



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

June 21, 2016

Amber Griffin

Yates Petroleum Corporation

105 South Fourth Street

Artesia, NM 88210

TEL: (575) 748-4195

FAX

RE: Satchmo SWD State 1

OrderNo.: 1606764

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/14/2016 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 **1606764**

Date Reported: **6/21/2016**

CLIENT: Yates Petroleum Corporation

Client Sample ID: Off Pad-2'

Project: Satchmo SWD State 1

Collection Date: 6/9/2016 12:30:00 PM

Lab ID: 1606764-001

Matrix: SOIL

Received Date: 6/14/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	8600	750		mg/Kg	500	6/16/2016 7:32:19 PM	25885

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 6
	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 **1606764**

Date Reported: **6/21/2016**

CLIENT: Yates Petroleum Corporation

Client Sample ID: Off Pad-3'

Project: Satchmo SWD State 1

Collection Date: 6/9/2016 12:35:00 PM

Lab ID: 1606764-002

Matrix: SOIL

Received Date: 6/14/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	14000	750		mg/Kg	500	6/16/2016 7:44:44 PM	25885

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 6
	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 **1606764**

Date Reported: **6/21/2016**

CLIENT: Yates Petroleum Corporation

Client Sample ID: Pad 1-Surface

Project: Satchmo SWD State 1

Collection Date: 6/9/2016 12:42:00 PM

Lab ID: 1606764-003

Matrix: SOIL

Received Date: 6/14/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGT	
Chloride	1300	75		mg/Kg	50	6/16/2016 7:57:08 PM	25885

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 6
	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 **1606764**

Date Reported: **6/21/2016**

CLIENT: Yates Petroleum Corporation

Client Sample ID: Pad 2-Surface

Project: Satchmo SWD State 1

Collection Date: 6/9/2016 12:44:00 PM

Lab ID: 1606764-004

Matrix: SOIL

Received Date: 6/14/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	26000	1500		mg/Kg	1E	6/16/2016 8:09:32 PM	25885

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 **1606764**

Date Reported: **6/21/2016**

CLIENT: Yates Petroleum Corporation

Client Sample ID: Pad 3-Surface

Project: Satchmo SWD State 1

Collection Date: 6/9/2016 12:46:00 PM

Lab ID: 1606764-005

Matrix: SOIL

Received Date: 6/14/2016 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	18000	1500		mg/Kg	1E	6/16/2016 8:21:56 PM	25885

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606764

21-Jun-16

Client: Yates Petroleum Corporation

Project: Satchmo SWD State 1

Sample ID	MB-25885	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	25885	RunNo:	34957					
Prep Date:	6/15/2016	Analysis Date:	6/15/2016	SeqNo:	1080065	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-25885	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	25885	RunNo:	34957					
Prep Date:	6/15/2016	Analysis Date:	6/15/2016	SeqNo:	1080066	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.0	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

Sample Log-In Check List

Client Name: **Yates Petroleum Corporat**

Work Order Number: **1606764**

RcptNo: 1

Received by/date:

Logged By: **Lindsay Mangin**

6/14/2016 10:00:00 AM

Completed By: **Lindsay Mangin**

6/14/2016 3:13:22 PM

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

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

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

Client: Yates Petroleum Corporation

Vailing Address:

105 South 4th Street Artesia, NM 88210

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

Email or Fax#: agriffin@yatespetroleum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☐ Rush

Project Name:

Satchmo SWD State #1

Project #:

6/3/2016 Release

Project Manager:

Amber Griffin

PO # 205-2020

Sampler:

Amber Griffin

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7

Date	Time	Matrix	Sample Request ID
6/9/2016	12:30	Soil	Off Pad - 2'
6/9/2016	12:35	Soil	Off Pad - 3'
6/9/2016	12:42	Soil	Pad 1 - Surface
6/9/2016	12:44	Soil	Pad 2 - Surface
6/9/2016	12:46	Soil	Pad 3 - Surface

Container Type and #	Preservative Type	HEAL No.
1 - 4 oz.	Ice	16067601
1 - 4 oz.	Ice	-001
1 - 4 oz.	Ice	-002
1 - 4 oz.	Ice	-003
1 - 4 oz.	Ice	-004
1 - 4 oz.	Ice	-005

Date: 6/13/16

Time: 10:10

Relinquished by: Amber Griffin

Date: 6/13/16

Time: 10:10

Relinquished by:

Received by: J.E. but

Date: 6/14/16

Time: 1000

Received by:



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMB's (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 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
X	X	X					X				
X	X	X					X				
X	X	X					X				
X	X	X					X				
X	X	X					X				

Remarks: TPH: 8015B, BTEX: 8021B. Please show BTEX results as mg/kg. Anions: Chloride only, please show on a separate report.

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.