

REVIEWED By OCD District 1 at 3:49 pm, Sep 14, 2015

August 18, 2015

NMOCD District I 1625 N. French Drive Hobbs, New Mexico 88240

SUBJECT: SOIL REMEDIATION WORK PLAN FOR INCIDENT 1RP-3521 PINTAIL 3 FEDERAL SWD #1, LEA COUNTY, NEW MEXICO

Dear Ms. Jones:

On behalf of COG Operating (COG), Souder Miller & Associates (SMA) is pleased to submit the attached Work Plan summarizing the planned soil remediation of the release site located on the Pintail 3 Federal SWD #1 in Lea County, New Mexico. The purpose of the work plan is to obtain approval from the New Mexico Oil Conservation Division for remediation of the release that occurred on January 17, 2015.

At the request of COG, SMA responded to assess and delineate the production fluids release associated with the Pintail 3 Federal SWD #1 well location. The release was initially reported to NMOCD by COG Operating on February 2, 2015 and was a result of an illegal dumping incident. The table below summarizes information regarding the release. Results of the assessment and delineation follow in the attached report.

Table 1: Release information and Site Ranking					
Name		Pintail 3	3 Federal S	SWD #1	
	Incident Number	API Number	Section, Township, Rang		
Location	1RP- 3521	30-025- 41208	SW/NE (Unit J)	Section 3	T 26S, R 32E NMPM
Estimated Date of Release	January 1	7, 2015			
Date Reported to NMOCD	February	2, 2015			
Reported by	Amanda Trujillo, COG Operating LLC				
Land Owner	Federal				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Illegal dumping				
Released Material	Produced Water				
Released Volume	125 bbls I	Produced V	Vater		



Recovered Volume	0 bbls Produced Water
Net Release	125 bbls Produced Water
Nearest Waterway	Bobcat Draw is 0.28 miles to the south of the location.
Depth to Groundwater	Estimated to be 150 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: May 11, 2015 Mitigation Activities: Unknown
Subcontractors	TCS
Disposal Facility	Lea Land, LLC
Estimated Yd ³ Contaminated Soil Excavated and Disposed	30

A copy of the C-141 Initial is located in Appendix B. For questions or comments pertaining to the release or the attached Work Plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES

Austr Weyant

Austin Weyant Project Scientist

Reviewed by:

Cynthia Gray, CHMM Senior Scientist

SOIL REMEDIATION WORK PLAN FOR INCIDENT 1RP-3521

COG OPERATING LLC

PINTAIL 3 FEDERAL SWD #1 API# 30-025-41208 SECTION 3, T26S R32E, NMPM LEA COUNTY, NM



Prepared for: COG Operating LLC 2407 Pecos Ave Artesia, NM 88210 Prepared by: Souder, Miller & Associates 201 S. Halagueno Carlsbad, NM 88221 575-689-7040

August 18, 2015 SMA Reference 5B23978 BG1



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1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment and initial delineation of a release associated with the Pintail 3 Federal SWD #1 release site. The site is located in Section 3, T 26S, R 32 E NMPM, Lea County, New Mexico, on land owned by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 0.3 miles (> 1,000 feet) north of Bobcat Draw, in an area owned by BLM with an elevation of approximately 3,000 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 150 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site details and sample locations.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No well is located within a 1000 foot radius of the site. Figure 1 depicts the site vicinity and Figure 2 shows the site itself. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 0 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 5000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On August 13th, 2015, after receiving 811 clearance, SMA field personnel assessed the release area onsite with a backhoe, a Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 70 feet long and 30 feet wide. Delineation samples were taken to depths of three feet bgs. Using field screening, samples at one foot bgs were found to exhibit only background levels of all contaminants of concern. Sample locations are noted on Figure 2 Site Details and Sample Location Map. All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0.

4.0 Soil Remediation Work Plan

SMA will begin the excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA will continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Excavation will occur to depths to sufficient to delineate the plume by NMOCD Division 1 standards. Final samples will be collected at final depth of excavation. Approximately 50 cubic yards of contaminated soil will be removed and replaced with clean backfill material to bring the contours to surface grade. The contaminated soil will be transported for proper disposal at Lea Land, near Carlsbad, NM.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH. The release consisted of produced and associated petroleum found during the initial assessment and delineation.

After the soil remediation work plan is approved by NMOCD, SMA will begin soil remediation activities on site.

Soil contaminant concentrations found during the initial delineation are illustrated in Figure 2. A summary of the laboratory analyses is included in Table 2. Laboratory reports are included in Appendix A.

6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, and preparation of this Remediation Work Plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

Reviewed by:

SOUDER, MILLER & ASSOCIATES

Austin Weyant Project Scientist

Cynthia Gray, CHMM Senior Scientist

Figures:

Figure 1: Vicinity Map Figure 2: Site Details and Sample Locations Map

Tables:

Table 1: Release Information and Site Ranking Table 2: Summary of Laboratory Analyses

Appendices:

Appendix A: Laboratory Analytical Reports Appendix B: Form C141 Initial

FIGURE 1 VICINITY MAP



FIGURE 2 SITE DETAILS AND SAMPLE LOCATIONS MAP



TABLE 1 RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking						
Name	Pintail 3 Federal SWD #1					
	Incident API Number Number Section, Township, Range					
Location	1RP-3521	30-025- 41208	SW/NE (Unit J)	Section 3	T 26S, R 32E NMPM	
Estimated Date of Release	January 17,	, 2015				
Date Reported to NMOCD	February 2,	, 2015				
Reported by	Amanda Trujillo, COG Operating LLC					
Land Owner	Federal					
Reported To	NM Oil Conservation Division (NMOCD)					
Source of Release	Illegal dum	ping				
Released Material	Produced V	Vater				
Released Volume	125 bbls Pr	oduced Wa	ter			
Recovered Volume	0 bbls Proc	duced Wate	r			
Net Release	125 bbls Pr	oduced Wa	ter			
Nearest Waterway	Bobcat Dra	w is 0.28 m	iles to the s	outh of the	location.	
Depth to Groundwater	Estimated t	to be 150 fe	et			
Nearest Domestic Water Source	Greater tha	an 1,000 fee	t			
NMOCD Ranking	0					
SMA Response Dates	Initial: May 11, 2015 Mitigation Activities: Unknown					
Subcontractors	TCS					
Disposal Facility	Lea Land, L	LC				
Estimated Yd ³ Contaminated Soil Excavated and Disposed	30					

TABLE 2 SUMMARY OF LABORATORY ANALYSES

Analytical Report- 1507652/ 1508863	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	TPH mg/Kg	Cl- mg/Kg
1507652- 001	SP1	7/8/2015	Surface	BDL	BDL	320	150
1507652- 002	SP2	7/8/2015	Surface	BDL	BDL	390	450
1507652- 003	SP3	7/8/2015	Surface	BDL	BDL	8100	4,200
1507652- 004	SP4	7/8/2015	Surface	N/A	N/A	N/A	1,400
1508863- 001	PT1-1	8/13/2015	1'	BDL	BDL	BDL	140
1508863- 002	PT1-2	8/13/2015	2'	BDL	BDL	BDL	BDL
1508863- 003	PT1-3	8/13/2015	3'	BDL	BDL	BDL	BDL
1508863- 004	PT2-1	8/13/2015	1'	BDL	BDL	BDL	430
1508863- 005	PT2-2	8/13/2015	2'	BDL	BDL	BDL	52
1508863- 006	PT2-3	8/13/2015	3'	BDL	BDL	BDL	BDL

Table 2: Summary of Laboratory Analyses

APPENDIX A LABORATORY ANALYTICAL REPORTS



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

July 27, 2015

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX

OrderNo.: 1507652

RE: Pintail

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/15/2015 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 <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 qualifers 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

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/27/2015

7/17/2015 10:56:48 AM 20283

CLIENT: Souder, Miller & Associates Project: Pintail	Client Sample ID: SP1 Collection Date: 7/8/2015 10:00:00 AM					
Lab ID: 1507652-001	Matrix: S	OIL	Received 1	Date: 7/1	5/2015 9:13:00 AM	
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analy	st: KJH
Petroleum Hydrocarbons, TR	320	20	mg/Kg	1	7/17/2015	20290
EPA METHOD 300.0: ANIONS					Analy	st: LGT
Chloride	150	30	mg/Kg	20	7/20/2015 1:29:30 PM	/ 20336
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	7/17/2015 10:56:48 A	M 20283
Benzene	ND	0.049	mg/Kg	1	7/17/2015 10:56:48 A	M 20283
Toluene	ND	0.049	mg/Kg	1	7/17/2015 10:56:48 A	M 20283
Ethylbenzene	ND	0.049	mg/Kg	1	7/17/2015 10:56:48 A	M 20283
Xylenes, Total	ND	0.099	mg/Kg	1	7/17/2015 10:56:48 A	M 20283

80-120

%REC

1

98.9

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

Qualifiers:	*
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Surr: 4-Bromofluorobenzene

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н
- 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
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 8 J
- Р Sample pH Not In Range
- Reporting Detection Limit RL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates

Project: Pintail

Lab Order **1507652** Date Reported: **7/27/2015**

Client Sample ID: SP2
Collection Date: 7/8/2015 10:00:00 AM
D opping D oto: 7/15/2015 0.13.00 AM

Lab ID: 1507652-002	Matrix:	Matrix: SOIL		Received Date: 7/15/2015 9:13:00 AM			
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 418.1: TPH					Analys	t: KJH	
Petroleum Hydrocarbons, TR	390	19	mg/Kg	1	7/17/2015	20290	
EPA METHOD 300.0: ANIONS					Analys	t: LGT	
Chloride	450	30	mg/Kg	20	7/20/2015 2:06:44 PM	20336	
EPA METHOD 8021B: VOLATILES					Analys	t: NSB	
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	7/17/2015 4:13:20 PM	20283	
Benzene	ND	0.049	mg/Kg	1	7/17/2015 4:13:20 PM	20283	
Toluene	ND	0.049	mg/Kg	1	7/17/2015 4:13:20 PM	20283	
Ethylbenzene	ND	0.049	mg/Kg	1	7/17/2015 4:13:20 PM	20283	
Xylenes, Total	ND	0.097	mg/Kg	1	7/17/2015 4:13:20 PM	20283	
Surr: 4-Bromofluorobenzene	95.9	80-120	%REC	1	7/17/2015 4:13:20 PM	20283	

Qualifiers:	*
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- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- 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 Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Lab Order 150/652 Date Reported: 7/27/2015

CLIENT:Souder, Miller & AssociatesProject:PintailLab ID:1507652-003	Client Sample ID: SP3 Collection Date: 7/8/2015 10:00:00 AM Matrix: SOIL Received Date: 7/15/2015 9:13:00 AM					
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analyst	KJH
Petroleum Hydrocarbons, TR	8100	190	mg/Kg	10	7/17/2015	20290
EPA METHOD 300.0: ANIONS					Analyst	LGT
Chloride	4200	150	mg/Kg	100	7/21/2015 10:40:49 AM	20336
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	7/17/2015 4:42:05 PM	20283
Benzene	ND	0.047	mg/Kg	1	7/17/2015 4:42:05 PM	20283
Toluene	ND	0.047	mg/Kg	1	7/17/2015 4:42:05 PM	20283
Ethylbenzene	ND	0.047	mg/Kg	1	7/17/2015 4:42:05 PM	20283
Xylenes, Total	ND	0.095	mg/Kg	1	7/17/2015 4:42:05 PM	20283
Surr: 4-Bromofluorobenzene	96.7	80-120	%REC	1	7/17/2015 4:42:05 PM	20283

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

Qualifiers:	*
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- 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 Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analys	sis Laborat	ory, Inc.	• Date Reported: 7/27/2015						
CLIENT: Souder, Miller & Associates			Client Samp	le ID: SP4					
Project: Pintail			Collection	Date: 7/8/2015 10:00:00 AM					
Lab ID: 1507652-004	Matrix: S	OIL	Received	Date: 7/15/2015 9:13:00 AM					
Analyses	Result	RL Qu	al Units	DF Date Analyzed Bat					
EPA METHOD 300.0: ANIONS				Analyst: LG					
Chloride	1400	75	mg/Kg	50 7/21/2015 10:53:14 AM 203					

Qualifiers:	*
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- * 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 Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Client: Project:	Souder, Pintail	Miller & As	sociate	es							
Sample ID	MB-20336	SampTy	/pe: MI	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch	ID: 20	336	F	RunNo: 27	7627				
Prep Date:	7/20/2015	Analysis Da	ate: 7/	/20/2015	S	SeqNo: 82	29641	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-20336	SampTy	/pe: LC	s	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	ID: 20	336	F	RunNo: 27	7627				
Prep Date:	7/20/2015	Analysis Da	ate: 7/	/20/2015	5	SeqNo: 82	29642	Units: mg/K	ģ		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	91.4	90	110			

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

Page 5 of 8

WO#:

Client: Project:	Souder, I Pintail	Miller & As	ssociate	es							
Sample ID	MB-20290	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	418.1: TPH			
Client ID:	PBS	Batch	n ID: 20 2	290	F	RunNo: 2 '	7575				
Prep Date:	7/16/2015	Analysis D	ate: 7/	17/2015	S	SeqNo: 8	27846	Units: mg/H	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydro	ocarbons, TR	ND	20								
Sample ID	LCS-20290	SampT	ype: LC	s	Tes	tCode: El	PA Method	418.1: TPH			
Client ID:	LCSS	Batch	n ID: 20 2	290	F	RunNo: 2 '	7575				
Prep Date:	7/16/2015	Analysis D	ate: 7/	17/2015	5	SeqNo: 8	27847	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydro	ocarbons, TR	88	20	100.0	0	87.7	83.6	116			
Sample ID	LCSD-20290	SampT	ype: LC	SD	Tes	tCode: El	PA Method	418.1: TPH			
Client ID:	LCSS02	Batch	n ID: 20	290	F	RunNo: 2 '	7575				
Prep Date:	7/16/2015	Analysis D	ate: 7/	17/2015	S	SeqNo: 8	27848	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydro	ocarbons, TR	100	20	100.0	0	101	83.6	116	14.3	20	

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

Page 6 of 8

Client: Project:	Souder, N Pintail	Ailler & A	ssociate	es							
Sample ID	MB-20283	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batc	h ID: 20	283	R	anNo: 2	7583				
Prep Date:	7/16/2015	Analysis E)ate: 7/	17/2015	S	SeqNo: 8	28181	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-buty	/I ether (MTBE)	ND	0.10								
Benzene		ND	0.050								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Brom	nofluorobenzene	0.98		1.000		98.0	80	120			
Sample ID	LCS-20283	Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 20	283	R	RunNo: 2	7583				
Prep Date:	7/16/2015	Analysis E)ate: 7/	17/2015	S	SeqNo: 8	28182	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-buty	/I ether (MTBE)	0.96	0.10	1.000	0	96.5	69.8	143			
Benzene		1.0	0.050	1.000	0	99.5	76.6	128			
Toluene		0.96	0.050	1.000	0	95.7	75	124			
Ethylbenzene		1.0	0.050	1.000	0	100	79.5	126			
Xylenes, Total		3.0	0.10	3.000	0	101	78.8	124			
Surr: 4-Brom	nofluorobenzene	1.0		1.000		104	80	120			
Sample ID	1507652-001AMS	Samp	Гуре: МS	6	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	SP1	Batc	h ID: 20 3	283	R	RunNo: 2	7583				
Prep Date:	7/16/2015	Analysis E	Date: 7/	17/2015	S	SeqNo: 8	28184	Units: mg/k	٢g		
Analyte											
		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-buty	yl ether (MTBE)	Result 0.99		0.9843	SPK Ref Val 0	%REC 100	LowLimit 53.6	HighLimit 133	%RPD	RPDLimit	Qual
	yl ether (MTBE)		PQL					-	%RPD	RPDLimit	Qual
Methyl tert-buty Benzene Toluene	/I ether (MTBE)	0.99	PQL 0.098	0.9843	0	100	53.6 69.6 76.2	133 136 134	%RPD	RPDLimit	Qual
Methyl tert-buty Benzene	yl ether (MTBE)	0.99 1.0	PQL 0.098 0.049	0.9843 0.9843 0.9843 0.9843	0 0	100 104	53.6 69.6	133 136 134 137	%RPD	RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total		0.99 1.0 0.99 1.0 3.1	PQL 0.098 0.049 0.049	0.9843 0.9843 0.9843 0.9843 2.953	0 0 0	100 104 100 104 105	53.6 69.6 76.2 75.8 78.9	133 136 134 137 133	%RPD	RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total	yl ether (MTBE) nofluorobenzene	0.99 1.0 0.99 1.0	PQL 0.098 0.049 0.049 0.049	0.9843 0.9843 0.9843 0.9843	0 0 0 0	100 104 100 104	53.6 69.6 76.2 75.8	133 136 134 137	%RPD	RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom		0.99 1.0 0.99 1.0 3.1 1.0	PQL 0.098 0.049 0.049 0.049	0.9843 0.9843 0.9843 0.9843 2.953 0.9843	0 0 0 0	100 104 100 104 105 104	53.6 69.6 76.2 75.8 78.9 80	133 136 134 137 133		RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID	nofluorobenzene	0.99 1.0 0.99 1.0 3.1 1.0 D Samp [¬]	PQL 0.098 0.049 0.049 0.049 0.098	0.9843 0.9843 0.9843 0.9843 2.953 0.9843	0 0 0 0 0 Tes	100 104 100 104 105 104	53.6 69.6 76.2 75.8 78.9 80 PA Method	133 136 134 137 133 120		RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID	nofluorobenzene 1507652-001AMSI SP1	0.99 1.0 0.99 1.0 3.1 1.0 D Samp [¬]	PQL 0.098 0.049 0.049 0.098	0.9843 0.9843 0.9843 0.9843 2.953 0.9843 5D 283	0 0 0 0 7es: R	100 104 100 104 105 104 tCode: El	53.6 69.6 76.2 75.8 78.9 80 PA Method 7583	133 136 134 137 133 120	tiles	RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID:	nofluorobenzene 1507652-001AMSI SP1	0.99 1.0 0.99 1.0 3.1 1.0 D Samp ^T Batcl	PQL 0.098 0.049 0.049 0.098	0.9843 0.9843 0.9843 2.953 0.9843 5D 283 17/2015	0 0 0 0 7es: R	100 104 100 104 105 104 tCode: EI	53.6 69.6 76.2 75.8 78.9 80 PA Method 7583	133 136 134 137 133 120 8021B: Vola	tiles	RPDLimit	Qual
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Client ID: Prep Date: Analyte	nofluorobenzene 1507652-001AMSI SP1	0.99 1.0 0.99 1.0 3.1 1.0 D Samp ^T Batcl Analysis [PQL 0.098 0.049 0.049 0.049 0.098 Type: MS h ID: 20: Date: 7/	0.9843 0.9843 0.9843 2.953 0.9843 5D 283 17/2015	0 0 0 0 0 Tes 5	100 104 100 104 105 104 tCode: El cunNo: 2 GeqNo: 8	53.6 69.6 76.2 75.8 78.9 80 PA Method 7583 28185	133 136 134 137 133 120 8021B: Vola Units: mg/ł	tiles (g 8.53		
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Client ID: Prep Date: Analyte	nofluorobenzene 1507652-001AMSI SP1 7/16/2015	0.99 1.0 0.99 1.0 3.1 1.0 D SampT Batcl Analysis E Result	PQL 0.098 0.049 0.049 0.098 0.098 Fype: MS h ID: 20 Date: 7/ PQL	0.9843 0.9843 0.9843 2.953 0.9843 5D 283 17/2015 SPK value	0 0 0 0 Tes F SPK Ref Val	100 104 100 104 105 104 tCode: El RunNo: 2 SeqNo: 8 %REC	53.6 69.6 76.2 75.8 78.9 80 PA Method 7583 28185 LowLimit	133 136 134 137 133 120 8021B: Vola Units: mg/k HighLimit	tiles Kg %RPD	RPDLimit	
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Client ID: Prep Date: Analyte Methyl tert-buty	nofluorobenzene 1507652-001AMSI SP1 7/16/2015	0.99 1.0 0.99 1.0 3.1 1.0 D SampT Batcl Analysis E Result 0.91	PQL 0.098 0.049 0.049 0.098 Type: MS h ID: 20 Date: 7/ PQL 0.099	0.9843 0.9843 0.9843 2.953 0.9843 5D 283 17/2015 SPK value 0.9862	0 0 0 0 Tes F SPK Ref Val 0	100 104 100 104 105 104 tCode: El cunNo: 2 SeqNo: 8 %REC 92.1	53.6 69.6 76.2 75.8 78.9 80 PA Method 7583 28185 LowLimit 53.6	133 136 134 137 133 120 8021B: Vola Units: mg/F HighLimit 133	tiles (g 8.53	RPDLimit 20	
Methyl tert-buty Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte Methyl tert-buty Benzene	nofluorobenzene 1507652-001AMSI SP1 7/16/2015	0.99 1.0 0.99 1.0 3.1 1.0 D Samp ^T Batcl Analysis E <u>Result</u> 0.91 0.97	PQL 0.098 0.049 0.049 0.098 Type: MS h ID: 202 Date: 7/ PQL 0.099 0.049	0.9843 0.9843 0.9843 2.953 0.9843 5D 283 17/2015 SPK value 0.9862 0.9862	0 0 0 0 0 Tes F S SPK Ref Val 0 0	100 104 100 104 105 104 tCode: El tcode: El tcode: 2 SeqNo: 8 %REC 92.1 98.7	53.6 69.6 76.2 75.8 78.9 80 PA Method 7583 28185 LowLimit 53.6 69.6	133 136 134 137 133 120 8021B: Vola Units: mg/F HighLimit 133 136	tiles (g %RPD 8.53 5.27	RPDLimit 20 20	

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

Page 7 of 8

Souder, Miller & Associates

Project:	Pintail										
Sample ID	1507652-001AMSD	SampT	ype: MS	D	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	SP1	Batch	n ID: 202	283	R	unNo: 2	7583				
Prep Date:	7/16/2015	Analysis D	ate: 7/	17/2015	S	eqNo: 8	28185	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		2.9	0.099	2.959	0	99.6	78.9	133	4.86	20	
Surr: 4-Brom	ofluorobenzene	1.0		0.9862		103	80	120	0	0	

Qualifiers:

Client:

- * 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

EN	VIRONMENTAL
AN	ALYSIS
LA	BORATORY

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: SMA-CARLSBAD Work Order Nu	mber: 1507652		RoptNo: 1	
Received by/date: SA 07 145 1	×			
Logged By: Lindsay Mangin 7/15/2015 9:13:0	0 AM	Julip		
Completed By: Lindsay Mangin 7/15/2015 2:09:4	4 PM	Automo		
Reviewed By: CS 07/15/15		000		
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes 🗆	No 🗆	Not Present	
2. Is Chain of Custody complete?	Yes 🖌	No 🗌	Not Present	
3. How was the sample delivered?	Courier			
Log In				
4. Was an attempt made to cool the samples?	Yes 🔽	No 🗆	NA 🗆	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🔽	No 🗌		
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 🗸	# of preserved	
		-	bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No	for pH: (<2 or >12 unless	noted)
13. Are matrices correctly identified on Chain of Custody?	Yes 🔽	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?	Yes 🗹	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🔽	No 🗌	Checked by:	
<u>Special Handling (if applicable)</u>	_	-		
16. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date			
By Whom:	/ia: 🗌 eMail 🗌	Phone 🗌 Fax	In Person	
Regarding:				
Client Instructions:				
17. Additional remarks:				
18. Cooler Information				
Cooler No Temp °C Condition Seal Intact Seal I	No Seal Date	Signed By		

LAL	ORY							(N	or	Y) a	Air Bubble:	Section of the sectio				-				
HALL ENVIRONMENTAL	LABORATORY	Loom	, NM 87109	505-345-4107	est		1	C	(vc	<u>مرا</u>	8550B (VO	~	1	1	7				-	
INVIR	'SIS LA	www.hallenvironmental.com	Albuquerque,	Fax 505-3	Analysis Request				0 ³¹	NC	M 8 AADA Anions (F									
HALL	ANALYSIS	www.halle	4901 Hawkins NE - Albuquerque, NM 87109	505-345-3975	An			(1	.408 HA9	oq (119M) H9T d19M) 8O3 AN9) 0168								-	
			4901 Hav	Tel. 505-		(Kju	o seð)	в (с	910 1 +	38 P	BTEX + Mi BTEX + MT	2	~	~ ~ ~					Remarks:	
							5		ON D		HEAL NO. 1507 (62	100-	-200-	COB+	-170×1	0			Date Time R	Date Time
Time:	🗆 Rush		-K			ger.	n Wey	LCA.	读Yes	perature: /./	Preservative Type								Relieve	
Turn-Around Time:	C Standard	Project Name:	d'i	Project #:		Project Manager.	Arista	Sampler:		Sample Temperature:	Container Type and #	407	HON	402	Nor	1			Received by:	Received by:
Chain-of-Custody Record	I and Associate		5 Hallow Env	NH 84220	- 5351	obs @ Gooden, Weich	Level 4 (Full Validation)	-			Sample Request ID	٢.1	542	505	Lat.				d by:	Time: Relinquished by: Date Time
of-Cus	Souder Miller and			Carlsbud	574-642				D Other		Matrix	5.1	Coll	5.1	5)	5			Relinquished by:	Relinquished by:
hain-	Sad		Address			Fax#:	ackage: dard	ation:	d	(Type)_	Time	(00)	1007	1000	1 DUN				Time:	Time:
U	Client:		Mailing Address: 201		Phone #	email or Fax#: [QAQC Package:	Accreditation:	D NEL	C EDD (Type)	Date	7-25	22-47	くちょう	いましつ				Date:	Date:



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

August 26, 2015

Austin Weyant Souder, Miller & Associates 201 S Halagueno Carlsbad, NM 88221 TEL: (575) 689-7040 FAX

OrderNo.: 1508863

RE: Pintail

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/18/2015 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 <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 qualifers 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

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/26/2015

CLIENT: Souder, Miller & Associates			Client Sampl	e ID: PT	1-1					
Project: Pintail			Collection 1	Date: 8/1	3/2015 3:00:00 PM					
Lab ID: 1508863-001	Matrix:	SOIL	Received	Received Date: 8/18/2015 9:18:00 AM						
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analyst	LGT				
Chloride	140	30	mg/Kg	20	8/22/2015 2:07:34 AM	20926				
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	том				
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/24/2015 4:42:22 PM	20909				
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/24/2015 4:42:22 PM	20909				
Surr: DNOP	89.0	57.9-140	%REC	1	8/24/2015 4:42:22 PM	20909				
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	: NSB				
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/21/2015 8:10:47 PM	20870				
Surr: BFB	79.5	75.4-113	%REC	1	8/21/2015 8:10:47 PM	20870				
EPA METHOD 8021B: VOLATILES					Analyst	: NSB				
Methyl tert-butyl ether (MTBE)	ND	0.10	mg/Kg	1	8/21/2015 8:10:47 PM	20870				
Benzene	ND	0.050	mg/Kg	1	8/21/2015 8:10:47 PM	20870				
Toluene	ND	0.050	mg/Kg	1	8/21/2015 8:10:47 PM	20870				
Ethylbenzene	ND	0.050	mg/Kg	1	8/21/2015 8:10:47 PM	20870				
Xylenes, Total	ND	0.10	mg/Kg	1	8/21/2015 8:10:47 PM	20870				
Surr: 4-Bromofluorobenzene	90.1	80-120	%REC	1	8/21/2015 8:10:47 PM	20870				

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

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 Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508863 Date Reported: 8/26/2015

CLIENT: Souder, Miller & Associates			Client Sample	e ID: PT	1-2					
Project: Pintail			Collection I	Date: 8/1	3/2015 3:00:00 PM					
Lab ID: 1508863-002	Matrix:	SOIL	Received I	Received Date: 8/18/2015 9:18:00 AM						
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analys	t: LGT				
Chloride	ND	30	mg/Kg	20	8/22/2015 2:19:58 AM	20926				
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	t: TOM				
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/24/2015 5:51:02 PM	20909				
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/24/2015 5:51:02 PM	20909				
Surr: DNOP	85.1	57.9-140	%REC	1	8/24/2015 5:51:02 PM	20909				
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	t: NSB				
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/21/2015 8:35:36 PM	20870				
Surr: BFB	79.9	75.4-113	%REC	1	8/21/2015 8:35:36 PM	20870				
EPA METHOD 8021B: VOLATILES					Analys	t: NSB				
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	8/21/2015 8:35:36 PM	20870				
Benzene	ND	0.048	mg/Kg	1	8/21/2015 8:35:36 PM	20870				
Toluene	ND	0.048	mg/Kg	1	8/21/2015 8:35:36 PM	20870				
Ethylbenzene	ND	0.048	mg/Kg	1	8/21/2015 8:35:36 PM	20870				
Xylenes, Total	ND	0.097	mg/Kg	1	8/21/2015 8:35:36 PM	20870				
Surr: 4-Bromofluorobenzene	93.0	80-120	%REC	1	8/21/2015 8:35:36 PM	20870				

Qualifiers:	*
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- * 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1508863** Date Reported: **8/26/2015**

CLIENT: Souder, Miller & Associates	Client Sample ID: PT1-3									
Project: Pintail			Collection I	Date: 8/1	3/2015 3:00:00 PM					
Lab ID: 1508863-003	Matrix:	SOIL	Received I	Received Date: 8/18/2015 9:18:00 AM						
Analyses	Result	RL Qu	ual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analys	t: LGT				
Chloride	ND	30	mg/Kg	20	8/22/2015 2:32:22 AM	20926				
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	s			Analys	t: TOM				
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	8/24/2015 6:12:34 PM	20909				
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/24/2015 6:12:34 PM	20909				
Surr: DNOP	86.0	57.9-140	%REC	1	8/24/2015 6:12:34 PM	20909				
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: NSB				
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/21/2015 9:00:22 PM	20870				
Surr: BFB	79.0	75.4-113	%REC	1	8/21/2015 9:00:22 PM	20870				
EPA METHOD 8021B: VOLATILES					Analys	t: NSB				
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	8/21/2015 9:00:22 PM	20870				
Benzene	ND	0.048	mg/Kg	1	8/21/2015 9:00:22 PM	20870				
Toluene	ND	0.048	mg/Kg	1	8/21/2015 9:00:22 PM	20870				
Ethylbenzene	ND	0.048	mg/Kg	1	8/21/2015 9:00:22 PM	20870				
Xylenes, Total	ND	0.097	mg/Kg	1	8/21/2015 9:00:22 PM	20870				
Surr: 4-Bromofluorobenzene	92.5	80-120	%REC	1	8/21/2015 9:00:22 PM	20870				

Qualifiers:	*
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- * 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1508863** Date Reported: **8/26/2015**

CLIENT: Souder, Miller & Associates	Client Sample ID: PT2-1										
Project: Pintail		Collection Date: 8/13/2015 3:00:00 PM									
Lab ID: 1508863-004	Matrix:	SOIL	Received I	Received Date: 8/18/2015 9:18:00 AM							
Analyses	Result	RL Q	Qual Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analyst	: LGT					
Chloride	430	30	mg/Kg	20	8/22/2015 2:44:47 AM	20926					
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	: TOM					
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	8/24/2015 6:34:14 PM	20909					
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/24/2015 6:34:14 PM	20909					
Surr: DNOP	77.1	57.9-140	%REC	1	8/24/2015 6:34:14 PM	20909					
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	: NSB					
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/21/2015 9:25:15 PM	20870					
Surr: BFB	79.4	75.4-113	%REC	1	8/21/2015 9:25:15 PM	20870					
EPA METHOD 8021B: VOLATILES					Analyst	: NSB					
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	8/21/2015 9:25:15 PM	20870					
Benzene	ND	0.048	mg/Kg	1	8/21/2015 9:25:15 PM	20870					
Toluene	ND	0.048	mg/Kg	1	8/21/2015 9:25:15 PM	20870					
Ethylbenzene	ND	0.048	mg/Kg	1	8/21/2015 9:25:15 PM	20870					
Xylenes, Total	ND	0.097	mg/Kg	1	8/21/2015 9:25:15 PM	20870					
Surr: 4-Bromofluorobenzene	92.1	80-120	%REC	1	8/21/2015 9:25:15 PM	20870					

Qualifiers:	*
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- * 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 Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1508863** Date Reported: **8/26/2015**

8/21/2015 9:50:09 PM

8/21/2015 9:50:09 PM

1

1

20870

20870

CLIENT:Souder, Miller & AssociatesProject:PintailLab ID:1508863-005	Matrix:	2-2 3/2015 3:00:00 PM 8/2015 9:18:00 AM				
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	LGT
Chloride	52	30	mg/Kg	20	8/22/2015 2:57:12 AM	20926
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	: том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/24/2015 6:55:39 PM	20909
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/24/2015 6:55:39 PM	20909
Surr: DNOP	78.7	57.9-140	%REC	1	8/24/2015 6:55:39 PM	20909
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/21/2015 9:50:09 PM	20870
Surr: BFB	80.4	75.4-113	%REC	1	8/21/2015 9:50:09 PM	20870
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	8/21/2015 9:50:09 PM	20870
Benzene	ND	0.048	mg/Kg	1	8/21/2015 9:50:09 PM	20870
Toluene	ND	0.048	mg/Kg	1	8/21/2015 9:50:09 PM	20870
Ethylbenzene	ND	0.048	mg/Kg	1	8/21/2015 9:50:09 PM	20870

0.095

80-120

mg/Kg

%REC

ND

93.3

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

Qualifiers:	*
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Xylenes, Total

Surr: 4-Bromofluorobenzene

- * 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 Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1508863** Date Reported: **8/26/2015**

CLIENT: Souder, Miller & Associates Project: Pintail	Client Sample ID: PT2-3 Collection Date: 8/13/2015 3:00:00 PM									
Lab ID: 1508863-006	Matrix:	SOIL		Received Date: 8/18/2015 9:18:00 AM						
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS					Analys	t: LGT				
Chloride	ND	30	mg/Kg	20	8/22/2015 3:09:37 AM	20926				
EPA METHOD 8015M/D: DIESEL RANG		S			Analys	t: TOM				
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	8/24/2015 7:17:13 PM	20909				
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/24/2015 7:17:13 PM	20909				
Surr: DNOP	81.0	57.9-140	%REC	1	8/24/2015 7:17:13 PM	20909				
EPA METHOD 8015D: GASOLINE RANG	θE				Analys	t: NSB				
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/21/2015 10:15:02 PM	1 20870				
Surr: BFB	79.7	75.4-113	%REC	1	8/21/2015 10:15:02 PM	1 20870				
EPA METHOD 8021B: VOLATILES					Analys	t: NSB				
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	8/21/2015 10:15:02 PM	1 20870				
Benzene	ND	0.048	mg/Kg	1	8/21/2015 10:15:02 PM	1 20870				
Toluene	ND	0.048	mg/Kg	1	8/21/2015 10:15:02 PM	1 20870				
Ethylbenzene	ND	0.048	mg/Kg	1	8/21/2015 10:15:02 PM	1 20870				
Xylenes, Total	ND	0.096	mg/Kg	1	8/21/2015 10:15:02 PM	1 20870				
Surr: 4-Bromofluorobenzene	92.8	80-120	%REC	1	8/21/2015 10:15:02 PM	1 20870				

Qualifiers:	*
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- * 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 Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Client: Project:	Souder, Pintail	Miller & As	ssociate	es							
Sample ID	MB-20926	SampT	ype: MI	BLK	Tes	TestCode: EPA Method 300.0: Anions					
Client ID:	PBS	Batch	ID: 20	926	F	RunNo: 2	8397				
Prep Date:	8/21/2015	Analysis D	ate: 8/	21/2015	S	SeqNo: 857826		Units: mg/Kg			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-20926	SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	ID: 20	926	F	RunNo: 2	8397				
Prep Date:	8/21/2015	Analysis D	ate: 8/	21/2015	S	SeqNo: 8	57827	Units: mg/Kg			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	95.1	90	110			

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

WO#: **1508863**

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Client:	Souder, M	iller & As	sociate	s							
Project:	Pintail										
Sample ID MB-	20909	SampTy	rpe: ME	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	;	Batch	ID: 209	909	R	unNo: 2	8400				
Prep Date: 8/2	1/2015	Analysis Da	ate: 8/	24/2015	S	eqNo: 8	59302	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organi	cs (DRO)	ND	10								
Motor Oil Range Org	anics (MRO)	ND	50								
Surr: DNOP		9.6		10.00		95.9	57.9	140			
Sample ID LCS	-20909	SampTy	vpe: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCS	S	Batch ID: 20909			R	RunNo: 28400					
Prep Date: 8/2	1/2015	Analysis Da	ate: 8/ 2	24/2015	S	eqNo: 8	59303	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organi	cs (DRO)	51	10	50.00	0	102	57.4	139			
Surr: DNOP		4.7		5.000		94.7	57.9	140			
Sample ID 1508	3863-001AMS	SampTy	pe: MS	3	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PT1	-1	Batch	ID: 209	909	R	unNo: 2	8400				
Prep Date: 8/2	1/2015	Analysis Da	ate: 8/	24/2015	S	eqNo: 8	59305	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organi	cs (DRO)	43	9.9	49.55	0	87.7	42.3	146			
Surr: DNOP		4.0		4.955		81.4	57.9	140			
Sample ID 1508	3863-001AMSD	SampTy	pe: MS	SD.	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PT1	-1	Batch	ID: 209	909	R	unNo: 2	8400				
Prep Date: 8/2	1/2015	Analysis Da	ate: 8/	24/2015	S	eqNo: 8	59306	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organi	cs (DRO)	44	9.9	49.46	0	88.4	42.3	146	0.656	28.9	
Surr: DNOP		4.1		4.946		82.0	57.9	140	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н 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
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit

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Client: Project:	Souder, N Pintail	/liller & A	ssociate	es							
Sample ID Client ID:	PBS	Batch	ype: MI 1D: 20	870	F	TestCode: EPA Method 8015D: Gasoline Range RunNo: 28350					
Prep Date:	8/19/2015	Analysis D	ate: 8/	/20/2015	5	SeqNo: 8	56333	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	ND 850	5.0	1000		84.9	75.4	113			
Sample ID	LCS-20870	SampT	ype: LC	S	Tes	TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch	n ID: 20	870	F	RunNo: 2	8350				
Prep Date:	8/19/2015	Analysis Date: 8/20/2015			S	SeqNo: 856334 Units: mg/Kg					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	25 900	5.0	25.00 1000	0	98.9 90.1	79.6 75.4	122 113			
Sample ID	1508863-002AMS	SampT	ype: M	S	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID:	PT1-2	Batch	n ID: 20	870	F	RunNo: 2	8350				
Prep Date:	8/19/2015	Analysis D	ate: 8/	/20/2015	S	SeqNo: 8	56335	Units: mg/k	٤g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	26	4.7	23.65	0	108	62.5	151			
Surr: BFB		870		946.1		92.3	75.4	113			
Sample ID	1508863-002AMSI) SampT	ype: M	SD	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	е	
Client ID:	PT1-2	Batch	n ID: 20	870	RunNo: 28350						
Prep Date:	8/19/2015	Analysis D	ate: 8/	/20/2015	S	SeqNo: 8	56336	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	27	4.7	23.54	0	114	62.5	151	5.36	22.1	
Surr: BFB		880		941.6		93.8	75.4	113	0	0	
Sample ID	MB-20899	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID:	PBS	Batch	n ID: 20	899	F	RunNo: 2	8388		-		
Prep Date:	8/20/2015	Analysis D	ate: 8/	/21/2015	S	SeqNo: 8	57409	Units: %RE	с		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		800		1000		80.1	75.4	113	/		
Sample ID	LCS-20899	SamoT	ype: LC	cs	Tes	tCode: FI	PA Method	8015D: Gaso	oline Rang	e	
Client ID:			n ID: 20			RunNo: 2				-	
	8/20/2015	Analysis D				SeqNo: 8		Units: %RE	с		
Analyte	-	Result	PQL		SPK Ref Val	•	LowLimit	HighLimit	~ %RPD	RPDLimit	Qual
Surr: BFB		950		1000		94.7	75.4	113	701\F D		Qual
00		500				2					

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Client:Souder, 1Project:Pintail	Miller & A	Associate	es							
Sample ID MB-20870	Samp	Туре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 20	870	F	RunNo: 2	8350				
Prep Date: 8/19/2015	Analysis [Date: 8/	20/2015	S	SeqNo: 8	56345	Units: mg/ł	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			
Sample ID LCS-20870						PA Method	8021B: Vola	tiles		
Client ID: LCSS	D: LCSS Batch ID: 20870			F	RunNo: 2	8350				
Prep Date: 8/19/2015	15 Analysis Date: 8/20/2015			S	SeqNo: 8	56346	Units: mg/ł	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.80	0.10	1.000	0	79.7	69.8	143			
Benzene	0.96	0.050	1.000	0	96.3	76.6	128			
Toluene	0.98	0.050	1.000	0	97.8	75	124			
Ethylbenzene	1.0	0.050	1.000	0	99.7	79.5	126			
Xylenes, Total	2.9	0.10	3.000	0	96.1	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			
Sample ID 1508863-001AMS	Samp	Туре: М	3	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: DT4 4				RunNo: 28350						
Client ID: PT1-1	Batch ID: 20870				SeqNo: 856347		Units: mg/Kg			
Client ID: P11-1 Prep Date: 8/19/2015	Batc Analysis [56347	Units: mg/ł	٢g		
			20/2015			56347 LowLimit	Units: mg/ł HighLimit	(g %RPD	RPDLimit	Qual
Prep Date: 8/19/2015	Analysis [Date: 8/	20/2015	S	SeqNo: 8		-	-	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte	Analysis [Result	Date: 8/ PQL	20/2015 SPK value	SPK Ref Val	SeqNo: 8 %REC	LowLimit	HighLimit	-	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE)	Analysis I Result 0.79	Date: 8/ PQL 0.098	20/2015 SPK value 0.9823	SPK Ref Val	SeqNo: 8 %REC 80.3	LowLimit 53.6	HighLimit 133	-	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene	Analysis I Result 0.79 0.95	Date: 8/ PQL 0.098 0.049	20/2015 SPK value 0.9823 0.9823	SPK Ref Val 0 0	SeqNo: 8 %REC 80.3 96.2	LowLimit 53.6 69.6	HighLimit 133 136	-	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene	Analysis I Result 0.79 0.95 0.96	Date: 8/ PQL 0.098 0.049 0.049	20/2015 SPK value 0.9823 0.9823 0.9823	SPK Ref Val 0 0 0.02336	SeqNo: 8 <u>%REC</u> 80.3 96.2 95.2	LowLimit 53.6 69.6 76.2	HighLimit 133 136 134	-	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene	Analysis I Result 0.79 0.95 0.96 1.0	Date: 8/ PQL 0.098 0.049 0.049 0.049	20/2015 SPK value 0.9823 0.9823 0.9823 0.9823	SPK Ref Val 0 0 0.02336 0.01875	SeqNo: 8 %REC 80.3 96.2 95.2 99.7	LowLimit 53.6 69.6 76.2 75.8	HighLimit 133 136 134 137	-	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total	Analysis I <u>Result</u> 0.79 0.95 0.96 1.0 2.9 1.0	Date: 8/ PQL 0.098 0.049 0.049 0.049	20/2015 SPK value 0.9823 0.9823 0.9823 0.9823 2.947 0.9823	SPK Ref Val 0 0 0.02336 0.01875 0.03586	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 102	LowLimit 53.6 69.6 76.2 75.8 78.9 80	HighLimit 133 136 134 137 133	%RPD	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	Analysis I Result 0.79 0.95 0.96 1.0 2.9 1.0 Samp ⁻	Date: 8 / PQL 0.098 0.049 0.049 0.049 0.098	20/2015 SPK value 0.9823 0.9823 0.9823 0.9823 2.947 0.9823	SPK Ref Val 0 0.02336 0.01875 0.03586 Tes	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 102	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method	HighLimit 133 136 134 137 133 120	%RPD	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1508863-001AMS	Analysis I <u>Result</u> 0.79 0.95 0.96 1.0 2.9 1.0 Samp	Date: 8/ PQL 0.098 0.049 0.049 0.049 0.098 Type: MS h ID: 20	20/2015 SPK value 0.9823 0.9823 0.9823 2.947 0.9823 SD 870	SPK Ref Val 0 0 0.02336 0.01875 0.03586 Tes	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 tCode: El	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method 8350	HighLimit 133 136 134 137 133 120	%RPD	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1508863-001AMS Client ID: PT1-1	Analysis I <u>Result</u> 0.79 0.95 0.96 1.0 2.9 1.0 5D Samp ⁻ Batc	Date: 8/ PQL 0.098 0.049 0.049 0.049 0.098 Type: MS h ID: 20	20/2015 SPK value 0.9823 0.9823 0.9823 2.947 0.9823 2.947 0.9823 5D 870 20/2015 SPK value	SPK Ref Val 0 0 0.02336 0.01875 0.03586 Tes	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 102	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method 8350	HighLimit 133 136 134 137 133 120 8021B: Vola	%RPD	RPDLimit	Qual
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1508863-001AMS Client ID: PT1-1 Prep Date: 8/19/2015	Analysis I Result 0.79 0.95 0.96 1.0 2.9 1.0 Batc Analysis I	Date: 8/	20/2015 SPK value 0.9823 0.9823 0.9823 2.947 0.9823 2.947 0.9823 5D 870 20/2015	SPK Ref Val 0 0.02336 0.01875 0.03586 Tes F	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 tCode: El RunNo: 2 SeqNo: 8	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method 8350 56348	HighLimit 133 136 134 137 133 120 8021B: Vola Units: mg/k	%RPD tiles		
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1508863-001AMS Client ID: PT1-1 Prep Date: 8/19/2015 Analyte	Analysis I Result 0.79 0.95 0.96 1.0 2.9 1.0 SD Samp ⁻ Batc Analysis I Result	Date: 8/ PQL 0.098 0.049 0.049 0.049 0.098 Type: MS h ID: 20 Date: 8/	20/2015 SPK value 0.9823 0.9823 0.9823 2.947 0.9823 2.947 0.9823 5D 870 20/2015 SPK value	SPK Ref Val 0 0.02336 0.01875 0.03586 Tes F SPK Ref Val	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 tCode: El RunNo: 2 SeqNo: 8 %REC	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method 8350 56348 LowLimit	HighLimit 133 136 134 137 133 120 8021B: Vola Units: mg/ł HighLimit	%RPD tiles {g %RPD	RPDLimit	
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1508863-001AMS Client ID: PT1-1 Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE)	Analysis I Result 0.79 0.95 0.96 1.0 2.9 1.0 50 Samp ⁻¹ Batc Analysis I Result 0.79	Date: 8/ PQL 0.098 0.049 0.049 0.049 0.098 Type: MS h ID: 200 Date: 8/ PQL 0.095	20/2015 SPK value 0.9823 0.9823 0.9823 2.947 0.9823 SD 870 20/2015 SPK value 0.9515	SPK Ref Val 0 0.02336 0.01875 0.03586 Tes 5 SPK Ref Val 0	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 tCode: El RunNo: 2 SeqNo: 8 %REC 82.6	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method 8350 56348 LowLimit 53.6	HighLimit 133 136 134 137 133 120 8021B: Vola Units: mg/ł HighLimit 133	%RPD tiles (g %RPD 0.328	RPDLimit 20	
Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID 1508863-001AMS Client ID: PT1-1 Prep Date: 8/19/2015 Analyte Methyl tert-butyl ether (MTBE) Benzene	Analysis I <u>Result</u> 0.79 0.95 0.96 1.0 2.9 1.0 5D Samp ^T Batc Analysis I <u>Result</u> 0.79 0.91	Date: 8 / PQL 0.098 0.049 0.049 0.049 0.098 Type: MS h ID: 20 Date: 8 / PQL 0.095 0.048	20/2015 SPK value 0.9823 0.9823 0.9823 2.947 0.9823 30.9823 2.947 0.9823 5D 870 20/2015 SPK value 0.9515 0.9515	SPK Ref Val 0 0.02336 0.01875 0.03586 Tes SPK Ref Val 0 0 0	SeqNo: 8 %REC 80.3 96.2 95.2 99.7 96.6 102 102 tCode: El RunNo: 2 SeqNo: 8 %REC 82.6 96.1 96.1	LowLimit 53.6 69.6 76.2 75.8 78.9 80 PA Method 8350 56348 LowLimit 53.6 69.6	HighLimit 133 136 134 137 133 120 8021B: Vola Units: mg/k HighLimit 133 136	%RPD tiles (g 0.328 3.29	RPDLimit 20 20	

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

WO#: **1508863**

26-Aug-15

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WO#:	1508863
	26-Aug-15

Client: Project:	Souder, N Pintail	filler & Asso	ociate	es							
Sample ID	1508863-001AMSD	SampType	e: MS	SD	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PT1-1	Batch ID): 20	870	R	aunNo: 2	8350				
Prep Date:	8/19/2015	Analysis Date	e: 8/	/20/2015	S	SeqNo: 8	56348	Units: mg/K	g		
Analyte		Result F	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		2.9 0	.095	2.854	0.03586	99.0	78.9	133	0.647	20	
Surr: 4-Brom	ofluorobenzene	0.98		0.9515		103	80	120	0	0	
Sample ID	MB-20899	SampType	e: MB	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBS	Batch ID): 20	899	R	lunNo: 2	8388				
Prep Date:	8/20/2015	Analysis Date	e: 8/	/21/2015	S	SeqNo: 8	57443	Units: %RE	с		
Analyte		Result F	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	ofluorobenzene	0.94		1.000		93.8	80	120			
Sample ID	LCS-20899	SampType	e: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSS	Batch ID): 20	899	R	RunNo: 2	8388				
Prep Date:	8/20/2015	Analysis Date	e: 8/	/21/2015	S	SeqNo: 8	57444	Units: %RE	с		
Analyte		Result F	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	ofluorobenzene	1.1		1.000		107	80	120			

Qualifiers:

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

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HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

-

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: SMA-	CARLSB	AD	Work Or	der Number:	150886	53			RcptNo: 1	
Recei	ved by/date:	15		08/19	515						
.ogge	d By: Ashl	ey Galleg	los	8/18/2015	9:18:00 AM			AF			
	1	ey Galleg		8/18/2015	5:18:58 PM			AF			
100000	wed By:		15	1	9/15			0			
	of Custody	(0011	110						
	ustody seals intac	t on same	ole bottles?			Yes		No		Not Present 🗹	
	Chain of Custody					Yes	~	No		Not Present	
	ow was the samp					Couri	er				
Log	In										
	/as an attempt m	ade to co	ol the sample	is?		Yes	•	No		NA 🗆	
5. V	/ere all samples r	eceived a	it a temperati	ure of >0°C t	o 6.0°C	Yes	~	No			
6. 5	ample(s) in prope	er contain	er(s)?			Yes	✓	No			
7 8	ufficient sample v	volume for	r indicated tes	st(s)?		Yes	•	No			
	re samples (exce				vd?	Yes	~	No			
	as preservative					Yes		No	~	NA	
10 v	OA vials have ze	ro headso	bace?			Yes		No		No VOA Vials 🗹	
	Vere any sample			cken?		Yes		No	V	# of preserved	
								N		bottles checked for pH:	
	oes paperwork n Note discrepancie					Yes	V	No	Ц	(<2 0	r >12 unless noted)
	re matrices corre					Yes	\checkmark	No		Adjusted?	
1010000000	s it clear what and					Yes		No			
15.1	Vere all holding ti If no, notify custo	mes able	to be met?			Yes	✓	No		Checked by:	
Spe	cial Handling	(if appl	licable)								
-	Vas client notified			ith this order?	,	Yes		No		NA 🗹	-
	Person Noti	fied:			Date						
	By Whom:	Ĺ			Via:	eM	ail 🗌	Phone	Fax	In Person	
	Regarding:	Г									
	Client Instru	ictions:									
17.	Additional remar	ks:									
18.	Cooler Informat	ion		2				1 223	-	1	
		remp ⁰C	Condition	Seal Intact	Seal No	Seal D)ate	Signed	By	-	
	1 1.	0	Good	Yes						1	

onde	Souder Miller And Associates	100	Digit Name	C Rush				ANA	ANALYSIS LABORATOR	ISI	AB	0K	AT	SR.	
Mailing Address:	1.22	201 S Halaqueno		Pintai)	I WING	49	4901 Hawkins NE -	www.h	www.hallenvironmental.com ins NE - Albuquerque, NM	environmental.com Albuquerque, NM 87109	tal.con	n 1 87 10	6		
	Carlsbad	Carlsbad, NM 88220	Project #:			Ţ	Tel. 505-345-3975	45-397	ш ц	Fax 505	505-345-4107	1107		100	
	575-689-5351	5351	Section 18			((Analy	Analysis Request	quest				
email or Fax#: QA/QC Package:		lucas.middleton@soudermiller.com	Project Manager: Austin Weyant	ger: t			ləzəi()\zs		1		R				
Standard Accreditation:			Sampler:	LCM / J	ALAR NO	1.12.9463	- 10A	(1-	(H			(ji.	V	
NELAP	□ Other	1512 1513	On Ice:	X Yes	□ No		1.00	Þ09	1		-	AO	-		
EDD (Type)		T S W L S A	Sample Temperature	berature:	2001	22	10	ро		-	(1× 1)	V-in	-		
Time	еМай	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 150 88 63	BTEX + M BTEX + M	TPH Metho Herb	EDB (Weth	RCRA 8 M)) snoinA teeg 1808	DV) 80928	n92) 0728	5 10	2 1	
auz	50.	-1-11d	X	Survey and	1001	X	X		and the second	×	4.2	14	10.00		
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Time:	Relinquished by:	hed by:	Received by:	Sime			2								
Time:	Relinquished by:	thed by:	Received by:		Date										

APPENDIX B FORM C141 INITIAL

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.

Release Notification and Corrective Action OPERATOR Initial Report Final Report Name of Company: COG Operating LLC Contact: Robert McNeill Final Report Address: 600 West Illinois Avenue, Midland TX 79701 Telephone No. 432-230-0077 Image: Colspan="4">Image: Colspan="4" Facility Name: Pintail 3 Federal SWD #1 Facility Type: B

Surface Owner: FederalMineral Owner:API No. 30-025-41208

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	3	26S	32E	2500	South	1400	East	Lea

Latitude32.0719317402384 Longitude -103.658744163143

NATURE OF RELEASE

Type of Release:	Volume of Release:	Volume Recovered:
Produced Water	125 bbls	0 bbls
Source of Release:	Date and Hour of Occurrence: 1/17/2015 10:00 am	Date and Hour of Discovery: 1/17/2015 10:00 am
Illegal Dumping Was Immediate Notice Given?	If YES, To Whom?	1/1//2013 10:00 alli
Yes □ No □ Not Required		nos – BLM
By Whom? Lupe Carrasco	Date and Hour: 1/19/2015 12:32 p	om
Was a Watercourse Reached?	If YES, Volume Impacting the W	
🗌 Yes 🖾 No		
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.*		
This release was caused by an illegal dumping of produced water by wat	er hauler. A fence was knocked down	in the incident.
Describe Area Affected and Cleanup Action Taken.*		
Describe Area Affected and Cleanup Action Taken.		
The impacted area was confined to the pad area. Concho will have the sp	oill site sampled to delineate any possi	ble contamination from the release and we
will present a remediation work plan to the NMOCD for approval prior t		
I hereby certify that the information given above is true and complete to		
regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by t		
should their operations have failed to adequately investigate and remedia		
or the environment. In addition, NMOCD acceptance of a C-141 report		
federal, state, or local laws and/or regulations.	does not rene ve the operator of respon	isionity for compliance with any other
	OIL CONSER	VATION DIVISION
A Trijlle	Hydrologist	
Signature:	riyarologist	mi Pho
	Approved by Environmental Special	i st :
Printed Name: Amanda Trujillo		
Title: Senior Environmental Coordinator	Approval Date: 02/03/2015	Expiration Date: 04/03/2015
		Explution Duce.
E-mail Address: atrujillo@concho.com	Conditions of Approval:	
	Conditions of Approval: Site samples required. Del	ineate Attached
Date: February 2, 2015 Phone: 575-748-6940	and remediate are as per N	MOCD 1RP-3521
* Attach Additional Sheets If Necessary	guides.	nTO1503426996
	Submit final C-141 by 04/	03/2015 pTO1502427166
	Subilit Illial C-141 Dy 04/	03/2015 pTO1503427166