



*EOG Resources, Inc.
Artesia Division Office
105 S. 4th Street
Artesia, N. M. 88210*

January 16, 2017

Mr. Mike Bratcher/Ms. Crystal Weaver
NMOCD District II
811 S. First St.
Artesia, NM 88210

Re: Livingston Ridge SWD System
Section 35, T22S-R31E
Eddy County, New Mexico
2RP-3846

Mr. Bratcher/Ms. Weaver,

EOG Y Resources, Inc. is submitting the enclosed work plan for the above captioned well. The plan is being submitted in response to the C-141 report dated August 25, 2016.

If there are no objections with the scope of work described in the plan, EOG Y Resources, Inc. will have a contractor begin work on or after January 30, 2017.

If you have any questions, feel free to call me at (575) 748-4171

Thank you.

EOG Y Resources, Inc.

Chase Settle
Rep Safety & Environmental II

EOG Y Resources, Inc.

Livingston Ridge SWD System Work Plan

Section 35, T22S-R31E

Eddy County, New Mexico

January 16, 2017

2RP- 3846

I. Location

Take County Road 29 (Campbell Road) south from HWY 62/180 for 12.4 miles where it turns to Red Road, and continue another 2 miles, site is on the east side of Red Road in the pipeline ROW.

II. Background

On August 25, 2016, EOG Y Resources, Inc. submitted to the NMOCD District II office a Form C-141 for the release of 30 B/PW with 5 B/PW recovered. The affected area is approximately 50 feet by 40 feet around the 6" poly produced water flow line. Initial delineation samples were taken (8/25/2016) and sent to a NMOCD approved laboratory (9/08/2016, results enclosed). Based on analytical results of the first samples, further samples were taken (10/17/2016) and sent to a NMOCD approved laboratory (11/3/2016, results enclosed).

III. Surface and Ground Water

Area surface geology is Cenozoic Quaternary. The ChevronTexaco Trend Map displays at this location (Section 35, T22S-R31E) that depth to groundwater is approximately 120 feet making the site ranking for this site a zero (0). Watercourses in the area are dry except for infrequent flows in response to major precipitation events.

The ranking for this site is zero (0) based on the as following:

Depth to ground water	> 100'
Wellhead Protection Area	> 1000'
Distance to surface water body	> 1000'

IV. Soils

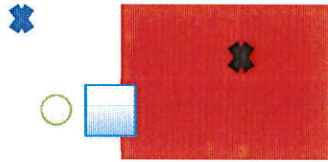
The area consists of soils that are sand based topsoil on top of a caliche layer that is further interspersed with clay seams providing a low permeability barrier to prohibit further migration of contaminants into the subsurface.

V. Scope of Work

Based on enclosed analytical results, the depth to groundwater (120'), and a decrease in chlorides, EOG Y Resources, Inc. will excavate four (4) feet in the impacted area, hauling all excavated soils to a NMOCD approved facility for disposal. EOG Y Resources, Inc. will then install a 20 ml synthetic liner and backfill the excavated area with two (2) feet of caliche and two (2) feet of similar topsoil. The site will be reseeded prior to the normally occurring monsoonal season in July with BLM #2 Seed Mix at the recommended rate. The TPH & BTEX are within the RRAL's for BTEX (50 ppm) and TPH (5000 ppm) for the Total Ranking Score of zero (0), no further analytical testing of TPH and/or BTEX will be conducted (all chloride results are for documentation). When remediation work is completed a C-141 Final Report will be submitted to the NMOCD requesting closure of the site.



N



E Sample Point



W Sample Point

Livingston Ridge SWD System- Not to Scale

Area	Analysis #	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
E-1'	1608G85	Release Area	8/25/2016	Hand Auger	1'	ND	ND	ND	9600
E-2'	1608G85	Release Area	8/25/2016	Hand Auger	2'	ND	ND	ND	10000
E-3'	1610854	Release Area	10/17/2016	Backhoe	3'				2700
E-4'	1610854	Release Area	10/17/2016	Backhoe	4'				890
E-6'	1610854	Release Area	10/17/2016	Backhoe	6'				18000
E-8'	1610854	Release Area	10/17/2016	Backhoe	8'				430
E-10'	1610854	Release Area	10/17/2016	Backhoe	10'				550
E-11'	1610854	Release Area	10/17/2016	Backhoe	11'				ND
W-1'	1608G85	Release Area	8/25/2016	Hand Auger	1'	ND	ND	ND	43
W-2'	1608G85	Release Area	8/25/2016	Hand Auger	2'	ND	ND	ND	130

Site Ranking is Zero (0). >100' (120', Section 35, T22S-R31E, Trend Map)

All results are ppm. Chlorides for documentation

Released: 30 B/PW ; Recovered: 5 B/PW Release Date: 8/10/2016



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

September 08, 2016

Chase Settle

Yates Petroleum Corporation

105 South Fourth Street

Artesia, NM 88210

TEL: (575) 748-4111

FAX

RE: Livingston Ridge SWD System

OrderNo.: 1608G85

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/30/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to 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 #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1608G85

Date Reported: 9/8/2016

CLIENT: Yates Petroleum Corporation

Client Sample ID: E-1'

Project: Livingston Ridge SWD System

Collection Date: 8/25/2016 2:12:00 PM

Lab ID: 1608G85-001

Matrix: SOIL

Received Date: 8/30/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	9600	750		mg/Kg	500	9/6/2016 7:00:40 PM	27331
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/1/2016 4:32:29 PM	27281
Surr: DNOP	85.0	70-130		%Rec	1	9/1/2016 4:32:29 PM	27281
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/31/2016 9:06:07 PM	27243
Surr: BFB	85.8	68.3-144		%Rec	1	8/31/2016 9:06:07 PM	27243
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095		mg/Kg	1	8/31/2016 9:06:07 PM	27243
Benzene	ND	0.024		mg/Kg	1	8/31/2016 9:06:07 PM	27243
Toluene	ND	0.047		mg/Kg	1	8/31/2016 9:06:07 PM	27243
Ethylbenzene	ND	0.047		mg/Kg	1	8/31/2016 9:06:07 PM	27243
Xylenes, Total	ND	0.095		mg/Kg	1	8/31/2016 9:06:07 PM	27243
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/31/2016 9:06:07 PM	27243

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
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1608G85

Date Reported: 9/8/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Client Sample ID: E-2'

Project: Livingston Ridge SWD System

Collection Date: 8/25/2016 2:17:00 PM

Lab ID: 1608G85-002

Matrix: SOIL

Received Date: 8/30/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	10000	750		mg/Kg	500	9/6/2016 7:13:04 PM	27331
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	9/1/2016 4:54:35 PM	27281
Surr: DNOP	92.0	70-130		%Rec	1	9/1/2016 4:54:35 PM	27281
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2016 9:29:35 PM	27243
Surr: BFB	85.6	68.3-144		%Rec	1	8/31/2016 9:29:35 PM	27243
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	8/31/2016 9:29:35 PM	27243
Benzene	ND	0.024		mg/Kg	1	8/31/2016 9:29:35 PM	27243
Toluene	ND	0.049		mg/Kg	1	8/31/2016 9:29:35 PM	27243
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2016 9:29:35 PM	27243
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2016 9:29:35 PM	27243
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/31/2016 9:29:35 PM	27243

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
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1608G85

Date Reported: 9/8/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Client Sample ID: W-1'

Project: Livingston Ridge SWD System

Collection Date: 8/25/2016 2:25:00 PM

Lab ID: 1608G85-003

Matrix: SOIL

Received Date: 8/30/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	43	30		mg/Kg	20	9/2/2016 1:35:17 PM	27331
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/1/2016 5:16:47 PM	27281
Surr: DNOP	102	70-130		%Rec	1	9/1/2016 5:16:47 PM	27281
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/31/2016 9:53:07 PM	27243
Surr: BFB	84.6	68.3-144		%Rec	1	8/31/2016 9:53:07 PM	27243
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	8/31/2016 9:53:07 PM	27243
Benzene	ND	0.025		mg/Kg	1	8/31/2016 9:53:07 PM	27243
Toluene	ND	0.050		mg/Kg	1	8/31/2016 9:53:07 PM	27243
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2016 9:53:07 PM	27243
Xylenes, Total	ND	0.10		mg/Kg	1	8/31/2016 9:53:07 PM	27243
Surr: 4-Bromofluorobenzene	98.3	80-120		%Rec	1	8/31/2016 9:53:07 PM	27243

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
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1608G85

Date Reported: 9/8/2016

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Yates Petroleum Corporation**Client Sample ID:** W-2'**Project:** Livingston Ridge SWD System**Collection Date:** 8/25/2016 2:29:00 PM**Lab ID:** 1608G85-004**Matrix:** SOIL**Received Date:** 8/30/2016 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	130	30		mg/Kg	20	9/2/2016 1:47:42 PM	27331
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/1/2016 5:38:57 PM	27281
Surr: DNOP	99.7	70-130		%Rec	1	9/1/2016 5:38:57 PM	27281
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2016 10:16:37 PM	27243
Surr: BFB	85.2	68.3-144		%Rec	1	8/31/2016 10:16:37 PM	27243
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096		mg/Kg	1	8/31/2016 10:16:37 PM	27243
Benzene	ND	0.024		mg/Kg	1	8/31/2016 10:16:37 PM	27243
Toluene	ND	0.048		mg/Kg	1	8/31/2016 10:16:37 PM	27243
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2016 10:16:37 PM	27243
Xylenes, Total	ND	0.096		mg/Kg	1	8/31/2016 10:16:37 PM	27243
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	8/31/2016 10:16:37 PM	27243

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
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1608G85

08-Sep-16

Client: Yates Petroleum Corporation
Project: Livingston Ridge SWD System

Sample ID	MB-27331	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	27331	RunNo:	36994					
Prep Date:	9/2/2016	Analysis Date:	9/2/2016	SeqNo:	1146344	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-27331	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	27331	RunNo:	36994					
Prep Date:	9/2/2016	Analysis Date:	9/2/2016	SeqNo:	1146345	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

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 |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1608G85

08-Sep-16

Client: Yates Petroleum Corporation
Project: Livingston Ridge SWD System

Sample ID	LCS-27281		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 27281		RunNo: 36922					
Prep Date:	8/31/2016		Analysis Date: 9/1/2016		SeqNo: 1144520		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.4	62.6	124			
Surr: DNOP	3.9		5.000		77.1	70	130			

Sample ID	MB-27281		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	27281		RunNo:	36922				
Prep Date:	8/31/2016		Analysis Date:	9/1/2016		SeqNo:	1144521		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Surr: DNOP	8.2		10.00		82.1	70	130				

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 |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1608G85

08-Sep-16

Client: Yates Petroleum Corporation
Project: Livingston Ridge SWD System

Sample ID	MB-27243	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	27243	RunNo:	36893					
Prep Date:	8/30/2016	Analysis Date:	8/31/2016	SeqNo:	1143738	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	850		1000		84.6	68.3	144			

Sample ID	LCS-27243	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	27243	RunNo:	36893					
Prep Date:	8/30/2016	Analysis Date:	8/31/2016	SeqNo:	1143739	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	80	120			
Surr: BFB	930		1000		93.0	68.3	144			

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 |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1608G85

08-Sep-16

Client: Yates Petroleum Corporation
Project: Livingston Ridge SWD System

Sample ID	MB-27243	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 27243			RunNo: 36893					
Prep Date:	8/30/2016	Analysis Date: 8/31/2016			SeqNo: 1143786		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID	LCS-27243		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 27243		RunNo: 36893					
Prep Date:	8/30/2016		Analysis Date: 8/31/2016		SeqNo: 1143787		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.87	0.10	1.000	0	87.4	61	143			
Benzene	0.93	0.025	1.000	0	92.6	75.3	123			
Toluene	0.90	0.050	1.000	0	90.3	80	124			
Ethylbenzene	0.92	0.050	1.000	0	92.0	82.8	121			
Xylenes, Total	2.8	0.10	3.000	0	92.6	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

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 |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



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: Yates Petroleum Corporat

Work Order Number: 1608G85

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

08/30/16
8/30/2016 9:30:00 AM

Completed By: Lindsay Mangin

8/30/2016 10:22:56 AM

Reviewed By:

jc 08/30/16

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

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

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.8	Good	Yes			



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

November 03, 2016

Chase Settle
EOG
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4111
FAX

RE: Livingston Ridge SWD System

OrderNo.: 1610854

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/18/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to 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 #NM0190

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

Analytical Report

Lab Order: 1610854

Date Reported: 11/3/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Project: Livingston Ridge SWD System

Lab Order: 1610854

Lab ID: 1610854-001 **Collection Date:** 10/17/2016 8:09:00 AM
Client Sample ID: E-3' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	2700	150		mg/Kg	100	10/29/2016 12:11:29 AM	28304

Lab ID: 1610854-002 **Collection Date:** 10/17/2016 8:10:00 AM
Client Sample ID: E-4' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	890	30		mg/Kg	20	10/26/2016 2:18:09 PM	28304

Lab ID: 1610854-003 **Collection Date:** 10/17/2016 8:14:00 AM
Client Sample ID: E-6' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	18000	750		mg/Kg	500	10/29/2016 12:23:54 AM	28304

Lab ID: 1610854-004 **Collection Date:** 10/17/2016 8:18:00 AM
Client Sample ID: E-8' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	430	30		mg/Kg	20	10/26/2016 2:42:58 PM	28304

Lab ID: 1610854-005 **Collection Date:** 10/17/2016 8:28:00 AM
Client Sample ID: E-10' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	550	30		mg/Kg	20	10/26/2016 2:55:23 PM	28304

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	Page 1 of 3
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified	

Analytical Report

Lab Order: 1610854

Date Reported: 11/3/2016

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** EOG
Project: Livingston Ridge SWD System**Lab Order:** 1610854**Lab ID:** 1610854-006**Collection Date:** 10/17/2016 8:38:00 AM**Client Sample ID:** E-11'**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 300.0: ANIONS

Analyst: LGT

Chloride	ND	30		mg/Kg	20	10/26/2016 3:07:48 PM	28304
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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
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610854

03-Nov-16

Client: EOG
Project: Livingston Ridge SWD System

Sample ID	MB-28304	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	28304	RunNo:	38270					
Prep Date:	10/26/2016	Analysis Date:	10/26/2016	SeqNo:	1194460	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-28304	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	28304	RunNo:	38270					
Prep Date:	10/26/2016	Analysis Date:	10/26/2016	SeqNo:	1194461	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.6	90	110			

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 |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



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: EOG/Yates

Work Order Number: 1610854

RcptNo: 1

Received by/date:	<i>RC</i>	<i>10/18/16</i>
Logged By:	Ashley Gallegos	10/18/2016 9:35:00 AM <i>AG</i>
Completed By:	Ashley Gallegos	10/18/2016 11:44:25 AM <i>AG</i>
Reviewed By:	<i>IO</i>	<i>10/18/16</i>

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

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

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

Special Handling (if applicable)

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

