

**INFORMATION ONLY** 

February 22, 2017

Tomáš 'Doc' Oberding PhD Hydrologist, Adv-District 1 New Mexico Oil Conservation Division District 1 1625 N. French Drive Hobbs, New Mexico 88240

Transmitted via email Tomas 'Doc' Obderling *tomas.oberding@state.nm.us* 

# Re: Report of Additional Soil Delineation at the Harris Federal #1 Lease, Unit O Section 5, T-22-S, R-34-E, Lea County, New Mexico (1RP-1335 and 1RP 1741)

Mr. Oberding:

Atkins Engineering Associates Inc. (AEA) on behalf of Trainer Partners, LTD (TPL) is pleased to submit this Report of Additional Soil Delineation (Report). This Report summarizes the soil delineation at the Harris Federal #1 Lease (Site) located in Unit O, Section 5, Township 22S, Range 24E, N.M.P.M. Lea County, New Mexico.

Field work was conducted under work plan submitted to the New Mexico Oil Conservation Division (NMOCD) on August 15, 2016 and approved via email on September 1, 2017.

## **General Procedures**

AEA personnel and equipment performed the delineation December 01-02, 2016 and January 10, 2017. After constructing a decontamination and soil storage "pit" using 4"x4" and visqueen, and building ramps to access the legacy excavations, AEA began drilling. Where necessary composite mats were used to provide access into the boring locations.

Soil borings were advanced with an Ingersoll Rand 300-A drill rig using 4.25" or 3.25" inside diameter hollow stem augers. Split spoon samples were collected on 5-foot centers with a 140 lb. automatic drop hammer. Samples logged and screened for hydrocarbon contamination using visual/olfactory observations and a calibrated MiniRae 3000 photo-ionization detector. Split

spoons were decontaminated between samples using Alconox, and all drill tooling was steam pressure washed between borings.

Samples were collected in laboratory supplied glass jars with appropriate preservatives as needed/. Samples were labeled and stored in coolers on ice until shipped to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico under Chain of Custody procedures.

Investigative-derived waste was collected, transported and stored in the constructed decontamination/storage pit. At the end of the delineation the visqueen was used to wrap the cuttings for storage on site. Soil borings were abandoned with native fill to within 10' of land surface and then filled with hydrated bentonite hole plug.

At the end of the delineation work, AEA technicians surveyed the boring locations with a Topcon GR-5 GPS to obtain horizontal and vertical positions.

## Soil borings

A total of 13 soil borings were advanced on the site (Baseline BL-1 and Soil Borings SB-1 through SB-12). Figure 1 shows the boring locations with the previously surveyed excavation contours.

All sample intervals from all borings were sent for analysis of Chlorides using EPA Method 300.0 and the deepest interval of soil borings SB-1 through SB-12 was sent for analysis for Total Petroleum Hydrocarbons (Gasoline, Diesel, Motor Oil Range) using EPA Method 8015M/D and Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene, Total Xylenes using EPA Method 8021B.

During drilling, PID readings slightly over 100 ppm-v were encountered in several soil borings: SB-5 (4-6'), SB-6 (4-6', 9-11', 14-16'), SB-7 (4-6', 9-11', 14-16'), SB-7 (4-6'). Samples from these intervals were sent to the HEAL and analyzed for BTEX and TPH. The lab reported below detection limits for those constituents in these samples and in the deepest interval of each soil boring.

The following table summarizes the depths and intervals of chlorides throughout the soil borings:

		С	hloride (mg	/Kg)
Well ID	Elevation LS (ft.)	4-6'	9-11'	14-16'
SB-1	3,602.04	<30	<30	<30
SB-2	3,600.64	<30	<30	<30
SB-3	3,599.80	<30	<30	<30
SB-4	3,600.81	<30	<30	<30
SB-5	3,607.35	<30	<30	<30
SB-6	3,607.64	<30	<30	<30
SB-7	3,609.85	<30	<30	<30
SB-8	3,610.75	<30	<30	63
SB-9	3,611.42	180	48	280
SB-10	3,610.18	230	100	270
SB-11	3,610.60	1,400	100	230
SB-12	3,612.23	980	87	130

#### Table 1: Excavation- Chloride(mg/Kg) by Boring Interval

#### Baseline

To help understand the background conditions a baseline boring was advanced north of the excavation in a readily accessible area. The total depth of this boring was chosen to mirror the total depth of the additional soil borings to be advanced when accounting for the depth of the excavations. The following table summarizes the depths and intervals of contamination throughout the baseline:

Table 2: Baseline – Chloride(mg/Kg) by Boring Interval

	BL-1
Elevation LS (ft)	3618.66
4-6'	700
9-11'	1,100
14-16'	720
19-21'	130
24-26'	120
29-31'	<30
24-36'	33

## **Groundwater and Geological Conditions**

The site is located west of the Mescalero Escarpment which is the prominent "defining" western edge of the Ogallala aquifer. That said, regional groundwater in the area could be derived from alluvium, followed by layers in the Chinle, and lastly in the Triassic Santa Rosa sandstone. Evidence exists that groundwater in the vicinity of the site can be found in the alluvium and is expected at depths of less than 100 feet below land surface.

The nearby shallow water well located in Unit H of Section 8, Township 22S, Range 34 E, N.M.P.M. as shown on the USGS topographic maps as the "Hamilton Well" shows water levels of 30.84 feet in 1996 (The earliest recorded water level from 1968 shows a water level of 31.64 feet). With a land surface election 3,578.00 this would put the water level elevation at 3,547.16. The Office of the State Engineer considers this well to be landed in the alluvial. With a general undisturbed site elevation of 3,615.00 which is 37 feet higher than the land surface at the Hamilton Well, the projected shallow alluvial groundwater under the Harris site is projected to be near 70 feet below land surface.

The surface soil adjacent to the site consists of Pyote soil and maljamar fine sands. The National Resources Conservation Service (NRCS) considers the top 24 inches to be fine sand and fine sandy clay loam from 24-50 inches with a slope of 0-3 percent. Soil has negligible run off and is well

drained. capacity. Calcium carbonate in site is considered to be 5%, gypsum 1% with a nonsaline to very slightly saline profile. Minor soil components include Kermit, and Playas.

### Analysis and recommendations

No hydrocarbon contamination was found during this delineation event. The borings all achieved chloride delineation to either below 250 mg/Kg or slightly above that mark in soil borings SB-9, SB-10 and SB-11. Some indication of elevated chlorides was identified at 4-6' in soil boring SB-11 and SB-12. The baseline boring BL-1 showed elevated chlorides at 4-6', 9-11', and 14-16' but delineated out at 19-21'.

Figure 1 and Figure 2 show the boring with chloride values and the existing grades/excavation.



Figure 1: Site borings with chlorides (mg/Kg) and grade



Figure 2: Site borings with chlorides (mg/Kg) and grade

AEA recommends closing the excavations to date with compacted native fill, and preparing the surface for revegetation with an appropriate BLM seed mixture.

We request a meeting with the NMOCD and New Mexico State Land Office to help refine the scope and move the site toward final closure. If you have any questions and to set this meeting up, please contact me at jim.coburn@atkinseng.com and Chris Cortez at chris@atkinseng.com

Sincerely,

Jun Colin

Jim Coburn P.E. Consulting Engineer jim.coburn@atkinseng.com

Figure 1 - Site Map with Boring Locations, Attachment A: Logs, Attachment B: Lab Reports

Cc: Olivia Yu via email <u>Olivia.yu@state.nm.us</u> Kristen Lynch via email <u>Kristen.Lynch@state.nm.us</u> Shelly Tucker via email <u>stucker@blm.gov</u> Randall Mark Trainer via email <u>randall@trainerpartners.com</u>





Client Locati	on	Trainer Harris I	G ASSOCIATES Roswell, NM 88201 Partners LTD Federal #1 Lease	Completi Drilling C Drilling M Boring Di	ontractor lethod	12-01-16 Atkins Engineering Assoc. Inc. Hollow-stem auger 8.675"		Latitude Longitude Surface Elevation (ft) TOC Elevation (ft)		32.41567818 -103.48972927 3618.66 N/A
Purpo	se	Soil Sa	mpling	Well Diameter N/A To		Total Depth (ft)		34.5		
Projec	t	TPLHA	RR.ENV.16	Well Scre	Vell Screen N/A					
Depth in feet	Lithology	NSCS	Descriptio	n	LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well C	onstruction	Detai	
0			Silty sand, fine to r grain sand, brown,		nd/nd	0.8		Nati	ive Fill	
-5 — -	╟┝┝┝┝┝┝┝┝┝┝ ┝┝┝┝┝┝┝┝┝┝┝┝	SM	Silty sand, fine to r grain sand, some o brown, dry		nd 700	0.8		Ben Sea	itonite Il	
-  - -			Sandy clay, very fi medium grain sand caliche, brown, dry	l, some	nd/nd nd 1100	0.9		× × × × × ×		
-15 — - - -		CL			nd/nd nd 720	1.0				
-20 — - - -	╼┾┾┾┾┾┾┾┾┾┾┾┾┾	SM	Silty sand, very find medium grain sand brown, dry		nd/nd nd 130	0.8	× × 🍝	××× ××× ×× × Nati	ive Fill	
-25 — - -	╫╫╫╫╫╫╫╫ ╫╫╫╫╫╫╫╫ ╢╫┙		Silty sand, very find grain sand, red, dr		nd/nd nd 120	0.4		× × × × × × × ×		
-30 — -	+		Sand, fine to mediu grain sand, brown,		nd/nd nd <30	0.5		× × × × × × × ×		
-35 — - -		SP	Sand, fine to media grain, red, dry	um/	nd/nd nd 33	1.2		×́× ×		
-40										







Atl ENGIN 2904 W.	EERIN 2nd St.	G ASSOCIATES Roswell, NM 88201		-	<b>j</b> SB <b>e</b> 1 of	
Client Location	Trainer Harris	r Partners LTD Federal #1 Lease obbs, NM	Completi Drilling C Drilling N Boring D	ontractor lethod		16Latitude32.41493328Engineering Assoc. Inc.Longitude-103.49026965-stem augerSurface Elevation (ft)3600.81TOC Elevation (ft)N/A
Purpose	Soil Sa		Well Dian	neter	N/A	Total Depth (ft) 14.5
Project		ARR.ENV.16	Well Scre		N/A	
Depth in feet	nscs	Descriptio	'n	LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well Construction Detail
0		Silty sand, very fin medium grain sand damp		nd/nd nd <30	3.1	A   Native Fill Bentonite Seal
-10 -10 -10	SM	Silty sand, very fin medium grain sand caliche, red, damp	d, some	nd/nd nd <30	3.1	x     x     x       x     x     x
-15 -	Boring (	(ft) = 14.5 BGS		<30		





		erin Erind St. I	G ASSOCIATES Roswell, NM 88201		-	<b>g</b> SB e 1 of			
Client Locatio		Trainer Harris I	<sup>.</sup> Partners LTD Federal #1 Lease obbs, NM	Completi Drilling C Drilling M Boring Di	ontractor lethod		Engineering Assoc. Inc. Longitur stem auger Surface		32.41528489 -103.49006654 3609.85 N/A
Purpo: Projec		Soil Sa TPLHA	mpling RR.ENV.16	Well Dian Well Scre	neter	N/A N/A	Total De		14.5
Depth in feet	Lithology	NSCS	Descriptic	n	LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well Constru	ction Detai	1
0		SP	Sand, fine to medi grain sand, some s subangular gravel, damp Sandy clay and sa	5mm red, nd,	<9.2/nd	350		— Native Fill	
-5 - -		CL	mixed layering, ve to fine grain sand,		<3.9 <30			— Bentonite Seal	
-10 - -			Sandy clay, very fi fine grain sand, so caliche, red, hard,	me	<10/nd <3.3 <30	320		— Native Fill	
-15 —		SP	Sand, very fine to grain sand, some or red, damp		<9.8/<49 <3.4 <30	340			
Bott	om of	Boring (	ft) = 14.5 BGS						

A 290	Atkins ENGINEERING ASSOCIATES 2904 W. 2nd St. Roswell, NM 88201				-	<b>g</b> SB <b>e</b> 1 of			
Client Locatio	on	Harris I	<sup>.</sup> Partners LTD Federal #1 Lease obbs, NM	Completi Drilling C Drilling N Boring D	ontractor lethod	tor Atkins Engineering Assoc. Inc. Hollow-stem auger		Latitude Longitude Surface Elevation (ft) TOC Elevation (ft)	32.41523270 -103.49018723 3610.75 N/A
Purpos		Soil Sa	mpling .RR.ENV.16	Well Dian		N/A N/A		Total Depth (ft)	14.5
Project Depth in feet	Lithology	SOSU	Descriptio		LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well C	Construction Deta	il
0			Sandy clay, very fi fine grain sand, so 5mm angular grave brown, damp Sandy clay, very fi fine grain sand, so caliche, red, hard,	me el, ne to me	<9.6/nd <3.7 <30	146		X Native Fil	
-10		CL	Sandy clay and sa mixed layering, ver to fine grain sand, caliche, red, dry	ry fine	nd/nd nd <30	68		× × × × × × × ×	
-15 —			Sandy clay and sa mixed layering, me coarse grain sand, brown, dry	edium to	- <9.3/<46 <3.8 63	14		× × × × × × × × × × × ×	
Botto	om of	Boring (	ft) = 14.5 BGS						

Att ENGINE 2904 W. 2	Atkins ENGINEERING ASSOCIATES 2904 W. 2nd St. Roswell, NM 88201			-	<b>g</b> SB e 1 of			
Client Location	Trainer Harris F near Ho	Partners LTD Federal #1 Lease obbs, NM	Completi Drilling C Drilling M Boring Di	ontractor lethod		7 Engineering Assoc. Inc. stem auger	Latitude Longitude Surface Elevation (ft) TOC Elevation (ft)	32.41512257 -103.49005195 3611.42 N/A
Purpose	Soil Sa			Well Diameter N/A Well Screen N/A			Total Depth (ft)	14.5
Project		RR.ENV.16	Well Scre		N/A			
Depth in feet Feet	NSCS	Descriptio	n	LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well C	onstruction Detai	1
0	SM	Silty sand, very fin medium grain sand caliche, some 5mn 10mm angular gra and light brown, dr	d, some n- vel, red y	nd/nd nd 180	6.3		Bentonite	
10	CL	Silty sand, very fin						
	SM	grain sand, brown, dry	soft,	nd/nd nd 48	9.9		×	
-15	OL SM	Silty sand, very fin coarse grain sand, dry		nd/nd nd 280	7.4		×	
		Caliche, tan, hard, Silty sand, very fin- coarse grain sand, caliche streaks, lig brown, dry	e to some					
Bottom of	Boring (1	ft) = 14.5 BGS						

At ENGI 2904 W		NG ASSOCIATES . Roswell, NM 88201		Pag	<b>g</b> SB- e 1 of	1		
Client		er Partners LTD	Completi		01-10-17		Latitude	32.41500735
Location	Harris	s Federal #1 Lease	Drilling C Drilling N	ontractor		ingineering Assoc. Inc. stem auger	Longitude Surface Elevation (ft)	-103.49006462 3610.18
	near	Hobbs, NM	-	illing Method Hollow-stem auger bring Diameter 6.50"			TOC Elevation (ft)	N/A
Purpose	Soil S	Sampling	-	Vell Diameter N/A			Total Depth (ft)	14.5
Project	TPLH	IARR.ENV.16	Well Screen N/A					
Depth in feet	USCS	Descriptio	n	LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well C	onstruction Detai	il
	SM	Silty sand, very fin medium grain sand 5mm-10mm angul gravel, brown, dry	d, some				× Native Fill	
	OL	Caliche, tan, hard,	dry	nd/nd nd 230	8.0		Bentonite Seal	
-10		Silty sand, very fin medium grain sand brown, dry	e to d,	nd/nd nd 100	8.4		× × × × ×	
-15 -	SM	Silty sand, fine to grain sand, red, dr		- nd/nd nd 270	9.7		× × ×	
Bottom	of Boring	(ft) = 14.5 BGS						

Att ENGIN 2904 W.	kir EERIN 2nd St.	G ASSOCIATES Roswell, NM 88201			<b>g</b> SB- e 1 of			
Client Location	Client Trainer Partners LTD		Completion Date Drilling Contract Drilling Method			7 Engineering Assoc. Inc. stem auger	Latitude Longitude Surface Elevation (ft)	32.41489389 -103.48996990 3610.60
Purpose Project	Soil Sa		Boring D Well Dian Well Scre	neter	6.50" N/A N/A		TOC Elevation (ft) Total Depth (ft)	N/A 14.5
Depth in feet	NSCS	Descriptio		LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well C	onstruction Detai	1
	SM	Silty sand, very fin medium grain sand 5mm-10mm subar gravel, brown, dry	d, some				× Native Fill	
	CL	Sandy clay and mi caliche, very fine to grain sand, brown,	o fine	- nd/nd nd 1400	3.9		Bentonite Seal	
-10 -	SM	Silty sand, very fin grain sand, light br dry		nd/nd nd 100	4.6		× × × × × ×	
-15 –	S	Sand. fine to coars sand, some caliche streaks, red, dry		nd/nd nd 230	7.3		X	
Bottom of	Boring (	(ft) = 14.5 BGS						

ENGINEERING ASSOCIATES           2904 W. 2nd St. Roswell, NM 88201           Client         Trainer Partners LTD				Completi		01-10-17		Latitude	32.41503899
Locatio	n ⊦	Harris F	ederal #1 Lease		ontractor				-103.48992530
	r	near Ho	bbs, NM	Drilling M Boring Di		Hollow-stem 6.50"	n auger	Surface Elevation (ft) TOC Elevation (ft)	3612.23 N/A
Purpose	<b>e</b> 5	Soil Sar	mpling				Total Depth (ft)	14.5	
Project	Г	[PLHA	RR.ENV.16	Well Screen N/A					
Depth in feet	Lithology	NSCS	Descriptio	n	LAB TPH DRO/MRO GRO CI mg/Kg	PID ppm-v	Well C	onstruction Detai	1
0		S	Sand, fine to coars sand, red, dry	e grain				× Native Fill	
-5		OL	Caliche, tan, hard,	dry	nd/nd nd 980	8.0		Bentonite Seal	
-10			Silty sand, very fing grain sand, brown, @ 14-15' BGS son caliche streaks	dry	nd/nd nd 87	8.4		× × × × × × × ×	
-15 —		SM			nd/nd nd 130	9.7		× × ×	



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

December 16, 2016

Christopher Cortez Atkins Engineering Associates 2904 West Second Street Roswell, NM 88201 TEL: (575) 624-2420 FAX (575) 624-2421

RE: Harris Federal 1 Lease

OrderNo.: 1612294

Dear Christopher Cortez:

Hall Environmental Analysis Laboratory received 32 sample(s) on 12/6/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 15, 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

Hall Environmental Analysis	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associates			Client Samp	e ID: BL-1 @ 1-6' BGS	
Project: Harris Federal 1 Lease			<b>Collection</b>	Date: 12/1/2016 9:45:00 AM	
<b>Lab ID:</b> 1612294-001	Matrix:	SOIL	<b>Received</b>	Date: 12/6/2016 8:45:00 AM	
Analyses	Result	PQL Qua	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analyst	LGT
Chloride	700	30	mg/Kg	20 12/10/2016 2:52:57 PM	29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В			
	D	Sample Diluted Due to Matrix	Е			
	Н	H Holding times for preparation or analysis exceeded				
	ND	Not Detected at the Reporting Limit	Р			
	R	RPD outside accepted recovery limits	RL			
	S	% Recovery outside of range due to dilution or matrix	W			

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analys	sis Labora	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associate	es		Client Samp	le ID: BL-1 @ 9-11' BGS		
Project: Harris Federal 1 Lease			Collection	Date: 12/1/2016 10:00:00	AM	
Lab ID: 1612294-002	Matrix:	SOIL	Received Date: 12/6/2016 8:45:00 AM			
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS				An	alyst: LGT	
Chloride	1100	30	mg/Kg	20 12/10/2016 3:30:1	1 PM 29108	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi	Lab Order 1612294           Date Reported: 12/16/2016					
CLIENT: Atkins Engineering Associates			Client Samp	e ID: BL-1 @ 14-16' BGS		
Project: Harris Federal 1 Lease			<b>Collection</b>	Date: 12/1/2016 10:15:00 A	M	
<b>Lab ID:</b> 1612294-003	Matrix:	SOIL	<b>Received Date:</b> 12/6/2016 8:45:00 AM			
Analyses	Result	PQL Qua	l Units	DF Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS				Ana	lyst: LGT	
Chloride	720	30	mg/Kg	20 12/10/2016 3:42:35	PM 29108	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Ana
	D	Sample Diluted Due to Matrix	Е	Val
	Н	Holding times for preparation or analysis exceeded	J	Ana
	ND	Not Detected at the Reporting Limit	Р	San
	R	RPD outside accepted recovery limits	RL	Rep
	S	% Recovery outside of range due to dilution or matrix	W	San

- nalyte detected in the associated Method Blank
- alue above quantitation range
- nalyte detected below quantitation limits Page 3 of 38

- ample pH Not In Range
- eporting Detection Limit
- ample container temperature is out of limit as specified

Hall Environmental Analys	Lab Order 1612294           Date Reported: 12/16/2016				
CLIENT: Atkins Engineering Associate	s		Client Samp	e ID: BL-1 @ 19-21' BGS	
Project: Harris Federal 1 Lease			Collection	Date: 12/1/2016 10:50:00	AM
Lab ID: 1612294-004	Matrix:	SOIL	Received Date: 12/6/2016 8:45:00 AM		
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				An	alyst: LGT
Chloride	130	30	mg/Kg	20 12/10/2016 3:54:5	59 PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analys	sis Labora	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>			
CLIENT: Atkins Engineering Associate	es		Client Samp	e ID: BL-1 @ 24-26' BGS	
Project: Harris Federal 1 Lease			Collection	Date: 12/1/2016 11:15:00 Al	М
Lab ID: 1612294-005	Matrix:	SOIL	Received	Date: 12/6/2016 8:45:00 AM	[
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Anal	yst: LGT
Chloride	120	30	mg/Kg	20 12/10/2016 4:07:24	PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte
	D	Sample Diluted Due to Matrix	Е	Value at
	Н	Holding times for preparation or analysis exceeded	J	Analyte
	ND	Not Detected at the Reporting Limit	Р	Sample
	R	RPD outside accepted recovery limits	RL	Reportir
	S	% Recovery outside of range due to dilution or matrix	W	Sample

- e detected in the associated Method Blank
- above quantitation range
- te detected below quantitation limits Page 5 of 38

- pH Not In Range
- ing Detection Limit
- container temperature is out of limit as specified

Hall Environmental Analys	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associates	5		Client Samp	e ID: BL-1 @ 29-31'	BGS
Project: Harris Federal 1 Lease			Collection	Date: 12/1/2016 11:50	):00 AM
Lab ID: 1612294-006	Matrix:	SOIL	Received	Date: 12/6/2016 8:45:	00 AM
Analyses	Result	PQL Qua	al Units	DF Date Analyz	zed Batch
EPA METHOD 300.0: ANIONS					Analyst: LGT
Chloride	ND	30	mg/Kg	20 12/10/2016 4	:19:49 PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	A
	D	Sample Diluted Due to Matrix	Е	V
	Н	Holding times for preparation or analysis exceeded	J	A
	ND	Not Detected at the Reporting Limit	Р	Sa
	R	RPD outside accepted recovery limits	RL	R
	S	% Recovery outside of range due to dilution or matrix	W	Sa

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi	• Lab Order 1612294 • Date Reported: 12/16/2016					
CLIENT: Atkins Engineering Associates			Client Samp	le ID: BL	1 @ 34-36' BGS	
Project: Harris Federal 1 Lease			<b>Collection</b>	Date: 12/	/1/2016 12:20:00 PM	Л
Lab ID: 1612294-007	Matrix:	SOIL	<b>Received</b>	<b>Date:</b> 12/	6/2016 8:45:00 AM	]
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	33	30	mg/Kg	20	12/10/2016 4:57:03 F	PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	А
	D	Sample Diluted Due to Matrix	Е	V
	Н	Holding times for preparation or analysis exceeded	J	А
	ND	Not Detected at the Reporting Limit	Р	S
	R	RPD outside accepted recovery limits	RL	R
	S	% Recovery outside of range due to dilution or matrix	W	S

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi		Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>			
CLIENT: Atkins Engineering Associates	5		Client Samp	le ID: SB-1 @ 4-6' BGS	
Project: Harris Federal 1 Lease			Collection	Date: 12/1/2016 2:00:00 PM	
Lab ID: 1612294-008	Matrix:	SOIL	Received	Date: 12/6/2016 8:45:00 AM	
Analyses	Result	PQL Qua	l Units	DF Date Analyzed Ba	atch
EPA METHOD 300.0: ANIONS				Analyst: LO	ЭT
Chloride	ND	30	mg/Kg	20 12/10/2016 5:09:28 PM 29	9108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi			Order <b>1612294</b> e Reported: <b>12/16</b>	5/2016		
CLIENT: Atkins Engineering Associates			Client Samp	e ID: SB-1 @	9-11' BGS	
Project: Harris Federal 1 Lease			Collection	Date: 12/1/20	16 2:15:00 PM	
Lab ID: 1612294-009	Matrix:	SOIL	Received	Date: 12/6/20	16 8:45:00 AM	]
Analyses	Result	PQL Qua	d Units	DF Dat	e Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: LGT
Chloride	ND	30	mg/Kg	20 12/	10/2016 5:21:53 I	PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analytical Report Lab Order 1612294 Date Reported: 12/16/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-010

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-1 @ 14-16' BGS Collection Date: 12/1/2016 2:45:00 PM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 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	12/10/2016 5:34:18 PI	VI 29108
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S			Analys	st: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	12/8/2016 1:48:18 PM	29058
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/8/2016 1:48:18 PM	29058
Surr: DNOP	96.6	70-130	%Rec	1	12/8/2016 1:48:18 PM	29058
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	12/7/2016 6:03:59 PM	29014
Surr: BFB	87.9	68.3-144	%Rec	1	12/7/2016 6:03:59 PM	29014
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.020	mg/Kg	1	12/7/2016 6:03:59 PM	29014
Toluene	ND	0.039	mg/Kg	1	12/7/2016 6:03:59 PM	29014
Ethylbenzene	ND	0.039	mg/Kg	1	12/7/2016 6:03:59 PM	29014
Xylenes, Total	ND	0.079	mg/Kg	1	12/7/2016 6:03:59 PM	29014
Surr: 4-Bromofluorobenzene	95.7	80-120	%Rec	1	12/7/2016 6:03:59 PM	29014

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	(1 ) (1 ) (1 ) (1 ) (1 ) (1 )

- 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 10 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis		Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>			
CLIENT: Atkins Engineering Associates			Client Samp	le ID: SB-2 @ 4-6' BGS	
Project: Harris Federal 1 Lease			Collection	Date: 12/1/2016 3:35:00 PM	
<b>Lab ID:</b> 1612294-011	Matrix:	SOIL	Received	Date: 12/6/2016 8:45:00 AM	
Analyses	Result	PQL Qua	d Units	DF Date Analyzed Bate	ch
EPA METHOD 300.0: ANIONS				Analyst: LG1	Г
Chloride	ND	30	mg/Kg	20 12/10/2016 5:46:43 PM 2910	08

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limit Page 11 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi		Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>			
CLIENT: Atkins Engineering Associates			Client Samp	le ID: SB-2 @ 9-11' BGS	
Project: Harris Federal 1 Lease			<b>Collection</b>	Date: 12/1/2016 3:45:00 PM	
<b>Lab ID:</b> 1612294-012	Matrix:	SOIL	<b>Received</b>	Date: 12/6/2016 8:45:00 AM	
Analyses	Result	PQL Qua	d Units	DF Date Analyzed Bat	ch
EPA METHOD 300.0: ANIONS				Analyst: LG	т
Chloride	ND	30	mg/Kg	20 12/10/2016 5:59:07 PM 291	08

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 12 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analytical Report Lab Order 1612294 Date Reported: 12/16/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-013

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-2 @ 14-16' BGS Collection Date: 12/1/2016 4:05:00 PM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 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	12/10/2016 6:11:32 Pl	M 29108
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	st: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/8/2016 2:10:01 PM	29058
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/8/2016 2:10:01 PM	29058
Surr: DNOP	97.5	70-130	%Rec	1	12/8/2016 2:10:01 PM	29058
EPA METHOD 8015D: GASOLINE RAM	IGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	12/7/2016 6:27:30 PM	29014
Surr: BFB	84.7	68.3-144	%Rec	1	12/7/2016 6:27:30 PM	29014
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.019	mg/Kg	1	12/7/2016 6:27:30 PM	29014
Toluene	ND	0.038	mg/Kg	1	12/7/2016 6:27:30 PM	29014
Ethylbenzene	ND	0.038	mg/Kg	1	12/7/2016 6:27:30 PM	29014
Xylenes, Total	ND	0.077	mg/Kg	1	12/7/2016 6:27:30 PM	29014
Surr: 4-Bromofluorobenzene	91.3	80-120	%Rec	1	12/7/2016 6:27:30 PM	29014

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	(1 ) (1 ) (1 ) (1 ) (1 ) (1 )

- 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 13 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associates			Client Samp	e ID: SB-3 @ 4-6' BGS	
Project: Harris Federal 1 Lease			<b>Collection</b>	Date: 12/2/2016 7:50:00 AM	
<b>Lab ID:</b> 1612294-014	Matrix: S	SOIL	<b>Received</b>	Date: 12/6/2016 8:45:00 AM	
Analyses	Result	PQL Qua	d Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analys	st: LGT
Chloride	ND	30	mg/Kg	20 12/10/2016 6:23:57 PI	M 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 14 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>					
CLIENT: Atkins Engineering Associates			Client Samp	le ID: SB-	3 @ 9-11' BGS	
Project: Harris Federal 1 Lease			Collection 1	Date: 12/2	2/2016 8:10:00 AM	
<b>Lab ID:</b> 1612294-015	Matrix:	SOIL	<b>Received</b>	Date: 12/0	5/2016 8:45:00 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	12/10/2016 6:36:22	PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 15 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified
## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-016

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-3 @ 14-16' BGS Collection Date: 12/2/2016 8:20:00 AM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 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	12/10/2016 6:48:47 PI	M 29108
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	s			Analys	st: TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/8/2016 2:31:46 PM	29058
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/8/2016 2:31:46 PM	29058
Surr: DNOP	90.2	70-130	%Rec	1	12/8/2016 2:31:46 PM	29058
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	12/7/2016 6:51:09 PM	29014
Surr: BFB	85.3	68.3-144	%Rec	1	12/7/2016 6:51:09 PM	29014
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.017	mg/Kg	1	12/7/2016 6:51:09 PM	29014
Toluene	ND	0.035	mg/Kg	1	12/7/2016 6:51:09 PM	29014
Ethylbenzene	ND	0.035	mg/Kg	1	12/7/2016 6:51:09 PM	29014
Xylenes, Total	ND	0.069	mg/Kg	1	12/7/2016 6:51:09 PM	29014
Surr: 4-Bromofluorobenzene	92.7	80-120	%Rec	1	12/7/2016 6:51:09 PM	29014

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

Oualifiers: \* Value exceeds Maximum Contaminant Level. B Analyte detected

- \* 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 16 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysi	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associates			Client Samp	e ID: SB-4 @ 4-6' BGS	
Project: Harris Federal 1 Lease			<b>Collection</b>	Date: 12/2/2016 9:20:00	AM
Lab ID: 1612294-017	Matrix:	SOIL	<b>Received</b>	Date: 12/6/2016 8:45:00	АМ
Analyses	Result	PQL Qua	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				А	nalyst: LGT
Chloride	ND	30	mg/Kg	20 12/10/2016 7:26:	00 PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 17 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysi	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associates			Client Samp	le ID: SB-4 @ 9-11' BG	JS
Project: Harris Federal 1 Lease			Collection	Date: 12/2/2016 9:35:0	0 AM
Lab ID: 1612294-018	Matrix:	SOIL	Received	Date: 12/6/2016 8:45:0	0 AM
Analyses	Result	PQL Qua	al Units	DF Date Analyze	ed Batch
EPA METHOD 300.0: ANIONS					Analyst: LGT
Chloride	ND	30	mg/Kg	20 12/10/2016 7:3	38:24 PM 29108

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	D	Sample Diluted Due to Matrix	Е
	Н	Holding times for preparation or analysis exceeded	J
	ND	Not Detected at the Reporting Limit	Р
	R	RPD outside accepted recovery limits	RL
	S	% Recovery outside of range due to dilution or matrix	W

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 18 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-019

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-4 @ 14-16' BGS Collection Date: 12/2/2016 9:55:00 AM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 1:06:40 PM	29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	ТОМ
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/8/2016 2:53:30 PM	29058
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/8/2016 2:53:30 PM	29058
Surr: DNOP	91.3	70-130	%Rec	1	12/8/2016 2:53:30 PM	29058
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	12/7/2016 11:39:02 PM	SG39221
Surr: BFB	83.2	68.3-144	%Rec	1	12/7/2016 11:39:02 PM	SG39221
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	12/7/2016 11:39:02 PM	R39221
Toluene	ND	0.036	mg/Kg	1	12/7/2016 11:39:02 PM	R39221
Ethylbenzene	ND	0.036	mg/Kg	1	12/7/2016 11:39:02 PM	R39221
Xylenes, Total	ND	0.072	mg/Kg	1	12/7/2016 11:39:02 PM	R39221
Surr: 4-Bromofluorobenzene	92.8	80-120	%Rec	1	12/7/2016 11:39:02 PM	R39221

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

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 19 of 38
- 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:** Atkins Engineering Associates

1612294-020

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-5 @ 4-6' BGS Collection Date: 12/2/2016 11:00:00 AM Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses Result **PQL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: MRA 12/12/2016 1:43:55 PM 29142 Chloride ND 30 mg/Kg 20 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: TOM **Diesel Range Organics (DRO)** ND mg/Kg 12/8/2016 3:15:08 PM 29058 9.9 1 Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 12/8/2016 3:15:08 PM 29058 Surr: DNOP 85.9 70-130 %Rec 1 12/8/2016 3:15:08 PM 29058 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.2 mg/Kg 1 12/8/2016 1:46:57 PM G39252 Surr: BFB 85.4 12/8/2016 1:46:57 PM 68.3-144 %Rec 1 G39252 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.021 mg/Kg 1 12/8/2016 1:46:57 PM B39252 Toluene ND 0.042 mg/Kg 12/8/2016 1:46:57 PM B39252 1 Ethylbenzene ND 0.042 mg/Kg 1 12/8/2016 1:46:57 PM B39252 Xylenes, Total ND 0.083 mg/Kg 1 12/8/2016 1:46:57 PM B39252 Surr: 4-Bromofluorobenzene 95.6 80-120 %Rec 12/8/2016 1:46:57 PM B39252 1

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

Qualifiers:	*	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
	S	% Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 20 of 38 J
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

Hall Environmental Analys	Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>				
CLIENT: Atkins Engineering Associates	5		Client Samp	le ID: SB-5 @ 9-11' BGS	
Project: Harris Federal 1 Lease			Collection	Date: 12/2/2016 11:15:00 AM	
Lab ID: 1612294-021	Matrix:	SOIL	Received	Date: 12/6/2016 8:45:00 AM	
Analyses	Result	PQL Qua	l Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analyst	MRA
Chloride	ND	30	mg/Kg	20 12/12/2016 1:56:19 PM	29142

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Ar
	D	Sample Diluted Due to Matrix	Е	Va
	Н	Holding times for preparation or analysis exceeded	J	Ar
	ND	Not Detected at the Reporting Limit	Р	Sa
	R	RPD outside accepted recovery limits	RL	Re
	S	% Recovery outside of range due to dilution or matrix	W	Sa

- analyte detected in the associated Method Blank
- alue above quantitation range
- Analyte detected below quantitation limits Page 21 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-022

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-5 @ 14-16' BGS Collection Date: 12/2/2016 11:30:00 AM

Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 2:08:44 PN	29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	: том
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	12/8/2016 3:36:46 PM	29058
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/8/2016 3:36:46 PM	29058
Surr: DNOP	89.8	70-130	%Rec	1	12/8/2016 3:36:46 PM	29058
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	12/8/2016 3:00:24 PM	G39252
Surr: BFB	88.0	68.3-144	%Rec	1	12/8/2016 3:00:24 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.017	mg/Kg	1	12/8/2016 3:00:24 PM	B39252
Toluene	ND	0.033	mg/Kg	1	12/8/2016 3:00:24 PM	B39252
Ethylbenzene	ND	0.033	mg/Kg	1	12/8/2016 3:00:24 PM	B39252
Xylenes, Total	ND	0.067	mg/Kg	1	12/8/2016 3:00:24 PM	B39252
Surr: 4-Bromofluorobenzene	99.4	80-120	%Rec	1	12/8/2016 3:00:24 PM	B39252

Matrix: MEOH (SOIL)

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

**Oualifiers:** 

- 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 22 of 38
- 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:** Atkins Engineering Associates

1612294-023

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-6 @ 4-6' BGS Collection Date: 12/2/2016 12:35:00 PM Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 2:21:09 PM	29142
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analyst:	том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/8/2016 3:58:17 PM	29058
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/8/2016 3:58:17 PM	29058
Surr: DNOP	88.5	70-130	%Rec	1	12/8/2016 3:58:17 PM	29058
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	12/8/2016 5:51:24 PM	G39252
Surr: BFB	85.1	68.3-144	%Rec	1	12/8/2016 5:51:24 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.022	mg/Kg	1	12/8/2016 5:51:24 PM	B39252
Toluene	ND	0.044	mg/Kg	1	12/8/2016 5:51:24 PM	B39252
Ethylbenzene	ND	0.044	mg/Kg	1	12/8/2016 5:51:24 PM	B39252
Xylenes, Total	ND	0.089	mg/Kg	1	12/8/2016 5:51:24 PM	B39252
Surr: 4-Bromofluorobenzene	97.4	80-120	%Rec	1	12/8/2016 5:51:24 PM	B39252

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

- 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 23 of 38
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis	s Laborat	tory, Inc.		Lab Order <b>1612294</b> Date Reported: <b>12/16/2016</b>
CLIENT: Atkins Engineering Associates			Client Samp	le ID: SB-6 @ 9-11' BGS
Project: Harris Federal 1 Lease			Collection	Date: 12/2/2016 12:55:00 PM
Lab ID: 1612294-024	Matrix:	SOIL	<b>Received</b>	Date: 12/6/2016 8:45:00 AM
Analyses	Result	PQL Qua	al Units	DF Date Analyzed Batch
EPA METHOD 300.0: ANIONS				Analyst: MRA
Chloride	ND	30	mg/Kg	20 12/12/2016 2:33:33 PM 29142

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	A
	D	Sample Diluted Due to Matrix	Е	V
	Н	Holding times for preparation or analysis exceeded	J	A
	ND	Not Detected at the Reporting Limit	Р	Sa
	R	RPD outside accepted recovery limits	RL	R
	S	% Recovery outside of range due to dilution or matrix	W	Sa

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 24 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-025

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-6 @ 14-16' BGS Collection Date: 12/2/2016 1:10:00 PM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 2:45:57 PM	29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	том
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/8/2016 4:19:55 PM	29058
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/8/2016 4:19:55 PM	29058
Surr: DNOP	92.0	70-130	%Rec	1	12/8/2016 4:19:55 PM	29058
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	12/8/2016 6:15:43 PM	G39252
Surr: BFB	84.2	68.3-144	%Rec	1	12/8/2016 6:15:43 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.018	mg/Kg	1	12/8/2016 6:15:43 PM	B39252
Toluene	ND	0.036	mg/Kg	1	12/8/2016 6:15:43 PM	B39252
Ethylbenzene	ND	0.036	mg/Kg	1	12/8/2016 6:15:43 PM	B39252
Xylenes, Total	ND	0.072	mg/Kg	1	12/8/2016 6:15:43 PM	B39252
Surr: 4-Bromofluorobenzene	93.4	80-120	%Rec	1	12/8/2016 6:15:43 PM	B39252

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

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 25 of 38
- 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:** Atkins Engineering Associates

1612294-026

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-7 @ 4-6' BGS Collection Date: 12/2/2016 2:00:00 PM Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 2:58:22 PM	29142
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analyst:	том
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/8/2016 4:41:27 PM	29058
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/8/2016 4:41:27 PM	29058
Surr: DNOP	89.4	70-130	%Rec	1	12/8/2016 4:41:27 PM	29058
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	12/8/2016 6:40:01 PM	G39252
Surr: BFB	90.3	68.3-144	%Rec	1	12/8/2016 6:40:01 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.020	mg/Kg	1	12/8/2016 6:40:01 PM	B39252
Toluene	ND	0.039	mg/Kg	1	12/8/2016 6:40:01 PM	B39252
Ethylbenzene	ND	0.039	mg/Kg	1	12/8/2016 6:40:01 PM	B39252
Xylenes, Total	ND	0.079	mg/Kg	1	12/8/2016 6:40:01 PM	B39252
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	12/8/2016 6:40:01 PM	B39252

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 ass

- 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 26 of 38
- 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:** Atkins Engineering Associates

1612294-027

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-7 @ 9-11' BGS Collection Date: 12/2/2016 2:20:00 PM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 3:35:35 PM	1 29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/8/2016 5:03:15 PM	29058
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/8/2016 5:03:15 PM	29058
Surr: DNOP	88.2	70-130	%Rec	1	12/8/2016 5:03:15 PM	29058
EPA METHOD 8015D: GASOLINE RAM	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	12/8/2016 7:04:21 PM	G39252
Surr: BFB	86.2	68.3-144	%Rec	1	12/8/2016 7:04:21 PM	G39252
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.017	mg/Kg	1	12/8/2016 7:04:21 PM	B39252
Toluene	ND	0.033	mg/Kg	1	12/8/2016 7:04:21 PM	B39252
Ethylbenzene	ND	0.033	mg/Kg	1	12/8/2016 7:04:21 PM	B39252
Xylenes, Total	ND	0.067	mg/Kg	1	12/8/2016 7:04:21 PM	B39252
Surr: 4-Bromofluorobenzene	96.0	80-120	%Rec	1	12/8/2016 7:04:21 PM	B39252

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

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 27 of 38
- 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:** Atkins Engineering Associates

1612294-028

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-7 @ 14-16' BGS Collection Date: 12/2/2016 2:30:00 PM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 3:47:59 PN	29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/8/2016 5:24:43 PM	29058
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/8/2016 5:24:43 PM	29058
Surr: DNOP	89.5	70-130	%Rec	1	12/8/2016 5:24:43 PM	29058
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	12/8/2016 7:28:43 PM	G39252
Surr: BFB	85.7	68.3-144	%Rec	1	12/8/2016 7:28:43 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.017	mg/Kg	1	12/8/2016 7:28:43 PM	B39252
Toluene	ND	0.034	mg/Kg	1	12/8/2016 7:28:43 PM	B39252
Ethylbenzene	ND	0.034	mg/Kg	1	12/8/2016 7:28:43 PM	B39252
Xylenes, Total	ND	0.068	mg/Kg	1	12/8/2016 7:28:43 PM	B39252
Surr: 4-Bromofluorobenzene	95.4	80-120	%Rec	1	12/8/2016 7:28:43 PM	B39252

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

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 28 of 38
- 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:** Atkins Engineering Associates

1612294-029

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-8 @ 4-6' BGS Collection Date: 12/2/2016 3:30:00 PM Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	12/12/2016 4:00:24 PM	29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	том
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/8/2016 5:46:18 PM	29058
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/8/2016 5:46:18 PM	29058
Surr: DNOP	84.5	70-130	%Rec	1	12/8/2016 5:46:18 PM	29058
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	12/8/2016 7:53:09 PM	G39252
Surr: BFB	84.8	68.3-144	%Rec	1	12/8/2016 7:53:09 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.019	mg/Kg	1	12/8/2016 7:53:09 PM	B39252
Toluene	ND	0.037	mg/Kg	1	12/8/2016 7:53:09 PM	B39252
Ethylbenzene	ND	0.037	mg/Kg	1	12/8/2016 7:53:09 PM	B39252
Xylenes, Total	ND	0.075	mg/Kg	1	12/8/2016 7:53:09 PM	B39252
Surr: 4-Bromofluorobenzene	95.4	80-120	%Rec	1	12/8/2016 7:53:09 PM	B39252

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

Qualifiers:	*	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
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limit Page 29 of 38 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analy	sis Labora	tory, Inc.		16/2016		
CLIENT: Atkins Engineering Associat	es		Client Samp	le ID: SB-8 @ 9-11' BGS		
Project: Harris Federal 1 Lease			Collection	Date: 12/2/2016 3:50:00 PM	1	
Lab ID: 1612294-030	Matrix:	SOIL	Received	ved Date: 12/6/2016 8:45:00 AM		
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS				Ana	lyst: MRA	
Chloride	ND	30	mg/Kg	20 12/12/2016 4:12:48	PM 29142	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	А
	D	Sample Diluted Due to Matrix	Е	V
	Н	Holding times for preparation or analysis exceeded	J	А
	ND	Not Detected at the Reporting Limit	Р	S
	R	RPD outside accepted recovery limits	RL	R
	S	% Recovery outside of range due to dilution or matrix	W	S

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limit. Page 30 of 38

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1612294-031

Harris Federal 1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-8 @ 14-16' BGS Collection Date: 12/2/2016 4:05:00 PM

Matrix: MEOH (SOIL) Received Date: 12/6/2016 8:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analysi	MRA
Chloride	63	30	mg/Kg	20	12/12/2016 4:25:12 PN	1 29142
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	12/8/2016 6:07:50 PM	29058
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/8/2016 6:07:50 PM	29058
Surr: DNOP	86.7	70-130	%Rec	1	12/8/2016 6:07:50 PM	29058
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	12/8/2016 8:17:42 PM	G39252
Surr: BFB	84.2	68.3-144	%Rec	1	12/8/2016 8:17:42 PM	G39252
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.019	mg/Kg	1	12/8/2016 8:17:42 PM	B39252
Toluene	ND	0.038	mg/Kg	1	12/8/2016 8:17:42 PM	B39252
Ethylbenzene	ND	0.038	mg/Kg	1	12/8/2016 8:17:42 PM	B39252
Xylenes, Total	ND	0.077	mg/Kg	1	12/8/2016 8:17:42 PM	B39252
Surr: 4-Bromofluorobenzene	93.1	80-120	%Rec	1	12/8/2016 8:17:42 PM	B39252

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

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 31 of 38
- 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:** Atkins Engineering Associates

1612294-032

Harris Federal 1 Lease

**Project:** 

Lab ID:

### **Collection Date:**

Matrix: MEOH BLAN Received Date: 12/6/2016 8:45:00 AM

Client Sample ID: MEOH BLANK

	Dograli	DOI O.		DE	Data Analamad	Datak
Analyses	Result	PQL Qu	al Units	Dr	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RA		Analys	t: NSB			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	12/8/2016 8:42:10 PM	G39252
Surr: BFB	83.0	68.3-144	%Rec	1	12/8/2016 8:42:10 PM	G39252
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.025	mg/Kg	1	12/8/2016 8:42:10 PM	B39252
Toluene	ND	0.050	mg/Kg	1	12/8/2016 8:42:10 PM	B39252
Ethylbenzene	ND	0.050	mg/Kg	1	12/8/2016 8:42:10 PM	B39252
Xylenes, Total	ND	0.10	mg/Kg	1	12/8/2016 8:42:10 PM	B39252
Surr: 4-Bromofluorobenzene	90.0	80-120	%Rec	1	12/8/2016 8:42:10 PM	B39252

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 i
D Sample Diluted Due to Matrix E	Value above quan
H Holding times for preparation or analysis exceeded J	Analyte detected b

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- in the associated Method Blank
- ntitation range
- below quantitation limits Page 32 of 38
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Client: Project:		Engineering Associates Federal 1 Lease	
Sample ID	MB-29108	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 29108	RunNo: <b>39311</b>
Prep Date:	12/10/2016	Analysis Date: 12/10/2016	S SeqNo: 1230398 Units: mg/Kg
Analyte		Result PQL SPK va	lue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		ND 1.5	
Sample ID	LCS-29108	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 29108	RunNo: <b>39311</b>
Prep Date:	12/10/2016	Analysis Date: 12/10/2016	S SeqNo: 1230399 Units: mg/Kg
Analyte		Result PQL SPK va	lue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		15 1.5 15	.00 0 99.7 90 110
Sample ID	MB-29142	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID:	PBS	Batch ID: 29142	RunNo: <b>39341</b>
Prep Date:	12/12/2016	Analysis Date: 12/12/2016	S SeqNo: 1231613 Units: mg/Kg
Analyte		Result PQL SPK va	lue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		ND 1.5	
Sample ID	LCS-29142	SampType: Ics	TestCode: EPA Method 300.0: Anions
Client ID:	LCSS	Batch ID: 29142	RunNo: <b>39341</b>
Prep Date:	12/12/2016	Analysis Date: 12/12/2016	S SeqNo: 1231614 Units: mg/Kg
Analyte		Result PQL SPK va	lue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride		14 1.5 15	.00 0 94.9 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
- Page 33 of 38

	Engineering A Federal 1 Lea		ates							
Sample ID LCS-29058	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 29058			RunNo: <b>39238</b>						
Prep Date: 12/7/2016	Analysis Date: 12/8/2016			SeqNo: 1228615			Units: <b>mg/k</b>	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.1	62.6	124			
Surr: DNOP	4.3		5.000		86.2	70	130			
Sample ID MB-29058	SampTy	/pe: <b>ME</b>	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 29	058	F	RunNo: 3	9238				
Prep Date: 12/7/2016	Analysis Da	ate: 12	2/8/2016	5	SeqNo: 1	228616	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.0	70	130			

#### 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 34 of 38

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

	ngineering Associate ederal 1 Lease	es							
Sample ID MB-29014	SampType: MBL	к	Tes	tCode: EF	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batch ID: 2901	4	F	RunNo: 39	9220				
Prep Date: 12/6/2016	Analysis Date: 12/7	/2016	S	SeqNo: 12	227407	Units: <b>mg/k</b>	٢g		
Analyte	Result PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 840	1000		83.6	68.3	144			
Sample ID LCS-29014	SampType: LCS		Tes	tCode: EF	PA Method	8015D: Gaso	oline Rang	e	
Client ID: LCSS	Batch ID: 2901	4	F	RunNo: 39	9220				
Prep Date: 12/6/2016	Analysis Date: 12/7	/2016	S	SeqNo: 12	227408	Units: <b>mg/k</b>	٢g		
Analyte	Result PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24 5.0	25.00	0	94.7	74.6	123			
Surr: BFB	920	1000		92.3	68.3	144			
Sample ID RB	SampType: <b>MBL</b>	к	Tes	tCode: EF	PA Method	8015D: Gaso	oline Rang	е	
Client ID: PBS	Batch ID: SG39	9221	F	RunNo: 39	9221				
Prep Date:	Analysis Date: 12/7	S	SeqNo: 12	227450	Units: <b>mg/k</b>	٢g			
Analyte	Result PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 870	1000		87.3	68.3	144			
Sample ID 2.5UG GRO LCS	SampType: LCS		Tes	tCode: EF	PA Method	8015D: Gaso	oline Rang	e	
Client ID: LCSS	Batch ID: SG39	9221	F	RunNo: 39	9221				
Prep Date:	Analysis Date: 12/7	/2016	S	SeqNo: 12	227451	Units: mg/h	٢g		
Analyte	Result PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25 5.0	25.00	0	99.7	74.6	123			
Surr: BFB	920	1000		92.3	68.3	144			
Sample ID RB	SampType: MBL	к	Tes	tCode: EF	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batch ID: G392	252	F	RunNo: 39	9252				
Prep Date:	Analysis Date: 12/8	/2016	S	SeqNo: 12	228807	Units: mg/h	٢g		
Analyte	Result PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 850	1000		85.1	68.3	144			
Sample ID 2.5UG GRO LCS	SampType: LCS		Tes	tCode: EF	PA Method	8015D: Gaso	oline Rang	e	
Client ID: LCSS	Batch ID: G392	252	F	RunNo: 39	9252		-		
Prep Date:	Analysis Date: 12/8	/2016		SeqNo: 12		Units: <b>mg/k</b>	٢g		
Analyte	Result PQL S	PK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

#### **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 35 of 38

WO#: 1612294 16-Dec-16

Client: Project:		ngineering A deral 1 Lea		ates								
-	2.5UG GRO LCS	SampTy	vpe: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e		
•	LCSS		ID: G3			TestCode: EPA Method 8015D: Gasoline Range RunNo: 39252						
Prep Date:		Analysis Date: 12/8/2016				SeqNo: 1		Units: <b>mg/k</b>	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	24	5.0	25.00	0	95.2	74.6	123				
Surr: BFB		940		1000		93.6	68.3	144				
Sample ID	1612294-020AMS	SampTy	/pe: <b>M\$</b>	6	TestCode: EPA Method 8015D: Gasoline Range							
Client ID:	SB-5 @ 4-6' BGS	Batch	ID: <b>G3</b>	9252	RunNo: <b>39252</b>							
Prep Date:		Analysis Da	ate: 12	2/8/2016	SeqNo: 1228810			Units: mg/Kg				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	24	4.2	20.80	0	114	61.3	150				
Surr: BFB		730		831.9		87.5	68.3	144				
Sample ID	1612294-020AMS	<b>)</b> SampTy	/pe: <b>MS</b>	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e		
Client ID:	SB-5 @ 4-6' BGS	Batch	ID: <b>G</b> 3	9252	R	RunNo: 3	9252					
Prep Date:		Analysis Da	ate: 12	2/8/2016	S	SeqNo: 1	228811	Units: mg/k	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	24	4.2	20.80	0	115	61.3	150	0.558	20		
Surr: BFB		750		831.9		90.3	68.3	144	0	0		

**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 36 of 38

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1	612294
--------	--------

16-Dec-16

Client: Project:	Atkins En Harris Feo			ates								
Sample ID	MB-29014	SampT	уре: МЕ	BLK	Tes	tCode: El						
Client ID:	PBS	Batch	n ID: <b>29</b>	014	R	anNo: 3						
Prep Date:	12/6/2016	Analysis D	Date: 12	2/7/2016	S	SeqNo: 1	227432	Units: <b>mg/k</b>	(g			
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-Brom	nofluorobenzene	0.91		1.000		90.7	80	120				
Sample ID	LCS-29014	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	LCSS	Batch	n ID: <b>29</b>	014	R	lunNo: <b>3</b>	9220					
Prep Date:	12/6/2016	Analysis Date: 12/7/2016			S	SeqNo: 1227433			(g			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		1.1	0.025	1.000	0	105	75.2	115				
Toluene		0.97	0.050	1.000	0	96.9	80.7	112				
Ethylbenzene		0.94	0.050	1.000	0	93.8	78.9	117				
Xylenes, Total		2.8	0.10	3.000	0	93.7	79.2	115				
Surr: 4-Brom	nofluorobenzene	0.97		1.000		97.3	80	120				
Sample ID	RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	PBS	Batch	n ID: <b>R3</b>	9221	R	RunNo: 3						
Prep Date:		Analysis D	Date: 12	2/7/2016	S	SeqNo: 1	227481	Units: mg/k	Units: <b>mg/Kg</b>			
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-Brom	nofluorobenzene	1.0		1.000		99.7	80	120				
Sample ID	100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	LCSS	Batch	n ID: R3	9221	R	tunNo: <b>3</b>	9221					
Prep Date:		Analysis D	Date: 12	2/7/2016	S	SeqNo: 1	227482	Units: mg/k	(g			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		1.1	0.025	1.000	0	108	75.2	115				
Toluene		1.0	0.050	1.000	0	105	80.7	112				
Ethylbenzene		1.0	0.050	1.000	0	101	78.9	117				
Xylenes, Total		2.9	0.10	3.000	0	97.7	79.2	115				
Surr: 4-Brom	nofluorobenzene	1.0		1.000		102	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 37 of 38

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

0.050

1.0

1.000

	ngineering deral 1 Lea		ates							
	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
	Batch	ID: <b>B3</b>	9252	F	RunNo: 3					
	Analysis D	ate: 12	2/8/2016	S	SeqNo: 1	228831	Units: <b>mg/k</b>	g		
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	ND	0.025								
	ND	0.050								
	ND	0.050								
	ND	0.10								
enzene	0.96		1.000		96.4	80	120			
BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
	Batch	ID: <b>B3</b>	9252	F	RunNo: 3	9252				
	Analysis D	ate: 12	2/8/2016	5	SeqNo: 1	228832	Units: mg/k	g		
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	1.1	0.025	1.000	0	111	75.2	115			
	1.1	0.050	1.000	0	107	80.7	112			

78.9

117

Xylenes, Total Surr: 4-Bromofluorobenzene	2.9 0.98	0.10	3.000 1.000	0	97.9 98.3	79.2 80	115 120				
Sample ID 1612294-022AMS	SampT	уре: МS	;	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID: SB-5 @ 14-16' BG	Client ID: SB-5 @ 14-16' BGS Batch ID: B39252 RunNo: 39252										
Prep Date:	SeqNo: 1228841 Units: mg/Kg										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.75	0.017	0.6689	0	111	61.5	138				
Toluene	0.72	0.033	0.6689	0	108	71.4	127				
Ethylbenzene	0.70	0.033	0.6689	0	104	70.9	132				
Xylenes, Total	2.0	0.067	2.007	0.009967	97.4	76.2	123				
Surr: 4-Bromofluorobenzene	0.65		0.6689		96.5	80	120				

0

103

Sample ID 1612294-022AM	SD SampType: MSD TestCode: EPA Method 8021B: Volatiles									
Client ID: SB-5 @ 14-16' E	F	RunNo: 3	9252							
Prep Date:	Analysis D	Date: 12	2/8/2016	SeqNo: 1228842 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.017	0.6689	0	107	61.5	138	3.86	20	
Toluene	0.68	0.033	0.6689	0	101	71.4	127	6.89	20	
Ethylbenzene	0.66	0.033	0.6689	0	98.4	70.9	132	5.88	20	
Xylenes, Total	1.9	0.067	2.007	0.009967	92.3	76.2	123	5.43	20	
Surr: 4-Bromofluorobenzene	0.62		0.6689		92.1	80	120	0	0	

#### **Qualifiers:**

**Client:** 

**Project:** 

Sample ID RB

PBS

Surr: 4-Bromofluorobenzene

Sample ID 100NG BTEX LCS

LCSS

Client ID:

Prep Date:

Client ID:

Prep Date:

Analyte

Ethylbenzene

Benzene Toluene

Analyte

Benzene Toluene Ethylbenzene Xylenes, Total

- \* 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 38 of 38

### 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: ATK	Work Order N	lumber: 1612294		RcptNo:	1
Received by/date:	12/06	10			
Logged By: Ashley Gall	egøs 12/6/2016 8:45:	00 AM	F		
Completed By: Ashley Gall	egos 12/7/2016 8:41:	41 AM	AZ		
Reviewed By:	5 12/07/11	0	U		
Chain of Custody					
1. Custody seals intact on sa	mple bottles?	Yes	No 🗍	Not Present 🗹	
2. Is Chain of Custody comple	ete?	Yes 🖌	No 🛄	Not Present	
3. How was the sample delive	ered?	<u>Courier</u>			
<u>Log In</u>					
4. Was an attempt made to c	ool the samples?	Yes 🖌	No []]	NA	
5. Were all samples received	at a temperature of >0° C to 6.0°	C Yes 🗹	No 🗌	<b>NA</b> []]	
6. Sample(s) in proper contai	ner(s)?	Yes 🖌	No []		
7, Sufficient sample volume for	or indicated test(s)?	Yes 🖌	No []]		
8, Are samples (except VOA	and ONG) properly preserved?	Yes 🗹	No 🗔		
9. Was preservative added to	bottles?	Yes	No 🗹	NA	
10.VOA vials have zero heads	pace?	Yes	No	No VOA Vials 🖌	
11, Were any sample containe	ers received broken?	Yes	No 🗹	# of preserved bottles checked	
12. Does paperwork match bot (Note discrepancies on cha		Yes 🔽	No 🗔	for pH: (<2 o	r >12 unless noted)
13. Are matrices correctly iden	tified on Chain of Custody?	Yes 🖌	No 🛄	Adjusted?	
14. Is it clear what analyses we	ere requested?	Yes 🖌	No 🗔		
15. Were all holding times able (If no, notify customer for a		Yes 🗸	No	Checked by:	
Special Handling (if app	licable)				
16. Was client notified of all dis	screpancies with this order?	Yes	No 🗌	NA 🔽	
Person Notified:		Date			
By Whom:		via: 📋 eMail 🛄 P	hone 🚺 Fax	In Person	

Regarding:

Client Instructions:

Ē	ooler Inform	<u>iation</u>					
	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.1	Good	Yes			

1947 Martin and and a state of the state of

			4901 Hawki		Analysis	() () () () () () () () ()	)S'* (S) HM /	668) (05 (04) (04) (04) (04) (04) (04) (04) (04)	7 I 7085 10 <sup>5</sup> 10 <sup>5</sup> 11) 11 10 11	<pre>1 + T + T 2 20 3.4. 2 82 3.3./ 2 82 </pre>		Alt Bubbles ( Alt Bu			003	h00-	-00-	-006-		-008				-013 1 1		ogus 211	Date Time Still to Ira. he' Parture
		alled ww	1		An		(s	SMIS		28	) OL	0168) a'HA9									-						
:			01 Hawkins	əl. 505-345-		(0)	- ME	105	(1	.81	.t p	odteM) H9T										X					211 7
			49	Ť																		X			Semarks		· · · · ·
	🗆 Rush		#L Lease		ENV-16		6.7	221			7 o WX	ative HEAL No.	100-	-003	- 003	h00-	-005	M00-	100-	-008	- 009	4 -010	110-	-013	Time	~ 12400 SII20121 ~	Date Time
Turn-Around Time:	Standard	Project Name:	Harris Frederal	Project #:	TPUHARR, EW. 16	Project Manager:	~	CANO LON	Sampler: AM	On Ices Mes	Sample Temperature.	Container Preservative Type and # Type	HOZ IN	<b>4</b> ,							*	ROY ON MEDI	thes Jen	4	Received by:	and	Received by:
Chain-of-Custody Record	Eninery Assoc		904 W 200 St	10222	624-2420	Samping & addressing wind		Level 4 (Full Validation)		Other		Matrix Sample Request ID	81-10 +6,365	BL-10 7-11 325	21-2 @ 14-10, 313	BL-10 19-21 15	BL-10 24-26'265	R-10 29-31 B6>	87-46 34-36, 265	53-1@ 4-6' 363		14-16'265		Y 52-20 7-111865		h	Time: Relinquished by: Received by:
hain-of-	Atkus		lailing Address: $2994$	II, Nel	575.	mail or Fax#: 🖋 🗛	A/QC Package:	dard	on		1 EDD (Type)	Time	171995 5460	000	510	1050 1	1115	1150	672)	1420	1415	1445	1535	22		0	Time: Reling
U	Xient:		lailing	lourses	hone #:	mail or	A/QC F	L Standard	ccreditation	NELAP	EDD	Date	1/100											->	ate:	110	ite:

HALL ENVIRONMENTAL	www.hallenvironmental.com 4901 Hawkins NF - Alburutarnua NM 87109		Analysis	(†c	O / WE	об 280 1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1) 1)	, 20 / 04. 18. 18. 18. 18. 18. 18. 18. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	(GH 14 (GH)14 (G	HTEX + MEE BTEX + MEE BTEX + MEE BE (Method ACV 8 158 ACV 8 10 ACV 9 10 ACV												>	emarks:	5 BELL TO LAINO POUNDO	Date Time
□ Rush	wal # 2 Lease		. EW. 16		lotez		res 🛛 🗠 Kerner	I.e. Dade 1.1	Preservative HEAL No. Type ////////////////////////////////////	1.0H -013	h/0-	-015	-016 Ha	-017	-0/8	610- #0	1-020	100-	04 -023	-033	heo-		~~ \2100110011 024	
Turn-Around Time: K Standard [ Project Name:	Harris Federal	Project #:	TPLHARR.	Project Manager:	Chris Con	Sampler: Mu	Ň	Sample Temperature:	. #	402 San Ne	<	<b>^</b>	as your Me	402 Jan	۲	Was Dar We	- <b>&gt;</b>	Hos SU	ADDEL HE	L V	up se Sar	Received by:	ann//	Received by:
Chain-of-Custody Record	2904 U. 2nd st	882	5.624.2420	Sampting attensug_ion	Level 4 (Full Validation)		□ Other		Matrix Sample Request ID	50/2 53-2@14-10, 365	53-3 @ 4-6: 865	53-5@9-11 34	53-3 @ H-16' BLS	53-4@4-6'865	59-40 9-11-6 24-25	53-4 @ M-16 (36)	53-50 4-6134	53-5@ 7-11-36>	2	58-60 4-61 BLS	V 50-60 9-11'365	Relinquished by:	U~ 11-	Time: Relinquished by:
Chain-o	Aailing Address:	Dosvell, Nrd	hone #: 575	mail or Fax#:	גא∕עכ Package: אַ Standard	vccreditation	D NELAP	J EDD (Type)_	Date Time	4/16 1605	1/100750	080	aut 5220	0260	0935	0 955	0011	1115	0<11	1235	V 1255	ate: Time:	NC1 91/5	ate: Time:

	AALL ENVIKONMENTAL ANALYSIS LABORATORY	www.ballanvironmantal.com	E - Albuquerque, NM 87109		Analysis		)Sʻ†Od	1 (n ( 2808 ' <sup>z</sup> ON'	als (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0 (0	20168 (8310 2016 (F,Cl, 2016 (YOA) 20081 Pesticio 2008 (VOA) 2008 (YOA) 2007 2007 2007 2007 2007 2007 2007 200							->			Tours Dartners		
			www.n 4901 Hawkins NE	Tel. 505-345-3975		(ʎյu	io seĐ)	трн ( 1 л р 1 л (	1 र 1 0 ८ ८ १ २ १	EDB (Method FPH (Method FPH 8015B ( TEH 8015B ( TEH 8015B ( TEH 8015B ( TEH 8015B ( TEH 8015B ( TEN 80	- ×	X	x X	× ×	X		X				13:11 10	
d Time:	d 🗆 Rush		Fedual #1 Lese		ARR. ENV. 16	lager:	Lontez	-[ - - 		#     Preservative     HEAL No.       #     Type     Lation active	Neot -	160- (	-037	800-	1 -039	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ML0H -031					
Turn-Around Tim	Kstandard	Project Name:	Haris	Project #:	TPLHARR.	Project Manager.	Chrs Lo	Sampler:	On Ice: Constant Sample Temperature	Container Type and #	7~6t (2)				$\rightarrow$	ų	たいない			Received by:	Received hv	
Chain-of-Custody Record	lient Atkin Engineering Assec		tailing Address: 2904 U 2d St	102	575. B	nail or Fax#: Sanger and Call of the Call	A/QC Package: Ĵ Standard □ Level 4 (Full Validation)		vpe)	Date Time Matrix Sample Request ID	2/16 1310 5012 53-60 14-16 365	1 0041	1420 53-70 9-11 865	(14) 14-10 14-10 14-10 19-10			578,91-41 @2-85 1 S091 1			ate: Time: Relinquished by:	ate: Time: Relinvuished by:	



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

January 26, 2017

Christopher Cortez Atkins Engineering Associates 2904 West Second Street Roswell, NM 88201 TEL: (575) 624-2420 FAX (575) 624-2421

RE: Harris Federal #1 Lease

OrderNo.: 1701514

Dear Christopher Cortez:

Hall Environmental Analysis Laboratory received 12 sample(s) on 1/12/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued January 24, 2017.

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

Hall Environmental Analysis	s Labora	tory, Inc.		Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>	
CLIENT: Atkins Engineering Associates			Client Sampl	e ID: SB-9@4-6' BGS	
<b>Project:</b> Harris Federal #1 Lease			Collection 1	Date: 1/10/2017 10:25:00 AM	
Lab ID: 1701514-001	Matrix:	SOIL	<b>Received</b>	Date: 1/12/2017 9:35:00 AM	
Analyses	Result	PQL Qı	al Units	DF Date Analyzed Ba	atch
EPA METHOD 300.0: ANIONS				Analyst: Lo	GT
Chloride	180	30	mg/Kg	20 1/17/2017 9:58:38 PM 29	9741

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	A
	D	Sample Diluted Due to Matrix	Е	V
	Н	Holding times for preparation or analysis exceeded	J	A
	ND	Not Detected at the Reporting Limit	Р	5
	R	RPD outside accepted recovery limits	RL	ł
	S	% Recovery outside of range due to dilution or matrix	W	S

- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 16

- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Hall Environmental Analysis	s Laborat	tory, Inc.		Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>
CLIENT: Atkins Engineering Associates			Client Sampl	le ID: SB-9@9-11' BGS
<b>Project:</b> Harris Federal #1 Lease			Collection I	Date: 1/10/2017 10:35:00 AM
Lab ID: 1701514-002	Matrix: S	SOIL	Received I	Date: 1/12/2017 9:35:00 AM
Analyses	Result	PQL Qua	d Units	DF Date Analyzed Batch
EPA METHOD 300.0: ANIONS				Analyst: LGT
Chloride	48	30	mg/Kg	20 1/17/2017 11:00:41 PM 29741

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Anal
	D	Sample Diluted Due to Matrix	Е	Valu
	Н	Holding times for preparation or analysis exceeded	J	Anal
	ND	Not Detected at the Reporting Limit	Р	Samp
	R	RPD outside accepted recovery limits	RL	Repo
	S	% Recovery outside of range due to dilution or matrix	W	Samp

- alyte detected in the associated Method Blank
- lue above quantitation range
- alyte detected below quantitation limits Page 2 of 16

- nple pH Not In Range
- porting Detection Limit
- nple container temperature is out of limit as specified

Analytical Report Lab Order 1701514 Date Reported: 1/26/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

Harris Federal #1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-9@14-16' BGS Collection Date: 1/10/2017 10:50:00 AM

1701514-003 Matrix: MEOH (SOIL)

H (SOIL) Received Date: 1/12/2017 9:35:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	280	30	mg/Kg	20	1/17/2017 11:13:06 PM	29741
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	MAB
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	1/17/2017 11:29:07 AN	29711
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	1/17/2017 11:29:07 AN	29711
Surr: DNOP	107	70-130	%Rec	1	1/17/2017 11:29:07 AM	29711
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	1/16/2017 5:35:57 PM	G40040
Surr: BFB	88.8	68.3-144	%Rec	1	1/16/2017 5:35:57 PM	G40040
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.020	mg/Kg	1	1/16/2017 5:35:57 PM	B40040
Toluene	ND	0.040	mg/Kg	1	1/16/2017 5:35:57 PM	B40040
Ethylbenzene	ND	0.040	mg/Kg	1	1/16/2017 5:35:57 PM	B40040
Xylenes, Total	ND	0.080	mg/Kg	1	1/16/2017 5:35:57 PM	B40040
Surr: 4-Bromofluorobenzene	95.6	80-120	%Rec	1	1/16/2017 5:35:57 PM	B40040

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 detector

- 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 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis	s Labora	tory, Inc.		Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>	
CLIENT: Atkins Engineering Associates			Client Sampl	e ID: SB-10@4-6' BGS	=
<b>Project:</b> Harris Federal #1 Lease			Collection 1	Date: 1/10/2017 11:25:00 AM	
Lab ID: 1701514-004	Matrix:	SOIL	<b>Received</b>	Date: 1/12/2017 9:35:00 AM	
Analyses	Result	PQL Qu	al Units	DF Date Analyzed Bat	ch
EPA METHOD 300.0: ANIONS				Analyst: LG	т
Chloride	230	30	mg/Kg	20 1/17/2017 11:25:31 PM 297	'41

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Ana
	D	Sample Diluted Due to Matrix	Е	Valı
	Н	Holding times for preparation or analysis exceeded	J	Ana
	ND	Not Detected at the Reporting Limit	Р	Sam
	R	RPD outside accepted recovery limits	RL	Rep
	S	% Recovery outside of range due to dilution or matrix	W	Sam

- alyte detected in the associated Method Blank
- lue above quantitation range
- halyte detected below quantitation limits Page 4 of 16

- mple pH Not In Range
- porting Detection Limit
- mple container temperature is out of limit as specified

Hall Environmental Analysis	Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>				
CLIENT: Atkins Engineering Associates			Client Samp	e ID: SB-10@9-11' BGS	
<b>Project:</b> Harris Federal #1 Lease			Collection 1	Date: 1/10/2017 11:35:00 AM	
Lab ID: 1701514-005	Matrix:	SOIL	<b>Received</b>	Date: 1/12/2017 9:35:00 AM	
Analyses	Result	PQL Qu	al Units	DF Date Analyzed Bat	tch
EPA METHOD 300.0: ANIONS				Analyst: LG	Т
Chloride	100	30	mg/Kg	20 1/17/2017 11:37:56 PM 297	741

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte
	D	Sample Diluted Due to Matrix	Е	Value al
	Н	Holding times for preparation or analysis exceeded	J	Analyte
	ND	Not Detected at the Reporting Limit	Р	Sample
	R	RPD outside accepted recovery limits	RL	Reportir
	S	% Recovery outside of range due to dilution or matrix	W	Sample

- te detected in the associated Method Blank
- above quantitation range
- te detected below quantitation limits Page 5 of 16

- e pH Not In Range
- ting Detection Limit
- e container temperature is out of limit as specified

Analytical Report Lab Order 1701514 Date Reported: 1/26/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1701514-006

Harris Federal #1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-10@14-16' BGS Collection Date: 1/10/2017 11:45:00 AM

Matrix: MEOH (SOIL) Received Date: 1/12/2017 9:35:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	270	30	mg/Kg	20	1/17/2017 11:50:20 PM	1 29741
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S			Analys	t: MAB
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/17/2017 12:50:55 PM	1 29711
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/17/2017 12:50:55 PM	1 29711
Surr: DNOP	111	70-130	%Rec	1	1/17/2017 12:50:55 PM	1 29711
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/16/2017 5:59:23 PM	G40040
Surr: BFB	88.6	68.3-144	%Rec	1	1/16/2017 5:59:23 PM	G40040
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.023	mg/Kg	1	1/16/2017 5:59:23 PM	B40040
Toluene	ND	0.047	mg/Kg	1	1/16/2017 5:59:23 PM	B40040
Ethylbenzene	ND	0.047	mg/Kg	1	1/16/2017 5:59:23 PM	B40040
Xylenes, Total	ND	0.093	mg/Kg	1	1/16/2017 5:59:23 PM	B40040
Surr: 4-Bromofluorobenzene	94.2	80-120	%Rec	1	1/16/2017 5:59:23 PM	B40040

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

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 6 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis	Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>				
CLIENT: Atkins Engineering Associates			Client Sampl	e ID: SB-11@4-6' BGS	
<b>Project:</b> Harris Federal #1 Lease			Collection 1	Date: 1/10/2017 12:40:00 PM	
Lab ID: 1701514-007	Matrix:	SOIL	<b>Received</b>	Date: 1/12/2017 9:35:00 AM	
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analyst:	LGT
Chloride	1400	75	mg/Kg	50 1/18/2017 4:53:25 PM	29741

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analy
	D	Sample Diluted Due to Matrix	Е	Value
	Н	Holding times for preparation or analysis exceeded	J	Analy
	ND	Not Detected at the Reporting Limit	Р	Samp
	R	RPD outside accepted recovery limits	RL	Repo
	S	% Recovery outside of range due to dilution or matrix	W	Samp

- lyte detected in the associated Method Blank
- ue above quantitation range
- lyte detected below quantitation limits Page 7 of 16

- ple pH Not In Range
- orting Detection Limit
- ple container temperature is out of limit as specified

Hall Environmental Analysis	tory, Inc.	Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>			
CLIENT: Atkins Engineering Associates			Client Samp	le ID: SB-11@9-11' BGS	
<b>Project:</b> Harris Federal #1 Lease			Collection	Date: 1/10/2017 12:55:00 PM	
Lab ID: 1701514-008	Matrix: S	SOIL	Received	Date: 1/12/2017 9:35:00 AM	
Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analys	t: LGT
Chloride	100	30	mg/Kg	20 1/18/2017 12:15:09 AM	/ 29741

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

- 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
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 16 J

- Р Sample pH Not In Range
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1701514 Date Reported: 1/26/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

1701514-009

Harris Federal #1 Lease

**Project:** 

Lab ID:

Client Sample ID: SB-11@14-16' BGS Collection Date: 1/10/2017 1:05:00 PM

Matrix: MEOH (SOIL) Received Date: 1/12/2017 9:35:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	230	30	mg/Kg	20	1/18/2017 12:27:35 AM	1 29741
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: MAB
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/17/2017 1:18:15 PM	29711
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2017 1:18:15 PM	29711
Surr: DNOP	104	70-130	%Rec	1	1/17/2017 1:18:15 PM	29711
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	1/16/2017 6:22:49 PM	G40040
Surr: BFB	87.6	68.3-144	%Rec	1	1/16/2017 6:22:49 PM	G40040
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.018	mg/Kg	1	1/16/2017 6:22:49 PM	B40040
Toluene	ND	0.035	mg/Kg	1	1/16/2017 6:22:49 PM	B40040
Ethylbenzene	ND	0.035	mg/Kg	1	1/16/2017 6:22:49 PM	B40040
Xylenes, Total	ND	0.070	mg/Kg	1	1/16/2017 6:22:49 PM	B40040
Surr: 4-Bromofluorobenzene	93.0	80-120	%Rec	1	1/16/2017 6:22:49 PM	B40040

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

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 9 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis	Lab Order <b>1701514</b> Date Reported: <b>1/26/2017</b>					
CLIENT: Atkins Engineering Associates		(	Client Samp	e ID: SB-12@	94-6' BGS	
<b>Project:</b> Harris Federal #1 Lease			Collection 3	Date: 1/10/20	17 1:30:00 PM	
<b>Lab ID:</b> 1701514-010	Matrix:	SOIL	<b>Received</b>	Date: 1/12/20	17 9:35:00 AM	
Analyses	Result	PQL Qual	Units	DF Dat	e Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	LGT
Chloride	980	30	mg/Kg	20 1/18	3/2017 1:04:49 AM	29741

Q	ualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte dete
		D	Sample Diluted Due to Matrix	Е	Value above
		Н	Holding times for preparation or analysis exceeded	J	Analyte dete
		ND	Not Detected at the Reporting Limit	Р	Sample pH l
		R	RPD outside accepted recovery limits	RL	Reporting D
		S	% Recovery outside of range due to dilution or matrix	W	Sample cont

- tected in the associated Method Blank
- ve quantitation range
- tected below quantitation limits Page 10 of 16

- Not In Range
- Detection Limit
- ntainer temperature is out of limit as specified

Hall Environmental Analysis	• Lab Order 1701514 • Date Reported: 1/26/2017				
CLIENT: Atkins Engineering Associates			Client Samp	e ID: SB-12@9-11' BGS	
<b>Project:</b> Harris Federal #1 Lease			Collection 1	Date: 1/10/2017 1:45:00 PM	
Lab ID: 1701514-011	Matrix:	SOIL	<b>Received</b>	Date: 1/12/2017 9:35:00 AM	
Analyses	Result	PQL Qu	al Units	DF Date Analyzed B	atch
EPA METHOD 300.0: ANIONS				Analyst: L	.GT
Chloride	87	30	mg/Kg	20 1/18/2017 1:17:14 AM 2	9741

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	An
	D	Sample Diluted Due to Matrix	Е	Va
	Н	Holding times for preparation or analysis exceeded	J	An
	ND	Not Detected at the Reporting Limit	Р	Sai
	R	RPD outside accepted recovery limits	RL	Re
	S	% Recovery outside of range due to dilution or matrix	W	Sai

- nalyte detected in the associated Method Blank
- alue above quantitation range
- nalyte detected below quantitation limit Page 11 of 16

- ample pH Not In Range
- eporting Detection Limit
- ample container temperature is out of limit as specified

**Analytical Report** Lab Order 1701514 Date Reported: 1/26/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Atkins Engineering Associates

Harris Federal #1 Lease

Client Sample ID: SB-12@14-16' BGS Collection Date: 1/10/2017 1:55:00 PM

**Project:** Lab ID: 1701514-012

Matrix: MEOH (SOIL)

Received Date: 1/12/2017 9:35:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	130	30	mg/Kg	20	1/18/2017 1:29:39 AM	29741
EPA METHOD 8015M/D: DIESEL RA		S			Analys	t: MAB
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	1/17/2017 1:45:28 PM	29711
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/17/2017 1:45:28 PM	29711
Surr: DNOP	104	70-130	%Rec	1	1/17/2017 1:45:28 PM	29711
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	1/16/2017 6:46:22 PM	G40040
Surr: BFB	89.5	68.3-144	%Rec	1	1/16/2017 6:46:22 PM	G40040
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.019	mg/Kg	1	1/16/2017 6:46:22 PM	B40040
Toluene	ND	0.037	mg/Kg	1	1/16/2017 6:46:22 PM	B40040
Ethylbenzene	ND	0.037	mg/Kg	1	1/16/2017 6:46:22 PM	B40040
Xylenes, Total	ND	0.074	mg/Kg	1	1/16/2017 6:46:22 PM	B40040
Surr: 4-Bromofluorobenzene	95.2	80-120	%Rec	1	1/16/2017 6:46:22 PM	B40040

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 limit. Page 12 of 16 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

WO#:	1701514
	26-Jan-17

Client: Project:		ns Engineering A is Federal #1 Le		ates							
Sample ID	MB-29741	SampTy	pe: ME	BLK	Tes						
Client ID:	PBS	Batch	ID: 29	741	F	RunNo: <b>40</b>	0098				
Prep Date:	1/17/2017	Analysis Da	ate: 1/	17/2017	S	SeqNo: 12	256788	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-29741	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	ID: 29	741	F	RunNo: <b>4(</b>	0098				
Prep Date:	1/17/2017	Analysis Da	ate: 1/	17/2017	S	SeqNo: 12	256789	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15	1.5	15.00	0	98.8	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

#### Page 13 of 16

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:		igineering deral #1 L		ates							
Project:	Harris ree	aerai #1 L	ease								
Sample ID	MB-29711	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	PBS	Batch	n ID: 29	711	F	RunNo: 4	0061				
Prep Date:	1/16/2017	Analysis D	ate: 1/	17/2017	S	SeqNo: 1	255569	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	ND	10	011110122	011110111	/0c	L	1.9	,E	10. 2	<b>G G G G G G G G G G</b>
	ge Organics (MRO)	ND	50								
Surr: DNOP		10		10.00		104	70	130			
Sample ID	LCS-29711	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch	n ID: 29	711	F	RunNo: 4	0061				
Prep Date:	1/16/2017	Analysis D	ate: 1/	17/2017	S	SeqNo: 1	255607	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
,	Organics (DRO)	48	10	50.00	0	96.0	63.8	116			
Surr: DNOP	•	5.8		5.000		116	70	130			
Sample ID	1701514-003AMS	SampT	ype: <b>MS</b>	3	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	SB-9@14-16' BGS	Batch	n ID: 29	711	F	RunNo: 4	0061			-	
Prep Date:	1/16/2017	Analysis D	ate: 1/	17/2017	5	SeqNo: 1	255712	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	48	10	49.75	0	96.3	51.6	130			
Surr: DNOP		5.8		4.975		117	70	130			
Sample ID	1701514-003AMSE	) SampT	уре: М	SD	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	SB-9@14-16' BGS	Batch	n ID: 29	711	F	RunNo: 4	0061				
Prep Date:	1/16/2017	Analysis D	ate: 1/	17/2017	S	SeqNo: 1	255776	Units: <b>mg/K</b>	g		

Prep Date: 1/16/2017	Analysis Da	ate: 1/	17/2017	S	eqNo: 1	255776	Units: <b>mg/K</b>	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	48	9.6	48.17	0	99.3	51.6	130	0.164	20		_
Surr: DNOP	5.7		4.817		119	70	130	0	0		

#### **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 14 of 16

WO#:	1701514
	26-Jan-17

	ngineering ederal #1 L		ates										
Sample ID RB	SampT	ype: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range									
Client ID: PBS	Batch	h ID: <b>G4</b>	0040	RunNo: <b>40040</b>									
Prep Date:	Analysis D	Date: 1/	16/2017	S	eqNo: 1	254956	Units: <b>mg/k</b>	(g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Gasoline Range Organics (GRO)	ND	5.0											
Surr: BFB	860		1000		86.4	68.3	144						
Sample ID 2.5UG GRO LCS	SampT	ype: LC	s	TestCode: EPA Method 8015D: Gasoline Range									
Client ID: LCSS	Batch	h ID: <b>G4</b>	0040	R	unNo: 4	0040							
Prep Date:	Analysis D	Date: 1/	16/2017	S	eqNo: 1	254957	Units: mg/k	íg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.8	74.6	123						
Surr: BFB	1000		1000		99.8	68.3	144						

#### **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 15 of 16

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Atkins Engineering Associates

Harris Federal #1 Lease

lnc.	26-Jan-17

Sample ID <b>RB</b>	SampT	ype: ME	BLK	Tes	tCode: El	tiles						
Client ID: PBS	Batch	n ID: <b>B4</b>	0040	R	anNo: 4	0040						
Prep Date:	Analysis D	Date: 1/	16/2017	S	SeqNo: 1	254972	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	0.025										
oluene	ND	0.050										
thylbenzene	ND	0.050										
(ylenes, Total	ND	0.10										
Com A December 2												
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	80	120					
Sample ID 100NG BTEX LCS		ype: LC		Tes			120 8021B: Volat	tiles				
	S SampT	ype: <b>LC</b>	S			PA Method		tiles				
Sample ID 100NG BTEX LCS	S SampT	n ID: <b>B4</b>	S 0040	R	tCode: El	PA Method 0040						
Sample ID 100NG BTEX LCS Client ID: LCSS	S SampT Batcl	n ID: <b>B4</b>	:S 0040 16/2017	R	tCode: El RunNo: 4	PA Method 0040	8021B: Volat		RPDLimit	Qual		
Sample ID 100NG BTEX LCS Client ID: LCSS Prep Date:	S SampT Batch Analysis D	n ID: <b>B4</b> Date: <b>1/</b>	:S 0040 16/2017	R S	tCode: El RunNo: 4 SeqNo: 12	PA Method 0040 254973	8021B: Volat	ſg	RPDLimit	Qual		
Sample ID <b>100NG BTEX LCS</b> Client ID: <b>LCSS</b> Prep Date: Analyte	S SampT Batcl Analysis D Result	n ID: <b>B4</b> Date: <b>1/</b> PQL	S 0040 16/2017 SPK value	R S SPK Ref Val	tCode: El RunNo: 4 GeqNo: 1 %REC	PA Method 0040 254973 LowLimit	8021B: Volat Units: mg/K HighLimit	ſg	RPDLimit	Qual		
Sample ID <b>100NG BTEX LCS</b> Client ID: <b>LCSS</b> Prep Date: Analyte Benzene	S SampT Batcl Analysis D Result 1.1	n ID: <b>B4</b> Date: <b>1/</b> PQL 0.025	S 0040 16/2017 SPK value 1.000	R S SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 %REC 109	PA Method 0040 254973 LowLimit 75.2	8021B: Volat Units: mg/K HighLimit 115	ſg	RPDLimit	Qual		
Sample ID 100NG BTEX LCS Client ID: LCSS Prep Date: Analyte Benzene Foluene	S SampT Batch Analysis D Result 1.1 0.97	Date: <b>1</b> / PQL 0.025 0.050	S 0040 16/2017 SPK value 1.000 1.000	R S SPK Ref Val 0 0	tCode: El RunNo: 4 SeqNo: 12 %REC 109 96.9	PA Method 0040 254973 LowLimit 75.2 80.7	8021B: Volat Units: mg/k HighLimit 115 112	ſg	RPDLimit	Qual		

#### **Qualifiers:**

**Client:** 

**Project:** 

- \* 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 16 of 16



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:	АТК		Work C	order Number:	1701514	4		RcptNo	p: 1
Received by/date	e: RF		1/12	717					
Logged By:	Andy Jans	son	1/12/2017	7 9:35:00 AM		andy Brand	z		
Completed By:	•	Janssor	1/12	117			-		
Reviewed By:	fa'.	1/13/12							
Chain of Cus		·/·›///							
1. Custody sea		mple bottles?			Yes 🗌		<b>,</b> 🗆	Not Present 🔽	]
2. Is Chain of C	Custody compl	lete?			Yes 🔽	No	, 🗆	Not Present	]
3. How was the	e sample deliv	ered?			<u>Courier</u>				
<u>Log In</u>									
4. Was an atte	mpt made to	cool the sample	s?		Yes N		•	NA 🗆	]
5. Were all san	nples received	l at a temperatu	reof>0°C1	to 6.0°C	Yes 🗹	No			
6. Sample(s) ir	n proper conta	iner(s)?			Yes 🖌	N N	•		
7. Sufficient sa	mple volume f	for indicated test	t(s)?		Yes 🔽		<b>b</b>		
8. Are samples	except VOA	and ONG) prop	erly preserve	ed?	Yes 🗸	n No			
9. Was preserv	vative added to	bottles?			Yes 🗌	. No		NA 🗌	]
10.VOA vials ha	ave zero head	space?			Yes	] No		No VOA Vials 🗹	]
11, Were any sa	ample contain	ers received bro	ken?		Yes 🗌	] N	o 🔽	# of preserved	
12.Does paperv	vork match ho	ttle labels?			Yes 🔽		<b>b</b> 🗌	bottles checked for pH:	
		ain of custody)			163 🖻			(<:	2 or >12 unless noted)
13. Are matrices	correctly ider	ntified on Chain	of Custody?		Yes 🔽		<b>)</b>	Adjusted?	·
14, Is it clear wh	-				Yes 🗹		_		
15. Were all hole (If no, notify	ding times able customer for a				Yes ⊻	<u>No</u>	<b>)</b>	Checked by	
Special Hand	lling (if app	olicable)			_	_			_
16. Was client n	otified of all di	screpancies wit	h this order?		Yes	No		NA 🗹	·] 
	n Notified:			Date					
By Wh		······		Via: [	eMail	Phone [	] Fax	In Person	
Regar	ding: Instructions:								
17. Additional re	4								
18. <u>Cooler Info</u> Cooler N	•	Condition	Seal Intact	Seal No S	Seal Date	i Signed	Bv	1	
1	3.0		es				<i></i> ,	1	
	·				· · · · · ·	<u> </u>		<del>_</del>	<u></u>

	ı Lı	www.hallenvironmental.com	L しょうし 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	s (†OS (lasse) (lasse)	o ss∂) ⊎iŪ\ssi	8085 1005 1005 1005 1005 1005 1005 1005	+ + + + + + + + + + + + + +	EBE 0d 2 0d 2 0d 2 0d 1 0 0 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0	Натиров     Натиров       Натиров     Натиров	× 00-	× COO-	-003 X X			-DOLD X X UNIT X AUDO-	X L	X 800-	X X X 600-	× 010-	-o-I	210-	Time Remarks:	0435 RULIA IGNO	Date Time
Chain-of-Custody Record Turn-Around Time:	Ennineers As oc. & Standard Bush	1	2904 W. Zrd St Harris Ficheral #	Project #:	624. 2420 TPLHARK. ENV. 10		□ Level 4 (Full Validation) C. Contez	Sampler:	ner On loe: 🖓 Yes	Sample Temperature: 3-0	<ul> <li>Sample Request ID Type and # Type</li> </ul>	53-9@ 4-6' B65 402 50 W/A	↓ cin 'n-g ~g-82	52-9 19-16 665 400 AL NUO HANG	402 Jar	<b>→</b>	5 402 5	402 Ser		53-11 @ 14-16 B6 5 10 00 22 No 0 H/2	402 Ser	3-11,1365	M-16 1265 40	J by: Received by:	Meter an M-1 1-	Relinquished by: Réceived by:
Chain-of-C	lient: A+Kno E		lailing Address: 2.90	Doswell, NM	١v	ax#:	JA/QC Package: 3 Standard	Б	DINELAP Dether	] EDD (Type)	Date Time Matrix	10/1 1025 Sold	1	050	1125	11.35		1240	1255	1305	1330	1345	× 1355 V	+	111/12/1400 Andrew	

תורמו ובהחור 2 data If nenessary samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted



COC 1 A 2002