools in the natural drainage, identified in Figure 1, visual observation for the presence of a sheen will be documented and photographed. If a sheen is observed, a grab sample of fluid will be collected and analyzed for Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0. Semi-annual discreet soil sampling of an established down gradient sample site, such as the one proposed in Figure 1, would be analyzed for Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0. A summary of findings, photo documentation, and laboratory reports will be submitted to the BLM and Ute Mountain Ute Tribe within 30 days of the monitoring event occurring. Semi-annual monitoring is to occur for two years for a total of four (4) monitoring events. Based on the monitoring events, recommendations for cessation or continuation of monitoring will be submitted via third party to the BLM and Ute Mountain Ute Tribe for approval.

#### 5.0 Conclusions and Recommendations

This site has been assigned soil remediation standards of: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 100 ppm TPH.

Upon approval of the soil remediation work plan by the BLM and completion of excavation activities, SMA will conduct closure confirmation sampling for the excavated area associated with the pipeline release site. BIYA will provide laboratory report information to the BLM and Ute

Mountain Ute Tribe. Upon approval of remediation completion by BLM, a work plan for reclamation will be submitted to the BLM for approval. If further excavation is required, the BLM and Ute Mountain Ute Tribe will be provided an updated work plan detailing additional excavation and remediation activities.

If there are any questions regarding this report, please contact either Ashley Maxwell or Shawna Chubbuck at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

Ashley Maxwell Staff Scientist

auna Chubbuck

Shawna Chubbuck Senior Scientist

# FIGURE 1 SITE MAP

			Sample	Method	Method	Method	Method	Metho
Date	Time	Sample ID	Depth	8015	8015	8021	8021	300.0
			(Feet BGS)	GRO	DRO	Benzene	BTEX	Chlorid
NMOCD GU	uidelines			1	00	10 ppm	50 ppm	
10/18/2017	11:08	SB1-1	1	4200	19000	-	-	-
10/18/2017	11:28	SB1-2	2	3800	26000	0.95	64.45	54
10/18/2017	11:33	SB1-3	3	6.9	190	<0.024	<0.096	77
10/18/2017	11:36	SB1-4	4	<4.9	<9.9	<0.024	<0.098	40
10/18/2017	11:41	SB1-5	5	<4.7	<9.8	<0.023	<0.094	<30
10/18/2017	11:43	SB1-5.5	5.5	<4.7	<9.9	<0.023	<0.093	<30
10/18/2017	11:49	SB1-6	6	<5.0	<10	<0.025	<0.099	<30
10/18/2017	13:08	SB2-1	1	<4.6	9900	-	-	-
10/18/2017	13:17	SB2-2	2	<4.8	26	<0.024	<0.095	<30
10/18/2017	13:23	SB2-3	3	<4.6	<9.8	<0.023	<0.092	<30
10/18/2017	13:28	SB2-4	4	<5.0	<10	<0.025	<0.10	<30
10/18/2017	13:33	SB2-5	5	<5.0	<9.8	<0.025	<0.10	<30

Red indicates that laboratory detection limit exceeded at least one screening level/standard



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P:\5-BIYA Soil Sampling 5124920\CAD\Civil\5124920 BIYA Soil Bore.dwg, DJB, 5/17/2017 3:36 PM

# TABLE 1 SUMMARY OF LABORATORY ANALYSES

## Hicks #2 Line Leak Summary of Laboratory Analysis Results in mg/Kg

			Sample	Method	Method	Method	Method	Method
Date	Time	Sample ID	Depth	8015	8015	8021	8021	300.0
			(Feet BGS)	GRO	DRO	Benzene	BTEX	Chlorides
NMOCD Gu	uidelines			1	00	10 ppm	50 ppm	
10/18/2017	11:08	SB1-1	1	4200	19000	-	-	-
10/18/2017	11:28	SB1-2	2	3800	26000	0.95	64.45	54
10/18/2017	11:33	SB1-3	3	6.9	190	<0.024	<0.096	77
10/18/2017	11:36	SB1-4	4	<4.9	<9.9	<0.024	<0.098	40
10/18/2017	11:41	SB1-5	5	<4.7	<9.8	<0.023	<0.094	<30
10/18/2017	11:43	SB1-5.5	5.5	<4.7	<9.9	<0.023	<0.093	<30
10/18/2017	11:49	SB1-6	6	<5.0	<10	<0.025	<0.099	<30
10/18/2017	13:08	SB2-1	1	<4.6	9900	-	-	-
10/18/2017	13:17	SB2-2	2	<4.8	26	<0.024	<0.095	<30
10/18/2017	13:23	SB2-3	3	<4.6	<9.8	<0.023	<0.092	<30
10/18/2017	13:28	SB2-4	4	<5.0	<10	<0.025	<0.10	<30
10/18/2017	13:33	SB2-5	5	<5.0	<9.8	<0.025	<0.10	<30

Red indicates that laboratory detection limit exceeded at least one screening level/standard

\_\_\_<u>SMA</u>

# APPENDIX A LABORATORY ANALYTICAL REPORTS



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

November 03, 2016

Ashley Maxwell Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667 FAX (505) 327-1496

RE: Hicks #2 Line Leak

OrderNo.: 1610995

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/20/2016 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Souder, Miller and Associates Project: Hicks #2 Line Leak	Client Sample ID: SB1-1 Collection Date: 10/18/2016 11:08:00 AM							
Lab ID: 1610995-001	Matrix: SOIL Receive				ed Date: 10/20/2016 8:15:00 AM			
Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANGE		S				Anal	yst: TOM	
Diesel Range Organics (DRO)	19000	960		mg/Kg	100	10/25/2016 12:44:21	PM 28237	
Surr: DNOP	0	70-130	S	%Rec	100	10/25/2016 12:44:21	PM 28237	
EPA METHOD 8015D: GASOLINE RANG	E					Anal	yst: <b>NSB</b>	
Gasoline Range Organics (GRO)	4200	240		mg/Kg	50	10/24/2016 11:58:33	AM 28196	
Surr: BFB	381	68.3-144	S	%Rec	50	10/24/2016 11:58:33	AM 28196	

## Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 11 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1610995

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/3/2016

CLIENT: Project:	Souder, Miller and Associates Hicks #2 Line Leak			C	Client Samp	le ID: SB Date: 10/	1-2 18/2016 11:28:00 A	AМ
Lab ID:	1610995-002	Matrix:	SOIL		<b>Received</b>	<b>Date:</b> 10/	20/2016 8:15:00 A	М
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Anal	yst: LGT
Chloride		54	30		mg/Kg	20	10/31/2016 10:41:47	7 AM 28379
EPA MET	HOD 8015M/D: DIESEL RANGE		5				Anal	yst: TOM
Diesel Ra	ange Organics (DRO)	26000	980		mg/Kg	100	10/25/2016 1:11:53	PM 28237
Surr: D	NOP	0	70-130	S	%Rec	100	10/25/2016 1:11:53	PM 28237
EPA MET	HOD 8015D: GASOLINE RANG	E					Anal	yst: NSB
Gasoline	Range Organics (GRO)	3800	93		mg/Kg	20	10/21/2016 5:05:42	PM 28196
Surr: B	FB	735	68.3-144	S	%Rec	20	10/21/2016 5:05:42	PM 28196
EPA MET	HOD 8021B: VOLATILES						Anal	yst: <b>NSB</b>
Benzene		0.95	0.47		mg/Kg	20	10/21/2016 5:05:42	PM 28196
Toluene		8.1	0.93		mg/Kg	20	10/21/2016 5:05:42	PM 28196
Ethylbenz	zene	9.4	0.93		mg/Kg	20	10/21/2016 5:05:42	PM 28196
Xylenes,	Total	46	1.9		mg/Kg	20	10/21/2016 5:05:42	PM 28196
Surr: 4	-Bromofluorobenzene	155	80-120	S	%Rec	20	10/21/2016 5:05:42	PM 28196

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1610995

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/3/2016

CLIENT: Project:	Souder, Miller and Associates Hicks #2 Line Leak		C	Client Sampl Collection	le ID: SB Date: 10/	1-3 /18/2016 11:33:00 AI	М
Lab ID:	1610995-003	Matrix:	SOIL	<b>Received</b>	<b>Date:</b> 10/	/20/2016 8:15:00 AM	
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: LGT
Chloride		77	30	mg/Kg	20	10/31/2016 11:19:01	AM 28379
EPA MET	HOD 8015M/D: DIESEL RANGE		S			Analys	st: TOM
Diesel Ra	ange Organics (DRO)	190	9.8	mg/Kg	1	10/25/2016 1:39:35 PI	M 28237
Surr: D	NOP	91.0	70-130	%Rec	1	10/25/2016 1:39:35 PI	M 28237
EPA MET	HOD 8015D: GASOLINE RANG	E				Analys	st: NSB
Gasoline	Range Organics (GRO)	6.9	4.8	mg/Kg	1	10/24/2016 12:21:58 F	°M 28196
Surr: B	FB	128	68.3-144	%Rec	1	10/24/2016 12:21:58 F	°M 28196
EPA MET	HOD 8021B: VOLATILES					Analys	st: NSB
Benzene		ND	0.024	mg/Kg	1	10/24/2016 12:21:58 F	°M 28196
Toluene		ND	0.048	mg/Kg	1	10/24/2016 12:21:58 F	°M 28196
Ethylbenz	zene	ND	0.048	mg/Kg	1	10/24/2016 12:21:58 F	°M 28196
Xylenes,	Total	ND	0.096	mg/Kg	1	10/24/2016 12:21:58 F	°M 28196
Surr: 4	-Bromofluorobenzene	106	80-120	%Rec	1	10/24/2016 12:21:58 F	°M 28196

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

Client Sample ID: SB1-4 Collection Date: 10/18/2016 11:36:00 AM Pageived Date: 10/20/2016 8:15:00 AM

<b>Lab ID:</b> 1610995-004	Matrix:	SOIL	Received 1	<b>Received Date:</b> 10/20/2016 8:15:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analy	st: LGT		
Chloride	40	30	mg/Kg	20	10/31/2016 11:31:26	AM 28379		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analy	st: TOM		
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/25/2016 2:07:41 P	M 28237		
Surr: DNOP	93.0	70-130	%Rec	1	10/25/2016 2:07:41 P	M 28237		
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB		
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	10/24/2016 12:45:19	PM 28196		
Surr: BFB	84.0	68.3-144	%Rec	1	10/24/2016 12:45:19	PM 28196		
EPA METHOD 8021B: VOLATILES					Analy	st: NSB		
Benzene	ND	0.024	mg/Kg	1	10/24/2016 12:45:19	PM 28196		
Toluene	ND	0.049	mg/Kg	1	10/24/2016 12:45:19	PM 28196		
Ethylbenzene	ND	0.049	mg/Kg	1	10/24/2016 12:45:19	PM 28196		
Xylenes, Total	ND	0.098	mg/Kg	1	10/24/2016 12:45:19	PM 28196		
Surr: 4-Bromofluorobenzene	98.2	80-120	%Rec	1	10/24/2016 12:45:19	PM 28196		

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

Qualifiers: \* Value exceeds Maximum Contaminant Level. B Analyte detected in the

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

Client Sample ID: SB1-5 Collection Date: 10/18/2016 11:41:00 AM

Lab ID: 1610995-005	Matrix:	SOIL	Received 1	<b>Received Date:</b> 10/20/2016 8:15:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analy	st: LGT		
Chloride	ND	30	mg/Kg	20	10/31/2016 11:43:50	AM 28379		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analy	st: TOM		
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	10/25/2016 2:35:25 P	M 28237		
Surr: DNOP	87.2	70-130	%Rec	1	10/25/2016 2:35:25 P	M 28237		
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	st: NSB		
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/21/2016 6:15:50 P	M 28196		
Surr: BFB	89.0	68.3-144	%Rec	1	10/21/2016 6:15:50 P	M 28196		
EPA METHOD 8021B: VOLATILES					Analy	st: NSB		
Benzene	ND	0.023	mg/Kg	1	10/21/2016 6:15:50 P	M 28196		
Toluene	ND	0.047	mg/Kg	1	10/21/2016 6:15:50 P	M 28196		
Ethylbenzene	ND	0.047	mg/Kg	1	10/21/2016 6:15:50 P	M 28196		
Xylenes, Total	ND	0.094	mg/Kg	1	10/21/2016 6:15:50 P	M 28196		
Surr: 4-Bromofluorobenzene	99.9	80-120	%Rec	1	10/21/2016 6:15:50 P	M 28196		

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 11 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

Client Sample ID: SB1-5.5 Collection Date: 10/18/2016 11:43:00 AM

Lab ID: 1610995-006	Matrix:	SOIL	Received 1	<b>Received Date:</b> 10/20/2016 8:15:00 AM								
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch						
EPA METHOD 300.0: ANIONS					Analy	st: LGT						
Chloride	ND	30	mg/Kg	20	10/31/2016 11:56:15	AM 28379						
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analy	st: TOM						
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/25/2016 3:02:53 P	M 28237						
Surr: DNOP	77.8	70-130	%Rec	1	10/25/2016 3:02:53 P	M 28237						
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	st: NSB						
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/21/2016 6:39:17 P	M 28196						
Surr: BFB	84.0	68.3-144	%Rec	1	10/21/2016 6:39:17 P	M 28196						
EPA METHOD 8021B: VOLATILES					Analy	st: NSB						
Benzene	ND	0.023	mg/Kg	1	10/21/2016 6:39:17 P	M 28196						
Toluene	ND	0.047	mg/Kg	1	10/21/2016 6:39:17 P	M 28196						
Ethylbenzene	ND	0.047	mg/Kg	1	10/21/2016 6:39:17 P	M 28196						
Xylenes, Total	ND	0.093	mg/Kg	1	10/21/2016 6:39:17 P	M 28196						
Surr: 4-Bromofluorobenzene	94.4	80-120	%Rec	1	10/21/2016 6:39:17 P	M 28196						

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

Terer to the QC building report and sample rogin encentise for hugged QC and and preservation r

- \* Value exceeds Maximum Contaminant Level.
  - D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1610995

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/3/2016

<b>CLIENT:</b> Souder, Miller and Associates		0	Client Sampl	e ID: SB	1-6					
Project: Hicks #2 Line Leak			Collection I	Date: 10/	/18/2016 11:49:00 A	М				
Lab ID: 1610995-007	Matrix:	SOIL	<b>Received Date:</b> 10/20/2016 8:15:00 AM							
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analy	st: LGT				
Chloride	ND	30	mg/Kg	20	10/31/2016 12:33:29	PM 28379				
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analy	st: TOM				
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/25/2016 3:30:23 F	M 28237				
Surr: DNOP	89.2	70-130	%Rec	1	10/25/2016 3:30:23 F	PM 28237				
EPA METHOD 8015D: GASOLINE RANG	GE				Analy	st: NSB				
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	10/21/2016 7:02:36 F	M 28196				
Surr: BFB	83.8	68.3-144	%Rec	1	10/21/2016 7:02:36 F	PM 28196				
EPA METHOD 8021B: VOLATILES					Analy	st: NSB				
Benzene	ND	0.025	mg/Kg	1	10/21/2016 7:02:36 F	M 28196				
Toluene	ND	0.050	mg/Kg	1	10/21/2016 7:02:36 F	M 28196				
Ethylbenzene	ND	0.050	mg/Kg	1	10/21/2016 7:02:36 F	M 28196				
Xylenes, Total	ND	0.099	mg/Kg	1	10/21/2016 7:02:36 F	M 28196				
Surr: 4-Bromofluorobenzene	93.8	80-120	%Rec	1	10/21/2016 7:02:36 F	M 28196				

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

Refer to the QC Summary report and sample fogin enceknist for hagged QC data and preservation in

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Soude: Hicks	r, Miller and A #2 Line Leak	Associa	ites							
Sample ID	MB-28379	SampTy	/pe: <b>M</b>	BLK	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch	ID: 28	379	F	RunNo: 3	8358				
Prep Date:	10/31/2016	Analysis Da	ate: 10	0/31/2016	S	SeqNo: 1	197670	Units: <b>mg/k</b>	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-28379	SampTy	/pe: <b>LC</b>	s	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID:	LCSS	Batch	ID: 28	379	F	RunNo: 3	8358				
Prep Date:	10/31/2016	Analysis Da	ate: 10	0/31/2016	5	SeqNo: 1	197671	Units: <b>mg/k</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	92.1	90	110			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#: 1610995 03-Nov-16

Client: Project:	Souder Hicks #	, Miller and #2 Line Leak	Associa	ites							
Sample ID Client ID:	LCS-28237 LCSS	SampT Batch	ype: LC	:S 237	Tes F	tCode: El RunNo: 3	PA Method 8183	8015M/D: Di	esel Rang	e Organics	
Prep Date: Analyte	10/24/2016	Analysis D Result	PQL	0/25/2016 SPK value	SPK Ref Val	SeqNo: 1 <sup>·</sup> %REC	191886 LowLimit	Units: <b>mg/ł</b> HighLimit	<b>(g</b> %RPD	RPDLimit	Qual
Diesel Range O Surr: DNOP	rganics (DRO)	48         10         50.00           4.7         5.000		0	95.6 93.3	62.6 70	124 130				
Sample ID Client ID: Prep Date:	MB-28237 PBS 10/24/2016	SampT Batcl Analysis D	Type: <b>ME</b> n ID: <b>28</b> Date: <b>1</b> (	3LK 237 0/25/2016	Tes F S	tCode: <b>El</b> RunNo: <b>3</b> SeqNo: <b>1</b>	PA Method 8183 191887	8015M/D: Di	esel Rang	e Organics	
Analyte Diesel Range O	rganics (DRO)	Result	PQL 10	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	-	11		10.00		109	70	130			

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 9 of 11

Client: So Project: Hi	uder, Miller and As cks #2 Line Leak	ssociates									
Sample ID MB-28196 Client ID: PBS	SampType Batch IE	e: MBLK D: 28196	Tes	tCode: EF	PA Method 8126	8015D: Gaso	oline Rang	e			
Prep Date: 10/20/201	6 Analysis Date	e: 10/21/2016	S	SeqNo: 1'	190268	Units: mg/k	٢g				
Analyte	Result F	PQL SPK value	e SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (G Surr: BFB	RO) ND 850	5.0 1000	)	85.1	68.3	144					
Sample ID LCS-28196	s SampTyp	e: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID	D: 28196	F	RunNo: 38	8126						
Prep Date: 10/20/201	6 Analysis Date	e: 10/21/2016	Ş	SeqNo: 1'	190269	Units: <b>mg/k</b>	٢g				
Analyte	Result F	PQL SPK value	e SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (G Surr: BFB	RO) 28 920	5.0 25.00 1000	) 0	110 91.6	74.6 68.3	123 144					

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 10 of 11

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc

0995

03-Nov-16

Client: Project:	Souder Hicks #	, Miller and 2 Line Leak	Associa	ites							
Sample ID MB-2	8196	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS		Batch	n ID: 28	196	F	RunNo: 3					
Prep Date: 10/2	20/2016	Analysis D	Date: 10	0/21/2016	S	SeqNo: 1	190293	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Bromofluoro	benzene	0.98		1.000		98.1	80	120			
Sample ID LCS-	28196	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	6	Batch	n ID: 28	196	F	RunNo: 3	8126				
Prep Date: 10/2	20/2016	Analysis D	Date: 10	0/21/2016	S	SeqNo: 1	190294	Units: <b>mg/k</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.77	0.025	1.000	0	76.6	75.2	115			
Toluene		0.88	0.050	1.000	0	87.7	80.7	112			
Ethylbenzene		0.97	0.050	1.000	0	96.6	78.9	117			
Xylenes, Total		2.9	0.10	3.000	0	95.5	79.2	115			
Surr: 4-Bromofluoro	benzene	1.0		1.000		103	80	120			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Page 11 of 11

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

Received by/date: LC 1420116	······································			
1				
Logged By: Anne Thorne 10/20/	2016 8:15:00 AM	anne Am	~	
Completed By:Anne Thorne10/20/Reviewed By:U\0/	2016 20116	arre Arm	-	
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present 🗹	
2. Is Chain of Custody complete?	Yes 🔽	No 🗌	Not Present	
3. How was the sample delivered?	Courier			
<u>Log In</u>				
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗌	NA 🗌	
5. Were all samples received at a temperature of >0°	C to 6.0°C Yes 🗹	No 🗌	NA 🗌	
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?	Yes 🔽	No 🗌		
8. Are samples (except VOA and ONG) properly prese	erved? Yes 🗹	No 🗀		
9. Was preservative added to bottles?	Yes 🗌	No 🗹	NA 🗌	
10. VOA vials have zero headspace?	Yes	No 🗌	No VOA Vials 🗹	
11. Were any sample containers received broken?	Yes	No 🗹	# of preserved	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🔽	No 🗌	for pH:	>12 unless noted
13. Are matrices correctly identified on Chain of Custoc	ly? Yes 🗹	No 🗋	Adjusted?	<u></u>
14. Is it clear what analyses were requested?	Yes 🔽	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🔽	No 🗌	Checked by:	
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this ord	er? Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date			-
By Whom:	 Via: 🗌 eMail 🔲	Phone 🗌 Fax	🔄 In Person	
Regarding:	· · · · · · · · · · · · · · · · · · ·	······	<u></u>	:
Client Instructions:	·· · · · · · · · · · · · · · · · · · ·			
17. Additional remarks:				
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Inta 1 1.5 Good Yes	ct Seal No Seal Date	Signed By		j j

		www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	(()) () () () () () () () () () () () ()	CB, 12) <sup>4</sup> '2 12) 805	25 Pc (Gč (SiM	(N 808: 802: 0/1 (1) (1) (1) (1)	1 L L L L L L L L L L L L L L L L L L L		<ul> <li>MT</li> <li>MT</li> <li>MT</li> <li>ME</li> <li>M</li></ul>	RA 5 100 110 110 110 110 110 110 11			× X	23 01 ×			20 × ×			AN RIEX + CHANILL & all Sconder Except	Remarks: 16 GRO/DZO 2100 PDM -1 PU/	LUN DOZI DICA 4 JUN	out the lar holding time if further "1"	ce of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Furn-Around Time:	🕅 Standard 🗆 Rush	Project Name:	MCKS # 2 LUTE LAR	<sup>oroject #:</sup>	too	Project Manager:	HSNIE Maxwer	)	Sampler: APN   LO	Dn Ice: 🏹 Yes 🗆 No	Sample Temperature: \.5	Container Dresseriation	Type and # Type	402 10099S		22	8	2	4	2	$\sim$			Received by: Date Time	Received by: Date Time	XIncelsey Winedra 10/20/16	htracted to other adcredited laboratories. This serves as notio
Chain-of-Custody Record	lient: SMA		ailing Address: 461 W Brodward	Farming hon, NM 87401	hone #: 508 - 325 - 7535	nail or Fax#: HENLE, Maxwell 1	A/QC Package:	I Standard   Level 4 (Full Validation)	ccreditation		i EDD (Type)		Date Time Matrix Sample Request ID	118 Sal	1 11:08 1 581-1	11.28 381-2	11:33 581-3	111:36 5B1-4	11.41 581 - S	M:43 581-5,5	V 11:49 V 5B1-6			ate: Time: Reinquished by: 3/IL  UU40	afe: Time: Relinquishedby:	19/16/1937/ Meden Water Water	If necessary. ¢amples submitted to Hall Environmental may be subcor



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

October 28, 2016

Ashley Maxwell Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: (505) 325-5667 FAX (505) 327-1496

RE: Hicks #2 Line Leak

OrderNo.: 1610A10

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/20/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 25, 2016.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Project: Lab ID:	Souder, Miller and Associates Hicks #2 Line Leak 1610A10-001	Client Sample ID: SB2-1           Collection Date: 10/18/2016 1:08:00 F           Matrix: SOIL         Received Date: 10/20/2016 8:15:00 F					2-1 18/2016 1:08:00 PM 20/2016 8:15:00 AM	
Analyses		Result	PQL (	)ual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANIC	s				Analys	st: TOM
Diesel Ra	ange Organics (DRO)	9900	930		mg/Kg	100	10/24/2016 2:27:24 PI	M 28212
Surr: D	DNOP	0	70-130	S	%Rec	100	10/24/2016 2:27:24 PI	M 28212
EPA MET	HOD 8015D: GASOLINE RANG	ε					Analys	st: NSB
Gasoline	Range Organics (GRO)	ND	4.6		mg/Kg	1	10/21/2016 8:12:41 PI	M 28196
Surr: E	BFB	90.2	68.3-144		%Rec	1	10/21/2016 8:12:41 PI	M 28196

## Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	E	3	Analyte detected in the associated I

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 9 J
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

**Client Sample ID:** SB2-2 Collection Date: 10/18/2016 1:17:00 PM

Lab ID: 1610A10-002	Matrix:	SOIL	Received	<b>Received Date:</b> 10/20/2016 8:15:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analy	st: LGT		
Chloride	ND	30	mg/Kg	20	10/27/2016 1:10:30 P	M 28324		
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S			Analy	st: TOM		
Diesel Range Organics (DRO)	26	9.7	mg/Kg	1	10/24/2016 12:34:13	PM 28212		
Surr: DNOP	93.5	70-130	%Rec	1	10/24/2016 12:34:13	PM 28212		
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB		
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	10/21/2016 8:35:57 P	M 28196		
Surr: BFB	84.8	68.3-144	%Rec	1	10/21/2016 8:35:57 P	M 28196		
EPA METHOD 8021B: VOLATILES					Analy	st: NSB		
Benzene	ND	0.024	mg/Kg	1	10/21/2016 8:35:57 P	M 28196		
Toluene	ND	0.048	mg/Kg	1	10/21/2016 8:35:57 P	M 28196		
Ethylbenzene	ND	0.048	mg/Kg	1	10/21/2016 8:35:57 P	M 28196		
Xylenes, Total	ND	0.095	mg/Kg	1	10/21/2016 8:35:57 P	M 28196		
Surr: 4-Bromofluorobenzene	97.4	80-120	%Rec	1	10/21/2016 8:35:57 P	M 28196		

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

**Oualifiers:** \* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 9 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

Client Sample ID: SB2-3 Collection Date: 10/18/2016 1:23:00 PM

Lab ID: 1610A10-003	Matrix:	SOIL	Received l	<b>Received Date:</b> 10/20/2016 8:15:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 300.0: ANIONS					Analyst	: LGT		
Chloride	ND	30	mg/Kg	20	10/27/2016 1:47:43 PM	28324		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: том		
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	10/24/2016 1:02:03 PN	28212		
Surr: DNOP	89.5	70-130	%Rec	1	10/24/2016 1:02:03 PM	28212		
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	: NSB		
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	10/21/2016 9:22:47 PN	28196		
Surr: BFB	83.1	68.3-144	%Rec	1	10/21/2016 9:22:47 PM	28196		
EPA METHOD 8021B: VOLATILES					Analyst	: NSB		
Benzene	ND	0.023	mg/Kg	1	10/21/2016 9:22:47 PN	28196		
Toluene	ND	0.046	mg/Kg	1	10/21/2016 9:22:47 PM	28196		
Ethylbenzene	ND	0.046	mg/Kg	1	10/21/2016 9:22:47 PM	28196		
Xylenes, Total	ND	0.092	mg/Kg	1	10/21/2016 9:22:47 PM	28196		
Surr: 4-Bromofluorobenzene	93.2	80-120	%Rec	1	10/21/2016 9:22:47 PM	28196		

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

Teter to the QC building report and sample rogin encentise for hugged QC and and preservation r

- Qualifiers:
   \*
   Value exceeds Maximum Contaminant Level.

   D
   Sample Diluted Due to Matrix

   H
   Holding times for preparation or analysis exceeded

   ND
   Not Detected at the Reporting Limit
  - R RPD outside accepted recovery limits
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

**Client Sample ID: SB2-4** Collection Date: 10/18/2016 1:28:00 PM

Lab ID: 1610A10-004	Matrix:	SOIL	<b>Received</b>	<b>Received Date:</b> 10/20/2016 8:15:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analys	st: LGT			
Chloride	ND	30	mg/Kg	20	10/27/2016 2:00:07 PI	M 28324			
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analys	st: TOM			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/24/2016 1:30:02 Pl	M 28212			
Surr: DNOP	87.9	70-130	%Rec	1	10/24/2016 1:30:02 Pl	M 28212			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	10/21/2016 10:56:43 F	PM 28196			
Surr: BFB	85.8	68.3-144	%Rec	1	10/21/2016 10:56:43 F	PM 28196			
EPA METHOD 8021B: VOLATILES					Analys	st: NSB			
Benzene	ND	0.025	mg/Kg	1	10/21/2016 10:56:43 F	PM 28196			
Toluene	ND	0.050	mg/Kg	1	10/21/2016 10:56:43 F	PM 28196			
Ethylbenzene	ND	0.050	mg/Kg	1	10/21/2016 10:56:43 F	PM 28196			
Xylenes, Total	ND	0.10	mg/Kg	1	10/21/2016 10:56:43 F	PM 28196			
Surr: 4-Bromofluorobenzene	95.9	80-120	%Rec	1	10/21/2016 10:56:43 F	PM 28196			

				_
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associa

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 9 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Hicks #2 Line Leak

Client Sample ID: SB2-5 Collection Date: 10/18/2016 1:33:00 PM

Lab ID: 1610A10-005	Matrix:	Received l	<b>Received Date:</b> 10/20/2016 8:15:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	st: LGT	
Chloride	ND	30	mg/Kg	20	10/27/2016 2:12:31 Pl	M 28324	
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S			Analys	st: TOM	
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	10/24/2016 1:58:40 PI	M 28212	
Surr: DNOP	85.4	70-130	%Rec	1	10/24/2016 1:58:40 Pl	M 28212	
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB	
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	10/21/2016 11:20:12 F	PM 28196	
Surr: BFB	84.3	68.3-144	%Rec	1	10/21/2016 11:20:12	PM 28196	
EPA METHOD 8021B: VOLATILES					Analys	st: NSB	
Benzene	ND	0.025	mg/Kg	1	10/21/2016 11:20:12 F	PM 28196	
Toluene	ND	0.050	mg/Kg	1	10/21/2016 11:20:12	PM 28196	
Ethylbenzene	ND	0.050	mg/Kg	1	10/21/2016 11:20:12	PM 28196	
Xylenes, Total	ND	0.10	mg/Kg	1	10/21/2016 11:20:12	PM 28196	
Surr: 4-Bromofluorobenzene	94.8	80-120	%Rec	1	10/21/2016 11:20:12 F	PM 28196	

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

Refer to the QC Summary report and sumple form enceknist for hugged QC data and preservation in

- Qualifiers: \* Value exceeds Maximum Contaminant Level.
  - D Sample Diluted Due to Matrix
  - H Holding times for preparation or analysis exceeded
  - ND Not Detected at the Reporting Limit
  - R RPD outside accepted recovery limits
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

14

1.5

15.00

Client: Project:	Souder Hicks #	r, Miller and Associates #2 Line Leak		
Sample ID	MB-28324	SampType: MBLK	TestCode: EPA Method 300.0: Anions	
Client ID:	PBS	Batch ID: 28324	RunNo: 38293	
Prep Date:	10/27/2016	Analysis Date: 10/27/2016	SeqNo: 1194989 Units: mg/Kg	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride		ND 1.5		
Sample ID	LCS-28324	SampType: LCS	TestCode: EPA Method 300.0: Anions	
Client ID:	LCSS	Batch ID: 28324	RunNo: 38293	
Prep Date:	10/27/2016	Analysis Date: 10/27/2016	SeqNo: 1194990 Units: mg/Kg	
Analvte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	

0

95.4

110

90

Chloride

- Value exceeds Maximum Contaminant Level. \*
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 6 of 9

Page 7 of 9

Client: Project:	Souder, Hicks #	, Miller and 2 Line Leak	Associa	ites							
Sample ID LC Client ID: LC	CS-28212 CSS	SampT Batch	ype: LC	:S 212	Tes R	tCode: El RunNo: 3	PA Method 8149	8015M/D: Di	esel Range	e Organics	
Prep Date: 1	10/21/2016	Analysis D	ate: 10	)/24/2016	S	SeqNo: 1	190787	Units: <b>mg/ł</b>	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	54	10	50.00	0	109	62.6	124			
Surr: DNOP		4.9		5.000		97.9	70	130			
Sample ID M	B-28212	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PI	BS	Batch	n ID: 28	212	R	unNo: 3	8149				
Prep Date: 1	10/21/2016	Analysis D	ate: 10	)/24/2016	S	SeqNo: 1	190788	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	ND	10								
Surr: DNOP		9.7		10.00		97.3	70	130			

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Client:SoProject:H	ouder, Miller and A icks #2 Line Leak	Associa	ates							
Sample ID MB-28196	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e				
Client ID: PBS	Batch	Batch ID: 28196			RunNo: <b>38126</b>					
Prep Date: 10/20/20	16 Analysis D	ate: 10	0/21/2016	S	SeqNo: 1	190268	Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (G Surr: BFB	RO) ND 850	5.0	1000		85.1	68.3	144			
Sample ID LCS-2819	6 SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID: LCSS	Batch	n ID: 28	196	R	lunNo: 3	8126				
Prep Date: 10/20/20	16 Analysis D	ate: 10	0/21/2016	S	SeqNo: 1	190269	Units: <b>mg/k</b>	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (G	iRO) 28	5.0	25.00	0	110	74.6	123			
Surr: BFB	920		1000		91.6	68.3	144			

- \* Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 8 of 9

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc

WO#:	1610A10

Client:       Souder, Miller and Associates         Project:       Hicks #2 Line Leak												
Sample ID MB-281	96 Sar	npType: <b>M</b> I	BLK	Tes								
Client ID: PBS	B	atch ID: 28	196	F	RunNo: 3							
Prep Date: 10/20/2	2016 Analys	s Date: 1	0/21/2016	S	SeqNo: 1	190293	Units: <b>mg/H</b>	ζg				
Analyte	Resu	t PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	NE	0.025										
Toluene	NE	0.050										
Ethylbenzene	NE	0.050										
Xylenes, Total	N	0.10										
Surr: 4-Bromofluoroben	zene 0.98	3	1.000		98.1	80	120					
Sample ID LCS-28	1 <b>96</b> Sar	npType: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles				
Client ID: LCSS	B	atch ID: 28	196	F	RunNo: 3	8126						
Prep Date: 10/20/2	2016 Analys	s Date: 1	0/21/2016	5	SeqNo: 1	190294	Units: <b>mg/k</b>	٤g				
Analyte	Resu	t PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.7	7 0.025	1.000	0	76.6	75.2	115					
Toluene	0.8	3 0.050	1.000	0	87.7	80.7	112					
Ethylbenzene	0.9	7 0.050	1.000	0	96.6	78.9	117					
Xylenes, Total	2.9	9 0.10	3.000	0	95.5	79.2	115					
Surr: 4-Bromofluoroben	zene 1.0	)	1.000		103	80	120					

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 9 of 9

### 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 Na	ame:	SMA-FARM		Wörk Order Num	ber: 1610/	<b>\10</b>			RcptNo	RoptNo: 1				
Received	by/date	e:	LC I	0/20/16										
Logged B	y:	Anne Thorn	e	10/20/2016 8:15:00	AM		anne,	J.	·					
Complete	d By:	Anne Thorn	ė	10/20/2016			anne ,	Am	~					
Reviewed	l By:	as	-	10/20/16										
Chain o	f Cust	tody												
1. Custo	dy seal	s intact on sar	mple bottles?		Yes		No		Not Present	ł				
2. Is Cha	ain of C	ustody comple	ete?		Yes	$\checkmark$	No		Not Present 🗍	I				
3. How v	was the	sample delive	ered?		<u>Cou</u>	ier								
<u>Log In</u>														
4. Was	an attei	mpt made to c	ool the sample	s?	Yes	✓	No		NA 🗌	]				
5. Were	all sam	ples received	at a temperatu	re of >0° C to 6.0°C	Yes	V	No							
6. Samp	ole(s) in	proper contai	ner(s)?		Yes		No							
7. Suffic	ient sar	mple volume fo	or indicated tes	t(s)?	Yes	$\checkmark$	No							
8. Are sa	amples	(except VOA a	and ONG) prop	erly preserved?	Yes	$\checkmark$	No							
9. Was p	preserv	ative added to	bottles?		Yes		No	$\checkmark$	na 🗆	ļ				
10.VOA	vials ha	ve zero heads	pace?		Yes		No		No VOA Vials 🗹	}				
11. Were	e any sa	imple containe	ers received bro	oken?	Yes		No		# of preserved					
12.Does	paperw	ork match bot	tle labels?		Yes	$\checkmark$	No		for pH:					
(Note	discrep	ancies on cha	ain of custody)			_			(<2) Adjusted?	? or >	·12 unless	noted)		
13. Are m	atrices	correctly ident	tified on Chain	of Custody?	Yes		No		Aujusteu					
14. Is it cl	lear what	at analyses we	ere requested?		Yes		NO		Checked by	-				
15, vvere (If no,	all noid , notify (	customer for a	e to be met? uthorization.)		Yes		NU							
Special	Hand	lina (if app	licable)											
16. Was o	client n	otified of all dis	screpancies wi	th this order?	Yes		No		NA 🗸	ľ				
	Persor	Notified:		Dat	e									
	By Wh	om:		Via	: 🗍 eM	ail 📋	Phone	Fax	📋 In Person					
	Regard	ling:					···· · ···· · · · · · · · · · · · · ·		THE R. STORES CONTRACTOR					
	Client	Instructions:		<u>.</u>										
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