

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

December 7, 2016

Ms. Kristen Lynch NMOCD District I 1625 N. French Drive Hobbs, New Mexico 88240 **APPROVED** By Olivia Yu at 12:59 pm, Apr 06, 2017

Re: Lusk-Belco Water Line Section 36, T19S-R32E Lea County, New Mexico 32.61124, -103.71108 1RP-4280

Ms. Lynch,

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 May 12, 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 December 21, 2016.

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

Thank you.

EOG Y Resources, Inc.

Chase Settle Adv. Environmental Representative



Lusk-Belco Water Line Work Plan

Section 14, T20S-R32E

July 19, 2016

1RP- 4290

energy opportunity growth

I. Location

From the intersection of 243 and 126A, take 126A north for approximately 6.07 miles, then turn east onto lease road and follow for 5.05 miles, then turn south on lease road for 2.16 miles, then turn southwest for 5,062 feet, then turn west for 3,194 feet, then turn south for 1.31 miles, take the temporary road east for 2,626 feet to the release site.

II. Background

On May 12, 2016, EOG Y Resources, Inc. submitted to the NMOCD District I office a Form C-141 for the release of an unknown amount of Crude Oil and Produced Water with none recovered. The affected area is approximately 30 feet by 10 feet area around a pipeline within the Right of Way. Failure of a poly transfer line caused the release. Initial delineation samples were taken (5/5/2016) and sent to a NMOCD approved laboratory (5/13/2016 & 5/25/2016, results enclosed). Further sampling was conducted (6/8/2016) with samples sent to a NMOCD approved laboratory (6/17/2016, results enclosed). In order to sample delineate chloride concentrations further, a core rig was used to obtain samples (11/16/2016) which were sent to a NMOCD approved laboratory (11/30/2016, results enclosed).

III. Surface and Ground Water

Area surface geology is Cenozoic Quaternary. The ChevronTexaco Trend Map displays at this location (Section 36, T19S-R32E) that depth to groundwater is approximately 185 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 clay/sand/loam mix with a thick fine-clay layer prohibiting further migration of contaminants beginning at 35' BSL and continuing past 45' BSL.

V. Scope of Work

Based on enclosed analytical results, the depth to groundwater (185'), and a decrease in chlorides, EOG Y Resources, Inc. will excavate four (4) feet of impacted soil from the release area, hauling all excavated soil to a NMOCD approved facility for disposal. EOG Y Resources, Inc. will then install a 20 ml synthetic liner to prohibit percolation of moisture deeper into the subsurface, restricting further chloride migration deeper towards groundwater or rising back to the surface. EOG Y Resources, Inc. will then backfill the excavated area with two (2) feet of caliche, followed by two (2) feet of topsoil to allow for vegetative repopulation of the release site. The first July following soil remediation, the site will be reseeded with the following seed mix with a lb. PLS/acre basis: Sand dropseed 1.0 lb/acre, Plains bristlegrass 2.0 lb/acre, and Little bluestem 1.0 lb/acre (if broadcast these amounts will be doubled). During site remediation monitoring, evaluations for noxious weeds (NM Noxious Weed List updated Oct. 2016) will be undertaken. If noxious weeds are present, they will be addressed using the appropriate method (chemical, mechanical, or biological) until eradication is complete. The TPH & BTEX are within the RRAL's for BTEX (50 ppm) and TPH (5000 ppm) for the Total Ranking Score of zero (0) in the release area, no further analytical testing of TPH and/or BTEX will be conducted (all chloride analytical 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.



Area	Analysis #	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
S1-1'	1605302	Release Area	5/5/2016	Backhoe	1'	N/D	N/D	N/D	7300
S1-2'	1605302	Release Area	5/5/2016	Backhoe	2'	N/D	N/D	N/D	13000
S1-3'	1605302	Release Area	5/5/2016	Backhoe	3'	N/D	N/D	N/D	14000
S1-4'	1605302	Release Area	5/5/2016	Backhoe	4'	N/D	N/D	N/D	19000
S1-5'	1605740	Release Area	5/5/2016	Backhoe	5'				25000
S1-6'	1605740	Release Area	5/5/2016	Backhoe	6'			6	25000
S1-8'	1605740	Release Area	5/5/2016	Backhoe	8'				26000
S1-10'	1605740	Release Area	5/5/2016	Backhoe	10'				24000
S1-12'	1605740	Release Area	5/5/2016	Backhoe	12'				22000
S1-14'	1605740	Release Area	5/5/2016	Backhoe	14'				20000
S1-17'	1606535	Release Area	6/8/2016	Backhoe	17'				16000
S1-18'	1606535	Release Area	6/8/2016	Backhoe	18'				13000
S1-20'	1606535	Release Area	6/8/2016	Backhoe	20'				17000
CR-20'	1611A10	Release Area	6/8/2016	Core Rig	20'				16000
CR-25'	1611A10	Release Area	6/8/2016	Core Rig	25'				8700
CR-30'	1611A10	Release Area	6/8/2016	Core Rig	30'				14000
CR-35'	1611A10	Release Area	6/8/2016	Core Rig	35'				740
CR-40'	1611A10	Release Area	6/8/2016	Core Rig	40'				490
CR-45'	1611A10	Release Area	6/8/2016	Core Rig	45'				500

Lusk-Belco Water Line

Site Ranking is Zero (0). >100' (185', Section 36, T19S-R32E, Trend Map)

All results are ppm. Chlorides for documentation

Released: Unknown; Recovered: 0 Release Date: 04/28/2016

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 13, 2016

Chase Settle Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4195 FAX

RE: Lusk AHB Belco Water Line

OrderNo.: 1605302

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/6/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT	Yates Petroleum Corporation		Client Sample ID: S1-1'
Project:	Lusk AHB Belco Water Line		Collection Date: 5/5/2016 12:14:00 PM
Lab ID:	1605302-001	Matrix: SO	L Received Date: 5/6/2016 10:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: JRR
Chloride	7300	300	mg/Kg	200	5/13/2016 11:51:57 AM	25299
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	: KJH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/10/2016 8:15:26 PM	25219
Surr: DNOP	93.4	70-130	%Rec	1	5/10/2016 8:15:26 PM	25219
EPA METHOD 8015D: GASOLINE RAN	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/9/2016 8:40:26 PM	25187
Surr: BFB	99.1	80-120	%Rec	1	5/9/2016 8:40:26 PM	25187
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	5/9/2016 8:40:26 PM	25187
Benzene	ND	0.024	mg/Kg	1	5/9/2016 8:40:26 PM	25187
Toluene	ND	0.047	mg/Kg	1	5/9/2016 8:40:26 PM	25187
Ethylbenzene	ND	0.047	mg/Kg	1	5/9/2016 8:40:26 PM	25187
Xylenes, Total	ND	0.095	mg/Kg	1	5/9/2016 8:40:26 PM	25187
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	5/9/2016 8:40:26 PM	25187

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 8
	ND	Not Detected at the Reporting Limit	Р	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, Inc.

 CLIENT: Yates Petroleum Corporation
 Client Sample ID: S1-2'

 Project:
 Lusk AHB Belco Water Line
 Collection Date: 5/5/2016 12:16:00 PM

 Lab ID:
 1605302-002
 Matrix: SOIL
 Received Date: 5/6/2016 10:30:00 AM

 Analyses
 Poul Units
 DE Date Analyzed

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: JRR
Chloride	13000	750	mg/Kg	500	5/13/2016 12:04:22 PM	25299
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	6			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/10/2016 8:37:09 PM	25219
Surr: DNOP	92.9	70-130	%Rec	1	5/10/2016 8:37:09 PM	25219
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/9/2016 9:03:53 PM	25187
Surr: BFB	99.3	80-120	%Rec	1	5/9/2016 9:03:53 PM	25187
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	5/9/2016 9:03:53 PM	25187
Benzene	ND	0.024	mg/Kg	1	5/9/2016 9:03:53 PM	25187
Toluene	ND	0.048	mg/Kg	1	5/9/2016 9:03:53 PM	25187
Ethylbenzene	ND	0.048	mg/Kg	1	5/9/2016 9:03:53 PM	25187
Xylenes, Total	ND	0.096	mg/Kg	1	5/9/2016 9:03:53 PM	25187
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	5/9/2016 9:03:53 PM	25187

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 8
	ND	Not Detected at the Reporting Limit	Р	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

500 5/13/2016 12:16:46 PM 25299

5/10/2016 8:58:50 PM

5/10/2016 8:58:50 PM

5/9/2016 9:27:18 PM

Analyst: JRR

Analyst: KJH

Analyst: NSB

Analyst: NSB

25219

25219

25187

25187

25187

25187

25187

25187

25187

25187

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

EPA METHOD 8015D: GASOLINE RANGE

EPA METHOD 300.0: ANIONS

Diesel Range Organics (DRO)

Gasoline Range Organics (GRO)

Methyl tert-butyl ether (MTBE)

Surr: 4-Bromofluorobenzene

EPA METHOD 8021B: VOLATILES

Chloride

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch
Lab ID:	1605302-003	Matrix:	SOIL	Received	d Date: 5/6/2016 10:30:00 AM	
Project:	Lusk AHB Belco Water Line			Collection	n Date: 5/5/2016 12:19:00 PM	
CLIENT:	Yates Petroleum Corporation		C	lient Sam	ple ID: S1-3'	

750

10

4.7

80-120

0.094

0.024

0.047

0.047

0.094

80-120

70-130

mg/Kg

mg/Kg

%Rec

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

1

1

1

1

1

1

1

1

1

1

14000

ND

93.2

ND

99.0

ND

ND

ND

ND

ND

100

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Bland	k
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Pa	ge 3 of 8
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	gc 5 01 8
	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 a	specified

Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	POL Oua	l Units	DF Date Analyzed	F
Lab ID:	1605302-004	Matrix:	SOIL	Received	Date: 5/6/2016 10:30:00 AM	
Project:	Lusk AHB Belco Water Line			Collection	Date: 5/5/2016 12:23:00 PM	
CLIENT:	Yates Petroleum Corporation			Client Samp	le ID: S1-4'	

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: JRR
Chloride	19000	750	mg/Kg	500	5/13/2016 12:29:10 PM	25299
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/10/2016 9:20:38 PM	25219
Surr: DNOP	93.4	70-130	%Rec	1	5/10/2016 9:20:38 PM	25219
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/9/2016 9:50:44 PM	25187
Surr: BFB	98.9	80-120	%Rec	1	5/9/2016 9:50:44 PM	25187
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	5/9/2016 9:50:44 PM	25187
Benzene	ND	0.024	mg/Kg	1	5/9/2016 9:50:44 PM	25187
Toluene	ND	0.048	mg/Kg	1	5/9/2016 9:50:44 PM	25187
Ethylbenzene	ND	0.048	mg/Kg	1	5/9/2016 9:50:44 PM	25187
Xylenes, Total	ND	0.097	mg/Kg	1	5/9/2016 9:50:44 PM	25187
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	5/9/2016 9:50:44 PM	25187

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 8
	ND	Not Detected at the Reporting Limit	Р	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

Client: Yates Petroleum Corporation

Project: Lusk AHB Belco Water Line

Sample ID MB-25299	SampType: ml	blk	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID: PBS	Batch ID: 25	299	F	RunNo: 34	4199				
Prep Date: 5/12/2016	Analysis Date: 5	/12/2016	S	SeqNo: 1	054649	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-25299	SampType: Ic:	5	Tes	tCode: El	PA Method	300.0: Anion	S		
Sample ID LCS-25299 Client ID: LCSS	SampType: Ic: Batch ID: 25			tCode: Ef		300.0: Anion	S		
	• • • • •	299	F		4199	300.0: Anion Units: mg/k			
Client ID: LCSS	Batch ID: 25	299 /12/2016	F	RunNo: 34	4199			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

WO#: 1605302

Client: Project:		etroleum Corpor HB Belco Water								
Sample ID	LCS-25208	SampType:	LCS	Tesl	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	LCSS	Batch ID:	25208	R	RunNo: 34	4107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016	S	eqNo: 1	051391	Units: %Red	•		
Analyte Surr: DNOP		Result PC	QL SPK value 5.000	SPK Ref Val	%REC 126	LowLimit 70	HighLimit 130	%RPD	RPDLimit	Qual
Sample ID	LCS-25219	SampType:	LCS	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	LCSS	Batch ID:	25219	R	RunNo: 3	4107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016	S	SeqNo: 1	051392	Units: mg/K	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)		10 50.00	0	107	65.8	136			
Surr: DNOP		5.1	5.000		101	70	130			
Sample ID	MB-25208	SampType:	MBLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batch ID:	25208	F	RunNo: 3	4107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016	S	SeqNo: 1	051393	Units: %Re	C		
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		10	10.00		100	70	130			
Sample ID	MB-25219	SampType:	MBLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batch ID:	25219	F	RunNo: 3	4107				
Prep Date:	5/9/2016	Analysis Date:	5/10/2016	S	SeqNo: 1	051394	Units: mg/K	(g		
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Surr: DNOP	Organics (DRO)	ND 11	10 10.00		106	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

1605302

WO#:

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Client:Yates Petroleum CorporationProject:Lusk AHB Belco Water Line

Sample ID MB-25187	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	ID: 25	187	F	RunNo: 3	4080				
Prep Date: 5/6/2016	Analysis D	ate: 5/	9/2016	S	SeqNo: 1	050472	Units: mg/M	۲g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970	-	1000		96.5	80	120			
Sample ID LCS-25187	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	le	
Client ID: LCSS	Batch	ID: 25	187	F	RunNo: 3	4080				
Prep Date: 5/6/2016	Analysis D	ate: 5/	9/2016	5	SeqNo: 1	050473	Units: mg/H	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	80	120			
Surr: BFB	1000		1000		105	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

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WO#: 1605302

2.7

1.1

0.10

3.000

1.000

	etroleum Co IB Belco W	•								
				Ŧ						
Sample ID MB-25187	SampTy			les	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	ID: 25	187	F	RunNo: 3	4080				-
Prep Date: 5/6/2016	Analysis Da	ate: 5/	9/2016	S	eqNo: 1	050509	Units: mg/K	g		
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-25187	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch	ID: 25	187	F	RunNo: 3	4080				
Prep Date: 5/6/2016	Analysis Da	ate: 5/	9/2016	5	SeqNo: 1	050510	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	101	61	143			
Benzene	1.1	0.025	1.000	0	106	75.3	123			
Toluene	0.96	0.050	1.000	0	96.3	80	124			
Ethylbenzene	0.91	0.050	1.000	0	91.0	82.8	121			

0

91.1

107

83.9

80

122

120

Qualifiers:

Xylenes, Total

Surr: 4-Bromofluorobenzene

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

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WO#: 1605302

Client Name: Yates Petroleum Corpora	Website: www.halienvnonmental.com Work Orger Number: 1606302
ANALYSIS LABORATORY	Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107
ENVIRONMENTAL	4901 Hawkins NE
HALL	Hall Environmental Analysis Laboratory

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Client Name:	Yates Petroleum Corpo	ora Work Order Nu	mber: 16053	302	an toni atom of the control of the c		ReptNo	>: 1
Received by/dat	te: Ff	25/06/1	(
Logged By:	Lindsay Mangin	5/6/2016 10:30:0	0 AM		Juniky H Stracker H	Ģ		
Completed By:	Lindsay Mangin	5/6/2016 12:58:0	6 PM		Freehogt	hapo		
Reviewed By:	Ch	05/06/1	6 ,		VÝ	~		
Chain of Cus	tody	0/10/11						
1 Custody sea	als intact on sample bottle	is?	Yes		No		Not Present V	l
2. Is Chain of (Custody complete?		Yes	V	No		Not Present	
How was the	e sample delivered?		Cour					
Log In								
	empt made to cool the same	mples?	Yes	~	No		NA	
5. Were all sar	mples received at a temp	erature of ⇒0° C to 6.0°C	Yes	V	No		NA 🗍	
6. Sample(s) i	n proper container(s)?		Yes		No	1		
7. Sufficient sa	imple volume for indicate	d lest(s)?	Yes	Y	No	Sector and		
8. Are samples	(except VOA and ONG)	properly preserved?	Yes	1	No	i		
9. Was preserv	vative added to bottles?		Yes)	No	v .	NA	
10.VOA vials h	ave zero headspace?	ti.	Yes		No	ł	No VOA Vials 🔽	
11, Were any s	ample containers receive	d broken?	Yes		No	1		
						8 12	# of preserved bottles checked	
	work match bottle labels? pancies on chain of custo		Yes	Y	No		for pH:	? or >12 unless noted)
In the work open if the owner conversion in the second second second second second second second second second	s correctly identified on C		Yes	V	No		Adjusted?	c of 212 difess fioled)
	nat analyses were reques		Yes	V	No			
	ding times able to be mel		Yes	V			Checked by:	
(if no, notify	customer for authorizatio	an)						
Special Hand	lling (if applicable)							
16. Was client r	notified of all discrepancie	s with this order?	Yes		No	Ì	NA 🖌	
Perso	n Notified.	D	ate	na filligent famile	talan Salah dalam kanang sebelar	national		
By Wi	hom:		a: 🗍 eMa	ail	Phone	Fax	In Person	
Regar	ding:	namen (fra men and an and an an and an an and an an and an an an an a	alismalan making waxoo lanaka inakalia.	alasi tanis tahing a	a Hoo (Berland Charles and The path Base Marrier	no manana ana ina ina ina ina ina ina ina in	and in the stand of	
Client	Instructions:	nen an eine an that that the sense of the		autorium de las mes	en sudennen synnedyr y sinner er efynned. Al Son	ontroprocess.	USEPHILISTIC MULTICAL CONTRACTOR OF	
17. Additional r	emarks:							
18. Cooler Info	ormation	8						
Cooler N	ter entre entre desail de la state est entre la chine de service and a state de service de service de service e		lo Seal Da	ate	Signed B	y		
1	1.0 Good	Yes						
Page 1 c	ofl							

	C Rush	: www.hallenvironme	Lusk AHB-Belco Water Line 4901 Hawkins NE - Albuquerque, NM 87109	H. 505 345 3075	181. 202-342-3873	Analy	(۲C) (Ies	3se Settle	PO # 205. 0750	Sampler: Chase Settle	(At C) 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	38 p 37 37 37 37 37 37 37 37 37 37 37 37 37	a anotana mangana ana ana ana ana ana ana ana ana a	1-4oz. ICE - (7) X X X X	The set of	1-4 a I I C E 773 X X X X X X	I'd a. Ice - MM X X X			Received by: Date Time Remarks: Self- Cent 05/05/16 1030 Raw 12 Act 24 543-16.	Received by: Date Time
		S.	4901 Hawkins	TAL 205 245	1ei, 505-345-	121-	(Åj)	0.88) (G) 8 (त	910 910 1 4	ы 9 9 8 р 98 р	TM - XJ18 PPH Method MBM) H91	and the state of the		X					
			Water Line								No		22	-1001 ×	x dul-	the 1x	X Iddi-			т те 7030	
Time:	0	ini	sk AHB-Belco				iger:	Chase Settle	PO # 205.07	Chase Settle	ă Yes	perature: /. ()	Preservative Type	CE		50 50 1-1				East 0	
Turn-Arbund	X Standard	Project Name	Ë				Project Mana			Sampler:	On Ice:	Sample Tem	Container Type and #	1 - 4oz.	n.j.) €. 	1-402	1 - 1/ r J			Received by:	Received by:
Chain-of-Custody Record	corporation				05 South 4th Street Artesia, NM 88210	637	csettle@yatespetroleum.com		Level 4 (Full Validation)				Sample Request ID	· [-].	51.21	ST-3.	31-41			Man Andrews	1 by:
of-Cus	Yates Petroleum Corporation				treet Artes	575-703-6537	csettle@v	1.000			□ Other		Matrix	Sol	No. of Concession, Name		- 3	stopgyrm a farian a fari		Relinquished by:	Retriguished by:
hain-			Aailing Address:		urh 4th S		Email or Fax#:	DAVQC Package:	Standard	Accreditation:	0.4	EDD (Type)	E L	12-14 2	12.16	12-19 5 Se	12.23			1 me: 2. e.c.	Tirre:
0	Zient:		Jailing		05 So	hone #:	smail o	DAICO	□ Stan	\ccred	D NELAP			-9 24 24	-9 10 1	-9 17 10	jų D			Sate:	Jate:



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

May 25, 2016

Chase Settle Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4195 FAX

RE: Lusk AHB Belco Water Line

OrderNo.: 1605740

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/17/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

	ates Petroleum Corporati usk AHB Belco Water Li			L	ab Order: 16057	/40
Lab ID: Client Sample ID:	1605740-001 S1-5'		(Collection Date: Matrix:	5/5/2016 12:28:00 PI SOIL	M
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300.	.0: ANIONS					alyst: LGT
Chloride		25000	1500	mg/Kg	1E 5/23/2016 9:09:28	PM 25413
Lab ID:	1605740-002		(Collection Date:	: 5/5/2016 12:31:00 PI	M
Client Sample ID:	S1-6'			Matrix:	SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300. Chloride	.0: ANIONS	25000	1500	mg/Kg	Ana 1E 5/23/2016 9:21:52	alyst: LGT PM 25413
Lab ID:	1605740-003			Collection Date:	: 5/5/2016 12:37:00 P	M
Client Sample ID:	S1-8'			Matrix:	: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300. Chloride	.0: ANIONS	26000	1500	mg/Kg	An: 1E 5/23/2016 9:34:17	alyst: LGT PM 25413
Lab ID:	1605740-004			Collection Date:	: 5/5/2016 12:44:00 P	M
Client Sample ID:	S1-10'			Matrix	: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	24000	1500	mg/Kg	An 1E 5/23/2016 9:46:41	alyst: LGT PM 25413
Lab ID:	1605740-005			Collection Date	: 5/5/2016 12:50:00 P	M
Client Sample ID:	S1-12'			Matrix	: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	22000	750	mg/Kg	An 500 5/23/2016 10:23:5	alyst: LGT 5 PM 25413

Hall Environmental Analysis Laboratory, Inc.

В Analyte detected in the associated Method Blank

Sample Diluted Due to Matrix

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

Н Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

Not Detected at the Reporting Limit ND

Qualifiers:

*

D

- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Value above quantitation range
- Е
- Analyte detected below quantitation limits J Page 1 of 3
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order: 1605740

Date Reported: 5/25/2016

Hall Envi	ronmental Analys	is Laborat	tory, Inc.		Date Reported	1: 5/25/2	2016
CLIENT: Project:	Yates Petroleum Corp Lusk AHB Belco Wate				Lab Order:	160574	0
Lab ID:	1605740-006				ate: 5/5/2016 12:5	8:00 PM	[
Client Sample	e ID: S1-14'			Ma	trix: SOIL		
Analyses		Result	PQL Qua	al Units	DF Date Anal	lyzed	Batch ID
EPA METHO	D 300.0: ANIONS					Anal	yst: LGT
Chloride		20000	750	mg/Kg	500 5/23/2016	10:36:19	PM 25413

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
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 3 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order: 1605740

WO#: 1605740

Page 3 of 3

25-May-16

	Petroleum Corporation AHB Belco Water Line			ч.
Sample ID MB-25413	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 25413	RunNo: 34392		
Prep Date: 5/19/2016	Analysis Date: 5/19/2016	SeqNo: 1060476	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID LCS-25413	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 25413	RunNo: 34392		
Prep Date: 5/19/2016	Analysis Date: 5/19/2016	SeqNo: 1060477	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	15 1.5 15.00	0 97.0 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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 1EI - 505-345-3975 FAX: 505-345-4103 Website, www.halleuvironmental.com

Sample Log-In Check List

Client Name:	Yates Petroleum Corpora	Work Order Number:	16057	40		Rcp	tNo: 1
Received by/date	e 😤 A	05/177/100					
Logged By:	Lindsay Mangin	5/17/2016 9:40:00 AM			Junky Margo	1	
Completed By:	Lindsay Mangin	5/17/2016 9:51;52 AM			Contraction of the second	1	
Reviewed By:	2	05/17/10			0.0		
Chain of Cus	tody	0 11 11					
1. Custody sea	Is intact on sample bottles?		Yes		No	Not Present	V
2. Is Chain of C	lustody complete?		Yes	~	No	Not Present	[
3 How was the	sample delivered?		Couri	er			
Log In							
	mpt made to cool the sample		Yes	5.01	No	NA	C
🐄 was an alle	mpi made to doi the sampi	es /	tes	(Y)	NO	NA NA	
5. Were all san	nples received at a temperat	ure of I>0° C to 5.0°C	Yes	V	No 🗍	NA	
6. Sample(s) in	n proper container(s)?		Yes	>	No 🗔		
7. Sufficient sa	mple volume for indicated te	st(s)?	Yes	V	No 🗌		
8. Are samples	(except VOA and ONG) pro	perly preserved?	Yes	V	No		
9. Was preserv	vative added to bottles?		Yes	<u> </u>	No 🗸	NA	
10.VOA vials ha	ave zero headspace?		Yas	1	No 🗍	No VOA Vials	~
	ample containers received bi	roken?	Yes		No 🗸		
in and intervention of the state of the stat	work match bottle labels?		Yes		No	# of preserved bottles checke for pH:	
	pancies on chain of custody)	185		NOT	io pri	(<2 or >12 unless noted)
13. Are matrices	s correctly identified on Cheir	n of Custody?	Yes	1	No 🗌	Adjuste	52
A 38 - 11 1993	at analyses were requested	?	Yes	~	No 🗌		
	ding times able to be met? customer for authorization.)		Yes	v	No	Checked	by.
Special Hanc	lling (if applicable)						
16. Was client r	nctified of all discrepancies w	vith this order?	Yes		No 🗌	NA	V
Perso	n Notified:	Cate			alashadi alasha sa adadh yi ki shirologi bi shirologi bi		
By WI		via:	eM	ail 📋	Phone Fax	In Person	
Regar	ding:	nakon unakan kumo manakan kuma kuma kuma kuma kuma kuma kuma kuma	MPLOMB (LONGLAMB)	anningan ny karatang karang	801000000000000000000000000000000000000	Say was surpliced and a s	an and a second se
Clent	Instructions:	enter Historia Program Printer indicated des ses son de la constato de come do de constato de la constato de se	29-10-07-0-12-02-02-02-02-02-02-02-02-02-02-02-02-02	zla sigen ar skiller i na sinne zek zar	1920 (220-80 (300 gao	nnin ne on werzen en neksalen kennen en indere ansen i die ke	al manuf
17. Additional	remarks:						
18. Cooler Infe	ormation						
Cooler N	OTON 2015 MARK AND ADDRESS OF A DESCRIPTION OF A DESCRIPT	ner regeneransförten den seten att förstörte den sociale att med ett att socialitette att att att att att att a	Sea: D	ate	Signed By	-	
1	5.4 Good	Yes				1	

Cha	in-of-CI	Chain-of-Custody Record	Turn-Around	Time:			I		SN	Rol	HALL ENVIRONMENTA	TAL	
lient: Yat	es Petroleum		X Standarc	C Rush			A	ALY	'SIS	LAB	ANALYSIS LABORATORY	LORY	
			Project Name				M	ww.halle	www.hallenvironmental.com	ental.co	E		
failing Address:	ress:			Lusk AHB-Belco Water Line	Water Line	4901	4901 Hawkins NE -	с Ш Z	Albuque	due, NN	Albuquerque, NM 87109		
05 South 4	th Street Ar	05 South 4th Street Artesia, NM 88210	Project #:			Tel. (505-345-3975	3975	Fax 5	505-345-4107	4107		
hone #:	575-703-6537	3-6537						æ	Analysis Request	equest			
mail or Fax#:		csettle@yatespetroleum.com	Project Manager:	ger:		(Ap),		1999 19 (m 4 - 4	POS	5	Salasi del Spectrum Presidente del Status		
1A/QC Package:	(age:			Chase Settle	1.00000	1880			5 ^{.‡} O	.90e	n din salah si maso he		
J Standard	73	Level 4 (Full Validation)		PO#205.0750	20))			3'²Q	5 7 8			
vccreditation:	in:		31.	Chase Settle		1:11.	(; 8		DN. ₆	087	Į)	eranterizazio (1999)	(N 1
	□ Other	54		1	ON D	1 -	117	di I		and the second	JO		0,
T EDD (Ty	(Type)		Sample Temp	perature: 5. 4	4	ЮЦ	(JUI	(i) y			<u>/</u> _{-{.,		() 5
Date	Time Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	м - хэта м - хэта м - хэта	te() [tet]	7947) OLE8 1101W: ELLA	ч а аяря .Я) <mark>enoinA</mark>	8081 Peal W (AC	192) 0728		olddu£l niA
5/5/2016 12:28P	28P Soil	S1-5'	1 - 4oz.	None	100-				×		⁴ ····································		m monutation and
5/5/2016/12:31P		S1-6	1 - 4oz.	None	-002				×				
5/2016 12:37P		S1-8'	1 - 4oz.	None	-82				×				
ab/2016 12:44P	:44P Soil	S1-10'	1 - 4oz.	None	-0021	SaconSpennance III Generative Jacons d			×	nandi (den an			
5/5/2016 - 2:50P		S1-12'	1 - 4oz.	None	-92-				×				ļ
5/2018 12:	12:58P Soil	S1-14'	1 - 40Z.	None	-000-				×				
ann a			Calify Con-							analalan poletioosin			
											analise0100 504 (ed. 99		
Date: Time: .//.// 9:09	Time: Relinquished by:	the two	Received by:	et 05	1	Remarks:							
Date: Time:	re: Refinquished by:	thed by:	Received by:		Date Time'								
H	meenu eemnias s	e someras comitas or heritad in Hall Environmental may be subcortracted to other	Contracted to other at	coredited laboratorie	 accredited (aberratones. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the arrabitical report.	l s possibility. Any	sub-conta	cted data w	Il be clearly	notated on	the analytical r	eport.]

. C. ō notice 12 if necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratones. This serves



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

June 17, 2016

Chase Settle Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4195 FAX

RE: Lusk AHB Belco Water Line

OrderNo.: 1606535

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/10/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

andial

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environ	mental Analysis	Laborat	tory, Inc.		Date Reported: 6/17	//2016
	ates Petroleum Corpora Lusk AHB Belco Water I				Lab Order: 1606:	535
Lab ID: Client Sample ID:	1606535-001 S1-17'				Date: 6/8/2016 10:37:00 A atrix: SOIL	М
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	16000	750	mg/Kg	An 500 6/15/2016 4:24:35	alyst: LGT PM 25840
Lab ID:	1606535-002			Collection 1	Date: 6/8/2016 11:14:00 A	М
Client Sample ID:	S1-18'			Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS				An	alyst: LGT
Chloride		13000	750	mg/Kg	500 6/15/2016 4:37:00	PM 25840
Lab ID:	1606535-003			Collection	Date: 6/8/2016 11:30:00 A	M
Client Sample ID:	S1-20'			Ma	atrix: SOIL	
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 300	0.0: ANIONS				An	alyst: LGT
Chloride		17000	750	mg/Kg	500 6/15/2016 4:49:25	PM 25840

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
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report

Lab Order: 1606535

17-5

Sample ID MB-25840	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 25840	RunNo: 34930		
Prep Date: 6/14/2016	Analysis Date: 6/14/2016	SeqNo: 1078875	Units: mg/Kg	
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID LCS-25840	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Sample ID LCS-25840 Client ID: LCSS	SampType: Ics Batch ID: 25840	TestCode: EPA Method RunNo: 34930	300.0: Anions	
Normal Margaria			300.0: Anions Units: mg/Kg	
Client ID: LCSS	Batch ID: 25840	RunNo: 34930 SeqNo: 1078876		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

WO#: 1606535

17-Jun-16

Page 2 of 2

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

				الفاري ومعادية والمتحد والمتحد التحديق والمحد والمحد المحد المحد المحد المحد المحد المحد المحد المحد المحد الم	
Client Name: Yates Petroleum Corpor	at Work Order Number:	1606535		RcptNo:	1
Received by/date: Logged By: Lindsay Mangin	06/10/16 6/10/2016 9:30:00 AM		Jumbu Hlengo		
Completed By: Lindsay Mangin	6/10/2016 10:32:09 AM	1	Junky Hoppo		
Reviewed By:					
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 san	nples?	Yes 🛃	No 🗌	NA 🗔	
5. Were all samples received at a tempe	rature of >0° C to 6.0°C	Yes Approved	No 🖻		
6. Sample(s) in proper container(s)?		Yes 🛃	No 🗆		
7. Sufficient sample volume for indicated	l test(s)?	Yes · 🛃	No 🗌		
8. Are samples (except VOA and ONG)	properly preserved?	Yes 🛃	No 🗌	ž	
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	d broken?	Yes	No 🛃		2
				# of preserved bottles checked	
12.Does paperwork match bottle labels?		Yes 🛃	No 🗌	for pH:	or >12 unless note
(Note discrepancies on chain of custo 13. Are matrices correctly identified on C		Yes 🛃	No 🗆	Adjusted?	
14. Is it clear what analyses were request		Yes 🛃		10	
15. Were all holding times able to be mel		Yes 🛃	No 🗆	Checked by:	
(If no, notify customer for authorizatio				i .	
Special Handling (if applicable)					
16. Was client notified of all discrepancie		Yes	No 🗌	NA 🛃	
Person Notified:	Date:	Contraction of the owner	an a		1
By Whom:	Via:	I ∏eMail [Phone 🗍 Fax	In Person	
by whom.	via.				

17. Additional remarks:

18. Cooler Information

Regarding:

Client Instructions:

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	19.6	Good	Yes			

HALL FNVTPONMENTAL	ANALYSIS LABORATORY	com	4901 Hawkins NE - Albuquerque, NM 87109	505-345-4107	st				1)		0/	4,0V) 80858 -im92) 0728 -im92) 0728 -im92) 0728											n the analytical report.
	S LA	www.hallenvironmental.com	lerque,	505-34	Analysis Request	_					səp	ioitee4 1808								_			notated o
	S		Abuqu	Fax	alysis	(*C)S'*	04'	^z ON			PCRA 8 Me D,7) snoinA		×	×								e clearly
949 1941		alled	E - /	75	Ana				()		100	AN9) 0158							_				ata will b
			ins N	Tel. 505-345-3975					-			ortieM) 803	-										acted de
		L	Hawk	05-3					1.	20. 22		ortheM) H9T											tb-contra
100			1901	Tel. 5								BTEX + MTI	•								 :s:		Any su
	JL		7			-						BTEX + MTI	-				 	 	 		 Remarks:		ssibility.
			Water Line							D.No.	1.0e=19 6	HEAL No: 11,01,535	100-	-002	-202-)					I pate Time R	Date C Time	s. This serves as notice of this po
Time:	c 🗆 Rush		Lusk AHB-Belco Water Line			iger:	Chase Settle	PO # 205. 0750	Chase Settle	JYes	perature: 20,(The second division of	None	None	None						 Dr.1		credited laboratories
Turn-Around	X Standard	Project Name:		Project #:		Project Manager:			Sampler:		сuэ	Container Type and #	1 - 4oz.	1 - 4oz.	1 - 4oz.						Received by	Received by:	ntracted to other act
Chain-of-Custody Record	Yates Petroleum Corporation			05 South 4th Street Artesia, NM 88210	6537	csettle@yatespetroleum.com		Level 4 (Full Validation)				Sample Request ID	S1-17	S1-18'	S1-20'								If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
-of-Cu	betroleum		10	Street Arte	575-703-6537	csettle@				D Other		Matrix	Soil	Soil	Soil			 			 Relinquished by:	Relinquished by:	samples subm
hain	Yates F		Addres:	th 4th 5		Fax#:	ackage:	ard	ation:	ፈ	Type)	Time	0:37A	1:14A	1:30A						Time: 8:00 _{4m}	Time:	ecessary.
Ö	Client:		Vailing Address:	105 Sou	⁵ hone #:	amail or Fax#:	JA/QC Package:	□ Standard	Accreditation:	J NELAP	J EDD (Type)	Date	6/8/2016 10:37A	6/8/2016 11:14A	6/8/2016 11:30A						19	ate:	If ne



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

November 30, 2016

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

RE: Lusk AHB-Belco Water Line

OrderNo.: 1611A10

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/18/2016 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report
Lab Order 1611A10
Date Reported: 11/30/2016

CLIENT: Yates Petroleum Corporation Client Sample ID: CR-20' Project: Lusk AHB-Belco Water Line Collection Date: 11/16/2016 1:55:00 PM Lab ID: 1611A10-001 Matrix: SOIL Received Date: 11/18/2016 9:30:00 AM **PQL** Qual Units Analyses Result **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride 16000 750 mg/Kg 500 11/29/2016 12:07:21 AM 28796

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

Oualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Dage 1 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range Page 1 of 7
	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, Inc.

Analytical Report
Lab Order 1611A10
Date Reported: 11/30/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Yates Petroleum Corporation		(Client Sampl	e ID: CR-25'	
Project:	Lusk AHB-Belco Water Line			Collection I	Date: 11/16/2016 2:05:00 PM	[
Lab ID:	1611A10-002	Matrix: S	SOIL	Received I	Date: 11/18/2016 9:30:00 AM	1
Analyses		Result	PQL Qual	Units	DF Date Analyzed	Batch
	HOD 300.0: ANIONS	Result	PQL Qual	Units		Batch st: LGT

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Ε	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 7
	ND	Not Detected at the Reporting Limit	Р	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 1611A10
Date Reported: 11/30/2016

CLIENT: Yates Petroleum Corporation Client Sample ID: CR-30' Lusk AHB-Belco Water Line **Project:** Collection Date: 11/16/2016 2:10:00 PM Lab ID: 1611A10-003 Matrix: SOIL Received Date: 11/18/2016 9:30:00 AM PQL Qual Units Analyses Result **DF** Date Analyzed Batch EPA METHOD 300.0: ANIONS Analyst: LGT Chloride 14000 750 mg/Kg 500 11/29/2016 12:32:11 AM 28796

Hall Environmental Analysis Laboratory, Inc.

1

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 7
	ND	Not Detected at the Reporting Limit	Р	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 1611A10
Date Reported: 11/30/2016

Hall Environmental Analysis Laboratory, Inc. Date CLIENT: Yates Petroleum Corporation Client Sample ID: CR-35'

CLIENT: Yates Petroleum Corporation		(Client Sampl	e ID: CR-35'	
Project: Lusk AHB-Belco Water Line	Belco Water Line Collection Date: 11/16/2016 2:19:00 PM				ſ
Lab ID: 1611A10-004	Matrix: SOIL Received Date: 11/18/2016 9:30:				1
Analyses	Result	PQL Qual	Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analy	st: LGT
Chloride	740	30	mg/Kg	20 11/22/2016 7:43:15 P	PM 28796

		TANK STATES AND A		
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Ε	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 7
	ND	Not Detected at the Reporting Limit	Р	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 1611A10
Date Reported: 11/30/2016

-**CLIENT:** Yates Petroleum Corporation Client Sample ID: CR-40' **Project:** Lusk AHB-Belco Water Line Collection Date: 11/16/2016 2:28:00 PM Lab ID: 1611A10-005 Matrix: SOIL Received Date: 11/18/2016 9:30:00 AM Analyses Result **PQL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride 490 30 mg/Kg 20 11/22/2016 7:55:40 PM 28796

Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Dogo 5 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range Page 5 of 7
	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 1611A10	
Date Reported: 11/30/2016	

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Yates Petroleum Corporation		C	lient Samp	le ID: CR-45'	
Project:	Lusk AHB-Belco Water Line	Collection Date: 11/16/2016 2:39:00 PM				
Lab ID:	1611A10-006	Matrix: S	SOIL	Received	Date: 11/18/2016 9:30:00 Al	N
Analyses		Result	POL Qual	Units	DF Date Analyzed	Batch
			<u> </u>		21 2 mit 1 minijutu	Daten
EPA MET	HOD 300.0: ANIONS					/st: LGT

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	B Analyte detected in the associated Method Blank		
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range		
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 7		
	ND	ND Not Detected at the Reporting Limit P Sample pH Not In R		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		

14

1.5

15.00

Client: Project:		Petroleum Corporation AHB-Belco Water Line		
Sample ID Client ID:	MB-28796 PBS	SampType: MBLK Batch ID: 28796	TestCode: EPA Method 300.0: Anions	
Prep Date:		Analysis Date: 11/22/2016	RunNo: 38922 SeqNo: 1216481 Units: mg/Kg	
Analyte			SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	
Chloride		ND 1.5		
Sample ID	LCS-28796	SampType: LCS	TestCode: EPA Method 300.0: Anions	
Client ID:	LCSS	Batch ID: 28796	RunNo: 38922	
Prep Date:	11/21/2016	Analysis Date: 11/22/2016	SeqNo: 1216482 Units: mg/Kg	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	

0

93.6

90

110

Qualifiers:

Chloride

- * 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 7 of 7

30-Nov-16

WO#: 1611A10

HALL ENVIRONMENTAL ANALYSIS LABORATORY	7 TEL: 505-345-39	tal Analysis Laborato 4901 Hawkins N Ilbuquerque, NM 8710 175 FAX: 505-345-410 hallenvironmental.co		ble Log-In Ch	eck List
Client Name: EOG/Yates	Work Order Numb	per: 1611A10		RcptNo:	1
Received by/date	11/18/110 11/18/2016 9:30:00		AF		
Completed By: Ashley Gallegos	11/18/2016 12:12:5	9 РМ 	AJ.		
Chain of Custody		Yes	No 🗌	Not Present	
 Custody seals intact on sample bottles? Is Chain of Custody complete? 		Yes 🔽		Not Present	
 S. How was the sample delivered? 		Courier		Hot Present P	
Log In					
4. Was an attempt made to cool the sample	s?	Yes 🔽	No 🗀		
5. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes 🗋 Not requi	No 🗹 red	NA []]	
6. Sample(s) in proper container(s)?		Yes 🔽	No []		
7. Sufficient sample volume for indicated tes	t(s)?	Yes 🔽	No []		
8. Are samples (except VOA and ONG) prop	erly 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 bro	oken?	Yes 📋	No 🗹	# of preserved	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🔽	No 🗔	and any second	>12 unless noted)
13. Are matrices correctly identified on Chain	of Custody?	Yes 🔽	No L.I	Adjusted?	· · · · · · · · · · · · · · · · · · ·
14. Is it clear what analyses were requested?		Yes 🗹	No [``]	(200) AD 0404	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No [_]	Checked by:	<u> </u>
Special Handling (if applicable)	,		2550-695		
16. Was client notified of all discrepancies with	th this order?	Yes 🗌	No 🗋	NA 🗹	
Person Notified:	Dat	e [r Refer brunde Robit Die Koning		
By Whom:	илинин жилин алаан байлаг байлаг Сайлан байлаг байлаг Сайлан байлаг	: [_] eMail [_] P	hone 门 Fax		

17. Additional remarks:

Client Instructions:

18. Cooler Information

Cooler No	Temp ℃	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	15.0	Good	Yes			

Page	1	of	1
1 ugo		U.	

Cha	in-of-C	Chain-of-Custody Record	Turn-Around Time:	Time:	-				-						
Client: Yate	ss Petroleu	Yates Petroleum Corporation	X Standarc	D Rush					A	SIS	2 A	NO R	AALL ENVIRONMENTAL ANALYSIS LABORATORY	י גי גי	
			Project Name:					MM	w.halle	www.hallenvironmental.com	iental.c	шo			
Mailing Address:	ress:		Lus	Lusk AHB-Belco Water Line	Water Line	4	901 Ha	4901 Hawkins NE		Albuquerque, NM 87109	rque, N	4M 87	109		
105 South 4	th Street A	105 South 4th Street Artesia, NM 88210	Project #:			F	Tel. 50	505-345-3975	975	Fax 5	505-345-4107	-4107	2		
Phone #:	575-7(575-703-6537							An	Analysis Request	sedues	t			
email or Fax#:		csettle@vatespetroleum.com	Project Manager:	ger:						(*0	ę				
QA/QC Package:	age:			Chase Settle			1.000			S'⁰O	SIE SI				
□ Standard		Level 4 (Full Validation)		PO # 205. 0750	20					с, с,	4 28				
Accreditation:			Le.	Settle	مى يەتىرىتىن بىرى مەرىمە مەرىكى يېرىكى يې يېرىكى يېرىكى		n nakada ke			ON' ^e	308 /	(UN ·	(NI
D NELAP	D Other	ler	Un loe:	N	S S		an Indonesia		v/cl -						10 1
	(ec)	-	Sample remperature.	berature, ()					lo v			_			19
Date	Time Matrix	x Sample Request ID	Container Type and #	Preservative Type	HEAL No. 10/1 A IO	BTEX + M	ortheim Hatt	nem) Aga New) Aga	AN9) 0168	M 8 Aମ୦ମ), ⁻ I) enoinA	8081 Pesti 8260B (VO	m92) 0728			səlddu Bubble
11/16/16 1:55p	p Soil	CR-20'	1 - 4oz.	None	-001					×					
####### 2:05p	p Soil	CR-25'	1 - 4oz.	None	-003	i	<u></u>			×					
####### 2:10p	p Soil	CR-30'	1 - 4oz.	None	-003					×					
######## 2:19p	p Soil	CR-35'	1 - 4oz.	None	-004					×					
######## 2:28p	b Soll	CR-40'	1 - 4oz.	None	-005					×					
####### 2:39p		CR-45'	1 - 4oz.	None	000-					×					
						•									<u> </u>
						+									T [
															- <u></u>
Date: Time: 11/17/16 2:00		Relinquished-by:	Received by:	4 Corre	Date Time Leha 11/18/16 0935	Remarks:		Results		rudid by	h	11	11/29/2016.	÷	
Date: Time:		Relinquished by:	Received by: (4	Date Time										
If nece	sary, samples s	If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	ontracted to other ac	credited laboratorie	s. This serves as notice of this	possibility.	Any sub-	contracte	d data wil	be clearly I	notated or	the ana	dytical report.		1

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K