

MARTIN YATES, III
1912-1985

FRANK W. YATES
1936-1986

S.P. YATES
1914-2000



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January 22, 2016

Mr. Mike Bratcher or Ms. Heather Patterson
NMOCD District II
811 South First
Artesia, NM 88210

RE: Livingston Ridge SWD Water Line
(Wolf AJA Federal #17H)
Section 25, T21S-R31E
Eddy County, New Mexico

Mr. Bratcher or Ms. Patterson,

Yates Petroleum Corporation would like to submit the following plan of work to you regarding the release that occurred at the above mentioned facility on June 18, 2015 (2RP-3074). The release was 50 barrels of produced water released, with 0 barrels of produced water recovered.

With NMOCD and BLM approval of this work plan, Yates will hold a bid meeting allowing several contractors the opportunity to submit bids on this remediation project. Bids that are received will be forwarded to Yates Management for review. Once Yates Management reviews the bids and gives approval, the remediation project will be awarded to a contractor for work to commence.

If you have any questions or concerns, I can be reached at (575) 748-4111 or by email at agriffin@yatespetroleum.com.

Thank You,

Amber Griffin
Environmental Regulatory Agent
Yates Petroleum Corporation



Yates Petroleum Corporation

**Livingston Ridge SWD Work Plan
(Wolf AJA Federal #17H)**

Section 25, T21S-R31E

Eddy County, New Mexico

January 22, 2016

I. Location

The release area is located approximately 31.1 miles east of Carlsbad, NM on Highway 62/180, approximately 6.8 miles south of Highway 62/180 on Campbell Road (County Road 29) and approximately 0.1 miles west of Campbell Road (County Road 29) on a pipeline right-of-way.

II. Background

On June 18, 2015, Yates had a release of 50 barrels produced water, with 0 barrels produced water recovered. The area affected from this release was along the pipeline right-of-way for a Yates water transfer line that transports produced water to salt water disposal facilities in the area. An initial Form C-141 was submitted, via e-mail, to the NMOCD District II on June 24, 2015.

On July 28, 2015 Yates returned to the site and collected initial soil samples from the depths of 1' – 13' below surface level using a backhoe. The 1' – 3' soil samples were sent to an approved NMOCD laboratory and tested for BTEX 8021B, TPH 8015M, and Chlorides 300.0. The 4' – 13' soil samples were sent to the same laboratory and tested only for Chlorides 300.0. Yates received the analytical results on August 7, 2015 (Reports 1507D92 and 1507D93 attached to this work plan). The analytical results showed that both BTEX and TPH were at levels below NMOCD RRAL's. The analytical results also showed elevated chloride levels, and Yates determined that further vertical delineation of chlorides was needed.

On July 30, 2015 the overspray area of the release was treated with a 3% Micro-Blaze solution.

The release area contains mostly sandy soils and these soils would collapse while digging with heavy equipment. The collapsing of soils created personnel safety issues and made it impossible to obtain discrete samples from deeper depths. As a result, it was determined that a hollow stem auger core rig would be needed to complete further vertical delineation within the release area.

On November 9, 2015 Yates contacted a company with a hollow stem auger core rig to conduct further vertical delineation of the release area. The hollow stem auger was scheduled for December 15, 2015 and complete vertical delineation of chlorides was completed. Soil samples obtained with the hollow stem auger were sent to an approved NMOCD laboratory and tested for Chlorides 300.0. Yates received the analytical results on December 31, 2015 (Report 1512A75 attached to this work plan). The analytical results showed that Yates had successfully found the bottom of the chloride contamination.

III. Surface and Ground Water

Area surface geology is Cenozoic. The ChevronTexaco depth to ground water map shows the depth to groundwater to be approximately 125 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 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 and interspersed with caliche and clay seams.

V. Scope of Work

Based off the analytical reports which show complete vertical delineation, Yates proposes to excavate four (4) feet from the release area. The excavation will be approximately 106' long, 46' wide. Once all soils have been excavated, a 20 mil synthetic liner will be placed in the bottom of the excavation. The backfill of the excavation will then be started with caliche (up to 2' below surface level) and finished with 2' of top soil or sand.

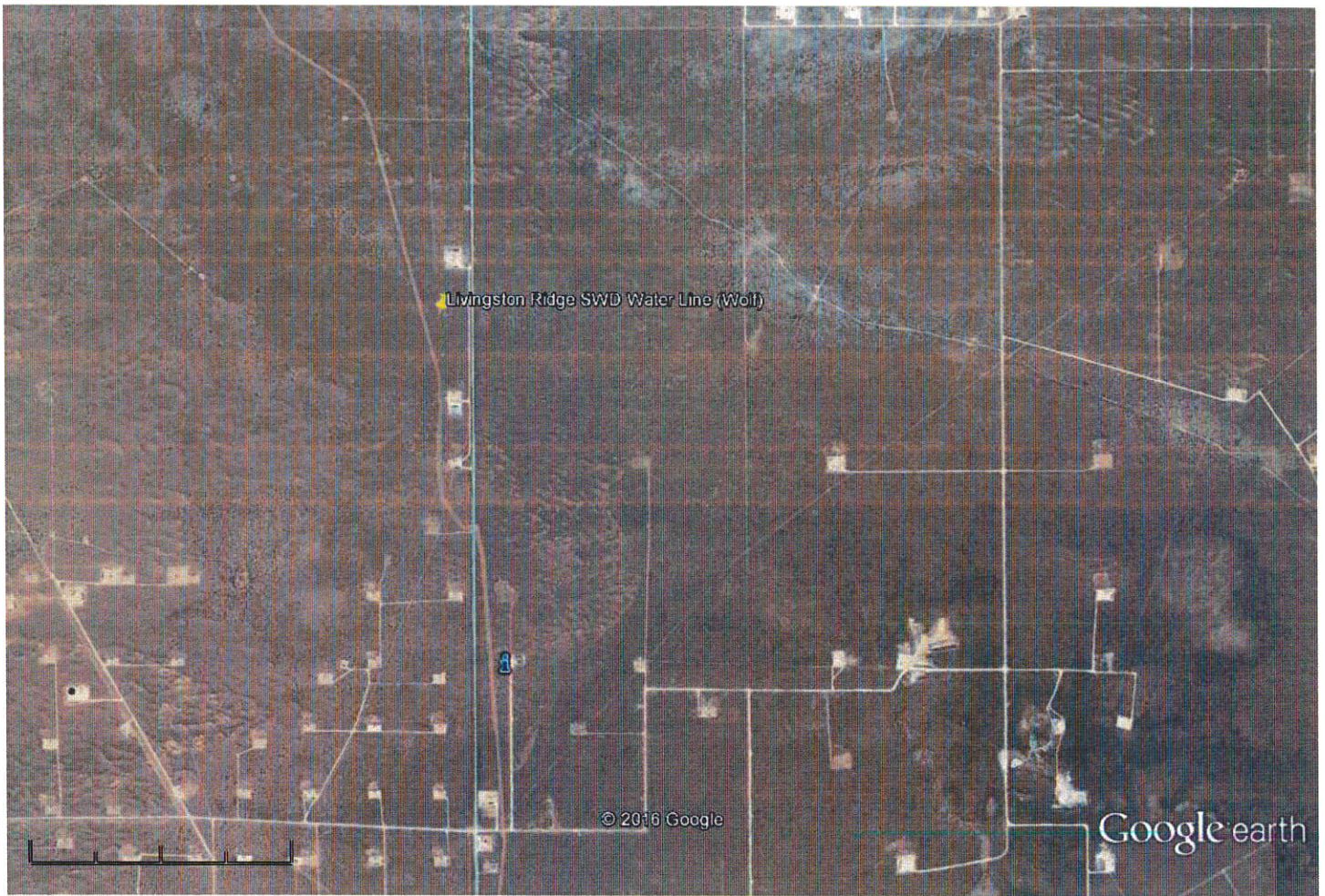
Contaminated soils that are excavated will be hauled to a NMOCD approved disposal facility, The Lea Land, Inc. Landfill.

Soil samples have been collected from the overspray area of the release and sent to an approved NMOCD laboratory. The collected soil was tested in the field using Hach Chloride QuanTab® Test Strips, 30-600 mg/L with a result of less than 1,000 ppm. If official laboratory results confirm these results, no further work will be conducted in the overspray area of the release. The official results will be forwarded to NMOCD and BLM once Yates receives them from the laboratory.

The backfill material for the excavation will be purchased from the nearest BLM pit.

Once all excavation and backfill work is complete, Yates will submit a Final Form C-141 to NMOCD and BLM requesting closure of this release.

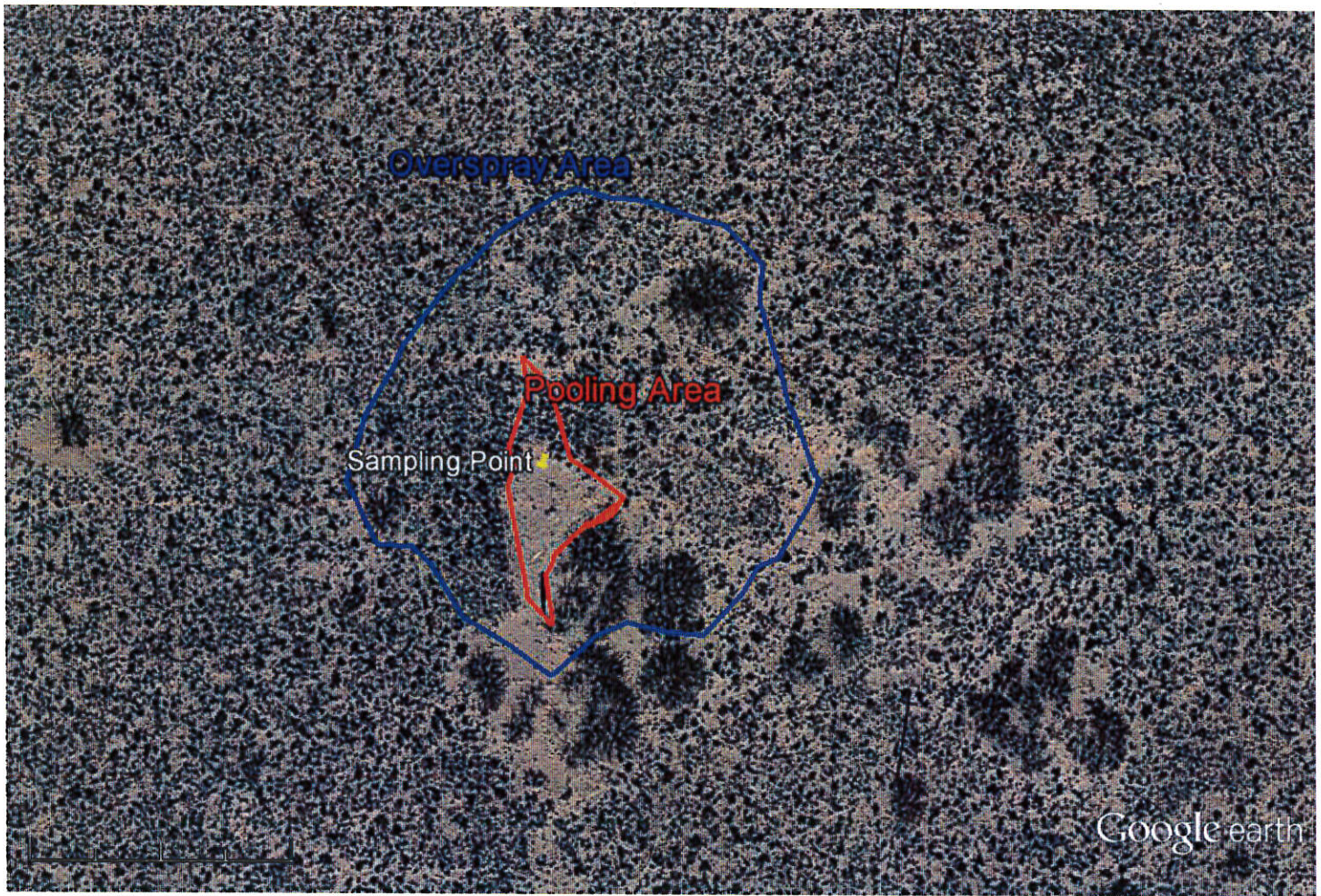
In April 2016 the release area will be re-seeded with the BLM Seed Mixture #2. The area will then be monitored for the re-establishment of vegetation.



Google earth

miles 2
km 4





Google earth

feet
meters



Livingston Ridge SWD Line (Wolf)

	Sample Area	Sample Date	Analytical Report	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides
Wolf - 1'	Release area	7/28/2015	1507D92	Grab/Backhoe	1'	ND	ND	ND	ND	2,500
Wolf - 2'	Release area	7/28/2015	1507D92	Grab/Backhoe	2'	ND	ND	ND	ND	4,300
Wolf - 3'	Release area	7/28/2015	1507D92	Grab/Backhoe	3'	ND	ND	ND	ND	5,600
Wolf - 4'	Release area	7/28/2015	1507D93	Grab/Backhoe	4'	-	-	-	-	5,500
Wolf - 5'	Release area	7/28/2015	1507D93	Grab/Backhoe	5'	-	-	-	-	5,200
Wolf - 6'	Release area	7/28/2015	1507D93	Grab/Backhoe	6'	-	-	-	-	5,100
Wolf - 7'	Release area	7/28/2015	1507D93	Grab/Backhoe	7'	-	-	-	-	2,400
Wolf - 8'	Release area	7/28/2015	1507D93	Grab/Backhoe	8'	-	-	-	-	8,000
Wolf - 9'	Release area	7/28/2015	1507D93	Grab/Backhoe	9'	-	-	-	-	5,500
Wolf - 10'	Release area	7/28/2015	1507D93	Grab/Backhoe	10'	-	-	-	-	6,100
Wolf - 11'	Release area	7/28/2015	1507D93	Grab/Backhoe	11'	-	-	-	-	11,000
Wolf - 12'	Release area	7/28/2015	1507D93	Grab/Backhoe	12'	-	-	-	-	12,000
Wolf - 13'	Release area	7/28/2015	1507D93	Grab/Backhoe	13'	-	-	-	-	2,700
Wolf - 15'	Release area	12/15/2015	1512A75	Hollow Stem Auger	15'	-	-	-	-	180
Wolf - 20'	Release area	12/15/2015	1512A75	Hollow Stem Auger	20'	-	-	-	-	100
Wolf - 25'	Release area	12/15/2015	1512A75	Hollow Stem Auger	25'	-	-	-	-	90

Site Ranking is ZERO (0). Depth to Ground Water >100' (approx. 125', per Chevron/Texaco trend map).

All results are ppm.Chlorides for documentation.

Released: 50 B/PW; Recovered: 0 B/PW. Release Date: 6/18/2015, 2RP-3074



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

August 07, 2015

Amber Cannon
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4217
FAX

RE: Livingston Ridge SWD Water Line (Wolf)

OrderNo.: 1507D92

Dear Amber Cannon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/31/2015 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1507D92

Date Reported: 8/7/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: Wolf-1'

Project: Livingston Ridge SWD Water Line (Wol

Collection Date: 7/28/2015 7:56:00 AM

Lab ID: 1507D92-001

Matrix: SOIL

Received Date: 7/31/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/3/2015 8:32:54 AM	20541
Surr: DNOP	112	57.9-140		%REC	1	8/3/2015 8:32:54 AM	20541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/3/2015 5:14:10 PM	20550
Surr: BFB	88.5	75.4-113		%REC	1	8/3/2015 5:14:10 PM	20550
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	8/3/2015 5:14:10 PM	20550
Toluene	ND	0.049		mg/Kg	1	8/3/2015 5:14:10 PM	20550
Ethylbenzene	ND	0.049		mg/Kg	1	8/3/2015 5:14:10 PM	20550
Xylenes, Total	ND	0.099		mg/Kg	1	8/3/2015 5:14:10 PM	20550
Surr: 4-Bromofluorobenzene	94.4	80-120		%REC	1	8/3/2015 5:14:10 PM	20550

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	

Analytical ReportLab Order **1507D92**Date Reported: **8/7/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Yates Petroleum Corporation**Client Sample ID:** Wolf-2'**Project:** Livingston Ridge SWD Water Line (Wol**Collection Date:** 7/28/2015 7:58:00 AM**Lab ID:** 1507D92-002**Matrix:** SOIL**Received Date:** 7/31/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/3/2015 8:59:53 AM	20541
Surr: DNOP	111	57.9-140		%REC	1	8/3/2015 8:59:53 AM	20541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/3/2015 5:38:51 PM	20550
Surr: BFB	87.0	75.4-113		%REC	1	8/3/2015 5:38:51 PM	20550
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	8/3/2015 5:38:51 PM	20550
Toluene	ND	0.048		mg/Kg	1	8/3/2015 5:38:51 PM	20550
Ethylbenzene	ND	0.048		mg/Kg	1	8/3/2015 5:38:51 PM	20550
Xylenes, Total	ND	0.095		mg/Kg	1	8/3/2015 5:38:51 PM	20550
Surr: 4-Bromofluorobenzene	91.9	80-120		%REC	1	8/3/2015 5:38:51 PM	20550

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		

Analytical Report

Lab Order 1507D92

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Yates Petroleum Corporation**Client Sample ID:** Wolf-3'**Project:** Livingston Ridge SWD Water Line (Wol**Collection Date:** 7/28/2015 8:00:00 AM**Lab ID:** 1507D92-003**Matrix:** SOIL**Received Date:** 7/31/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/3/2015 9:26:49 AM	20541
Surr: DNOP	104	57.9-140		%REC	1	8/3/2015 9:26:49 AM	20541
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/4/2015 12:40:22 AM	20550
Surr: BFB	91.3	75.4-113		%REC	1	8/4/2015 12:40:22 AM	20550
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	8/4/2015 12:40:22 AM	20550
Toluene	ND	0.049		mg/Kg	1	8/4/2015 12:40:22 AM	20550
Ethylbenzene	ND	0.049		mg/Kg	1	8/4/2015 12:40:22 AM	20550
Xylenes, Total	ND	0.098		mg/Kg	1	8/4/2015 12:40:22 AM	20550
Surr: 4-Bromofluorobenzene	97.8	80-120		%REC	1	8/4/2015 12:40:22 AM	20550

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507D92

10-Aug-15

Client: Yates Petroleum Corporation

Project: Livingston Ridge SWD Water Line (Wolf)

Sample ID	MB-20541	SampType	MBLK	TestCode	EPA Method 8015M/D: Diesel Range Organics					
Client ID	PBS	Batch ID	20541	RunNo	27904					
Prep Date	7/31/2015	Analysis Date	8/3/2015	SeqNo	839331	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	10		10.00		101	57.9	140			

Sample ID	LCS-20541	SampType	LCS	TestCode	EPA Method 8015M/D: Diesel Range Organics					
Client ID	LCSS	Batch ID	20541	RunNo	27904					
Prep Date	7/31/2015	Analysis Date	8/3/2015	SeqNo	839332	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.8	57.4	139			
Surr: DNOP	5.0		5.000		101	57.9	140			

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507D92

10-Aug-15

Client: Yates Petroleum Corporation
Project: Livingston Ridge SWD Water Line (Wolf)

Sample ID	MB-20550	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	20550	RunNo:	27919					
Prep Date:	7/31/2015	Analysis Date:	8/3/2015	SeqNo:	839770	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	910		1000		91.4	75.4	113			

Sample ID	LCS-20550	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	20550	RunNo:	27919					
Prep Date:	7/31/2015	Analysis Date:	8/3/2015	SeqNo:	839772	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	79.6	122			
Surr: BFB	1000		1000		101	75.4	113			

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	840981	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		91.1	75.4	113			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	840982	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		101	75.4	113			

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 | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507D92

10-Aug-15

Client: Yates Petroleum Corporation

Project: Livingston Ridge SWD Water Line (Wolf)

Sample ID	MB-20550	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 20550			RunNo: 27919					
Prep Date:	7/31/2015	Analysis Date: 8/3/2015			SeqNo: 839800		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.1	80	120			

Sample ID	LCS-20550		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 20550		RunNo: 27919					
Prep Date:	7/31/2015		Analysis Date: 8/3/2015		SeqNo: 839801		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	76.6	128			
Toluene	1.0	0.050	1.000	0	104	75	124			
Ethylbenzene	1.1	0.050	1.000	0	105	79.5	126			
Xylenes, Total	3.4	0.10	3.000	0	113	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

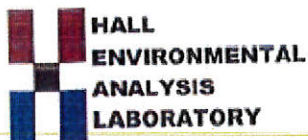
Sample ID	5ML RB	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	R27950		RunNo:	27950				
Prep Date:		Analysis Date:	8/4/2015		SeqNo:	841022		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	841023	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	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



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 Corpora

Work Order Number: 1507D92

RcptNo: 1

Received by/date:

SA

07/31/15

Logged By: Lindsay Mangin

7/31/2015 8:00:00 AM

Completed By: Lindsay Mangin

7/31/2015 9:03:57 AM

Reviewed By:

CS

07/31/15

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 ☒

of preserved
bottles checked
for pH

(<2 or >12 unless noted)

12. Does paperwork match bottle labels?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

13. Are matrices correctly identified on Chain of Custody?

Yes ☒

No ☐

Adjusted? _____

14. Is it clear what analyses were requested?

Yes ☒

No ☐

15. Were all holding times able to be met?

Yes ☒

No ☐

Checked by: _____

(If no, notify customer for authorization.)

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Not Present			



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

August 07, 2015

Amber Cannon
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4217
FAX

RE: Livingston Ridge SWD Water Line (Wolf)

OrderNo.: 1507D92

Dear Amber Cannon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/31/2015 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", with a stylized flourish at the end.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical ReportLab Order **1507D92**

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Yates Petroleum Corporation**Client Sample ID:** Wolf-1'**Project:** Livingston Ridge SWD Water Line (Wol**Collection Date:** 7/28/2015 7:56:00 AM**Lab ID:** 1507D92-001**Matrix:** SOIL**Received Date:** 7/31/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	2500	150		mg/Kg	100	8/5/2015 2:27:02 PM	20587

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	Page 1 of 4
	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			

Analytical ReportLab Order **1507D92**

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Yates Petroleum Corporation**Client Sample ID:** Wolf-2'**Project:** Livingston Ridge SWD Water Line (Wol**Collection Date:** 7/28/2015 7:58:00 AM**Lab ID:** 1507D92-002**Matrix:** SOIL**Received Date:** 7/31/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	4300	150		mg/Kg	100	8/5/2015 3:04:15 PM	20587

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	Page 2 of 4
	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			

Analytical ReportLab Order **1507D92**Date Reported: **8/7/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Yates Petroleum Corporation**Client Sample ID:** Wolf-3'**Project:** Livingston Ridge SWD Water Line (Wol**Collection Date:** 7/28/2015 8:00:00 AM**Lab ID:** 1507D92-003**Matrix:** SOIL**Received Date:** 7/31/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	5600	300		mg/Kg	200	8/5/2015 3:16:40 PM	20587

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	Page 3 of 4
	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			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507D92

10-Aug-15

Client: Yates Petroleum Corporation

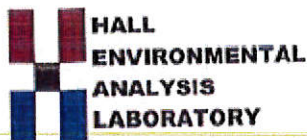
Project: Livingston Ridge SWD Water Line (Wolf)

Sample ID	MB-20587	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	20587	RunNo:	27959					
Prep Date:	8/4/2015	Analysis Date:	8/4/2015	SeqNo:	841176	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-20587	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	20587	RunNo:	27959					
Prep Date:	8/4/2015	Analysis Date:	8/4/2015	SeqNo:	841177	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.5	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 | |



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 Corpora

Work Order Number: 1507D92

RcptNo: 1

Received by/date:

JA

07/31/15

Logged By: Lindsay Mangin

7/31/2015 8:00:00 AM

Completed By: Lindsay Mangin

7/31/2015 9:03:57 AM

Reviewed By:

CS

07/31/15

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 ☒

of preserved
bottles checked
for pH

(<2 or >12 unless noted)

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 ☐

Adjusted? _____

14. Is it clear what analyses were requested?

Yes ☒

No ☐

15. Were all holding times able to be met?

(If no, notify customer for authorization.)

Yes ☒

No ☐

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Not Present			

www.hallenvironmental.com

Tel 505-345-3975 Fax 505-345-4107

Tel 505-345-3975

Analysis Request

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.



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

August 07, 2015

Amber Cannon
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4217
FAX

RE: Livingston Ridge SWD Water Line (Wolf)

OrderNo.: 1507D93

Dear Amber Cannon:

Hall Environmental Analysis Laboratory received 10 sample(s) on 7/31/2015 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 light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Livingston Ridge SWD Water Line (Wolf)

Lab Order: 1507D93

Lab ID: 1507D93-001		Collection Date: 7/28/2015 8:06:00 AM					
Client Sample ID: Wolf-4'		Matrix: SOIL					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	5500	300		mg/Kg	200	8/5/2015 3:29:05 PM	20587
Lab ID: 1507D93-002		Collection Date: 7/28/2015 8:11:00 AM					
Client Sample ID: Wolf-5'		Matrix: SOIL					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	5200	300		mg/Kg	200	8/5/2015 3:41:30 PM	20587
Lab ID: 1507D93-003		Collection Date: 7/28/2015 8:16:00 AM					
Client Sample ID: Wolf-6'		Matrix: SOIL					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	5100	300		mg/Kg	200	8/5/2015 3:53:54 PM	20587
Lab ID: 1507D93-004		Collection Date: 7/28/2015 8:28:00 AM					
Client Sample ID: Wolf-7'		Matrix: SOIL					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	2400	75		mg/Kg	50	8/5/2015 4:06:19 PM	20587
Lab ID: 1507D93-005		Collection Date: 7/28/2015 8:40:00 AM					
Client Sample ID: Wolf-8'		Matrix: SOIL					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	8000	300		mg/Kg	200	8/5/2015 4:18:43 PM	20587

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	Page 1 of 3
	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		

Analytical Report

Lab Order: 1507D93

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Livingston Ridge SWD Water Line (Wolf)

Lab Order: 1507D93

Lab ID: 1507D93-006 **Collection Date:** 7/28/2015 8:57:00 AM
Client Sample ID: Wolf-9' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							
Chloride	5500	300		mg/Kg	200	8/5/2015 4:31:07 PM	20603

Analyst: LGT

Lab ID: 1507D93-007 **Collection Date:** 7/28/2015 9:00:00 AM
Client Sample ID: Wolf-10' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							
Chloride	6100	300		mg/Kg	200	8/5/2015 4:43:32 PM	20603

Analyst: LGT

Lab ID: 1507D93-008 **Collection Date:** 7/28/2015 9:03:00 AM
Client Sample ID: Wolf-11' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							
Chloride	11000	750		mg/Kg	500	8/5/2015 4:55:57 PM	20603

Analyst: LGT

Lab ID: 1507D93-009 **Collection Date:** 7/28/2015 9:08:00 AM
Client Sample ID: Wolf-12' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							
Chloride	12000	750		mg/Kg	500	8/5/2015 5:33:11 PM	20603

Analyst: LGT

Lab ID: 1507D93-010 **Collection Date:** 7/28/2015 9:17:00 AM
Client Sample ID: Wolf-13' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							
Chloride	2700	150		mg/Kg	100	8/5/2015 5:45:35 PM	20603

Analyst: LGT

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		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507D93

07-Aug-15

Client: Yates Petroleum Corporation

Project: Livingston Ridge SWD Water Line (Wolf)

Sample ID	MB-20587	SampType	MBLK	TestCode	EPA Method 300.0: Anions					
Client ID	PBS	Batch ID	20587	RunNo	27959					
Prep Date	8/4/2015	Analysis Date	8/4/2015	SeqNo	841176	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-20587	SampType	LCS	TestCode	EPA Method 300.0: Anions					
Client ID	LCSS	Batch ID	20587	RunNo	27959					
Prep Date	8/4/2015	Analysis Date	8/4/2015	SeqNo	841177	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.5	90	110			

Sample ID	MB-20603	SampType	MBLK	TestCode	EPA Method 300.0: Anions					
Client ID	PBS	Batch ID	20603	RunNo	27959					
Prep Date	8/4/2015	Analysis Date	8/4/2015	SeqNo	841213	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-20603	SampType	LCS	TestCode	EPA Method 300.0: Anions					
Client ID	LCSS	Batch ID	20603	RunNo	27959					
Prep Date	8/4/2015	Analysis Date	8/4/2015	SeqNo	841214	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.4	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

Sample Log-In Check List

Client Name: Yates Petroleum Corpora

Work Order Number: 1507D93

RcptNo: 1

Received by/date:

SA 07/31/15

Logged By: Lindsay Mangin

7/31/2015 8:00:00 AM

Lindsay Mangin

Completed By: Lindsay Mangin

7/31/2015 9:09:09 AM

Lindsay Mangin

Reviewed By:

CS 07/31/15

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 ☐
APPROVED BY CLIENT. 07/31/15
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 ☐ # of preserved bottles checked for pH:
(<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
Adjusted?
Adjusted?
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by:
Checked by:
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	4.9	Good	Not Present			

Chain-of-Custody Record

Client: Yates Petroleum Corporation

Mailing Address:

105 South 4th Street Artesia, NM 88210

Phone #: 575-513-8799 or 575-748-4111

email or Fax#: acannon@yatespetroleum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Sampler:

On Ice: ☐ Yes ☒ No

Sample Temperature: 19.2

Project Manager:

Amber Griffin

PO # 205-2020

Project #:

2RP-3074

Project Name:

Livingston Ridge SWD Water Line (Wolf)

Turn-Around Time:

☒ Standard ☐ Rush

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCBs	8260B (VOA)	8270 (Semi-VOA)
7/28/2015	8:06	Soil	Wolf - 4'	1 - 4oz.	Not Required	-001								X			
7/28/2015	8:11	Soil	Wolf - 5'	1 - 4oz.	Not Required	-002								X			
7/28/2015	8:16	Soil	Wolf - 6'	1 - 4oz.	Not Required	-003								X			
7/28/2015	8:28	Soil	Wolf - 7'	1 - 4oz.	Not Required	-004								X			
7/28/2015	8:40	Soil	Wolf - 8'	1 - 4oz.	Not Required	-005								X			
7/28/2015	8:57	Soil	Wolf - 9'	1 - 4oz.	Not Required	-006								X			
7/28/2015	9:00	Soil	Wolf - 10'	1 - 4oz.	Not Required	-007								X			
7/28/2015	9:03	Soil	Wolf - 11'	1 - 4oz.	Not Required	-008								X			
7/28/2015	9:08	Soil	Wolf - 12'	1 - 4oz.	Not Required	-009								X			
7/28/2015	9:17	Soil	Wolf - 13'	1 - 4oz.	Not Required	-010								X			

Remarks: Anions: Chloride only.

Received by: *Joe. Acosta* Date: 07/11/15 Time: 0800

Received by: Date: Time:

Date: Time: Relinquished by:

Date: Time: Relinquished by:

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.



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

December 31, 2015

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

RE: Wolf ASA Fed. Waterline Livingston Ridge SWD Water Line OrderNo.: 1512A75

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/23/2015 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 light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order: 1512A75

Date Reported: 12/31/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: Wolf ASA Fed. Waterline Livingston Ridge SW

Lab Order: 1512A75

Lab ID: 1512A75-001 **Collection Date:** 12/15/2015 1:18:00 PM
Client Sample ID: Wolf-15' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	180	30		mg/Kg	20	12/30/2015 3:23:18 AM	23001

Lab ID: 1512A75-002 **Collection Date:** 12/15/2015 1:31:00 PM
Client Sample ID: Wolf-20' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	100	30		mg/Kg	20	12/30/2015 3:35:43 AM	23001

Lab ID: 1512A75-003 **Collection Date:** 12/15/2015 1:47:00 PM
Client Sample ID: Wolf-25' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS Analyst: LGT							
Chloride	90	30		mg/Kg	20	12/30/2015 3:48:07 AM	23001

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 2
	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			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1512A75

31-Dec-15

Client: Yates Petroleum Corporation

Project: Wolf ASA Fed. Waterline Livingston Ridge SW

Sample ID	MB-23001	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	23001	RunNo:	31145					
Prep Date:	12/29/2015	Analysis Date:	12/30/2015	SeqNo:	953296	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23001	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	23001	RunNo:	31145					
Prep Date:	12/29/2015	Analysis Date:	12/30/2015	SeqNo:	953297	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	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 | |



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: 1512A75

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

12/23/2015 9:40:00 AM

Completed By: Lindsay Mangin

12/23/2015 10:34:47 AM

Reviewed By:

CS

12/23/15

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 ☐ # of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this 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	9.8	Good	Yes			

