



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

April 01, 2019

Steve Moskal
BP America
200 Energy Court
Farmington, NM 87401
TEL: (505) 326-9457
FAX

RE: Thomas Jacquez E 1

OrderNo.: 1903E12

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/29/2019 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 #NM0901

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1903E12

Date Reported: 4/1/2019

CLIENT: BP America
Project: Thomas Jacquez E 1

Lab Order: 1903E12

Lab ID: 1903E12-001

Collection Date: 3/28/2019 1:45:00 PM

Client Sample ID: SS82

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	62	9.7		mg/Kg	1	3/29/2019 10:02:25 AM	43961
Motor Oil Range Organics (MRO)	79	48		mg/Kg	1	3/29/2019 10:02:25 AM	43961
Surr: DNOP	110	70-130		%Rec	1	3/29/2019 10:02:25 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	3/29/2019 8:24:25 AM	R58751
Surr: BFB	107	73.8-119		%Rec	1	3/29/2019 8:24:25 AM	R58751

Lab ID: 1903E12-002

Collection Date: 3/28/2019 1:46:00 PM

Client Sample ID: SS83

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/29/2019 10:26:04 AM	43961
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/29/2019 10:26:04 AM	43961
Surr: DNOP	111	70-130		%Rec	1	3/29/2019 10:26:04 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	3/29/2019 8:47:06 AM	R58751
Surr: BFB	89.1	73.8-119		%Rec	1	3/29/2019 8:47:06 AM	R58751

Lab ID: 1903E12-003

Collection Date: 3/28/2019 2:10:00 PM

Client Sample ID: SS84

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/29/2019 10:32:13 AM	43961
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/29/2019 10:32:13 AM	43961
Surr: DNOP	106	70-130		%Rec	1	3/29/2019 10:32:13 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/29/2019 9:09:46 AM	R58751
Surr: BFB	90.0	73.8-119		%Rec	1	3/29/2019 9:09:46 AM	R58751

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

Qualifiers:	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1903E12

Date Reported: 4/1/2019

CLIENT: BP America
Project: Thomas Jacquez E 1

Lab Order: 1903E12

Lab ID: 1903E12-004

Collection Date: 3/28/2019 2:15:00 PM

Client Sample ID: SS85

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	47	9.8		mg/Kg	1	3/29/2019 10:54:02 AM	43961
Motor Oil Range Organics (MRO)	67	49		mg/Kg	1	3/29/2019 10:54:02 AM	43961
Surr: DNOP	109	70-130		%Rec	1	3/29/2019 10:54:02 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	3/29/2019 9:32:23 AM	R58751
Surr: BFB	91.7	73.8-119		%Rec	1	3/29/2019 9:32:23 AM	R58751

Lab ID: 1903E12-005

Collection Date: 3/28/2019 2:25:00 PM

Client Sample ID: SS86

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/29/2019 11:16:05 AM	43961
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/29/2019 11:16:05 AM	43961
Surr: DNOP	101	70-130		%Rec	1	3/29/2019 11:16:05 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	3/29/2019 9:55:03 AM	R58751
Surr: BFB	89.1	73.8-119		%Rec	1	3/29/2019 9:55:03 AM	R58751

Lab ID: 1903E12-006

Collection Date: 3/28/2019 3:00:00 PM

Client Sample ID: SS87

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	480	9.6		mg/Kg	1	3/29/2019 10:52:08 AM	43961
Motor Oil Range Organics (MRO)	480	48		mg/Kg	1	3/29/2019 10:52:08 AM	43961
Surr: DNOP	127	70-130		%Rec	1	3/29/2019 10:52:08 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	3/29/2019 10:17:52 AM	R58751
Surr: BFB	153	73.8-119	S	%Rec	1	3/29/2019 10:17:52 AM	R58751

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

Qualifiers:	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Analytical Report

Lab Order: 1903E12

Date Reported: 4/1/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: BP America

Lab Order: 1903E12

Project: Thomas Jacquez E 1

Lab ID: 1903E12-007

Collection Date: 3/28/2019 3:05:00 PM

Client Sample ID: SS88

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: CLP
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/29/2019 10:49:49 AM	43961
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/29/2019 10:49:49 AM	43961
Surr: DNOP	110	70-130		%Rec	1	3/29/2019 10:49:49 AM	43961
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	3/29/2019 10:40:44 AM	R58751
Surr: BFB	90.0	73.8-119		%Rec	1	3/29/2019 10:40:44 AM	R58751

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

Qualifiers:	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903E12

01-Apr-19

Client: BP America
Project: Thomas Jacquez E 1

Sample ID: MB-43961	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 43961	RunNo: 58728								
Prep Date: 3/29/2019	Analysis Date: 3/29/2019	SeqNo: 1973388	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	70	130			

Sample ID: LCS-43961	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 43961	RunNo: 58728								
Prep Date: 3/29/2019	Analysis Date: 3/29/2019	SeqNo: 1973389	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	63.9	124			
Surr: DNOP	4.6		5.000		92.0	70	130			

Sample ID: MB-43945	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 43945	RunNo: 58739								
Prep Date: 3/28/2019	Analysis Date: 3/29/2019	SeqNo: 1973538	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		120	70	130			

Sample ID: LCS-43945	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 43945	RunNo: 58739								
Prep Date: 3/28/2019	Analysis Date: 3/29/2019	SeqNo: 1973539	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.9	70	130			

Sample ID: 1903E12-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS82	Batch ID: 43961	RunNo: 58739								
Prep Date: 3/29/2019	Analysis Date: 3/29/2019	SeqNo: 1974614	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	61	10	49.75	61.96	-1.38	53.5	126			S
Surr: DNOP	5.9		4.975		120	70	130			

Sample ID: 1903E12-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS82	Batch ID: 43961	RunNo: 58739								
Prep Date: 3/29/2019	Analysis Date: 3/29/2019	SeqNo: 1974615	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.3	46.34	61.96	-29.3	53.5	126	23.5	21.7	RS

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903E12

01-Apr-19

Client: BP America

Project: Thomas Jacquez E 1

Sample ID: 1903E12-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS82	Batch ID: 43961	RunNo: 58739								
Prep Date: 3/29/2019	Analysis Date: 3/29/2019	SeqNo: 1974615 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		4.634		119	70	130	0	0	

Qualifiers:

H Holding times for preparation or analysis exceeded
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified at testcode

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1903E12

01-Apr-19

Client: BP America
Project: Thomas Jacquez E 1

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: R58751		RunNo: 58751							
Prep Date:	Analysis Date: 3/29/2019		SeqNo: 1973961		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	910		1000		91.1	73.8	119			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: R58751		RunNo: 58751							
Prep Date:	Analysis Date: 3/29/2019		SeqNo: 1973962		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	88.0	80.1	123			
Surr: BFB	1000		1000		102	73.8	119			

Sample ID: 1903E12-001AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: SS82	Batch ID: R58751		RunNo: 58751							
Prep Date:	Analysis Date: 3/29/2019		SeqNo: 1973971		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	13	2.8	14.00	0	95.8	69.1	142			
Surr: BFB	680		559.9		121	73.8	119			S

Sample ID: 1903E12-001AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: SS82	Batch ID: R58751		RunNo: 58751							
Prep Date:	Analysis Date: 3/29/2019		SeqNo: 1973972		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	14	2.8	14.00	0	96.6	69.1	142	0.748	20	
Surr: BFB	690		559.9		122	73.8	119	0	0	S

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Client Name: **BP DURANGO**

Work Order Number: **1903E12**

RcptNo: **1**

Received By: **Anne Thorne** 3/29/2019 8:18:00 AM

Anne Thorne

Completed By: **Anne Thorne** 3/29/2019 8:30:14 AM

Anne Thorne

Reviewed By: *JC 3/29/19*

Labeled by: AT 03/29/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

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

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

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

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

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
2	1.0	Good	Yes			

