



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

May 19, 2016

Chase Settle

Yates Petroleum Corporation

105 South Fourth Street

Artesia, NM 88210

TEL: (575) 748-4111

FAX

RE: North Dagger Draw Water Station

OrderNo.: 1605565

Dear Chase Settle:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/12/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1605565**Date Reported: **5/19/2016****CLIENT:** Yates Petroleum Corporation**Client Sample ID:** S1-Sur**Project:** North Dagger Draw Water Station**Collection Date:** 5/10/2016 8:41:00 AM**Lab ID:** 1605565-001**Matrix:** SOIL**Received Date:** 5/12/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst: JME		
Diesel Range Organics (DRO)	8600	100		mg/Kg	10	5/16/2016 11:03:39 PM	25234
Surr: DNOP	0	70-130	S	%Rec	10	5/16/2016 11:03:39 PM	25234
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB		
Gasoline Range Organics (GRO)	400	94		mg/Kg	20	5/14/2016 2:41:15 PM	25287
Surr: BFB	210	80-120	S	%Rec	20	5/14/2016 2:41:15 PM	25287
EPA METHOD 8021B: VOLATILES					Analyst: NSB		
Benzene	ND	0.47		mg/Kg	20	5/14/2016 2:41:15 PM	25287
Toluene	10	0.94		mg/Kg	20	5/14/2016 2:41:15 PM	25287
Ethylbenzene	9.8	0.94		mg/Kg	20	5/14/2016 2:41:15 PM	25287
Xylenes, Total	24	1.9		mg/Kg	20	5/14/2016 2:41:15 PM	25287
Surr: 4-Bromofluorobenzene	124	80-120	S	%Rec	20	5/14/2016 2:41:15 PM	25287

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1605565**Date Reported: **5/19/2016****CLIENT:** Yates Petroleum Corporation**Client Sample ID:** S1-1'**Project:** North Dagger Draw Water Station**Collection Date:** 5/10/2016 8:46:00 AM**Lab ID:** 1605565-002**Matrix:** SOIL**Received Date:** 5/12/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	6800	100		mg/Kg	10	5/17/2016 12:08:14 AM	25234
Surr: DNOP	0	70-130	S	%Rec	10	5/17/2016 12:08:14 AM	25234
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1100	240		mg/Kg	50	5/14/2016 3:04:53 PM	25287
Surr: BFB	166	80-120	S	%Rec	50	5/14/2016 3:04:53 PM	25287
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	10	1.2		mg/Kg	50	5/14/2016 3:04:53 PM	25287
Toluene	69	2.4		mg/Kg	50	5/14/2016 3:04:53 PM	25287
Ethylbenzene	37	2.4		mg/Kg	50	5/14/2016 3:04:53 PM	25287
Xylenes, Total	84	4.8		mg/Kg	50	5/14/2016 3:04:53 PM	25287
Surr: 4-Bromofluorobenzene	127	80-120	S	%Rec	50	5/14/2016 3:04:53 PM	25287

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1605565**

Date Reported: **5/19/2016**

CLIENT: Yates Petroleum Corporation

Client Sample ID: S2-Sur

Project: North Dagger Draw Water Station

Collection Date: 5/10/2016 8:51:00 AM

Lab ID: 1605565-003

Matrix: SOIL

Received Date: 5/12/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	7600	100		mg/Kg	10	5/17/2016 1:12:37 AM	25234
Surr: DNOP	0	70-130	S	%Rec	10	5/17/2016 1:12:37 AM	25234
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	70	23		mg/Kg	5	5/14/2016 2:42:25 AM	25287
Surr: BFB	190	80-120	S	%Rec	5	5/14/2016 2:42:25 AM	25287
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12	D	mg/Kg	5	5/14/2016 2:42:25 AM	25287
Toluene	ND	0.23	D	mg/Kg	5	5/14/2016 2:42:25 AM	25287
Ethylbenzene	ND	0.23	D	mg/Kg	5	5/14/2016 2:42:25 AM	25287
Xylenes, Total	ND	0.47	D	mg/Kg	5	5/14/2016 2:42:25 AM	25287
Surr: 4-Bromofluorobenzene	113	80-120	D	%Rec	5	5/14/2016 2:42:25 AM	25287

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1605565

Date Reported: 5/19/2016

CLIENT: Yates Petroleum Corporation

Client Sample ID: S2-1'

Project: North Dagger Draw Water Station

Collection Date: 5/10/2016 8:57:00 AM

Lab ID: 1605565-004

Matrix: SOIL

Received Date: 5/12/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	1100	100		mg/Kg	10	5/17/2016 2:17:00 AM	25234
Surr: DNOP	0	70-130	S	%Rec	10	5/17/2016 2:17:00 AM	25234
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	73	24		mg/Kg	5	5/14/2016 3:28:22 PM	25287
Surr: BFB	224	80-120	S	%Rec	5	5/14/2016 3:28:22 PM	25287
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	5/14/2016 3:28:22 PM	25287
Toluene	ND	0.24		mg/Kg	5	5/14/2016 3:28:22 PM	25287
Ethylbenzene	ND	0.24		mg/Kg	5	5/14/2016 3:28:22 PM	25287
Xylenes, Total	ND	0.49		mg/Kg	5	5/14/2016 3:28:22 PM	25287
Surr: 4-Bromofluorobenzene	121	80-120	S	%Rec	5	5/14/2016 3:28:22 PM	25287

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1605565

Date Reported: 5/19/2016

CLIENT: Yates Petroleum Corporation

Client Sample ID: S3-Sur

Project: North Dagger Draw Water Station

Collection Date: 5/10/2016 9:01:00 AM

Lab ID: 1605565-005

Matrix: SOIL

Received Date: 5/12/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	7800	100		mg/Kg	10	5/17/2016 3:21:13 AM	25234
Surr: DNOP	0	70-130	S	%Rec	10	5/17/2016 3:21:13 AM	25234
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	17	9.3		mg/Kg	2	5/14/2016 3:51:50 PM	25287
Surr: BFB	146	80-120	S	%Rec	2	5/14/2016 3:51:50 PM	25287
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	2	5/14/2016 3:51:50 PM	25287
Toluene	ND	0.093		mg/Kg	2	5/14/2016 3:51:50 PM	25287
Ethylbenzene	ND	0.093		mg/Kg	2	5/14/2016 3:51:50 PM	25287
Xylenes, Total	ND	0.19		mg/Kg	2	5/14/2016 3:51:50 PM	25287
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	2	5/14/2016 3:51:50 PM	25287

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1605565

Date Reported: 5/19/2016

CLIENT: Yates Petroleum Corporation

Client Sample ID: S3-1'

Project: North Dagger Draw Water Station

Collection Date: 5/10/2016 9:06:00 AM

Lab ID: 1605565-006

Matrix: SOIL

Received Date: 5/12/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
Diesel Range Organics (DRO)	7300	940		mg/Kg	100	5/17/2016 3:33:27 PM	25234
Surr: DNOP	0	70-130	S	%Rec	100	5/17/2016 3:33:27 PM	25234
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1300	240		mg/Kg	50	5/16/2016 4:05:26 PM	25287
Surr: BFB	180	80-120	S	%Rec	50	5/16/2016 4:05:26 PM	25287
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	12	1.2		mg/Kg	50	5/16/2016 4:05:26 PM	25287
Toluene	69	2.4		mg/Kg	50	5/16/2016 4:05:26 PM	25287
Ethylbenzene	48	2.4		mg/Kg	50	5/16/2016 4:05:26 PM	25287
Xylenes, Total	90	4.7		mg/Kg	50	5/16/2016 4:05:26 PM	25287
Surr: 4-Bromofluorobenzene	136	80-120	S	%Rec	50	5/16/2016 4:05:26 PM	25287

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 6 of 9
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605565

19-May-16

Client: Yates Petroleum Corporation

Project: North Dagger Draw Water Station

Sample ID	MB-25234		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	25234		RunNo:	34242				
Prep Date:	5/11/2016		Analysis Date:	5/16/2016		SeqNo:	1056603		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	9.1		10.00		90.9	70	130				

Sample ID	LCS-25234		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 25234		RunNo: 34242					
Prep Date:	5/11/2016		Analysis Date: 5/16/2016		SeqNo: 1056604		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	10	50.00	0	76.7	65.8	136			
Surr: DNOP	4.2		5.000		83.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605565

19-May-16

Client: Yates Petroleum Corporation

Project: North Dagger Draw Water Station

Sample ID	MB-25287		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 25287		RunNo: 34211					
Prep Date:	5/12/2016		Analysis Date: 5/13/2016		SeqNo: 1055224		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	1000		1000		102	80	120			

Sample ID	LCS-25287		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 25287		RunNo: 34211					
Prep Date:	5/12/2016		Analysis Date: 5/13/2016		SeqNo: 1055225		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.8	80	120			
Surr: BFB	1100		1000		111	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605565

19-May-16

Client: Yates Petroleum Corporation
Project: North Dagger Draw Water Station

Sample ID	MB-25287		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 25287		RunNo: 34211					
Prep Date:	5/12/2016		Analysis Date: 5/13/2016		SeqNo: 1055265		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	LCS-25287			SampType:	LCS			TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS			Batch ID:	25287			RunNo:	34211					
Prep Date:	5/12/2016			Analysis Date:	5/13/2016			SeqNo:	1055266			Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	1.0	0.025	1.000	0	101	75.3	123							
Toluene	1.0	0.050	1.000	0	99.9	80	124							
Ethylbenzene	0.99	0.050	1.000	0	98.8	82.8	121							
Xylenes, Total	3.0	0.10	3.000	0	98.9	83.9	122							
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120							

Qualifiers:

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

Sample Log-In Check List

Client Name: Yates Petroleum Corpora

Work Order Number: 1605565

RcptNo: 1

Received by/date:	JA	05/12/16
Logged By:	Michelle Garcia	5/12/2016 10:00:00 AM
Completed By:	Michelle Garcia	5/12/2016 10:49:19 AM
Reviewed By:	TO	05/17/16

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

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

- Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

