

MARTIN YATES, III
1912-1985

FRANK W. YATES
1926-1986

S.P. YATES
1914-2008



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ARTESIA, NEW MEXICO 88210-2118

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November 12, 2015

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

Re: Perdomo BMP State Com #1H
30-015-36499
Section 24, T24S-R27E
Eddy County, New Mexico

Dear Mr. Bratcher or Ms. Patterson:

Yates Petroleum Corporation would like to submit the following plan of work to you regarding the release that occurred at the above mentioned facility on August 19, 2015 (2RP-3226). This is the second work plan submitted for this release. The first work plan (approved by NMOCD on 9/10/2015) was for Sections 1-3 of the release area and all that work has been completed. This work plan will address Sections 4-6 of the release area. The release was 42 barrels of oil released, with 40 barrels of oil recovered.

Yates conducted initial sampling of Sections 4-6 on 8/24/2015 with a hand core to determine the vertical extent of TPH and BTEX contamination from the release. Yates received the initial analytical results from the laboratory on 9/1/2015. After reviewing the initial analytical results, it was determined that Sections 4-6 of the release area needed further vertical delineation for both TPH and BTEX constituents. The initial analytical results are attached for your review.

Yates returned to the site on 9/15/2015 for further sampling of Sections 4-6. This time sampling was conducted with the assistance of a backhoe. Analytical results for this sampling event were received on 9/28/2015. All three sections showed a decrease in both TPH and BTEX, with levels dropping below the NMOCD RRALs. Analytical results are summarized on an attached table and analytical results from the laboratory are attached for your review.

KATHY H. PORTER
SECRETARY

DENNIS G. KINSEY
TREASURER

Yates proposes the following work:

- Excavate 5.5' from Section 4 (63' x 43'), 3.5' from Section 5 (90' x 30'), and 3.5' from Section 6 (146' x 15'). Fencing will encompass the excavated areas to prevent accidental injury to personnel or livestock and to restrict vehicle traffic from impacting the excavated area.
 - All excavated soils will be stockpiled on a synthetic liner on the southwest corner of the well pad. A dirt berm will be built-up around the contaminated soils to prevent TPH and BTEX contaminants from spreading on to the well pad. A temporary fence will be put up to surround the stockpile area to keep personnel and livestock out.
- Remediate the soils to TPH and BTEX levels below NMOCD RRALs using fertilizer and Micro-Blaze.
 - Yates will mix the excavated soils with fertilizer. The soils will remain stockpiled on the synthetic liner for the duration of winter. Yates will monitor the soils and turn the soils, at least once during this period of time. Mid to late March 2016, soils will be re-sampled (three soil samples will be pulled from the stockpile) to determine the TPH and BTEX levels of the soils after being laid out on the liner during the winter months. If levels have dropped below the NMOCD RRALs, Yates will ask for backfill and closure approval.
 - If analytical results show that TPH and BTEX levels are still above the NMOCD RRALs, Yates will mix in a 3% Micro-Blaze solution with the soils. The stockpiled soils will be sampled (three soil samples will be pulled from the stockpile) and turned every 30 days, for a 90 day period. If at any time analytical results show TPH and BTEX levels have dropped below the NMOCD RRALs, Yates will ask for backfill and closure approval. If at the end of the 90 day period analytical results show that TPH and BTEX levels are still above the NMOCD RRALs, Yates will mix in a second treatment of 3% Micro-Blaze, sampling and turning the soils for an additional 90 day period.
 - Anytime the stockpiled soils are turned, water will be added to the soils to reactivate the fertilizer and/or Micro-Blaze.

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

Thank You,



Amber Griffin
Environmental Regulatory Agent
Yates Petroleum Corporation



Google earth

feet
meters 100 500



Perdomo BMP State Com #1H

Hall Environmental

	Sample Area	Sample Date	Analytical Report	Sample Type	Depth	BTEX	GRO	DRO	TOTAL
1 - 1'	Release Area	8/24/2015	1508E10	Grab/Auger	1'	306	7,400	11,000	18,400
1 - 2'	Release Area	8/24/2015	1508E10	Grab/Auger	2'	105	3,200	41,000	44,200
1 - 3'	Release Area	8/24/2015	1508E10	Grab/Auger	3'	0.196	ND	ND	ND
2 - 1'	Release Area	8/24/2015	1508E10	Grab/Auger	1'	5.28	300	530	830
2 - 2'	Release Area	8/24/2015	1508E10	Grab/Auger	2'	ND	ND	ND	ND
3 - 1'	Release Area	8/24/2015	1508E10	Grab/Auger	1'	287.1	6,900	14,000	20,900
3 - 2'	Release Area	8/24/2015	1508E10	Grab/Auger	2'	5.59	170	440	610
3 - 3'	Release Area	8/24/2015	1508E10	Grab/Auger	3'	ND	5.9	21	26.9
4 - 1'	Release Area	8/24/2015	1508E10	Grab/Auger	1'	403	7,300	22,000	29,300
4 - 2'	Release Area	9/15/2015	1509897	Grab/Backhoe	2'	312.8	7,100	8,300	15,400
4 - 3'	Release Area	9/15/2015	1509897	Grab/Backhoe	3'	96.9	3,000	4,000	7,000
4 - 4'	Release Area	9/15/2015	1509897	Grab/Backhoe	4'	47.46	1,400	2,200	3,600
4 - 5'	Release Area	9/15/2015	1509897	Grab/Backhoe	5'	25.24	830	1,500	2,330
4 - 6'	Release Area	9/15/2015	1509897	Grab/Backhoe	6'	ND	ND	ND	ND
4 - 7'	Release Area	9/15/2015	1509897	Grab/Backhoe	7'	ND	ND	ND	ND
5 - 1'	Release Area	8/24/2015	1508E10	Grab/Auger	1'	740	12,000	30,000	42,000
5 - 2'	Release Area	8/24/2015	1508E10	Grab/Auger	2'	690	11,000	32,000	43,000
5 - 3'	Release Area	8/24/2015	1508E10	Grab/Auger	3'	3.916	98	220	318
5 - 4'	Release Area	9/15/2015	1509897	Grab/Backhoe	4'	ND	5.4	45	50.4
5 - 5'	Release Area	9/15/2015	1509897	Grab/Backhoe	5'	ND	ND	ND	ND
5 - 6'	Release Area	9/15/2015	1509897	Grab/Backhoe	6'	ND	ND	11	11
6 - 1'	Release Area	8/24/2015	1508E10	Grab/Auger	1'	167.7	3,000	9,800	12,800
6 - 2'	Release Area	9/15/2015	1509897	Grab/Backhoe	2'	ND	ND	ND	ND
6 - 3'	Release Area	9/15/2015	1509897	Grab/Backhoe	3'	60.9	1,800	3,500	5,300
6 - 4'	Release Area	9/15/2015	1509897	Grab/Backhoe	4'	ND	ND	ND	ND
6 - 5'	Release Area	9/15/2015	1509897	Grab/Backhoe	5'	0.669	38	90	128
6 - 6'	Release Area	9/15/2015	1509897	Grab/Backhoe	6'	ND	ND	ND	ND
6 - 7'	Release Area	9/15/2015	1509897	Grab/Backhoe	7'	ND	ND	ND	ND

Site Ranking is TWENTY (20). Depth to Ground Water <50' (approx. 45', per Chevron/Texasco Trend Map).

All results are ppm.

Released: 42 B/O; Recovered: 40 B/O. Release Date: 8/19/15. 2RP-3226



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

September 01, 2015

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

RE: Perdomo BMP State Com #1H

OrderNo.: 1508E10

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 13 sample(s) on 8/28/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", with a stylized flourish at the end.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 1-1'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 11:31:00 AM

Lab ID: 1508E10-001

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							
Gasoline Range Organics (GRO)	7400	500		mg/Kg	100	8/31/2015 10:41:01 AM	21037
Surr: BFB	101	70-130		%REC	100	8/31/2015 10:41:01 AM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							
Diesel Range Organics (DRO)	11000	1000		mg/Kg	100	8/31/2015 1:58:40 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 1:58:40 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							
Benzene	10	5.0		mg/Kg	100	8/31/2015 10:41:01 AM	21037
Toluene	89	5.0		mg/Kg	100	8/31/2015 10:41:01 AM	21037
Ethylbenzene	17	5.0		mg/Kg	100	8/31/2015 10:41:01 AM	21037
Xylenes, Total	190	10		mg/Kg	100	8/31/2015 10:41:01 AM	21037
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%REC	100	8/31/2015 10:41:01 AM	21037
Surr: 4-Bromofluorobenzene	86.2	70-130		%REC	100	8/31/2015 10:41:01 AM	21037
Surr: Dibromofluoromethane	92.7	70-130		%REC	100	8/31/2015 10:41:01 AM	21037
Surr: Toluene-d8	101	70-130		%REC	100	8/31/2015 10:41:01 AM	21037

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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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 1-2'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 11:44:00 AM

Lab ID: 1508E10-002

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	3200	230		mg/Kg	50	8/31/2015 11:09:50 AM	21037
Surr: BFB	103	70-130		%REC	50	8/31/2015 11:09:50 AM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	41000	1000		mg/Kg	100	8/31/2015 6:09:14 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 6:09:14 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	2.0	1.1		mg/Kg	50	8/31/2015 11:09:50 AM	21037
Toluene	28	2.3		mg/Kg	50	8/31/2015 11:09:50 AM	21037
Ethylbenzene	6.0	2.3		mg/Kg	50	8/31/2015 11:09:50 AM	21037
Xylenes, Total	69	4.6		mg/Kg	50	8/31/2015 11:09:50 AM	21037
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	50	8/31/2015 11:09:50 AM	21037
Surr: 4-Bromofluorobenzene	90.0	70-130		%REC	50	8/31/2015 11:09:50 AM	21037
Surr: Dibromofluoromethane	94.5	70-130		%REC	50	8/31/2015 11:09:50 AM	21037
Surr: Toluene-d8	98.4	70-130		%REC	50	8/31/2015 11:09:50 AM	21037

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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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 1-3'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 11:57:00 AM

Lab ID: 1508E10-003

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/31/2015 11:38:41 AM	21037
Surr: BFB	114	70-130		%REC	1	8/31/2015 11:38:41 AM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/31/2015 4:17:06 PM	21043
Surr: DNOP	94.8	57.9-140		%REC	1	8/31/2015 4:17:06 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							
Benzene	ND	0.049		mg/Kg	1	8/31/2015 11:38:41 AM	21037
Toluene	0.076	0.049		mg/Kg	1	8/31/2015 11:38:41 AM	21037
Ethylbenzene	ND	0.049		mg/Kg	1	8/31/2015 11:38:41 AM	21037
Xylenes, Total	0.12	0.098		mg/Kg	1	8/31/2015 11:38:41 AM	21037
Surr: 1,2-Dichloroethane-d4	95.0	70-130		%REC	1	8/31/2015 11:38:41 AM	21037
Surr: 4-Bromofluorobenzene	97.3	70-130		%REC	1	8/31/2015 11:38:41 AM	21037
Surr: Dibromofluoromethane	98.1	70-130		%REC	1	8/31/2015 11:38:41 AM	21037
Surr: Toluene-d8	87.7	70-130		%REC	1	8/31/2015 11:38:41 AM	21037

0.196

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 2-1'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 12:06:00 PM

Lab ID: 1508E10-004

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	300	47		mg/Kg	10	8/31/2015 2:31:29 PM	21037
Surr: BFB	101	70-130		%REC	10	8/31/2015 2:31:29 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	530	10		mg/Kg	1	8/31/2015 4:44:34 PM	21043
Surr: DNOP	106	57.9-140		%REC	1	8/31/2015 4:44:34 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.047		mg/Kg	1	8/31/2015 12:07:30 PM	21037
Toluene	0.56	0.047		mg/Kg	1	8/31/2015 12:07:30 PM	21037
Ethylbenzene	0.32	0.047		mg/Kg	1	8/31/2015 12:07:30 PM	21037
Xylenes, Total	4.4	0.095		mg/Kg	1	8/31/2015 12:07:30 PM	21037
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	8/31/2015 12:07:30 PM	21037
Surr: 4-Bromofluorobenzene	68.3	70-130	S	%REC	1	8/31/2015 12:07:30 PM	21037
Surr: Dibromofluoromethane	97.3	70-130		%REC	1	8/31/2015 12:07:30 PM	21037
Surr: Toluene-d8	88.1	70-130		%REC	1	8/31/2015 12:07:30 PM	21037

5.28

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 2-2'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 12:15:00 PM

Lab ID: 1508E10-005

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/31/2015 12:36:14 PM	21037
Surr: BFB	111	70-130		%REC	1	8/31/2015 12:36:14 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/31/2015 5:12:09 PM	21043
Surr: DNOP	97.1	57.9-140		%REC	1	8/31/2015 5:12:09 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							
Benzene	ND	0.048		mg/Kg	1	8/31/2015 12:36:14 PM	21037
Toluene	ND	0.048		mg/Kg	1	8/31/2015 12:36:14 PM	21037
Ethylbenzene	ND	0.048		mg/Kg	1	8/31/2015 12:36:14 PM	21037
Xylenes, Total	ND	0.097		mg/Kg	1	8/31/2015 12:36:14 PM	21037
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%REC	1	8/31/2015 12:36:14 PM	21037
Surr: 4-Bromofluorobenzene	93.1	70-130		%REC	1	8/31/2015 12:36:14 PM	21037
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	8/31/2015 12:36:14 PM	21037
Surr: Toluene-d8	86.3	70-130		%REC	1	8/31/2015 12:36:14 PM	21037

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 3-1'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 10:49:00 AM

Lab ID: 1508E10-006

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	6900	940		mg/Kg	200	8/31/2015 3:00:21 PM	21037
Surr: BFB	103	70-130		%REC	200	8/31/2015 3:00:21 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	14000	1000		mg/Kg	100	8/31/2015 2:26:18 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 2:26:18 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	5.1	2.3		mg/Kg	50	8/31/2015 1:04:59 PM	21037
Toluene	75	2.3		mg/Kg	50	8/31/2015 1:04:59 PM	21037
Ethylbenzene	17	2.3		mg/Kg	50	8/31/2015 1:04:59 PM	21037
Xylenes, Total	190	4.7		mg/Kg	50	8/31/2015 1:04:59 PM	21037
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%REC	50	8/31/2015 1:04:59 PM	21037
Surr: 4-Bromofluorobenzene	74.7	70-130		%REC	50	8/31/2015 1:04:59 PM	21037
Surr: Dibromofluoromethane	91.9	70-130		%REC	50	8/31/2015 1:04:59 PM	21037
Surr: Toluene-d8	99.3	70-130		%REC	50	8/31/2015 1:04:59 PM	21037

287.1

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 3-2'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 11:06:00 AM

Lab ID: 1508E10-007

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	170	49		mg/Kg	10	8/31/2015 3:29:12 PM	21037
Surr: BFB	105	70-130		%REC	10	8/31/2015 3:29:12 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	440	9.8		mg/Kg	1	8/31/2015 2:54:02 PM	21043
Surr: DNOP	109	57.9-140		%REC	1	8/31/2015 2:54:02 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	0.080	0.049		mg/Kg	1	8/31/2015 1:33:46 PM	21037
Toluene	1.2	0.049		mg/Kg	1	8/31/2015 1:33:46 PM	21037
Ethylbenzene	0.31	0.049		mg/Kg	1	8/31/2015 1:33:46 PM	21037
Xylenes, Total	4.0	0.098		mg/Kg	1	8/31/2015 1:33:46 PM	21037
Surr: 1,2-Dichloroethane-d4	98.7	70-130		%REC	1	8/31/2015 1:33:46 PM	21037
Surr: 4-Bromofluorobenzene	72.6	70-130		%REC	1	8/31/2015 1:33:46 PM	21037
Surr: Dibromofluoromethane	90.9	70-130		%REC	1	8/31/2015 1:33:46 PM	21037
Surr: Toluene-d8	88.8	70-130		%REC	1	8/31/2015 1:33:46 PM	21037

5.59

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 3-3'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 11:17:00 AM

Lab ID: 1508E10-008

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	5.9	5.0		mg/Kg	1	8/31/2015 2:02:35 PM	21037
Surr: BFB	116	70-130		%REC	1	8/31/2015 2:02:35 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	21	9.9		mg/Kg	1	8/31/2015 3:21:52 PM	21043
Surr: DNOP	104	57.9-140		%REC	1	8/31/2015 3:21:52 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	8/31/2015 2:02:35 PM	21037
Toluene	ND	0.050		mg/Kg	1	8/31/2015 2:02:35 PM	21037
Ethylbenzene	ND	0.050		mg/Kg	1	8/31/2015 2:02:35 PM	21037
Xylenes, Total	ND	0.099		mg/Kg	1	8/31/2015 2:02:35 PM	21037
Surr: 1,2-Dichloroethane-d4	94.9	70-130		%REC	1	8/31/2015 2:02:35 PM	21037
Surr: 4-Bromofluorobenzene	89.1	70-130		%REC	1	8/31/2015 2:02:35 PM	21037
Surr: Dibromofluoromethane	95.0	70-130		%REC	1	8/31/2015 2:02:35 PM	21037
Surr: Toluene-d8	89.5	70-130		%REC	1	8/31/2015 2:02:35 PM	21037

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-1'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 12:30:00 PM

Lab ID: 1508E10-009

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	7300	490		mg/Kg	100	8/31/2015 2:06:15 PM	21037
Surr: BFB	113	70-130		%REC	100	8/31/2015 2:06:15 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	22000	990		mg/Kg	100	8/31/2015 1:31:01 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 1:31:01 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	11	4.9		mg/Kg	100	8/31/2015 2:06:15 PM	21037
Toluene	110	4.9		mg/Kg	100	8/31/2015 2:06:15 PM	21037
Ethylbenzene	22	4.9		mg/Kg	100	8/31/2015 2:06:15 PM	21037
Xylenes, Total	260	9.8		mg/Kg	100	8/31/2015 2:06:15 PM	21037
Surr: 1,2-Dichloroethane-d4	113	70-130		%REC	100	8/31/2015 2:06:15 PM	21037
Surr: 4-Bromofluorobenzene	84.9	70-130		%REC	100	8/31/2015 2:06:15 PM	21037
Surr: Dibromofluoromethane	113	70-130		%REC	100	8/31/2015 2:06:15 PM	21037
Surr: Toluene-d8	99.7	70-130		%REC	100	8/31/2015 2:06:15 PM	21037

403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 5-1'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 12:48:00 PM

Lab ID: 1508E10-010

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	12000	470		mg/Kg	100	8/31/2015 12:43:25 PM	21037
Surr: BFB	113	70-130		%REC	100	8/31/2015 12:43:25 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	30000	970		mg/Kg	100	8/31/2015 5:39:44 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 5:39:44 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	21	4.7		mg/Kg	100	8/31/2015 12:43:25 PM	21037
Toluene	210	4.7		mg/Kg	100	8/31/2015 12:43:25 PM	21037
Ethylbenzene	39	4.7		mg/Kg	100	8/31/2015 12:43:25 PM	21037
Xylenes, Total	470	9.5		mg/Kg	100	8/31/2015 12:43:25 PM	21037
Surr: 1,2-Dichloroethane-d4	114	70-130		%REC	100	8/31/2015 12:43:25 PM	21037
Surr: 4-Bromofluorobenzene	78.6	70-130		%REC	100	8/31/2015 12:43:25 PM	21037
Surr: Dibromofluoromethane	105	70-130		%REC	100	8/31/2015 12:43:25 PM	21037
Surr: Toluene-d8	101	70-130		%REC	100	8/31/2015 12:43:25 PM	21037

740

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 5-2'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 12:54:00 PM

Lab ID: 1508E10-011

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	11000	500		mg/Kg	100	8/31/2015 1:10:59 PM	21037
Surr: BFB	111	70-130		%REC	100	8/31/2015 1:10:59 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	32000	1000		mg/Kg	100	8/31/2015 6:07:21 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 6:07:21 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	22	5.0		mg/Kg	100	8/31/2015 1:10:59 PM	21037
Toluene	190	5.0		mg/Kg	100	8/31/2015 1:10:59 PM	21037
Ethylbenzene	38	5.0		mg/Kg	100	8/31/2015 1:10:59 PM	21037
Xylenes, Total	440	10		mg/Kg	100	8/31/2015 1:10:59 PM	21037
Surr: 1,2-Dichloroethane-d4	113	70-130		%REC	100	8/31/2015 1:10:59 PM	21037
Surr: 4-Bromofluorobenzene	82.6	70-130		%REC	100	8/31/2015 1:10:59 PM	21037
Surr: Dibromofluoromethane	106	70-130		%REC	100	8/31/2015 1:10:59 PM	21037
Surr: Toluene-d8	101	70-130		%REC	100	8/31/2015 1:10:59 PM	21037

690

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 5-3'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 1:02:00 PM

Lab ID: 1508E10-012

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	98	4.7		mg/Kg	1	8/31/2015 12:15:49 PM	21037
Surr: BFB	120	70-130		%REC	1	8/31/2015 12:15:49 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	220	9.7		mg/Kg	1	8/31/2015 3:49:27 PM	21043
Surr: DNOP	94.0	57.9-140		%REC	1	8/31/2015 3:49:27 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	0.066	0.047		mg/Kg	1	8/31/2015 12:15:49 PM	21037
Toluene	0.83	0.047		mg/Kg	1	8/31/2015 12:15:49 PM	21037
Ethylbenzene	0.22	0.047		mg/Kg	1	8/31/2015 12:15:49 PM	21037
Xylenes, Total	2.8	0.094		mg/Kg	1	8/31/2015 12:15:49 PM	21037
Surr: 1,2-Dichloroethane-d4	112	70-130		%REC	1	8/31/2015 12:15:49 PM	21037
Surr: 4-Bromofluorobenzene	68.7	70-130	S	%REC	1	8/31/2015 12:15:49 PM	21037
Surr: Dibromofluoromethane	112	70-130		%REC	1	8/31/2015 12:15:49 PM	21037
Surr: Toluene-d8	96.7	70-130		%REC	1	8/31/2015 12:15:49 PM	21037

3.916

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508E10

Date Reported: 9/1/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-1'

Project: Perdomo BMP State Com #1H

Collection Date: 8/24/2015 1:20:00 PM

Lab ID: 1508E10-013

Matrix: SOIL

Received Date: 8/28/2015 2:08:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	3000	99		mg/Kg	20	8/31/2015 1:38:38 PM	21037
Surr: BFB	120	70-130		%REC	20	8/31/2015 1:38:38 PM	21037
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	9800	980		mg/Kg	100	8/31/2015 2:31:25 PM	21043
Surr: DNOP	0	57.9-140	S	%REC	100	8/31/2015 2:31:25 PM	21043
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	1.8	0.99		mg/Kg	20	8/31/2015 1:38:38 PM	21037
Toluene	36	0.99		mg/Kg	20	8/31/2015 1:38:38 PM	21037
Ethylbenzene	9.9	0.99		mg/Kg	20	8/31/2015 1:38:38 PM	21037
Xylenes, Total	120	2.0		mg/Kg	20	8/31/2015 1:38:38 PM	21037
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	20	8/31/2015 1:38:38 PM	21037
Surr: 4-Bromofluorobenzene	70.0	70-130		%REC	20	8/31/2015 1:38:38 PM	21037
Surr: Dibromofluoromethane	109	70-130		%REC	20	8/31/2015 1:38:38 PM	21037
Surr: Toluene-d8	94.2	70-130		%REC	20	8/31/2015 1:38:38 PM	21037

167.7

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508E10

01-Sep-15

Client: Yates Petroleum Corporation
Project: Perdomo BMP State Com #1H

Sample ID	MB-21043	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	21043	RunNo:	28546					
Prep Date:	8/31/2015	Analysis Date:	8/31/2015	SeqNo:	863645	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	9.8		10.00		97.5	57.9	140			

Sample ID	LCS-21043	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	21043	RunNo:	28546					
Prep Date:	8/31/2015	Analysis Date:	8/31/2015	SeqNo:	863646	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.1	57.4	139			
Surr: DNOP	4.3		5.000		86.7	57.9	140			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508E10

01-Sep-15

Client: Yates Petroleum Corporation
Project: Perdomo BMP State Com #1H

Sample ID	mb-21037		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 21037		RunNo: 28563					
Prep Date:	8/28/2015		Analysis Date: 8/31/2015		SeqNo: 863882		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.1	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.1	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID	mb-21037		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 21037		RunNo: 28555					
Prep Date:	8/28/2015		Analysis Date: 8/31/2015		SeqNo: 864180		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.7	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.8	70	130			
Surr: Dibromofluoromethane	0.59		0.5000		118	70	130			
Surr: Toluene-d8	0.47		0.5000		93.6	70	130			

Sample ID	lcs-21037		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 21037		RunNo: 28555					
Prep Date:	8/28/2015		Analysis Date: 8/31/2015		SeqNo: 864181		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	70	130			
Toluene	0.93	0.050	1.000	0	92.8	70	130			
Ethylbenzene	0.95	0.050	1.000	0	95.1	70	130			
Xylenes, Total	2.9	0.10	3.000	0	96.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		98.3	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		91.1	70	130			
Surr: Dibromofluoromethane	0.61		0.5000		122	70	130			
Surr: Toluene-d8	0.46		0.5000		92.9	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508E10

01-Sep-15

Client: Yates Petroleum Corporation
Project: Perdomo BMP State Com #1H

Sample ID	lcs-21037		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles Short List			
Client ID:	LCSS		Batch ID:	21037		RunNo:	28563			
Prep Date:	8/28/2015		Analysis Date:	8/31/2015		SeqNo:	864316		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	1.000	0	95.5	70	130			
Toluene	0.87	0.050	1.000	0	86.9	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.5	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.1	70	130			
Surr: Toluene-d8	0.45		0.5000		90.3	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 | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508E10

01-Sep-15

Client: Yates Petroleum Corporation
Project: Perdomo BMP State Com #1H

Sample ID	mb-21037	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	21037	RunNo:	28563					
Prep Date:	8/28/2015	Analysis Date:	8/31/2015	SeqNo:	863872	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	520		500.0		104	70	130			

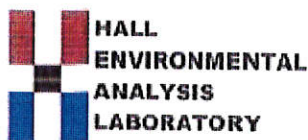
Sample ID	lcs-21037	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	21037	RunNo:	28563					
Prep Date:	8/28/2015	Analysis Date:	8/31/2015	SeqNo:	864314	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	90.0	70	123			
Surr: BFB	590		500.0		118	70	130			

Sample ID	mb-21037	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	21037	RunNo:	28555					
Prep Date:	8/28/2015	Analysis Date:	8/31/2015	SeqNo:	864550	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	520		500.0		103	70	130			

Sample ID	lcs-21037	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	21037	RunNo:	28555					
Prep Date:	8/28/2015	Analysis Date:	8/31/2015	SeqNo:	864551	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	97.9	70	123			
Surr: BFB	560		500.0		112	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 | |



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 1508E10

ReptNo: 1

Received by/date:

mg 08/28/15

Logged By: Ashley Gallegos

8/28/2015 2:08:00 PM

Completed By: Ashley Gallegos

8/28/2015 3:21:42 PM

Reviewed By:

SA 08/28/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
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	24	Good	Yes			



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

September 28, 2015

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

RE: Perdomo BMP State Com #1H

OrderNo.: 1509897

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 15 sample(s) on 9/18/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-2'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 9:34:00 AM

Lab ID: 1509897-001

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							
Gasoline Range Organics (GRO)	7100	980		mg/Kg	200	9/26/2015 5:10:55 PM	21403
Surr: BFB	102	70-130		%REC	200	9/26/2015 5:10:55 PM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							
Diesel Range Organics (DRO)	8300	970		mg/Kg	100	9/22/2015 2:59:03 PM	21399
Surr: DNOP	0	57.9-140	S	%REC	100	9/22/2015 2:59:03 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							
Benzene	7.8	2.5		mg/Kg	50	9/23/2015 3:02:35 AM	21403
Toluene	87	2.5		mg/Kg	50	9/23/2015 3:02:35 AM	21403
Ethylbenzene	18	2.5		mg/Kg	50	9/23/2015 3:02:35 AM	21403
Xylenes, Total	200	4.9		mg/Kg	50	9/23/2015 3:02:35 AM	21403
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%REC	50	9/23/2015 3:02:35 AM	21403
Surr: 4-Bromofluorobenzene	74.9	70-130		%REC	50	9/23/2015 3:02:35 AM	21403
Surr: Dibromofluoromethane	95.8	70-130		%REC	50	9/23/2015 3:02:35 AM	21403
Surr: Toluene-d8	96.6	70-130		%REC	50	9/23/2015 3:02:35 AM	21403

312.8

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-3'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 9:37:00 AM

Lab ID: 1509897-002

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	3000	95		mg/Kg	20	9/26/2015 6:05:56 PM	21403
Surr: BFB	115	70-130		%REC	20	9/26/2015 6:05:56 PM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	4000	98		mg/Kg	10	9/23/2015 10:30:03 AM	21399
Surr: DNOP	0	57.9-140	S	%REC	10	9/23/2015 10:30:03 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: DJF
Benzene	ND	0.95		mg/Kg	20	9/26/2015 6:05:56 PM	21403
Toluene	24	0.95		mg/Kg	20	9/26/2015 6:05:56 PM	21403
Ethylbenzene	5.9	0.95		mg/Kg	20	9/26/2015 6:05:56 PM	21403
Xylenes, Total	67	1.9		mg/Kg	20	9/26/2015 6:05:56 PM	21403
Surr: 1,2-Dichloroethane-d4	121	70-130		%REC	20	9/26/2015 6:05:56 PM	21403
Surr: 4-Bromofluorobenzene	72.3	70-130		%REC	20	9/26/2015 6:05:56 PM	21403
Surr: Dibromofluoromethane	106	70-130		%REC	20	9/26/2015 6:05:56 PM	21403
Surr: Toluene-d8	101	70-130		%REC	20	9/26/2015 6:05:56 PM	21403

96.9

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-4'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 9:40:00 AM

Lab ID: 1509897-003

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	1400	490		mg/Kg	100	9/26/2015 7:01:09 PM	21403
Surr: BFB	104	70-130		%REC	100	9/26/2015 7:01:09 PM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	2200	95		mg/Kg	10	9/23/2015 11:25:08 AM	21399
Surr: DNOP	0	57.9-140	S	%REC	10	9/23/2015 11:25:08 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	0.66	0.49		mg/Kg	10	9/23/2015 4:57:42 AM	21403
Toluene	12	0.49		mg/Kg	10	9/23/2015 4:57:42 AM	21403
Ethylbenzene	2.8	0.49		mg/Kg	10	9/23/2015 4:57:42 AM	21403
Xylenes, Total	32	0.98		mg/Kg	10	9/23/2015 4:57:42 AM	21403
Surr: 1,2-Dichloroethane-d4	98.2	70-130		%REC	10	9/23/2015 4:57:42 AM	21403
Surr: 4-Bromofluorobenzene	79.3	70-130		%REC	10	9/23/2015 4:57:42 AM	21403
Surr: Dibromofluoromethane	97.9	70-130		%REC	10	9/23/2015 4:57:42 AM	21403
Surr: Toluene-d8	98.3	70-130		%REC	10	9/23/2015 4:57:42 AM	21403

47.46

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-5'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 9:42:00 AM

Lab ID: 1509897-004

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	830	480		mg/Kg	100	9/26/2015 7:28:54 PM	21403
Surr: BFB	103	70-130		%REC	100	9/26/2015 7:28:54 PM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	1500	99		mg/Kg	10	9/23/2015 12:19:48 PM	21399
Surr: DNOP	0	57.9-140	S	%REC	10	9/23/2015 12:19:48 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	0.24	0.24		mg/Kg	5	9/23/2015 5:26:27 AM	21403
Toluene	5.4	0.24		mg/Kg	5	9/23/2015 5:26:27 AM	21403
Ethylbenzene	1.6	0.24		mg/Kg	5	9/23/2015 5:26:27 AM	21403
Xylenes, Total	18	0.48		mg/Kg	5	9/23/2015 5:26:27 AM	21403
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%REC	5	9/23/2015 5:26:27 AM	21403
Surr: 4-Bromofluorobenzene	72.8	70-130		%REC	5	9/23/2015 5:26:27 AM	21403
Surr: Dibromofluoromethane	95.0	70-130		%REC	5	9/23/2015 5:26:27 AM	21403
Surr: Toluene-d8	101	70-130		%REC	5	9/23/2015 5:26:27 AM	21403

25.24

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-6'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 9:46:00 AM

Lab ID: 1509897-005

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2015 5:55:18 AM	21403
Surr: BFB	114	70-130		%REC	1	9/23/2015 5:55:18 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/22/2015 7:59:34 PM	21399
Surr: DNOP	105	57.9-140		%REC	1	9/22/2015 7:59:34 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/23/2015 5:55:18 AM	21403
Toluene	ND	0.048		mg/Kg	1	9/23/2015 5:55:18 AM	21403
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2015 5:55:18 AM	21403
Xylenes, Total	ND	0.096		mg/Kg	1	9/23/2015 5:55:18 AM	21403
Surr: 1,2-Dichloroethane-d4	99.4	70-130		%REC	1	9/23/2015 5:55:18 AM	21403
Surr: 4-Bromofluorobenzene	94.8	70-130		%REC	1	9/23/2015 5:55:18 AM	21403
Surr: Dibromofluoromethane	106	70-130		%REC	1	9/23/2015 5:55:18 AM	21403
Surr: Toluene-d8	93.4	70-130		%REC	1	9/23/2015 5:55:18 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 4-7'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 9:49:00 AM

Lab ID: 1509897-006

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2015 6:24:05 AM	21403
Surr: BFB	113	70-130		%REC	1	9/23/2015 6:24:05 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/22/2015 8:54:21 PM	21399
Surr: DNOP	105	57.9-140		%REC	1	9/22/2015 8:54:21 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	9/23/2015 6:24:05 AM	21403
Toluene	ND	0.049		mg/Kg	1	9/23/2015 6:24:05 AM	21403
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2015 6:24:05 AM	21403
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2015 6:24:05 AM	21403
Surr: 1,2-Dichloroethane-d4	91.7	70-130		%REC	1	9/23/2015 6:24:05 AM	21403
Surr: 4-Bromofluorobenzene	93.3	70-130		%REC	1	9/23/2015 6:24:05 AM	21403
Surr: Dibromofluoromethane	103	70-130		%REC	1	9/23/2015 6:24:05 AM	21403
Surr: Toluene-d8	87.3	70-130		%REC	1	9/23/2015 6:24:05 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 5-4'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:02:00 AM

Lab ID: 1509897-007

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	5.4	4.6		mg/Kg	1	9/23/2015 6:52:49 AM	21403
Surr: BFB	113	70-130		%REC	1	9/23/2015 6:52:49 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	45	9.9		mg/Kg	1	9/22/2015 9:49:11 PM	21399
Surr: DNOP	106	57.9-140		%REC	1	9/22/2015 9:49:11 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.046		mg/Kg	1	9/23/2015 6:52:49 AM	21403
Toluene	ND	0.046		mg/Kg	1	9/23/2015 6:52:49 AM	21403
Ethylbenzene	ND	0.046		mg/Kg	1	9/23/2015 6:52:49 AM	21403
Xylenes, Total	ND	0.092		mg/Kg	1	9/23/2015 6:52:49 AM	21403
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%REC	1	9/23/2015 6:52:49 AM	21403
Surr: 4-Bromofluorobenzene	87.4	70-130		%REC	1	9/23/2015 6:52:49 AM	21403
Surr: Dibromofluoromethane	101	70-130		%REC	1	9/23/2015 6:52:49 AM	21403
Surr: Toluene-d8	87.4	70-130		%REC	1	9/23/2015 6:52:49 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 5-5'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:07:00 AM

Lab ID: 1509897-008

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2015 7:21:33 AM	21403
Surr: BFB	113	70-130		%REC	1	9/23/2015 7:21:33 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/22/2015 10:44:16 PM	21399
Surr: DNOP	106	57.9-140		%REC	1	9/22/2015 10:44:16 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/23/2015 7:21:33 AM	21403
Toluene	ND	0.048		mg/Kg	1	9/23/2015 7:21:33 AM	21403
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2015 7:21:33 AM	21403
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2015 7:21:33 AM	21403
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%REC	1	9/23/2015 7:21:33 AM	21403
Surr: 4-Bromofluorobenzene	95.9	70-130		%REC	1	9/23/2015 7:21:33 AM	21403
Surr: Dibromofluoromethane	101	70-130		%REC	1	9/23/2015 7:21:33 AM	21403
Surr: Toluene-d8	88.2	70-130		%REC	1	9/23/2015 7:21:33 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 5-6'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:10:00 AM

Lab ID: 1509897-009

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/23/2015 7:50:18 AM	21403
Surr: BFB	115	70-130		%REC	1	9/23/2015 7:50:18 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	11	10		mg/Kg	1	9/23/2015 12:33:33 AM	21399
Surr: DNOP	110	57.9-140		%REC	1	9/23/2015 12:33:33 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.046		mg/Kg	1	9/23/2015 7:50:18 AM	21403
Toluene	ND	0.046		mg/Kg	1	9/23/2015 7:50:18 AM	21403
Ethylbenzene	ND	0.046		mg/Kg	1	9/23/2015 7:50:18 AM	21403
Xylenes, Total	ND	0.093		mg/Kg	1	9/23/2015 7:50:18 AM	21403
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%REC	1	9/23/2015 7:50:18 AM	21403
Surr: 4-Bromofluorobenzene	95.7	70-130		%REC	1	9/23/2015 7:50:18 AM	21403
Surr: Dibromofluoromethane	101	70-130		%REC	1	9/23/2015 7:50:18 AM	21403
Surr: Toluene-d8	89.6	70-130		%REC	1	9/23/2015 7:50:18 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-2'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:22:00 AM

Lab ID: 1509897-010

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/23/2015 8:19:03 AM	21403
Surr: BFB	114	70-130		%REC	1	9/23/2015 8:19:03 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/23/2015 1:27:59 AM	21399
Surr: DNOP	108	57.9-140		%REC	1	9/23/2015 1:27:59 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.046		mg/Kg	1	9/23/2015 8:19:03 AM	21403
Toluene	ND	0.046		mg/Kg	1	9/23/2015 8:19:03 AM	21403
Ethylbenzene	ND	0.046		mg/Kg	1	9/23/2015 8:19:03 AM	21403
Xylenes, Total	ND	0.092		mg/Kg	1	9/23/2015 8:19:03 AM	21403
Surr: 1,2-Dichloroethane-d4	93.0	70-130		%REC	1	9/23/2015 8:19:03 AM	21403
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	9/23/2015 8:19:03 AM	21403
Surr: Dibromofluoromethane	102	70-130		%REC	1	9/23/2015 8:19:03 AM	21403
Surr: Toluene-d8	89.4	70-130		%REC	1	9/23/2015 8:19:03 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-3'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:25:00 AM

Lab ID: 1509897-011

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	1800	480		mg/Kg	100	9/26/2015 7:56:27 PM	21403
Surr: BFB	101	70-130		%REC	100	9/26/2015 7:56:27 PM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	3500	99		mg/Kg	10	9/23/2015 1:14:38 PM	21399
Surr: DNOP	0	57.9-140	S	%REC	10	9/23/2015 1:14:38 PM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.24		mg/Kg	5	9/23/2015 8:47:51 AM	21403
Toluene	10	0.24		mg/Kg	5	9/23/2015 8:47:51 AM	21403
Ethylbenzene	3.9	0.24		mg/Kg	5	9/23/2015 8:47:51 AM	21403
Xylenes, Total	47	0.48		mg/Kg	5	9/23/2015 8:47:51 AM	21403
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%REC	5	9/23/2015 8:47:51 AM	21403
Surr: 4-Bromofluorobenzene	79.1	70-130		%REC	5	9/23/2015 8:47:51 AM	21403
Surr: Dibromofluoromethane	92.2	70-130		%REC	5	9/23/2015 8:47:51 AM	21403
Surr: Toluene-d8	101	70-130		%REC	5	9/23/2015 8:47:51 AM	21403

60.9

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-4'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:27:00 AM

Lab ID: 1509897-012

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2015 9:36:16 AM	21403
Surr: BFB	107	70-130		%REC	1	9/23/2015 9:36:16 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/23/2015 3:16:33 AM	21399
Surr: DNOP	106	57.9-140		%REC	1	9/23/2015 3:16:33 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/23/2015 9:36:16 AM	21403
Toluene	ND	0.048		mg/Kg	1	9/23/2015 9:36:16 AM	21403
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2015 9:36:16 AM	21403
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2015 9:36:16 AM	21403
Surr: 1,2-Dichloroethane-d4	99.6	70-130		%REC	1	9/23/2015 9:36:16 AM	21403
Surr: 4-Bromofluorobenzene	90.6	70-130		%REC	1	9/23/2015 9:36:16 AM	21403
Surr: Dibromofluoromethane	105	70-130		%REC	1	9/23/2015 9:36:16 AM	21403
Surr: Toluene-d8	90.8	70-130		%REC	1	9/23/2015 9:36:16 AM	21403

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

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

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-5'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:30:00 AM

Lab ID: 1509897-013

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	38	4.9		mg/Kg	1	9/23/2015 10:04:59 AM	21403
Surr: BFB	114	70-130		%REC	1	9/23/2015 10:04:59 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	90	9.8		mg/Kg	1	9/23/2015 5:04:30 AM	21399
Surr: DNOP	105	57.9-140		%REC	1	9/23/2015 5:04:30 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	9/23/2015 10:04:59 AM	21403
Toluene	0.069	0.049		mg/Kg	1	9/23/2015 10:04:59 AM	21403
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2015 10:04:59 AM	21403
Xylenes, Total	0.60	0.098		mg/Kg	1	9/23/2015 10:04:59 AM	21403
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%REC	1	9/23/2015 10:04:59 AM	21403
Surr: 4-Bromofluorobenzene	83.6	70-130		%REC	1	9/23/2015 10:04:59 AM	21403
Surr: Dibromofluoromethane	103	70-130		%REC	1	9/23/2015 10:04:59 AM	21403
Surr: Toluene-d8	85.0	70-130		%REC	1	9/23/2015 10:04:59 AM	21403

0.669

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-6'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:33:00 AM

Lab ID: 1509897-014

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/23/2015 10:33:49 AM	21403
Surr: BFB	109	70-130		%REC	1	9/23/2015 10:33:49 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/23/2015 5:58:40 AM	21399
Surr: DNOP	104	57.9-140		%REC	1	9/23/2015 5:58:40 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	9/23/2015 10:33:49 AM	21403
Toluene	ND	0.050		mg/Kg	1	9/23/2015 10:33:49 AM	21403
Ethylbenzene	ND	0.050		mg/Kg	1	9/23/2015 10:33:49 AM	21403
Xylenes, Total	ND	0.099		mg/Kg	1	9/23/2015 10:33:49 AM	21403
Surr: 1,2-Dichloroethane-d4	91.4	70-130		%REC	1	9/23/2015 10:33:49 AM	21403
Surr: 4-Bromofluorobenzene	93.3	70-130		%REC	1	9/23/2015 10:33:49 AM	21403
Surr: Dibromofluoromethane	102	70-130		%REC	1	9/23/2015 10:33:49 AM	21403
Surr: Toluene-d8	88.3	70-130		%REC	1	9/23/2015 10:33:49 AM	21403

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		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1509897

Date Reported: 9/28/2015

CLIENT: Yates Petroleum Corporation

Client Sample ID: 6-7'

Project: Perdomo BMP State Com #1H

Collection Date: 9/15/2015 10:37:00 AM

Lab ID: 1509897-015

Matrix: SOIL

Received Date: 9/18/2015 9:21:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2015 11:02:39 AM	21403
Surr: BFB	108	70-130		%REC	1	9/23/2015 11:02:39 AM	21403
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/23/2015 6:52:36 AM	21399
Surr: DNOP	104	57.9-140		%REC	1	9/23/2015 6:52:36 AM	21399
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	9/23/2015 11:02:39 AM	21403
Toluene	ND	0.049		mg/Kg	1	9/23/2015 11:02:39 AM	21403
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2015 11:02:39 AM	21403
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2015 11:02:39 AM	21403
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	9/23/2015 11:02:39 AM	21403
Surr: 4-Bromofluorobenzene	98.5	70-130		%REC	1	9/23/2015 11:02:39 AM	21403
Surr: Dibromofluoromethane	104	70-130		%REC	1	9/23/2015 11:02:39 AM	21403
Surr: Toluene-d8	88.6	70-130		%REC	1	9/23/2015 11:02:39 AM	21403

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509897

28-Sep-15

Client: Yates Petroleum Corporation

Project: Perdomo BMP State Com #1H

Sample ID	MB-21399	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	21399	RunNo:	29014					
Prep Date:	9/21/2015	Analysis Date:	9/22/2015	SeqNo:	880363	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	9.7		10.00		97.0	57.9	140			

Sample ID	LCS-21399	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	21399	RunNo:	29014					
Prep Date:	9/21/2015	Analysis Date:	9/22/2015	SeqNo:	880366	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.3	57.4	139			
Surr: DNOP	5.1		5.000		101	57.9	140			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509897

28-Sep-15

Client: Yates Petroleum Corporation
Project: Perdomo BMP State Com #1H

Sample ID	LCS-21403		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 21403		RunNo: 29042					
Prep Date:	9/21/2015		Analysis Date: 9/22/2015		SeqNo: 881726		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.4	70	130			
Toluene	0.87	0.050	1.000	0	87.5	70	130			
Ethylbenzene	0.97	0.050	1.000	0	96.7	70	130			
Xylenes, Total	2.9	0.10	3.000	0	97.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		95.0	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.44		0.5000		87.9	70	130			

Sample ID	mb-21403		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 21403		RunNo: 29042					
Prep Date:	9/21/2015		Analysis Date: 9/22/2015		SeqNo: 881727		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.9	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.45		0.5000		89.1	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 | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509897

28-Sep-15

Client: Yates Petroleum Corporation

Project: Perdomo BMP State Com #1H

Sample ID	LCS-21403		SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS		Batch ID: 21403		RunNo: 29042					
Prep Date:	9/21/2015		Analysis Date: 9/22/2015		SeqNo: 881743		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	87.8	70	123			
Surr: BFB	550		500.0		110	70	130			

Sample ID	mb-21403		SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS		Batch ID: 21403		RunNo: 29042					
Prep Date:	9/21/2015		Analysis Date: 9/22/2015		SeqNo: 881744		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	540		500.0		108	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



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

Sample Log-In Check List

Client Name: Yates Petroleum Corporat

Work Order Number: 1509897

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

9/18/2015 9:21:00 AM

Completed By: Lindsay Mangin

9/18/2015 2:40:49 PM

Reviewed By: CS

09/18/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.2	Good	Yes			

