



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

April 25, 2016

Amber Griffin

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

RE: State CO SWD System (Johnston BE Battery)

OrderNo.: 1604667

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 24 sample(s) on 4/15/2016 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 white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order: 1604667

Date Reported: 4/25/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: State CO SWD System (Johnston BE Battery)

Lab Order: 1604667

Lab ID: 1604667-001 Collection Date: 4/13/2016 1:24:00 PM
Client Sample ID: 1-1' Matrix: SOIL

Table with columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row: EPA METHOD 300.0: ANIONS, Chloride, 7900, 300, mg/Kg, 200, 4/22/2016 8:48:22 PM, 24915

Lab ID: 1604667-002 Collection Date: 4/13/2016 1:27:00 PM
Client Sample ID: 1-2' Matrix: SOIL

Table with columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row: EPA METHOD 300.0: ANIONS, Chloride, 4000, 150, mg/Kg, 100, 4/22/2016 9:00:47 PM, 24915

Lab ID: 1604667-003 Collection Date: 4/13/2016 1:28:00 PM
Client Sample ID: 1-3' Matrix: SOIL

Table with columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row: EPA METHOD 300.0: ANIONS, Chloride, 1500, 75, mg/Kg, 50, 4/22/2016 9:13:11 PM, 24915

Lab ID: 1604667-004 Collection Date: 4/13/2016 1:31:00 PM
Client Sample ID: 1-4' Matrix: SOIL

Table with columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row: EPA METHOD 300.0: ANIONS, Chloride, 17000, 750, mg/Kg, 500, 4/22/2016 9:25:36 PM, 24915

Lab ID: 1604667-005 Collection Date: 4/13/2016 1:34:00 PM
Client Sample ID: 1-5' Matrix: SOIL

Table with columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row: EPA METHOD 300.0: ANIONS, Chloride, 9600, 750, mg/Kg, 500, 4/22/2016 10:02:50 PM, 24915

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

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

Analytical Report

Lab Order: 1604667

Date Reported: 4/25/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: State CO SWD System (Johnston BE Battery)

Lab Order: 1604667

Lab ID: 1604667-006 Collection Date: 4/13/2016 1:37:00 PM
Client Sample ID: 1-6' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 9600, 750, mg/Kg, 500, 4/22/2016 10:15:15 PM, 24915. Analyst: LGT

Lab ID: 1604667-007 Collection Date: 4/13/2016 1:40:00 PM
Client Sample ID: 1-7' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 8200, 300, mg/Kg, 200, 4/22/2016 10:27:40 PM, 24915. Analyst: LGT

Lab ID: 1604667-008 Collection Date: 4/13/2016 1:45:00 PM
Client Sample ID: 1-8' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 18000, 750, mg/Kg, 500, 4/22/2016 10:40:04 PM, 24915. Analyst: LGT

Lab ID: 1604667-009 Collection Date: 4/13/2016 1:48:00 PM
Client Sample ID: 1-9' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 7200, 300, mg/Kg, 200, 4/22/2016 10:52:29 PM, 24915. Analyst: LGT

Lab ID: 1604667-010 Collection Date: 4/13/2016 1:53:00 PM
Client Sample ID: 1-10' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 5100, 300, mg/Kg, 200, 4/22/2016 11:04:54 PM, 24915. Analyst: LGT

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

Table with 2 columns: Qualifiers and descriptions. Includes codes like *, D, H, ND, R, S, B, E, J, P, RL, W and their corresponding meanings. Page 2 of 6

Analytical Report

Lab Order: 1604667

Date Reported: 4/25/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: State CO SWD System (Johnston BE Battery)

Lab Order: 1604667

Lab ID: 1604667-011 Collection Date: 4/13/2016 2:10:00 PM

Client Sample ID: 2-1' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 17000, 750, mg/Kg, 500, 4/22/2016 11:17:19 PM, 24915. Analyst: LGT

Lab ID: 1604667-012 Collection Date: 4/13/2016 2:12:00 PM

Client Sample ID: 2-2' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 18000, 750, mg/Kg, 500, 4/22/2016 11:29:44 PM, 24915. Analyst: LGT

Lab ID: 1604667-013 Collection Date: 4/13/2016 2:14:00 PM

Client Sample ID: 2-3' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 11000, 750, mg/Kg, 500, 4/22/2016 11:42:09 PM, 24915. Analyst: LGT

Lab ID: 1604667-014 Collection Date: 4/13/2016 2:18:00 PM

Client Sample ID: 2-4' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, 260, 30, mg/Kg, 20, 4/20/2016 5:56:43 PM, 24915. Analyst: LGT

Lab ID: 1604667-015 Collection Date: 4/13/2016 2:20:00 PM

Client Sample ID: 2-5' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Chloride, ND, 30, mg/Kg, 20, 4/20/2016 6:09:07 PM, 24915. Analyst: LGT

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

Table with 2 columns: Qualifiers and descriptions. Includes codes like *, D, H, ND, R, S, B, E, J, P, RL, W and their corresponding meanings.

Analytical Report

Lab Order: 1604667

Date Reported: 4/25/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: State CO SWD System (Johnston BE Battery)

Lab Order: 1604667

Lab ID: 1604667-016 Collection Date: 4/13/2016 2:22:00 PM

Client Sample ID: 2-6' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Analyst: LGT. Row 2: Chloride, ND, 30, mg/Kg, 20, 4/21/2016 12:13:33 PM, 24940.

Lab ID: 1604667-017 Collection Date: 4/13/2016 2:26:00 PM

Client Sample ID: 2-7' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Analyst: LGT. Row 2: Chloride, ND, 30, mg/Kg, 20, 4/21/2016 12:50:46 PM, 24940.

Lab ID: 1604667-018 Collection Date: 4/13/2016 2:29:00 PM

Client Sample ID: 2-8' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Analyst: LGT. Row 2: Chloride, ND, 30, mg/Kg, 20, 4/21/2016 1:03:10 PM, 24940.

Lab ID: 1604667-019 Collection Date: 4/13/2016 2:32:00 PM

Client Sample ID: 2-9' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Analyst: LGT. Row 2: Chloride, 140, 30, mg/Kg, 20, 4/21/2016 1:40:25 PM, 24940.

Lab ID: 1604667-020 Collection Date: 4/13/2016 2:36:00 PM

Client Sample ID: 2-10' Matrix: SOIL

Table with 8 columns: Analyses, Result, PQL, Qual, Units, DF, Date Analyzed, Batch ID. Row 1: EPA METHOD 300.0: ANIONS, Analyst: LGT. Row 2: Chloride, 71, 30, mg/Kg, 20, 4/21/2016 1:52:49 PM, 24940.

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

Table with 2 columns: Qualifiers and descriptions. Includes codes like *, D, H, ND, R, S, B, E, J, P, RL, W and their corresponding meanings.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation
Project: State CO SWD System (Johnston BE Battery)

Lab Order: 1604667

Lab ID: 1604667-021

Collection Date: 4/13/2016 2:55:00 PM

Client Sample ID: 3-1'

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1600	75		mg/Kg	50	4/22/2016 11:54:33 PM	24940

Lab ID: 1604667-022

Collection Date: 4/13/2016 2:56:00 PM

Client Sample ID: 3-2'

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	4/21/2016 2:42:28 PM	24940

Lab ID: 1604667-023

Collection Date: 4/13/2016 2:57:00 PM

Client Sample ID: 3-3'

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	55	30		mg/Kg	20	4/21/2016 3:07:17 PM	24940

Lab ID: 1604667-024

Collection Date: 4/13/2016 3:00:00 PM

Client Sample ID: 3-4'

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1300	75		mg/Kg	50	4/23/2016 12:31:47 AM	24940

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#: 1604667

25-Apr-16

Client: Yates Petroleum Corporation
Project: State CO SWD System (Johnston BE Battery)

Sample ID	MB-24915	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	24915	RunNo:	33697					
Prep Date:	4/20/2016	Analysis Date:	4/20/2016	SeqNo:	1038046	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-24915	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	24915	RunNo:	33697					
Prep Date:	4/20/2016	Analysis Date:	4/20/2016	SeqNo:	1038047	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

Sample ID	MB-24940	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	24940	RunNo:	33718					
Prep Date:	4/21/2016	Analysis Date:	4/21/2016	SeqNo:	1038598	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-24940	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	24940	RunNo:	33718					
Prep Date:	4/21/2016	Analysis Date:	4/21/2016	SeqNo:	1038599	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Qualifiers:

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

Sample Log-In Check List

Client Name: **Yates Petroleum Corpora**

Work Order Number: **1604667**

RcptNo: **1**

Received by/date: *JA* **04/15/16**
 Logged By: **Joe Archuleta** **4/15/2016 9:25:00 AM**
 Completed By: **Joe Archuleta** **4/15/2016 11:14:40 AM**
 Reviewed By: *AA* **04/15/16**

JA
JA

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 # 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

