



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://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](http://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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-1'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:24:00 PM

**Lab ID:** 1604667-001

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/19/2016 2:50:37 PM	24846
Surr: DNOP	77.0	70-130		%Rec	1	4/19/2016 2:50:37 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2016 10:27:43 PM	24839
Surr: BFB	94.2	80-120		%Rec	1	4/18/2016 10:27:43 PM	24839
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/18/2016 10:27:43 PM	24839
Toluene	ND	0.047		mg/Kg	1	4/18/2016 10:27:43 PM	24839
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2016 10:27:43 PM	24839
Xylenes, Total	ND	0.095		mg/Kg	1	4/18/2016 10:27:43 PM	24839
Surr: 4-Bromofluorobenzene	94.5	80-120		%Rec	1	4/18/2016 10:27:43 PM	24839

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-2'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:27:00 PM

**Lab ID:** 1604667-002

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/19/2016 3:12:00 PM	24846
Surr: DNOP	75.8	70-130		%Rec	1	4/19/2016 3:12:00 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2016 10:51:13 PM	24839
Surr: BFB	95.4	80-120		%Rec	1	4/18/2016 10:51:13 PM	24839
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	4/18/2016 10:51:13 PM	24839
Toluene	ND	0.047		mg/Kg	1	4/18/2016 10:51:13 PM	24839
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2016 10:51:13 PM	24839
Xylenes, Total	ND	0.093		mg/Kg	1	4/18/2016 10:51:13 PM	24839
Surr: 4-Bromofluorobenzene	95.0	80-120		%Rec	1	4/18/2016 10:51:13 PM	24839

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-3'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:28:00 PM

**Lab ID:** 1604667-003

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/19/2016 3:33:36 PM	24846
Surr: DNOP	76.3	70-130		%Rec	1	4/19/2016 3:33:36 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2016 11:14:44 PM	24839
Surr: BFB	94.3	80-120		%Rec	1	4/18/2016 11:14:44 PM	24839
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	4/18/2016 11:14:44 PM	24839
Toluene	ND	0.047		mg/Kg	1	4/18/2016 11:14:44 PM	24839
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2016 11:14:44 PM	24839
Xylenes, Total	ND	0.094		mg/Kg	1	4/18/2016 11:14:44 PM	24839
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	4/18/2016 11:14:44 PM	24839

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

<b>Qualifiers:</b>	*	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 **1604667**Date Reported: **4/25/2016****CLIENT:** Yates Petroleum Corporation**Client Sample ID:** 1-4'**Project:** State CO SWD System (Johnston BE Bat**Collection Date:** 4/13/2016 1:31:00 PM**Lab ID:** 1604667-004**Matrix:** SOIL**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/19/2016 3:55:04 PM	24846
Surr: DNOP	76.2	70-130		%Rec	1	4/19/2016 3:55:04 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2016 12:35:32 PM	24839
Surr: BFB	97.2	80-120		%Rec	1	4/19/2016 12:35:32 PM	24839
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.038	0.023		mg/Kg	1	4/19/2016 12:35:32 PM	24839
Toluene	ND	0.046		mg/Kg	1	4/19/2016 12:35:32 PM	24839
Ethylbenzene	ND	0.046		mg/Kg	1	4/19/2016 12:35:32 PM	24839
Xylenes, Total	ND	0.092		mg/Kg	1	4/19/2016 12:35:32 PM	24839
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	4/19/2016 12:35:32 PM	24839

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-5'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:34:00 PM

**Lab ID:** 1604667-005

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/19/2016 4:16:43 PM	24846
Surr: DNOP	76.9	70-130		%Rec	1	4/19/2016 4:16:43 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2016 12:59:11 PM	24839
Surr: BFB	95.1	80-120		%Rec	1	4/19/2016 12:59:11 PM	24839
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/19/2016 12:59:11 PM	24839
Toluene	ND	0.047		mg/Kg	1	4/19/2016 12:59:11 PM	24839
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2016 12:59:11 PM	24839
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2016 12:59:11 PM	24839
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	4/19/2016 12:59:11 PM	24839

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-6'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:37:00 PM

**Lab ID:** 1604667-006

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/19/2016 4:38:10 PM	24846
Surr: DNOP	73.1	70-130		%Rec	1	4/19/2016 4:38:10 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2016 1:22:52 PM	24839
Surr: BFB	95.3	80-120		%Rec	1	4/19/2016 1:22:52 PM	24839
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 1:22:52 PM	24839
Toluene	ND	0.049		mg/Kg	1	4/19/2016 1:22:52 PM	24839
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2016 1:22:52 PM	24839
Xylenes, Total	ND	0.098		mg/Kg	1	4/19/2016 1:22:52 PM	24839
Surr: 4-Bromofluorobenzene	95.6	80-120		%Rec	1	4/19/2016 1:22:52 PM	24839

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-7'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:40:00 PM

**Lab ID:** 1604667-007

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/19/2016 4:59:52 PM	24846
Surr: DNOP	75.0	70-130		%Rec	1	4/19/2016 4:59:52 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/19/2016 1:59:04 AM	24840
Surr: BFB	94.6	80-120		%Rec	1	4/19/2016 1:59:04 AM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 1:59:04 AM	24840
Toluene	ND	0.050		mg/Kg	1	4/19/2016 1:59:04 AM	24840
Ethylbenzene	ND	0.050		mg/Kg	1	4/19/2016 1:59:04 AM	24840
Xylenes, Total	ND	0.099		mg/Kg	1	4/19/2016 1:59:04 AM	24840
Surr: 4-Bromofluorobenzene	94.7	80-120		%Rec	1	4/19/2016 1:59:04 AM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-8'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:45:00 PM

**Lab ID:** 1604667-008

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/19/2016 5:21:23 PM	24846
Surr: DNOP	72.9	70-130		%Rec	1	4/19/2016 5:21:23 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2016 2:33:44 PM	24840
Surr: BFB	91.7	80-120		%Rec	1	4/19/2016 2:33:44 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 2:33:44 PM	24840
Toluene	ND	0.049		mg/Kg	1	4/19/2016 2:33:44 PM	24840
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2016 2:33:44 PM	24840
Xylenes, Total	ND	0.099		mg/Kg	1	4/19/2016 2:33:44 PM	24840
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	4/19/2016 2:33:44 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-9'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:48:00 PM

**Lab ID:** 1604667-009

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/19/2016 5:43:03 PM	24846
Surr: DNOP	72.8	70-130		%Rec	1	4/19/2016 5:43:03 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/19/2016 2:45:54 AM	24840
Surr: BFB	94.9	80-120		%Rec	1	4/19/2016 2:45:54 AM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 2:45:54 AM	24840
Toluene	ND	0.050		mg/Kg	1	4/19/2016 2:45:54 AM	24840
Ethylbenzene	ND	0.050		mg/Kg	1	4/19/2016 2:45:54 AM	24840
Xylenes, Total	ND	0.099		mg/Kg	1	4/19/2016 2:45:54 AM	24840
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	4/19/2016 2:45:54 AM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 1-10'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 1:53:00 PM

**Lab ID:** 1604667-010

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/19/2016 6:04:37 PM	24846
Surr: DNOP	73.5	70-130		%Rec	1	4/19/2016 6:04:37 PM	24846
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/19/2016 3:09:20 AM	24840
Surr: BFB	93.4	80-120		%Rec	1	4/19/2016 3:09:20 AM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 3:09:20 AM	24840
Toluene	ND	0.050		mg/Kg	1	4/19/2016 3:09:20 AM	24840
Ethylbenzene	ND	0.050		mg/Kg	1	4/19/2016 3:09:20 AM	24840
Xylenes, Total	ND	0.10		mg/Kg	1	4/19/2016 3:09:20 AM	24840
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	4/19/2016 3:09:20 AM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-1'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:10:00 PM

**Lab ID:** 1604667-011

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/20/2016 8:26:22 PM	24847
Surr: DNOP	89.8	70-130		%Rec	1	4/20/2016 8:26:22 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2016 3:32:59 AM	24840
Surr: BFB	101	80-120		%Rec	1	4/19/2016 3:32:59 AM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.081	0.023		mg/Kg	1	4/19/2016 3:32:59 AM	24840
Toluene	0.15	0.046		mg/Kg	1	4/19/2016 3:32:59 AM	24840
Ethylbenzene	0.11	0.046		mg/Kg	1	4/19/2016 3:32:59 AM	24840
Xylenes, Total	ND	0.093		mg/Kg	1	4/19/2016 3:32:59 AM	24840
Surr: 4-Bromofluorobenzene	97.6	80-120		%Rec	1	4/19/2016 3:32:59 AM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-2'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:12:00 PM

**Lab ID:** 1604667-012

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/20/2016 8:48:15 PM	24847
Surr: DNOP	87.8	70-130		%Rec	1	4/20/2016 8:48:15 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2016 3:56:34 AM	24840
Surr: BFB	95.7	80-120		%Rec	1	4/19/2016 3:56:34 AM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.14	0.025		mg/Kg	1	4/19/2016 3:56:34 AM	24840
Toluene	0.12	0.049		mg/Kg	1	4/19/2016 3:56:34 AM	24840
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2016 3:56:34 AM	24840
Xylenes, Total	ND	0.098		mg/Kg	1	4/19/2016 3:56:34 AM	24840
Surr: 4-Bromofluorobenzene	95.2	80-120		%Rec	1	4/19/2016 3:56:34 AM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-3'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:14:00 PM

**Lab ID:** 1604667-013

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/20/2016 9:10:03 PM	24847
Surr: DNOP	89.1	70-130		%Rec	1	4/20/2016 9:10:03 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2016 4:20:07 AM	24840
Surr: BFB	93.9	80-120		%Rec	1	4/19/2016 4:20:07 AM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	4/19/2016 4:20:07 AM	24840
Toluene	ND	0.046		mg/Kg	1	4/19/2016 4:20:07 AM	24840
Ethylbenzene	ND	0.046		mg/Kg	1	4/19/2016 4:20:07 AM	24840
Xylenes, Total	ND	0.092		mg/Kg	1	4/19/2016 4:20:07 AM	24840
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	4/19/2016 4:20:07 AM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-4'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:18:00 PM

**Lab ID:** 1604667-014

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/20/2016 9:31:54 PM	24847
Surr: DNOP	87.3	70-130		%Rec	1	4/20/2016 9:31:54 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2016 3:44:11 PM	24840
Surr: BFB	96.2	80-120		%Rec	1	4/19/2016 3:44:11 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.028	0.025		mg/Kg	1	4/19/2016 3:44:11 PM	24840
Toluene	ND	0.049		mg/Kg	1	4/19/2016 3:44:11 PM	24840
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2016 3:44:11 PM	24840
Xylenes, Total	ND	0.098		mg/Kg	1	4/19/2016 3:44:11 PM	24840
Surr: 4-Bromofluorobenzene	99.0	80-120		%Rec	1	4/19/2016 3:44:11 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-5'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:20:00 PM

**Lab ID:** 1604667-015

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/20/2016 9:53:39 PM	24847
Surr: DNOP	87.6	70-130		%Rec	1	4/20/2016 9:53:39 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2016 4:07:43 PM	24840
Surr: BFB	95.2	80-120		%Rec	1	4/19/2016 4:07:43 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/19/2016 4:07:43 PM	24840
Toluene	ND	0.047		mg/Kg	1	4/19/2016 4:07:43 PM	24840
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2016 4:07:43 PM	24840
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2016 4:07:43 PM	24840
Surr: 4-Bromofluorobenzene	96.8	80-120		%Rec	1	4/19/2016 4:07:43 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-6'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:22:00 PM

**Lab ID:** 1604667-016

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/20/2016 10:15:33 PM	24847
Surr: DNOP	88.4	70-130		%Rec	1	4/20/2016 10:15:33 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2016 4:31:08 PM	24840
Surr: BFB	95.3	80-120		%Rec	1	4/19/2016 4:31:08 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	4/19/2016 4:31:08 PM	24840
Toluene	ND	0.046		mg/Kg	1	4/19/2016 4:31:08 PM	24840
Ethylbenzene	ND	0.046		mg/Kg	1	4/19/2016 4:31:08 PM	24840
Xylenes, Total	ND	0.092		mg/Kg	1	4/19/2016 4:31:08 PM	24840
Surr: 4-Bromofluorobenzene	96.9	80-120		%Rec	1	4/19/2016 4:31:08 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-7'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:26:00 PM

**Lab ID:** 1604667-017

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/20/2016 10:37:15 PM	24847
Surr: DNOP	80.6	70-130		%Rec	1	4/20/2016 10:37:15 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2016 8:25:44 PM	24840
Surr: BFB	94.4	80-120		%Rec	1	4/19/2016 8:25:44 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/19/2016 8:25:44 PM	24840
Toluene	ND	0.049		mg/Kg	1	4/19/2016 8:25:44 PM	24840
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2016 8:25:44 PM	24840
Xylenes, Total	ND	0.098		mg/Kg	1	4/19/2016 8:25:44 PM	24840
Surr: 4-Bromofluorobenzene	95.1	80-120		%Rec	1	4/19/2016 8:25:44 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-8'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:29:00 PM

**Lab ID:** 1604667-018

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/20/2016 10:59:01 PM	24847
Surr: DNOP	82.9	70-130		%Rec	1	4/20/2016 10:59:01 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2016 8:49:09 PM	24840
Surr: BFB	94.3	80-120		%Rec	1	4/19/2016 8:49:09 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	4/19/2016 8:49:09 PM	24840
Toluene	ND	0.046		mg/Kg	1	4/19/2016 8:49:09 PM	24840
Ethylbenzene	ND	0.046		mg/Kg	1	4/19/2016 8:49:09 PM	24840
Xylenes, Total	ND	0.092		mg/Kg	1	4/19/2016 8:49:09 PM	24840
Surr: 4-Bromofluorobenzene	94.9	80-120		%Rec	1	4/19/2016 8:49:09 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-9'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:32:00 PM

**Lab ID:** 1604667-019

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/20/2016 11:20:41 PM	24847
Surr: DNOP	85.0	70-130		%Rec	1	4/20/2016 11:20:41 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2016 9:12:43 PM	24840
Surr: BFB	93.6	80-120		%Rec	1	4/19/2016 9:12:43 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.024	0.023		mg/Kg	1	4/19/2016 9:12:43 PM	24840
Toluene	ND	0.047		mg/Kg	1	4/19/2016 9:12:43 PM	24840
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2016 9:12:43 PM	24840
Xylenes, Total	ND	0.093		mg/Kg	1	4/19/2016 9:12:43 PM	24840
Surr: 4-Bromofluorobenzene	94.0	80-120		%Rec	1	4/19/2016 9:12:43 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 2-10'

**Project:** State CO SWD System (Johnston BE Bat

**Collection Date:** 4/13/2016 2:36:00 PM

**Lab ID:** 1604667-020

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/20/2016 11:42:31 PM	24847
Surr: DNOP	83.0	70-130		%Rec	1	4/20/2016 11:42:31 PM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/19/2016 9:36:17 PM	24840
Surr: BFB	94.4	80-120		%Rec	1	4/19/2016 9:36:17 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.040	0.023		mg/Kg	1	4/19/2016 9:36:17 PM	24840
Toluene	ND	0.046		mg/Kg	1	4/19/2016 9:36:17 PM	24840
Ethylbenzene	ND	0.046		mg/Kg	1	4/19/2016 9:36:17 PM	24840
Xylenes, Total	ND	0.093		mg/Kg	1	4/19/2016 9:36:17 PM	24840
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	4/19/2016 9:36:17 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 3-1'

**Project:** State CO SWD System (Johnston BE Bat

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

**Lab ID:** 1604667-021

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/21/2016 12:04:03 AM	24847
Surr: DNOP	84.2	70-130		%Rec	1	4/21/2016 12:04:03 AM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/19/2016 9:59:49 PM	24840
Surr: BFB	94.6	80-120		%Rec	1	4/19/2016 9:59:49 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/19/2016 9:59:49 PM	24840
Toluene	ND	0.048		mg/Kg	1	4/19/2016 9:59:49 PM	24840
Ethylbenzene	ND	0.048		mg/Kg	1	4/19/2016 9:59:49 PM	24840
Xylenes, Total	ND	0.096		mg/Kg	1	4/19/2016 9:59:49 PM	24840
Surr: 4-Bromofluorobenzene	94.3	80-120		%Rec	1	4/19/2016 9:59:49 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 3-2'

**Project:** State CO SWD System (Johnston BE Bat

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

**Lab ID:** 1604667-022

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/21/2016 12:25:47 AM	24847
Surr: DNOP	92.1	70-130		%Rec	1	4/21/2016 12:25:47 AM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/19/2016 10:23:17 PM	24840
Surr: BFB	95.3	80-120		%Rec	1	4/19/2016 10:23:17 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 10:23:17 PM	24840
Toluene	ND	0.049		mg/Kg	1	4/19/2016 10:23:17 PM	24840
Ethylbenzene	ND	0.049		mg/Kg	1	4/19/2016 10:23:17 PM	24840
Xylenes, Total	ND	0.099		mg/Kg	1	4/19/2016 10:23:17 PM	24840
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	4/19/2016 10:23:17 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 3-3'

**Project:** State CO SWD System (Johnston BE Bat

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

**Lab ID:** 1604667-023

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/21/2016 12:47:21 AM	24847
Surr: DNOP	95.3	70-130		%Rec	1	4/21/2016 12:47:21 AM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/19/2016 10:46:44 PM	24840
Surr: BFB	92.9	80-120		%Rec	1	4/19/2016 10:46:44 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	4/19/2016 10:46:44 PM	24840
Toluene	ND	0.047		mg/Kg	1	4/19/2016 10:46:44 PM	24840
Ethylbenzene	ND	0.047		mg/Kg	1	4/19/2016 10:46:44 PM	24840
Xylenes, Total	ND	0.095		mg/Kg	1	4/19/2016 10:46:44 PM	24840
Surr: 4-Bromofluorobenzene	91.5	80-120		%Rec	1	4/19/2016 10:46:44 PM	24840

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

<b>Qualifiers:</b>	*	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 **1604667**

Date Reported: **4/25/2016**

**CLIENT:** Yates Petroleum Corporation

**Client Sample ID:** 3-4'

**Project:** State CO SWD System (Johnston BE Bat

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

**Lab ID:** 1604667-024

**Matrix:** SOIL

**Received Date:** 4/15/2016 9:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/21/2016 1:09:01 AM	24847
Surr: DNOP	100	70-130		%Rec	1	4/21/2016 1:09:01 AM	24847
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/19/2016 11:10:15 PM	24840
Surr: BFB	93.8	80-120		%Rec	1	4/19/2016 11:10:15 PM	24840
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	4/19/2016 11:10:15 PM	24840
Toluene	ND	0.050		mg/Kg	1	4/19/2016 11:10:15 PM	24840
Ethylbenzene	ND	0.050		mg/Kg	1	4/19/2016 11:10:15 PM	24840
Xylenes, Total	ND	0.10		mg/Kg	1	4/19/2016 11:10:15 PM	24840
Surr: 4-Bromofluorobenzene	93.5	80-120		%Rec	1	4/19/2016 11:10:15 PM	24840

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

<b>Qualifiers:</b>	*	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-24846		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 24846		RunNo: 33618					
Prep Date:	4/18/2016		Analysis Date: 4/19/2016		SeqNo: 1035550		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	9.2		10.00		92.5	70	130			

Sample ID	LCS-24846		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 24846		RunNo: 33618					
Prep Date:	4/18/2016		Analysis Date: 4/19/2016		SeqNo: 1035611		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	95.7	65.8	136			
Surr: DNOP	4.6		5.000		92.5	70	130			

Sample ID	LCS-24847		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 24847		RunNo: 33653					
Prep Date:	4/19/2016		Analysis Date: 4/20/2016		SeqNo: 1036419		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.3	65.8	136			
Surr: DNOP	3.8		5.000		76.5	70	130			

Sample ID	LCS-24873		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 24873		RunNo: 33653					
Prep Date:	4/19/2016		Analysis Date: 4/20/2016		SeqNo: 1036420		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		75.2	70	130			

Sample ID	LCS-24874			SampType:	LCS			TestCode:	EPA Method 8015M/D: Diesel Range Organics		
Client ID:	LCSS			Batch ID:	24874			RunNo:	33653		
Prep Date:	4/19/2016			Analysis Date:	4/20/2016			SeqNo:	1036421		
								Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	3.7		5.000		74.9	70	130				

Sample ID	MB-24847		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 24847		RunNo: 33653					
Prep Date:	4/19/2016		Analysis Date: 4/20/2016		SeqNo: 1036422		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	7.4		10.00		73.9	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# 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-24873		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 24873		RunNo: 33653					
Prep Date:	4/19/2016		Analysis Date: 4/20/2016		SeqNo: 1036423		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.3		10.00		72.9	70	130			

Sample ID	MB-24874		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 24874		RunNo: 33653					
Prep Date:	4/19/2016		Analysis Date: 4/20/2016		SeqNo: 1036424		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		83.3	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# 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-24836		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 24836		RunNo: 33600					
Prep Date:	4/15/2016		Analysis Date: 4/18/2016		SeqNo: 1033974		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.4	80	120			

Sample ID	LCS-24836		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 24836		RunNo: 33600					
Prep Date:	4/15/2016		Analysis Date: 4/18/2016		SeqNo: 1033975		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	80	120			

Sample ID	MB-24839		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	24839		RunNo:	33600				
Prep Date:	4/15/2016		Analysis Date:	4/18/2016		SeqNo:	1033995		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	930		1000		93.5	80	120				

Sample ID	LCS-24839		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 24839		RunNo: 33600					
Prep Date:	4/15/2016		Analysis Date: 4/18/2016		SeqNo: 1033996		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.8	80	120			
Surr: BFB	1000		1000		101	80	120			

Sample ID	MB-24840		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 24840		RunNo: 33642					
Prep Date:	4/16/2016		Analysis Date: 4/19/2016		SeqNo: 1035835		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	930		1000		93.4	80	120			

Sample ID	LCS-24840		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 24840		RunNo: 33642					
Prep Date:	4/16/2016		Analysis Date: 4/19/2016		SeqNo: 1035836		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	80	120			
Surr: BFB	1000		1000		102	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#: 1604667

25-Apr-16

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

Sample ID <b>MB-24836</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>24836</b>			RunNo: <b>33600</b>						
Prep Date: <b>4/15/2016</b>	Analysis Date: <b>4/18/2016</b>			SeqNo: <b>1034018</b>			Units: <b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.96		1.000		96.3	80	120			

Sample ID <b>LCS-24836</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>24836</b>			RunNo: <b>33600</b>						
Prep Date: <b>4/15/2016</b>	Analysis Date: <b>4/18/2016</b>			SeqNo: <b>1034019</b>			Units: <b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID <b>MB-24839</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>24839</b>			RunNo: <b>33600</b>						
Prep Date: <b>4/15/2016</b>	Analysis Date: <b>4/18/2016</b>			SeqNo: <b>1034033</b>			Units: <b>mg/Kg</b>			
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	0.96		1.000		95.7	80	120			

Sample ID <b>LCS-24839</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>24839</b>			RunNo: <b>33600</b>						
Prep Date: <b>4/15/2016</b>	Analysis Date: <b>4/18/2016</b>			SeqNo: <b>1034034</b>			Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	75.3	123			
Toluene	0.93	0.050	1.000	0	93.3	80	124			
Ethylbenzene	0.90	0.050	1.000	0	90.0	82.8	121			
Xylenes, Total	2.7	0.10	3.000	0	89.4	83.9	122			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID <b>MB-24840</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBS</b>	Batch ID: <b>24840</b>			RunNo: <b>33642</b>						
Prep Date: <b>4/16/2016</b>	Analysis Date: <b>4/19/2016</b>			SeqNo: <b>1035876</b>			Units: <b>mg/Kg</b>			
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								

### 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-24840		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 24840		RunNo: 33642					
Prep Date:	4/16/2016		Analysis Date: 4/19/2016		SeqNo: 1035876		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.9	80	120			

Sample ID	LCS-24840		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 24840		RunNo: 33642					
Prep Date:	4/16/2016		Analysis Date: 4/19/2016		SeqNo: 1035884		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.1	75.3	123			
Toluene	0.87	0.050	1.000	0	87.4	80	124			
Ethylbenzene	0.89	0.050	1.000	0	88.5	82.8	121			
Xylenes, Total	2.7	0.10	3.000	0	88.6	83.9	122			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	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



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: 1604667

RcptNo: 1

Received by/date:

*JA*

04/15/16

Logged By: Joe Archuleta

4/15/2016 9:25:00 AM

*JA*

Completed By: Joe Archuleta

4/15/2016 11:14:40 AM

*JA*

Reviewed By:

*JA 04/15/16*

### 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  $6.0^{\circ}\text{C}$ ? 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	4.3	Good	Yes			





