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Roswell, NM 88201
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www.atkinseng.com

September 4, 2019

#chminis_env_19

NMOCD District 1
1625 N. French Drive
Hobbs, New Mexico 88210

SUBJECT: Remediation Closure Report for the MINIS FED COM EAST PAD Release (1RP-5400),
Lea County, New Mexico

Dear NMOCD District 1,

On behalf of Chisholm Energy Operating (CEO), Atkins Engineering Associates INC. (AEA) has prepared this Remediation Closure Report that describes the remediation of a release of liquids related to oil and gas production activities at the MINIS FED COM EAST PAD. The site is in Unit A, Section 1, Township 21S, Range 32E, Lea County, New Mexico, on Federal land. Figure 1 illustrates the vicinity and site location on an USGS 7.5-minute quadrangle map.

Table 1 summarizes release information and Closure Criteria.

Table 1: Release Information and Closure Criteria			
Name	MINIS FED COM EAST PAD	Company	Chisholm Energy
API Number	N/A	Location	32.521936 -103.624001
Incident Number	1RP-5400		
Estimated Date of Release	3/04/19	Date Reported to NMOCD	3/04/19
Land Owner	BLM	Reported To	NMOCD District I
Source of Release	Regulator froze sending oil out he flare; misted/sprayed topsoil beside location		
Released Volume	15 bbls	Released Material	Crude Oil
Recovered Volume	0 bbls	Net Release	15 bbls
NMOCD Closure Criteria	>100 feet to groundwater		
AEA Response Dates	3/15/2019 4/10/2019 5/9/2019		

1.0 Background

On March 4, 2019, a release was discovered at the MINIS 1 FED 3BS 7H flare burp. The pipe is metered, and the release volume was estimated by operations staff but confirmed through the attached soil calculations. Initial response activities were conducted by the operator, and included source elimination by means of repair and immediate site stabilization and release recovery. Figure 1 illustrates the vicinity and site location. The C-141 forms are included in Appendix A.

2.0 Site Information and Closure Criteria

The MINIS 1 FED 3BS 7H is located approximately 34 miles East of Hobbs Lea County, New Mexico on Federal (BLM) land at an elevation of approximately 3724 feet above mean sea level (amsl).

Based upon the New Mexico Office of the State Engineers (NMOSE) online water well database, (Appendix B), depth to groundwater in the area is estimated to be 102-340 feet below grade surface (bgs). There are no known water sources within ½-mile of the location, according to the NMOSE database. (https://gis.ose.state.nm.us/gisapps/ose_pod_locations/; accessed 4/10/2019). The nearest significant watercourse is unnamed Salt Lake, located approximately 4 miles south of the location. Figure 1 illustrates the site with 200 and 300-foot radii to indicate that it does not lie within a sensitive area as described in 19.15.29.12.C(4) NMAC.

Based on the information presented herein, the applicable NMOCD Closure Criteria for this site is for a groundwater depth of greater than 100 feet bgs. The site has been restored to meet the standards of Table I of 19.15.29.12 NMAC.

Table 2 demonstrates the Closure Criteria applicable to this location. Pertinent well data is attached in Appendix B.

3.0 Release Characterization and Remediation Activities

On March 3, 2019, CEO personnel arrived on site in response to the release associated MINIS 1 FED 3BS 7H. AEA performed site delineation activities on April 10, 2019, by collecting soil samples around the release site and throughout the previously excavated area. Soil samples were field-screened for chloride using an electrical conductivity (EC) meter.

A total of 3 sample locations (L1, L2 and L3) were investigated using a hand-auger, to depths up to 1 feet bgs. A minimum of two samples were collected at each sampling location and field-screened using the method above. A total of 3 samples were collected for laboratory analysis for total chloride using EPA Method 300.0., EPA Method 300.0; benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA Method 8021B; and motor, diesel and gasoline range organics (MRO, DRO, and GRO) by EPA Method 8015D.

As summarized in Table 3, results indicated that most of the location was remediated successfully by the initial action performed by CEO and its contractors. an area approximately 10 feet wide and 30 feet long remained impacted. The area is located to the east of the pad behind the production flare near the sales gas meter.

The surface soil was treated with oxidizers until field screening results indicated that the NMOCD Closure Criteria would be met or as close to production equipment as could be safely allowed.

On April 22, 2019 AEA began conducting confirmation sampling. The areas around sample locations. The confirmation samples were collected from within the mist area in accordance with a systematic sampling approach as defined by SW846 using Gilbert, 1987 equation 5.2.3 for Stratified Random Sampling which is detailed in Appendix C. This systematic method meets the EPA's data quality assessment standards (DQA) for composite sampling as defined by (Myers 1997) Using Confirmation samples were comprised of five-point composites of the area (L1-L3).

All samples were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico (Appendix D).

Figure 3 shows the extent of the excavation and sample locations. All laboratory results are summarized in Table 3. Laboratory reports are included in Appendix D.

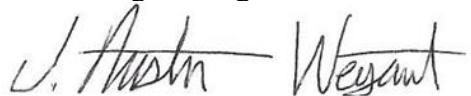
In addition to meeting the Closure Criteria, for the well pad meet the Reclamation requirement of 19.15.29.13(D)(1). Contaminated soils were removed and treated chemically and biologically onsite and as of August 9, 2019 have revegetated with native vegetation.

4.0 Scope and Limitations

The scope of our services included: assessment sampling; verifying release stabilization; regulatory liaison; remediation; and preparing this closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact Austin Weyant at 575-626-3993

Submitted by:
Atkins Engineering Associates INC

A handwritten signature in black ink that reads "Austin Weyant". The signature is written in a cursive, flowing style.

Austin Weyant
Geoscientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity and Well Head Protection Map

Figure 2: Surface Water Radius Map

Figure 3: Site and Sample Location Map

Tables:

Table 2: NMOCD Closure Criteria Justification

Table 3a: Summary of Initial Sample Results

Table 3b: Summary of Closure Sample Results

Appendices:

Appendix A: Form C141

Appendix B: NMOSE Wells Report

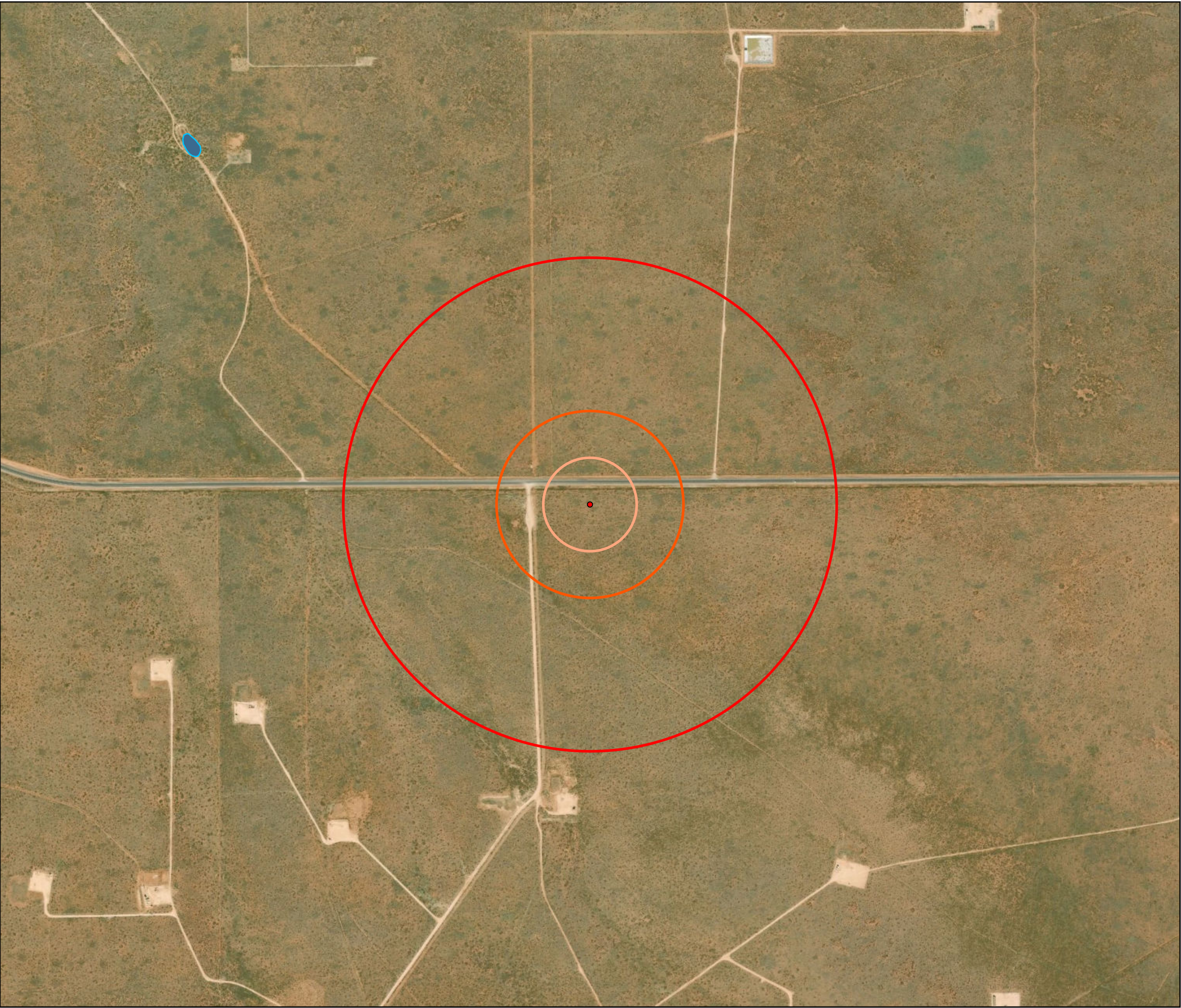
Appendix C: VSP Sampling Protocol

Appendix D: Laboratory Analytical Reports

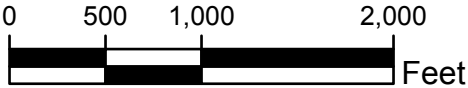
Appendix E: Open Excavation Photo Log

FIGURES

MINIS 1 FED 3BS 7H
Sec 1, T 21S, R 32E, N.M.P.M
Lea County, New Mexico



- MINIS 1 FED 3BS 7H
- 500 Feet
- 1,000 Feet
- 0.5 Mile
- Springs_Seeps
- Streams_Canals
- Rivers
- Flowlines SENM
- Lakes Playas
- FlowlineSENM 200MBuffer
- FEMA Flood Zones 2011



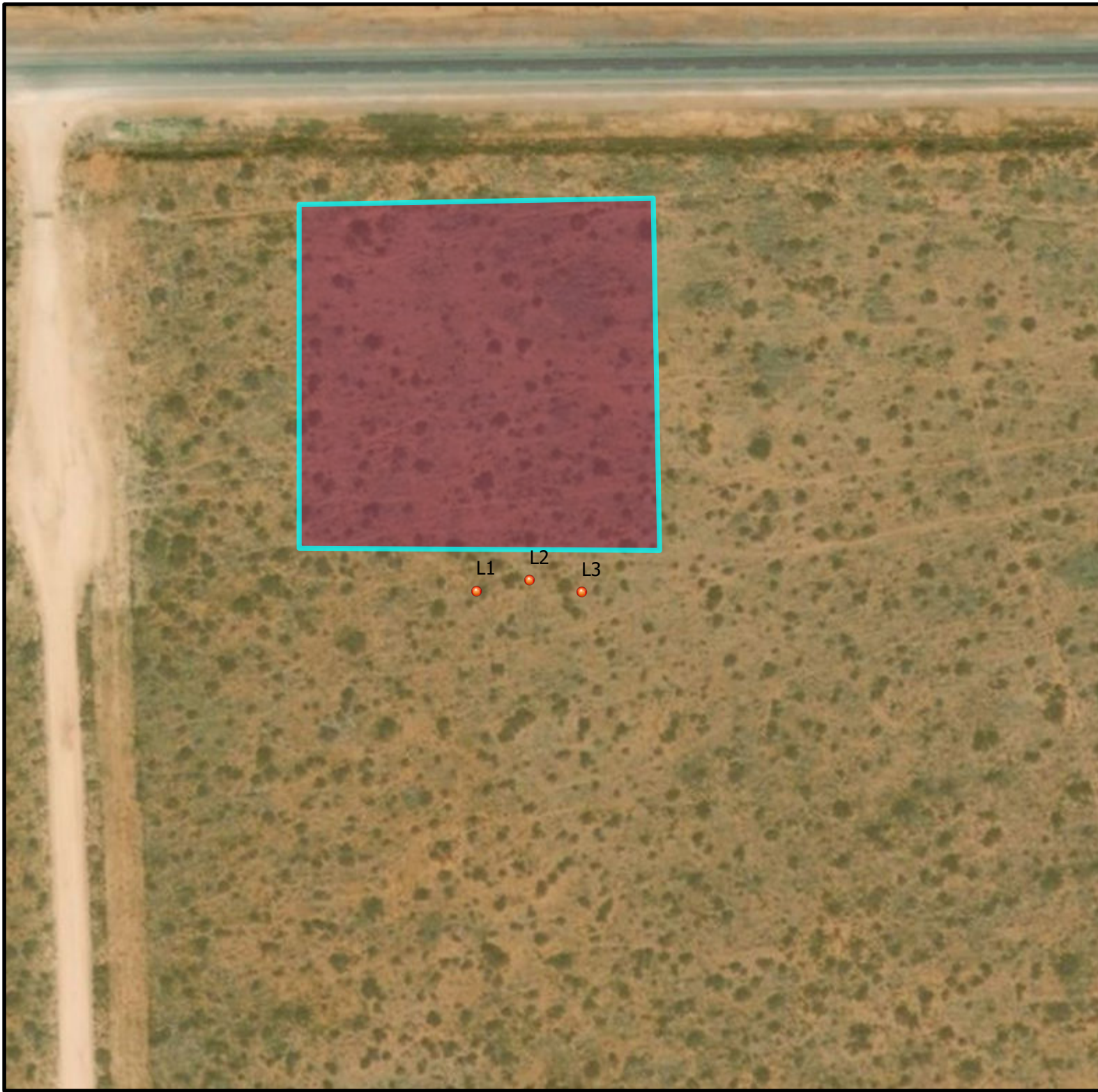
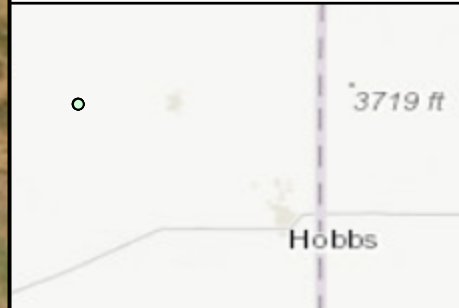


FIGURE 2
MINIS 1 FED
API:

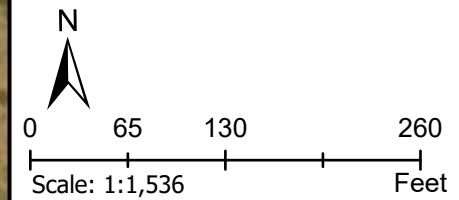


LEGEND

○ Sample Locations

Soil Borings

● Point layer



JOB No. chminis_env_19

DATE FIELD: 3/21/19 DRAWN JAW

DATE DRAWN: 9/4/2019 REVIEW LCM

TABLES

Chisolm Energy
Minis 1 Fed

"--" = Not Analyzed

APPENDIX A

FORMS C141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party CHISHOLM ENERGY OPERATING LLC	OGRID 372137
Contact Name TIM GREEN	Contact Telephone 432 413 9747
Contact email n is m n y. m	Incident # (assigned by OCD)
Contact mailing address 01 CHERRY STREET SUITE 1200 UNIT 20 FORT WORTH TX 76102	

Location of Release Source

Latitude 32.521936 Longitude 103.624001
(NAD 83 in decimal degrees to 5 decimal places)

Site Name MINIS 1 FED COM EAST PAD	Site Type WELL PAD LOCATION
Date Release Discovered 03/04/2019	API# (if applicable)

Unit Letter	Section	Township	Range	County
A/LOT 1	1	21S	32E	LEA

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) APPROX. 15 BBLS	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release REGLUATOR FROZE SENDING OIL SPRAYING OUT OF THE FLARE; MISTED/SPRAYED
TOPSOIL BESIDE LOCATION
60' x 150' x 0.1" (SPRAY; NOT SOAKED)=APPROX. 15 BBLS

Incident ID	
District RP	
Facility ID	
Application ID	

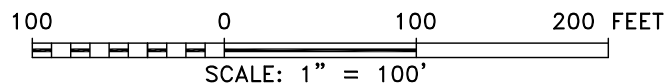
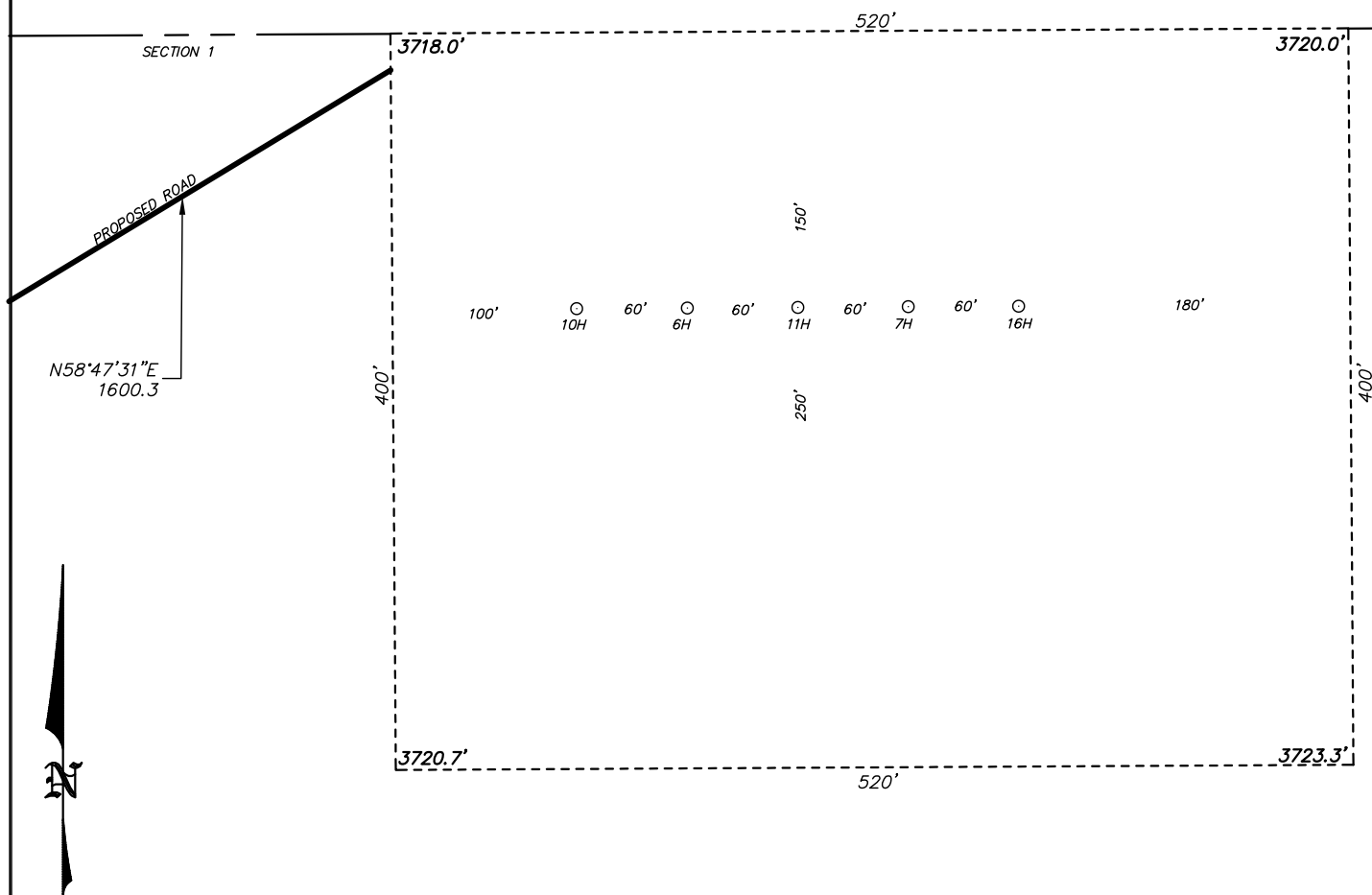
Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? NOT CONSIDERED A MAJOR RELEASE;
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? NOTICE WAS GIVEN 03/04/2019 TO DIST 1 OCD OFFICE AND JIM GRISWOLD BY PAUL MARTINEZ	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>JENNIFER ELROD</u>	Title: <u>SR. REGULATORY ANALYST</u>
Signature: <u>Jennifer Elrod</u>	Date: <u>03/06/201</u>
email: _____ is m n y. m	Telephone: <u>17 953 372</u>
<u>OCD Only</u> Received by: _____ Date: _____	

SECTION 1, TOWNSHIP 21 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



CHISHOLM ENERGY OPERATING, LLC

REF: MINIS 1 FED 3BS 7H / WELL PAD TOPO

THE MINIS 1 FED 3BS 7H LOCATED 150' FROM
THE NORTH LINE AND 1278' FROM THE EAST LINE OF
SECTION 1, TOWNSHIP 21 SOUTH, RANGE 32 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

basin
surveys
focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: 32886

Drawn By: J GOAD

Date: 5-10-2017

Survey Date: 4-26-2017

Sheet 1 of 1 Sheets

APPENDIX B

NMOSE WELLS REPORT



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 00793 POD1	1	1	2	01	21S	32E	628932	3598270*

x

Driller License:	122	Driller Company:	UNKNOWN
Driller Name:	PHILLIPS		
Drill Start Date:		Drill Finish Date:	12/31/1960
Log File Date:		PCW Rev Date:	
Pump Type:		Pipe Discharge Size:	
Casing Size:	8.00	Depth Well:	1000 feet
		Plug Date:	
		Source:	
		Estimated Yield:	
		Depth Water:	

x

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/4/19 1:14 PM

POINT OF DIVERSION SUMMARY

APPENDIX D
LABORATORY ANALYTICAL
REPORTS



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

July 30, 2019

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

RE: Minis

OrderNo.: 1907C99

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/25/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1907182**

Date Reported: 7/11/2019

CLIENT: Atkins Engineering Associates**Client Sample ID:** L1**Project:** MINIS**Collection Date:** 6/26/2019 2:30:00 PM**Lab ID:** 1907182-001**Matrix:** SOIL**Received Date:** 7/3/2019 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: smb
Chloride	230	60		mg/Kg	20	7/10/2019 4:53:43 PM	46094
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: BRM
Diesel Range Organics (DRO)	190	9.5		mg/Kg	1	7/9/2019 11:09:14 PM	46044
Motor Oil Range Organics (MRO)	170	48		mg/Kg	1	7/9/2019 11:09:14 PM	46044
Surr: DNOP	101	70-130		%Rec	1	7/9/2019 11:09:14 PM	46044
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/6/2019 8:01:36 PM	46028
Surr: BFB	86.0	73.8-119		%Rec	1	7/6/2019 8:01:36 PM	46028
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	7/6/2019 8:01:36 PM	46028
Toluene	ND	0.050		mg/Kg	1	7/6/2019 8:01:36 PM	46028
Ethylbenzene	ND	0.050		mg/Kg	1	7/6/2019 8:01:36 PM	46028
Xylenes, Total	ND	0.099		mg/Kg	1	7/6/2019 8:01:36 PM	46028
Surr: 4-Bromofluorobenzene	90.5	80-120		%Rec	1	7/6/2019 8:01:36 PM	46028

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1907C99**

Date Reported: 7/30/2019

CLIENT: Atkins Engineering Associates

Client Sample ID: L2

Project: Minis

Collection Date: 7/22/2019 9:00:00 AM

Lab ID: 1907C99-001

Matrix: SOIL

Received Date: 7/25/2019 8:52:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	140	60		mg/Kg	20	7/29/2019 7:17:31 PM	46451
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/29/2019 10:23:57 PM	46410
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/29/2019 10:23:57 PM	46410
Surr: DNOP	111	70-130		%Rec	1	7/29/2019 10:23:57 PM	46410
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/26/2019 9:30:38 AM	46403
Surr: BFB	105	73.8-119		%Rec	1	7/26/2019 9:30:38 AM	46403

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1907C99**

Date Reported: **7/30/2019**

CLIENT: Atkins Engineering Associates

Client Sample ID: L3

Project: Minis

Collection Date: 7/22/2019 9:10:00 AM

Lab ID: 1907C99-002

Matrix: SOIL

Received Date: 7/25/2019 8:52:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: CAS
Chloride	ND	60		mg/Kg	20	7/29/2019 7:54:46 PM	46451
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	7/29/2019 11:52:38 PM	46410
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/29/2019 11:52:38 PM	46410
Surr: DNOP	108	70-130		%Rec	1	7/29/2019 11:52:38 PM	46410
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/26/2019 10:38:42 AM	46403
Surr: BFB	106	73.8-119		%Rec	1	7/26/2019 10:38:42 AM	46403

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907C99

30-Jul-19

Client: Atkins Engineering Associates

Project: Minis

Sample ID: MB-46451	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 46451	RunNo: 61714
Prep Date: 7/29/2019	Analysis Date: 7/29/2019	SeqNo: 2092788 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	1.5

Sample ID: LCS-46451	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 46451	RunNo: 61714
Prep Date: 7/29/2019	Analysis Date: 7/29/2019	SeqNo: 2092789 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14	1.5 15.00 0 95.9 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
PQL Practical Quantitative Limit
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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907C99

30-Jul-19

Client: Atkins Engineering Associates

Project: Minis

Sample ID: 1907C99-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: L2	Batch ID: 46410	RunNo: 61704
Prep Date: 7/26/2019	Analysis Date: 7/29/2019	SeqNo: 2092200 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	59	9.6 47.94 0 123 57 142
Surr: DNOP	5.1	4.794 107 70 130

Sample ID: 1907C99-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: L2	Batch ID: 46410	RunNo: 61704
Prep Date: 7/26/2019	Analysis Date: 7/29/2019	SeqNo: 2092201 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	48	9.4 46.82 0 102 57 142 21.2 20 R
Surr: DNOP	4.7	4.682 101 70 130 0 0

Sample ID: LCS-46410	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 46410	RunNo: 61704
Prep Date: 7/26/2019	Analysis Date: 7/29/2019	SeqNo: 2092243 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	59	10 50.00 0 117 63.9 124
Surr: DNOP	5.9	5.000 118 70 130

Sample ID: MB-46410	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 46410	RunNo: 61704
Prep Date: 7/26/2019	Analysis Date: 7/29/2019	SeqNo: 2092244 Units: mg/Kg
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	12	10.00 123 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
PQL Practical Quantitative Limit
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 Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1907C99

30-Jul-19

Client: Atkins Engineering Associates

Project: Minis

Sample ID: MB-46403	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 46403			RunNo: 61678						
Prep Date: 7/25/2019	Analysis Date: 7/26/2019			SeqNo: 2091175		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.9	73.8	119			

Sample ID: LCS-46403	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 46403			RunNo: 61678						
Prep Date: 7/25/2019	Analysis Date: 7/26/2019			SeqNo: 2091176		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.5	80.1	123			
Surr: BFB	1200		1000		119	73.8	119			S

Sample ID: 1907C99-001AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: L2	Batch ID: 46403			RunNo: 61678						
Prep Date: 7/25/2019	Analysis Date: 7/26/2019			SeqNo: 2091178		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.78	0	96.1	69.1	142			
Surr: BFB	1200		991.1		119	73.8	119			

Sample ID: 1907C99-001AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: L2	Batch ID: 46403			RunNo: 61678						
Prep Date: 7/25/2019	Analysis Date: 7/26/2019			SeqNo: 2091179		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.9	24.37	0	95.3	69.1	142	2.51	20	
Surr: BFB	1200		974.7		120	73.8	119	0	0	S

Sample ID: MB-46417	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 46417			RunNo: 61712						
Prep Date: 7/26/2019	Analysis Date: 7/29/2019			SeqNo: 2092033		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		92.0	73.8	119			

Sample ID: LCS-46417	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 46417			RunNo: 61712						
Prep Date: 7/26/2019	Analysis Date: 7/29/2019			SeqNo: 2092035		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	73.8	119			

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
PQL Practical Quantitative Limit
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 Limit

Sample Log-In Check List

Client Name: **ATK**

Work Order Number: **1907C99**

RcptNo: 1

Received By: **Desiree Dominguez** 7/25/2019 8:52:00 AM

Completed By: **Desiree Dominguez** 7/25/2019 10:49:29 AM

Reviewed By: *LB* 7/25/19

ID2
ID2

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: *DAD 7/25/19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Not Present			

APPENDIX E
OPEN EXCAVATION PHOTO LOG