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## State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe. NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Sant	a Fe, NM 87505								
<b>Release Notification and Corrective Action</b>									
	OPERATOR	Initial Report 🛛 Final Report							
Name of Company: BP	Contact: Steve Moskal								
Address: 380 Airport Rd., Durango, CO 81303	Telephone No.: 505-330-9179								
Facility Name: Tapp LS 004A	Facility Type: Natural gas well								
Surface Owner: Federal Mineral Own	ner: Federal	API No. 3004523853							
LOCAT	ION OF RELEASE								
Unit LetterSectionTownshipRangeFeet from theNF1628N08W1,850N	Iorth/South LineFeet from the 1,815East Wes	West Line County: San Juan							
Latitude 36.66394°	Longitude _107.68951°								
NATU	RE OF RELEASE								
Type of Release: Unknown - hydrocarbon	Volume of Release: unknown	Volume Recovered: none							
Source of Release: Unknown – suspect earthen pit; 45 bbl BGT	Date and Hour of Occurrence:	Date and Hour of Discovery: November							
Was Immediate Nation Circar 2	unknown	7, 2017							
Yes IN Not Requ	ired If YES, 10 whom?								
By Whom?	Date and Hour:								
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	tercourse.							
If a Watercourse was Impacted, Describe Fully.*									
Describe Cause of Problem and Remedial Action Taken.* During the	e closure of a below grade tank sampling i	ndicated what appears to be hydrocarbon							
impacts to the son, inkely associated with an earthen pit.									
Describe Area Affected and Cleanup Action Taken.* BP fully deline Clean, imported soil was imported from a BLM prescribed location.	ated the impacts via excavation with soils Attached is a narrative of the activities an	hauled offsite for landfarm treatment. d accompanying laboratory data. BP							
request no further action.									
I hereby certify that the information given above is true and complete	e to the best of my knowledge and underst	and that pursuant to NMOCD rules and							
regulations all operators are required to report and/or file certain rele	ase notifications and perform corrective ac	tions for releases which may endanger							
should their operations have failed to adequately investigate and rem	ediate contamination that pose a threat to	ground water, surface water, human health							
or the environment. In addition, NMOCD acceptance of a C-141 rep	ort does not relieve the operator of respon	sibility for compliance with any other							
federal, state, or local laws and/or regulations.	OIL CONSER	ATION DIVISION							
Simplying (Hore May)	<u>OIL CONSER</u>	VALIDIT DI VISION							
Signature:									
Printed Name: Steve Moskal	Approved by Environmental Special	si lant 2							
Title: Field Environmental Coordinator	Approval Date: 2 20 2018	Expiration Date:							
E-mail Address: steven.moskal@bp.com	Conditions of Approval:	Attached							
Date: February 20, 2017 Phone: 505-330-9179									
* Attach Additional Sheets If Necessary	71/1	1202127072							
0	IL CONS. DIV DIST.	100313 1008							
	Sec. 1								

# BP America Tapp LS 4A (F) Sec 16 – T28N – R8W San Juan County, New Mexico API: 30-045-23853

## Summary Record of Impact Remediation

<u>December 12, 2017</u> Soils impacted with hydrocarbons were encountered during closure of a 45 barrel below grade tank. Analytical laboratory testing of impacted soils immediately below the BGT at the 4.5' depth reported total petroleum hydrocarbons (TPH) at 2,490 ppm, total BTEX at 11.4 ppm, Benzene at non-detect (ND) and Chloride at ND. A sample collected at the 9' depth on dense sandstone reported ND for all constituents.

Site closure standard determined at 1,000 ppm TPH and 50 ppm total BTEX (with 10 ppm benzene) based on:

Horizontal Distance to Water Course < 1,000 feet (10 points) Distance to Nearest Water Well > 1,000 feet (0 points) Depth to Groundwater >100 feet (0 points)

Additional actions suspended pending development of a remediation plan.

<u>January 12 - 15, 2018</u> Conduct remediation via excavation of impacts with a trackhoe. Site lithology (dense bedrock sandstone) was encountered at the 3' depth. Completed excavation 25' x 25' x 9' deep.

January 15, 2018 Conduct closure sampling on sidewalls and base.

Sample ID	Date/Time	Field OVM (ppm)	TPH Method 8015B (mg/Kg)	BTEX Method 8021 (mg/Kg)	Benzene Method 8021 (mg/Kg)	Chloride Method 300 (mg/Kg)
North Sidewall 5-pt @ (3'-8')	01/15/2018 @ 10:17	7.2	4.9	0.44	0.11	ND
East Sidewall 5-pt @ (3'-8')	01/15/2018 @ 10:20	1.4	ND	.028	.028	ND
West Sidewall 5-pt @ (3'-8')	01/15/2018 @ 10:23	15.1	13	1.75	.021	ND
South Sidewall 5-pt @(3'-8')	01/15/2018 @ 10:26	46.7	ND	.11	ND	ND
Base 5-pt @ 9'	01/15/2018 @ 10:31	4.3	ND	ND	ND	ND
Site	Closure	Standard:	1,000	50	10	600

## Excavation Closure Sampling Test Results January 15, 2017

January 16, 2018 Receive rush laboratory test results. Testing determines that excavation meets site closure standards for TPH, BTEX and Chlorides.

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January 18, 2018 Remediation crew completes backfilling operations.



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## HALL ENVIRONMENTAL ANALYSIS LABORATORY

January 17, 2018 Steve Moskal Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: (505) 632-1199 FAX (505) 632-3903

RE: TAPP LS 4A

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

OrderNo.: 1801771

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/16/2018 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 <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order 1801771

Date Reported: 1/17/2018

of 10

## Hall Environmental Analysis Laboratory, Inc.

#### Client Sample ID: N Wall 5-pt (3'-8') **CLIENT: Blagg Engineering TAPP LS 4A** Collection Date: 1/15/2018 10:17:00 AM Project: Matrix: SOIL Received Date: 1/16/2018 7:00:00 AM Lab ID: 1801771-001 Result **PQL** Qual Units **DF** Date Analyzed Batch Analyses Analyst: MRA EPA METHOD 300.0: ANIONS Chloride ND 30 mg/Kg 20 1/16/2018 12:13:06 PM 36048 EPA METHOD 8015D MOD: GASOLINE RANGE Analyst: AG

Gasoline Range Organics (GRO)	4.9	3.9	mg/Kg	1	1/16/2018 10:01:23 AM	R48472
Surr: BFB	100	70-130	%Rec	1	1/16/2018 10:01:23 AM	R48472
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS	5			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/16/2018 10:01:49 AM	36042
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/16/2018 10:01:49 AM	36042
Sur: DNOP	102	70-130	%Rec	1	1/16/2018 10:01:49 AM	36042
EPA METHOD 8260B: VOLATILES SI	HORT LIST				Analyst:	AG
Benzene	0.11	0.019	mg/Kg	1	1/16/2018 10:01:23 AM	S48472
Toluene	0.077	0.039	mg/Kg	1	1/16/2018 10:01:23 AM	S48472
Ethylbenzene	0.047	0.039	mg/Kg	1	1/16/2018 10:01:23 AM	S48472
Xylenes, Total	0.21	0.077	mg/Kg	1	1/16/2018 10:01:23 AM	S48472
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	1/16/2018 10:01:23 AM	S48472
Surr: Toluene-d8	94.7	70-130	%Rec	1	1/16/2018 10:01:23 AM	S48472

Qualifiers:		Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 1
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative 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

Analytical Report Lab Order 1801771 Date Reported: 1/17/2018

## Hall Environmental Analysis Laboratory, Inc.

# CLIENT: Blagg Engineering Client Sample ID: E Wall 5-pt (3'-8') Project: TAPP LS 4A Collection Date: 1/15/2018 10:20:00 AM Lab ID: 1801771-002 Matrix: SOIL Received Date: 1/16/2018 7:00:00 AM Analyses Result PQL Qual Units DF Date Analyzed Batch

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EPA METHOD 300.0: ANIONS			-		Analyst:	MRA
Chloride	ND	30	mg/Kg	20	1/16/2018 12:25:30 PM	36048
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst:	AG
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	1/16/2018 10:24:23 AM	R48472
Sur: BFB	102	70-130	%Rec	1	1/16/2018 10:24:23 AM	R48472
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/16/2018 10:23:29 AM	36042
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/16/2018 10:23:29 AM	36042
Sur: DNOP	100	70-130	%Rec	1	1/16/2018 10:23:29 AM	36042
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	AG
Benzene	0.028	0.017	mg/Kg	1	1/16/2018 10:24:23 AM	S48472
Toluene	ND	0.034	mg/Kg	1	1/16/2018 10:24:23 AM	S48472
Ethylbenzene	ND	0.034	mg/Kg	1	1/16/2018 10:24:23 AM	S48472
Xylenes, Total	ND	0.068	mg/Kg	1	1/16/2018 10:24:23 AM	S48472
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	1/16/2018 10:24:23 AM	S48472
Surr: Toluene-d8	90.9	70-130	%Rec	1	1/16/2018 10:24:23 AM	S48472

Qualifiers:	٠	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative 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

Analytical Report Lab Order 1801771

Date Reported: 1/17/2018

## Hall Environmental Analysis Laboratory, Inc.

#### **CLIENT: Blagg Engineering** Client Sample ID: W Wall 5-pt (3'-8') **TAPP LS 4A** Collection Date: 1/15/2018 10:23:00 AM Project: Matrix: SOIL Received Date: 1/16/2018 7:00:00 AM Lab ID: 1801771-003 **PQL** Qual Units **DF** Date Analyzed Result Batch Analyses Analyst: MRA **EPA METHOD 300.0: ANIONS**

Chloride	ND	30	mg/Kg	20	1/16/2018 12:37:54 PM	36048
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst:	AG
Gasoline Range Organics (GRO)	13	3.8	mg/Kg	1	1/16/2018 10:47:13 AM	R48472
Sum BFB	95.2	70-130	%Rec	1	1/16/2018 10:47:13 AM	R48472
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS	3			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	1/16/2018 10:45:24 AM	36042
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/16/2018 10:45:24 AM	36042
Sur: DNOP	100	70-130	%Rec	1,	1/16/2018 10:45:24 AM	36042
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst:	AG
Benzene	0.021	0.019	mg/Kg	1	1/16/2018 10:47:13 AM	S48472
Toluene	0.11	0.038	mg/Kg	1	1/16/2018 10:47:13 AM	S48472
Ethylbenzene	0.22	0.038	mg/Kg	1	1/16/2018 10:47:13 AM	S48472
Xylenes, Total	1.4	0.076	mg/Kg	1	1/16/2018 10:47:13 AM	S48472
Surr: 4-Bromofluorobenzene	99.7	70-130	%Rec	1	1/16/2018 10:47:13 AM	S48472
Surr: Toluene-d8	93.3	70-130	%Rec	1	1/16/2018 10:47:13 AM	S48472

Qualifiers:	٠	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative 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

**Analytical Report** Lab Order 1801771 Date Reported: 1/17/2018

1

1

1

1

1/16/2018 11:10:04 AM S48472

1/16/2018 11:10:04 AM S48472

1/16/2018 11:10:04 AM S48472

## Hall Environmental Analysis Laboratory, Inc.

Xylenes, Total

Surr: Toluene-d8

Surr: 4-Bromofluorobenzene

#### **CLIENT: Blagg Engineering** Client Sample ID: S Wall 5-pt (3'-8') **Project: TAPP LS 4A** Collection Date: 1/15/2018 10:26:00 AM Matrix: SOIL Received Date: 1/16/2018 7:00:00 AM Lab ID: 1801771-004 **PQL Qual Units DF** Date Analyzed Batch Analyses Result **EPA METHOD 300.0: ANIONS** Analyst: MRA ND 30 1/16/2018 12:50:18 PM 36048 Chloride mg/Kg 20 EPA METHOD 8015D MOD: GASOLINE RANGE Analyst: AG Gasoline Range Organics (GRO) ND 3.8 mg/Kg 1 1/16/2018 11:10:04 AM R48472 1/16/2018 11:10:04 AM R48472 Surr: BFB 102 70-130 %Rec 1 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: TOM **Diesel Range Organics (DRO)** ND 9.5 mg/Kg 1/16/2018 11:07:20 AM 36042 1 Motor Oil Range Organics (MRO) ND 1/16/2018 11:07:20 AM 36042 48 mg/Kg 1 Surr: DNOP 101 70-130 %Rec 1 1/16/2018 11:07:20 AM 36042 EPA METHOD 8260B: VOLATILES SHORT LIST Analyst: AG 1/16/2018 11:10:04 AM S48472 Benzene ND 0.019 mg/Kg 1 Toluene ND 1/16/2018 11:10:04 AM S48472 0.038 mg/Kg 1 Ethylbenzene ND 0.038 1/16/2018 11:10:04 AM S48472 mg/Kg

0.075

70-130

70-130

mg/Kg

%Rec

%Rec

0.11

107

94.3

Qualifiers:	٠	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Dage 4 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative 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

Analytical Report Lab Order 1801771 Date Reported: 1/17/2018

1/16/2018 11:33:01 AM R48472

1/16/2018 11:33:01 AM R48472

1/16/2018 11:29:14 AM 36042

1/16/2018 11:29:14 AM 36042

1/16/2018 11:29:14 AM 36042

1/16/2018 11:33:01 AM S48472

Analyst: TOM

Analyst: AG

## Hall Environmental Analysis Laboratory, Inc.

Gasoline Range Organics (GRO)

**Diesel Range Organics (DRO)** 

Motor Oil Range Organics (MRO)

Surr: 4-Bromofluorobenzene

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

EPA METHOD 8260B: VOLATILES SHORT LIST

Surr: BFB

Sur: DNOP

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

CLIENT:	Blagg Engineering	Client Sample ID: Base 5-pt @ 9'									
Project:	TAPP LS 4A		Collection Date: 1/15/2018 10:31:00 AM								
Lab ID:	1801771-005	Matrix:	SOIL	Received							
Analyses		Result	PQL Qua	l Units	DF	Date Analyzed	Batch				
EPA MET	HOD 300.0: ANIONS			-		Analy	st: MRA				
Chloride		ND	30	mg/Kg	20	1/16/2018 1:02:43 PM	36048				
EPA MET	HOD 8015D MOD: GASOL	INE RANGE				Analy	st: AG				

4.2

9.9

50

70-130

0.021

0.042

0.042

0.083

70-130

70-130

70-130

mg/Kg

%Rec

mg/Kg

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

%Rec

1

1

1

1

1

1

1

1

1

1

1

ND

102

ND

ND

97.8

ND

ND

ND

ND

107

91.2

Qualifiers:	٠	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Ε	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative 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

WO#: 1801771

17**-J**an-18

Hal	l Env	ironmenta	Ana	lysis .	Lab	orat	t <b>ory,</b> I	lnc.
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Client:	Blagg Engineering
Project:	TAPP LS 4A

Sample ID MB-36048	SampType: mblk	300.0: Anions									
Client ID: PBS	Batch ID: 36048	RunNo: 48479	Units: mg/Kg								
Prep Date: 1/16/2018	Analysis Date: 1/16/2018	SeqNo: 1559254									
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual							
Chloride	ND 1.5	· · · · · · · · · · · · · · · · · · ·									
Sample ID LCS-36048	SampType: Ics	TestCode: EPA Method	300.0: Anions								
Client ID: LCSS	Batch ID: 36048	RunNo: 48479									
Prep Date: 1/16/2018	Analysis Date: 1/16/2018	SeqNo: 1559255	Units: mg/Kg								
Analyte	Result PQL SPK value	SPK Ret Val %REC LowLimit	HighLimit %RPD	RPDLimit Quai							

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 6 of 10

WO#: 1801771

17-Jan-18

Hall I	Environm	ental A	nalysis	Labora	tory, Inc.
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Client: Blagg F Project: TAPP I	Engineering LS 4A											
Sample ID LCS-36042	TestCode: EPA Method 8015M/D: Diesel Range Organics											
Client ID: LCSS Prep Date: 1/16/2018	Batch Analysis D	n ID: 36 Date: 1/	042 16/2018	۲ ۲	8463 557775	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	94.7	70	130					
Sur: DNOP	5.0		5.000		100	70	130					
Sample ID MB-36042	SampT	ype: Mi	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics			
Client ID: PBS	Batch	n ID: 36	042	F	RunNo: 4	8463						
Prep Date: 1/16/2018	Anatysis D	)ate: 1/	16/2018	5	SeqNo: 1	557776	Units: mg/H	(g				
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										
Surf: DNOP	9.9		10.00		99.2	70	130					

Qualifiers:

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

Page 7 of 10

## WO#:

1801771 *17-Jan-18* 

Client:	Blagg
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Project: 7

Blagg Engineering TAPP LS 4A

Sample ID 100ng btex Ics	SampT	SampType: LCS4 TestCode: EPA Method 8260B: Volatiles Short List												
Client ID: BatchQC	Batch	n ID: <b>S4</b>	8472	F	RunNo: 4	8472								
Prep Date:	Analysis D	)ate: 1/	16/2018	5	SeqNo: 1	558087	Units: <b>mg/l</b>	(g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	0.82	0.025	1.000	0	82.3	80	120							
Toluene	0.92	0.050	1.000	0	91.7	80	120							
Ethylbenzene	0.87	0.050	1.000	0	87.4	80	120							
Xylenes, Total	2.6	0.10	3.000	0	87.2	80	120							
Sur: 4-Bromofluorobenzene	0.47		0.5000		<del>94</del> .6	70	130							
Surr. Toluene-d8	0.49		0.5000		98.4	70	130							
Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	: List					
Client ID: PBS	Batch	h ID: <b>\$4</b>	8472	F	RunNo: 4	8472								
Prep Date:	Analysis D	)ate: 1/	16/2018	S	SeqNo: 1	558088	Units: mg/l	(g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	ND	0.025												
Toluene	ND	0.050												
Ethylbenzene	ND	0.050												
Xylenes, Total	ND	0.10												
Sur: 1,2-Dichloroethane-d4	0		0.5000		0	70	130			S				
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130							
Surr: Dibromofluoromethane	0		0.5000		0	70	130			S				
Surr: Totuene-d8	0.48		0.5000		95.5	70	130							
Sample ID 1801771-002ams	SampT	ype: MS	34	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List					
Client ID: E Wall 5-pt (3'-8')	Batcl	h ID: <b>S4</b>	8472	F	RunNo: 4	8472								
Prep Date:	Analysis D	)ate: 1/	16/2018	٤	SeqNo: 1	558756	Units: mg/k	٢g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Quai				
Benzene	0.59	0.017	0.6752	0.02796	83.0	80	120							
Toluene	0.62	0.034	0.6752	0.003065	91.1	80	120							
Ethylbenzene	0.60	0.034	0.6752	0.007285	87.2	80	120							
Xylenes, Total	1.9	0.068	2.026	0.02868	90.6	80	120							
Sur: 4-Bromofluorobenzene	0.32		0.3376		93.4	70	130							
Surr: Toluene-d8	0.31		0.3376		92.1	70	130							
Sample ID 1801771-002amsd	SampT	ype: MS	3D4	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List					
Client ID: E Wall 5-pt (3'-8')	Batch	h ID: <b>S4</b>	8472	F	RunNo: 4	8472								
Prep Date:	Analysis D	)ate: 1/	16/2018	5	SeqNo: 1	558757	Units: <b>mg/H</b>	(g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	0.58	0.017	0.6752	0.02796	81.9	80	120	1.23	0					
Toluene	0.60	0.034	0.6752	0.003065	89.0	80	120	2.26	0					

## 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
- PQL Practical Quanitative Limit
- 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
- Page 8 of 10

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

## Client: Blagg Engineering

Project: TAPP LS 4A

Sample ID 1801771-002amsd	Samp1	SampType: MSD4 TestCode: EPA Method 8260B: Volatiles Short List									
Client ID: E Wall 5-pt (3'-8')	Batcl	h ID: <b>S4</b>	8472	F							
Prep Date:	Analysis E	Date: 1/	16/2018	S	eqNo: 1	558757	Units: <b>mg/H</b>	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Ethylbenzene	0.58	0.034	0.6752	0.007285	84.6	80	120	2.94	0		
Xylenes, Total	1.8	0.068	2.026	0.02868	88.0	80	120	2.84	0		
Surr: 4-Bromofluorobenzene	0.32		0.3376		94.6	70	130	0	0		
Surr: Toluene-d8	0.31		0.3376		92.8	70	130	0	0		

Qualifiers:

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

Page 9 of 10

17-Jan-18

WO#: 1801771

**WO#**: 1801771

17-Jan-18

Hall	Environmental	Analysis	Laboratory,	Inc.
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Client: Project:	Blagg En TAPP LS	igineering 5 4A									
Sample ID 2.5ug	gro Ics	SampT	ype: LC	:S	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: LCSS	ent ID: LCSS Batch ID: R48472 RunNo: 48472										
Prep Date:		Analysis Date: 1/16/2018			8	SeqNo: 1	558079	Units: mg/h	<b>(</b> 9		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		25	5.0	25.00	0	99.0	70.	130			
Surr: BFB		480		500.0		95.7	70	130			
Sample ID rb		SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: PBS		Batch	ID: <b>R4</b>	8472	F	RunNo: 4	B472				
Prep Date:		Analysis D	ate: 1/	16/2018	8	eqNo: 1	558080	Units: mg/h	۲g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organi	≍ (GRO)	ND	5.0								
Surr. BFB		500		500.0		<b>99.0</b>	70	130			

### Qualifiers:

- ٠ Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Ρ Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 10 of 10

HALL Environmental Analysis Laboratory	Hall Environmenta All TEL: 505-345-397. Website: www.h	l Analysis Labo 4901 Hawi nuquerque, NM 5 FAX: 505-34 allenvironment	oratory tins NE 187109 <b>San</b> S-4107 tal.com	Sample Log-In Check List										
Client Name: BLAGG	Work Order Numbe	r. 1801771		RcptNo:	1									
Received By: Anne Thoma	1/16/2018 7:00:00 AN	A	ann H-	~										
Completed By: Anne Thome	1/16/2018 7:12:07 AM	1	am In	~										
Chain of Custody			_	_										
1. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present										
2. How was the sample delivered?		<u>Courier</u>												
Log In 3. Was an attempt made to cool the sample	38?	Yes 🖌	No 🗔	na 🗆										
4. Were all samples received at a temperate	une 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 tes	st(s)?	Yes 🗹	No 🗆											
7. Are samples (except VOA and ONG) prop	perty 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 br	oken?	Yes 🗆	No 🗹	# of preserved bottles checked										
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗆	for pH: (<2 or	>12 unless noted)									
12. Are matrices correctly identified on Chain	of Custody?	Yes 🗹	No 🗆	Adjusted?										
13. Is it clear what analyses were requested?		Yes 🗹	No []											
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No	Checked by:										
<u>Special Handling (if applicable)</u>														
15. Was client notified of all discrepancles w	ith this order?	Yes 🗌	No 🗌	NA 🗹										
Person Notified:	Date													
By Whom:	Via: (	🗋 eMail 📋	Phone 🗌 Fax	🔲 In Person										
Regarding:	· · · · · · · · · · · · · · · · · · ·													
Client Instructions:														
16. Additional remarks:														
17. <u>Cooler Information</u> Cooler No Temp C Condition	Seal Intact Seal No	Seal Date	Signed By	l										
1 1.0 Good	Yes													
		•												

Client:	Chain-of-Custody Record				-Around	Time:		SAME DAI					ŀ	łA	LL		NV	'IF	20	N	٩E	NT		-4, )
	2	<u>veno</u>		Proje	ect Name		<u> </u>															ľ		
Mailing	Address	<u>(9 Ent</u> :	SINEEKWG INC	TAPP LS 4A				4901 Hawkins NE - Albuquerque, NM 87109																
<u> </u>			· · · · · · · · · · · ·	Proje	ect #:					1	Τe	al. 50	)5-34	15-39	975	F	ax	505-	345	-4107	7	•		
Phone	#: (50	51 32	20-1183	1						Analysis Request														
email c	or Fax#:			Project Manager:					ly)	Ô					04)									
	Package: ndard		Level 4 (Full Validation)	STEVE MORTH				; (8021	Gas or	O / MF			(SMI)		°04,SC	PCB's								
Accred	litation			Sam	Sampler: JEFF Bix44				PH (	/ DR	=	Ê	70 S		0 <sup>2</sup>	082								
		Othe	er	<b>O</b> IT	<b>28:</b> - (165)		Ang pang	C.NO.			F +	8 S	118.	ğ	r 827		2°0	s / 8		₹				N N
	D (Type)_		· · ·	Sam	plecten	<u>eeran</u>		0		H	E	9	od A	b	00	etak	Ž	cide	(A)	N N	NA I			کر ۳
Date	Time	Matrix	Sample Request ID	Container Pr Type and #		Pres T	ervative ype			BTEX + 🙀	BTEX + M	TPH 8015E	TPH (Meth	EDB (Meth	PAH's (831	RCRA 8 M	Anions (F.(	8081 Pesti	8260B (VO	8270 (Sem	CHLOCH			Air Bubble
15/2018	1017	SOIL	N_Wall 5-pt (3-9)	4 a	2 x (	6	ØĿ		001	X		X						·			X			
	1020		E wall 5-pt (3'-8')		1		}		712	1		1												Τ
1	1073		w wall 5-p6 (3-9)						203														-	+
+	1026		5 will 5-pe (3-9)	<b> </b>	1			······	TOY													$\neg$		+
+	1031		BASE 5-p= C. 9		ł				205			T					. ·							T
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Date:	Time: 1547 Time: 1910	Relinquish	ed by: 1/Blegg ed by: 100 by: 100 by:	Recei	yed py: MM yed by	Al	Jat	Date VIS/2018 Date 01/10	Time 1547 Time 7/8	Rer	nark	s: Br	44 7 10077 VO	20 VCT:	⊽म	TEU	e n Net	nusi IRM	<4( 1					

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If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.