



6101 Holiday Hill Road
Midland, TX 79707
(432) 687-1777
(432) 687-1570 (FAX)

July 19, 2017

Crystal Weaver
Environmental Specialist
OCD – Artesia District II
811 S. 1st Street
Artesia, NM 88210

James Amos
Supervisory Petroleum Engineering Tech
Bureau of Land Management
620 East Greene Street
Carlsbad, NM 88220-6292

Closure request: Gossett “20” 3H Battery, Unit letter I, Section 20, Township 20S, Range 25E, 2250 FSL, 150 FEL

Ms. Weaver and Mr. Amos,

Incident Description

On morning of April 13th, 2017 a spill was discovered at Fasken’s Gossett “20” 3H Battery by Fasken personnel arriving for routine daily work. In the evening prior to the spill discovery, 2 inches of rain and large hail were recorded. Two sight glasses on a free water knockout vessel and a heater-treater were broken by the large hail. The sight glass check valve on the free water knockout failed, causing a spill. The spill was almost full contained within the firewall. Due to the failure of the check valve on the vessel, a small area was affected by an oil mist sprayed outside the firewall.

Due to the manner in which the release happened, Fasken has had a difficult time estimating the volume of fluids that were spilled. Fasken estimates up to 20 barrels of produced water were released. Three barrels of crude oil were recovered from inside the firewall. Fasken’s estimate is based on the volume of water that was removed from the firewall where the vessels are located. However, this is an overestimated/maximum volume due to the large amount of perception that the area received the night before. After the fluids were removed from the firewall, the sight glasses were repaired and the equipment was returned to service. The New Mexico OCD Artesia District office was notified via phone on April 13th in the late afternoon. A form C-141 was submitted to Crystal Weaver on April 17th via electronic mail. See attached pictures of spill upon discovery.

Spill Response

On April 18th, Fasken Environmental Coordinator Aaron Pachlhofer collected four samples from two location within the firewall. Each sample location had a sample collected at the surface, and approximately 1 foot below surface. S-1 was collected at the farthest extent of oil staining, and S-2 was collected nearest to the point of release. S-2 was also the lowest point in the area affected by the release. Less than 1,000 square feet were affected by the release. The samples were analyzed for BTEX, TPH, and Chlorides. Please see the analytical summary below and the attached laboratory report. Benzene was not detected in any sample. At one foot below surface, TPH was less than 5,000 mg/kg, total BTEX was less than 4.0 mg/kg, and chlorides were less than 100 mg/kg.

Following the receipt of the samples analysis, Aaron Pachlhofer directed that a work crew and a backhoe perform a response to stabilize and clean up the release. All affected soils were removed from around the affected area until visually and olfactorally clean; about 1 foot of soil and pea gravel were removed. The area outside the firewall that received the light oil mist was not addressed due to additional rains that removed the small amount of oil residue. A small amount of vegetation was stressed, but as of a site check on June 6, 2017 it has begun re-growing.

The affected soils around the vessels were removed. A small amount of affected soil underneath piping could not be removed. It appears that no oil seeped under cement footings of vessels. All materials removed were placed on 20-mil thick plastic on the eastern edge of the pad edge of the pad. Fasken estimates the volume of the stockpile at about 15 cubic yards. The stockpile has not been sampled at this time. Pea gravel has been replaced inside the firewall.

Sample Results

Sample results after the initial removal were:

	Benzene	Total BTEX	TPH	Chloride
S-1 Surface	<0.0227	0.565	148	5.01
S-1 1"	<0.0238	3.921	1430	10.7
S-2 Surface	<0.0235	0.9022	9680	97.2
S-2 1"	<0.0241	1.566	1080	27.3

After receipt of the analytical results, the depth to ground water in the area was researched. According to the New Mexico State Engineers Office Water Well Database, a well was located nearby. Utilizing the elevation of the release and the published elevation of the water well casing from the USGS topographic map and from Google Earth, a potential depth to water was determined to range from 97 feet below ground surface to 113 feet (or more) below ground surface. Further research into the location of the well revealed that the well's location was approximately 20 feet from the well head of a gas well. After consideration, OCD where the New Mexico agreed with Fasken that the depth to ground water was at least 100 feet below ground surface.

Please note all results in mg/kg. See attached lab reports.

Conclusions

1. This spill was the result of heavy precipitation and hail. The ground was likely saturated with rain water when the spill occurred. The spill reported that 20 barrel of produced water was lost, but the actual volume cannot be accounted for and is likely much less. Three barrels of oil that were reported spilled are likely accurate.
2. According to the sample analysis, the response was appropriate to address the spilled oil. The samples show that at 1 foot below surface, the TPH concentration is well below 5,000 mg/kg. No benzene was detected, and the maximum total BTEX concentration was less than 4.0 mg/kg. Chlorides were less than 100 mg/kg.
3. The stockpile that remains at the battery and has not been sampled yet.

Recommendations

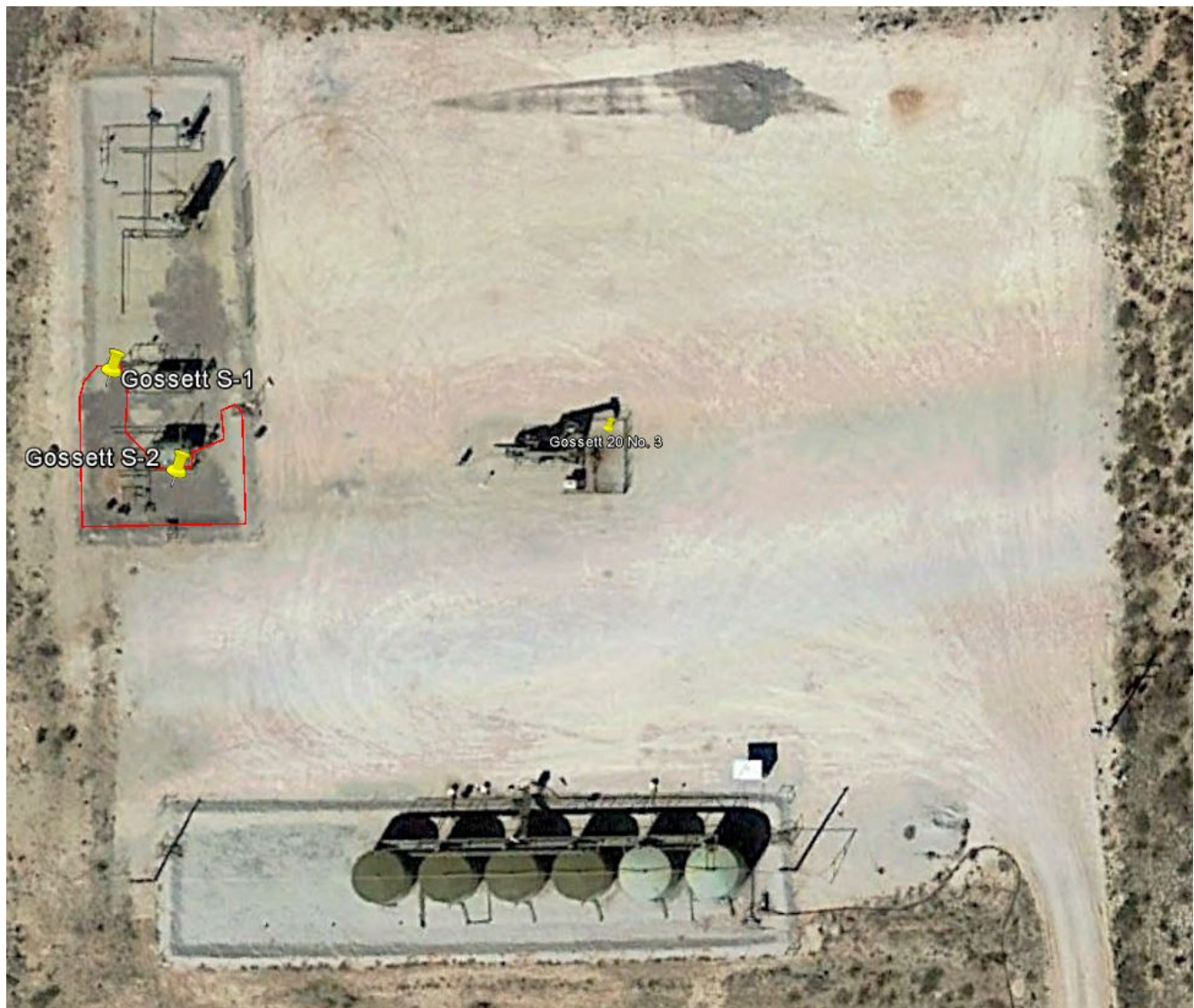
1. Fasken recommends no further action for this spill.
2. Fasken recommends that a sample is collected from the stockpile and released for re-use for firewall or road repair if concentrations are appropriate.

If there are any questions or comments, please do not hesitate to contact Aaron Pachlhofer at the letterhead address or 432-687-1777 or aaronp@forl.com.

Thank You,

Aaron Pachlhofer

Attachments:
Photographs
Laboratory Reports



Aerial of spill area.

View of spill area



View of spill area



View of spill area



View of spill area



View of pasture area that received light mist

**PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701**



Analytical Report

Prepared for:

Aaron Pachlhofer
Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
Midland, TX 79707

Project: Gossett '20' Battery

Project Number: [none]

Location: Eddy County, NM

Lab Order Number: 7D21003



NELAP/TCEQ # T104704156-16-7

Report Date: 05/02/17

Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
Midland TX, 79707

Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1 Surface	7D21003-01	Soil	04/20/17 12:15	04-21-2017 10:00
S-1 1"	7D21003-02	Soil	04/20/17 12:20	04-21-2017 10:00
S-2 Surface	7D21003-03	Soil	04/20/17 12:22	04-21-2017 10:00
S-2 1"	7D21003-04	Soil	04/20/17 12:23	04-21-2017 10:00

Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
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Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

S-1 Surface
7D21003-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0227	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B
Toluene	ND	0.0455	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B
Ethylbenzene	0.101	0.0227	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B
Xylene (p/m)	0.342	0.0455	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B
Xylene (o)	0.122	0.0227	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		101 %	75-125		P7D2803	04/26/17	04/27/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		75.2 %	75-125		P7D2803	04/26/17	04/27/17	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.01	1.14	mg/kg dry	1	P7D2103	04/21/17	04/24/17	EPA 300.0
% Moisture	12.0	0.1	%	1	P7D2501	04/25/17	04/25/17	% calculation

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	41.6	28.4	mg/kg dry	1	P7D2403	04/21/17	04/24/17	TPH 8015M
>C12-C28	106	28.4	mg/kg dry	1	P7D2403	04/21/17	04/24/17	TPH 8015M
>C28-C35	ND	28.4	mg/kg dry	1	P7D2403	04/21/17	04/24/17	TPH 8015M
Surrogate: 1-Chlorooctane		106 %	70-130		P7D2403	04/21/17	04/24/17	TPH 8015M
Surrogate: o-Terphenyl		101 %	70-130		P7D2403	04/21/17	04/24/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	148	28.4	mg/kg dry	1	[CALC]	04/21/17	04/24/17	calc

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Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

S-1 1"
7D21003-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0238	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Toluene	0.201	0.0476	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Ethylbenzene	0.845	0.0238	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Xylene (p/m)	2.00	0.0476	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Xylene (o)	0.875	0.0238	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		67.8 %	75-125		P7D2803	04/26/17	04/27/17	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		93.6 %	75-125		P7D2803	04/26/17	04/27/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	10.7	1.19	mg/kg dry	1	P7D2103	04/21/17	04/24/17	EPA 300.0	
% Moisture	16.0	0.1	%	1	P7D2501	04/25/17	04/25/17	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	205	149	mg/kg dry	5	P7D2505	04/24/17	04/24/17	TPH 8015M	
>C12-C28	1430	149	mg/kg dry	5	P7D2505	04/24/17	04/24/17	TPH 8015M	
>C28-C35	297	149	mg/kg dry	5	P7D2505	04/24/17	04/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		81.0 %	70-130		P7D2505	04/24/17	04/24/17	TPH 8015M	
Surrogate: o-Terphenyl		86.9 %	70-130		P7D2505	04/24/17	04/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1930	149	mg/kg dry	5	[CALC]	04/24/17	04/24/17	calc	

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S-2 Surface
7D21003-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0235	mg/kg dry	20	P7E0107	04/28/17	04/28/17	EPA 8021B	
Toluene	0.0532	0.0471	mg/kg dry	20	P7E0107	04/28/17	04/28/17	EPA 8021B	
Ethylbenzene	0.140	0.0235	mg/kg dry	20	P7E0107	04/28/17	04/28/17	EPA 8021B	
Xylene (p/m)	0.507	0.0471	mg/kg dry	20	P7E0107	04/28/17	04/28/17	EPA 8021B	
Xylene (o)	0.202	0.0235	mg/kg dry	20	P7E0107	04/28/17	04/28/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		93.0 %	75-125		P7E0107	04/28/17	04/28/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		80.9 %	75-125		P7E0107	04/28/17	04/28/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	97.2	1.18	mg/kg dry	1	P7D2103	04/21/17	04/24/17	EPA 300.0	
% Moisture	15.0	0.1	%	1	P7D2501	04/25/17	04/25/17	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	1250	294	mg/kg dry	10	P7D2505	04/24/17	04/24/17	TPH 8015M	
>C12-C28	7340	294	mg/kg dry	10	P7D2505	04/24/17	04/24/17	TPH 8015M	
>C28-C35	1280	294	mg/kg dry	10	P7D2505	04/24/17	04/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		121 %	70-130		P7D2505	04/24/17	04/24/17	TPH 8015M	
Surrogate: o-Terphenyl		86.0 %	70-130		P7D2505	04/24/17	04/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	9860	294	mg/kg dry	10	[CALC]	04/24/17	04/24/17	calc	

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S-2 1"
7D21003-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab, L.P.

Organics by GC

Benzene	ND	0.0241	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Toluene	0.103	0.0482	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Ethylbenzene	0.201	0.0241	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Xylene (p/m)	0.840	0.0482	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Xylene (o)	0.422	0.0241	mg/kg dry	20	P7D2803	04/26/17	04/27/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		75.6 %	75-125		P7D2803	04/26/17	04/27/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		85.2 %	75-125		P7D2803	04/26/17	04/27/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	27.3	1.20	mg/kg dry	1	P7D2103	04/21/17	04/24/17	EPA 300.0	
% Moisture	17.0	0.1	%	1	P7D2501	04/25/17	04/25/17	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	151	mg/kg dry	5	P7D2505	04/24/17	04/24/17	TPH 8015M	
>C12-C28	866	151	mg/kg dry	5	P7D2505	04/24/17	04/24/17	TPH 8015M	
>C28-C35	214	151	mg/kg dry	5	P7D2505	04/24/17	04/24/17	TPH 8015M	
Surrogate: 1-Chlorooctane		95.7 %	70-130		P7D2505	04/24/17	04/24/17	TPH 8015M	
Surrogate: o-Terphenyl		97.3 %	70-130		P7D2505	04/24/17	04/24/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	1080	151	mg/kg dry	5	[CALC]	04/24/17	04/24/17	calc	

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Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7D2803 - General Preparation (GC)

Blank (P7D2803-BLK1)

Prepared: 04/26/17 Analyzed: 04/27/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 4-Bromofluorobenzene	0.0527		"	0.0600		87.8	75-125			
Surrogate: 1,4-Difluorobenzene	0.0481		"	0.0600		80.2	75-125			

LCS (P7D2803-BS1)

Prepared: 04/26/17 Analyzed: 04/27/17

Benzene	0.0850	0.00100	mg/kg wet	0.100		85.0	70-130			
Toluene	0.108	0.00200	"	0.100		108	70-130			
Ethylbenzene	0.0994	0.00100	"	0.100		99.4	70-130			
Xylene (p/m)	0.163	0.00200	"				70-130			
Xylene (o)	0.0858	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0674		"	0.0600		112	75-125			
Surrogate: 4-Bromofluorobenzene	0.0614		"	0.0600		102	75-125			

LCS Dup (P7D2803-BSD1)

Prepared: 04/26/17 Analyzed: 04/27/17

Benzene	0.0813	0.00100	mg/kg wet	0.100		81.3	70-130	4.44	20	
Toluene	0.0996	0.00200	"	0.100		99.6	70-130	7.62	20	
Ethylbenzene	0.0922	0.00100	"	0.100		92.2	70-130	7.56	20	
Xylene (p/m)	0.153	0.00200	"				70-130		20	
Xylene (o)	0.0816	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0628		"	0.0600		105	75-125			
Surrogate: 1,4-Difluorobenzene	0.0638		"	0.0600		106	75-125			

Matrix Spike (P7D2803-MS1)

Source: 7D20006-01

Prepared: 04/26/17 Analyzed: 04/27/17

Benzene	0.118	0.00109	mg/kg dry	0.109	ND	109	80-120			
Toluene	0.108	0.00217	"	0.109	ND	99.8	80-120			
Ethylbenzene	0.101	0.00109	"	0.109	ND	92.5	80-120			
Xylene (p/m)	0.143	0.00217	"		ND		80-120			
Xylene (o)	0.113	0.00109	"		ND		80-120			
Surrogate: 1,4-Difluorobenzene	0.0700		"	0.0652		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0681		"	0.0652		104	75-125			

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Project Number: [none]
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Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7D2803 - General Preparation (GC)

Matrix Spike Dup (P7D2803-MSD1)

Source: 7D20006-01

Prepared: 04/26/17 Analyzed: 04/27/17

Benzene	0.129	0.00109	mg/kg dry	0.109	ND	119	80-120	8.68	20	
Toluene	0.132	0.00217	"	0.109	ND	121	80-120	19.2	20	R2
Ethylbenzene	0.127	0.00109	"	0.109	ND	116	80-120	22.9	20	R2
Xylene (p/m)	0.195	0.00217	"		ND		80-120		20	
Xylene (o)	0.120	0.00109	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0756		"	0.0652		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0712		"	0.0652		109	75-125			

Batch P7E0107 - General Preparation (GC)

Blank (P7E0107-BLK1)

Prepared & Analyzed: 04/28/17

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0491		"	0.0600		81.9	75-125			
Surrogate: 4-Bromofluorobenzene	0.0580		"	0.0600		96.7	75-125			

LCS (P7E0107-BS1)

Prepared & Analyzed: 04/28/17

Benzene	0.0849	0.00100	mg/kg wet	0.100		84.9	70-130			
Toluene	0.0973	0.00200	"	0.100		97.3	70-130			
Ethylbenzene	0.112	0.00100	"	0.100		112	70-130			
Xylene (p/m)	0.222	0.00200	"				70-130			
Xylene (o)	0.108	0.00100	"				70-130			
Surrogate: 1,4-Difluorobenzene	0.0632		"	0.0600		105	75-125			
Surrogate: 4-Bromofluorobenzene	0.0671		"	0.0600		112	75-125			

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Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

Organics by GC - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7E0107 - General Preparation (GC)

LCS Dup (P7E0107-BSD1)

Prepared & Analyzed: 04/28/17

Benzene	0.0832	0.00100	mg/kg wet	0.100		83.2	70-130	1.96	20	
Toluene	0.0998	0.00200	"	0.100		99.8	70-130	2.50	20	
Ethylbenzene	0.125	0.00100	"	0.100		125	70-130	10.9	20	
Xylene (p/m)	0.214	0.00200	"				70-130		20	
Xylene (o)	0.104	0.00100	"				70-130		20	
Surrogate: 4-Bromofluorobenzene	0.0696		"	0.0600		116	75-125			
Surrogate: 1,4-Difluorobenzene	0.0650		"	0.0600		108	75-125			

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General Chemistry Parameters by EPA / Standard Methods - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7D2103 - * DEFAULT PREP *****

Blank (P7D2103-BLK1)

Prepared: 04/20/17 Analyzed: 04/21/17

Chloride	ND	1.00	mg/kg wet						
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LCS (P7D2103-BS1)

Prepared: 04/20/17 Analyzed: 04/21/17

Chloride	384	1.00	mg/kg wet	400		96.0	80-120		
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LCS Dup (P7D2103-BSD1)

Prepared: 04/20/17 Analyzed: 04/21/17

Chloride	406	1.00	mg/kg wet	400		101	80-120	5.50	20
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Duplicate (P7D2103-DUP1)

Source: 7D20009-01

Prepared: 04/20/17 Analyzed: 04/21/17

Chloride	4220	27.2	mg/kg dry		4270			1.33	20
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Duplicate (P7D2103-DUP2)

Source: 7D21002-01

Prepared: 04/20/17 Analyzed: 04/24/17

Chloride	2160	10.5	mg/kg dry		2180			1.07	20
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Matrix Spike (P7D2103-MS1)

Source: 7D20009-01

Prepared: 04/20/17 Analyzed: 04/21/17

Chloride	6230	27.2	mg/kg dry	2170	4270	90.2	80-120		
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Batch P7D2501 - * DEFAULT PREP *****

Blank (P7D2501-BLK1)

Prepared & Analyzed: 04/25/17

% Moisture	ND	0.1	%						
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Duplicate (P7D2501-DUP1)

Source: 7D21001-01

Prepared & Analyzed: 04/25/17

% Moisture	5.0	0.1	%		6.0			18.2	20
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Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
Midland TX, 79707

Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7D2403 - TX 1005

Blank (P7D2403-BLK1)

Prepared & Analyzed: 04/21/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	96.0		"	100		96.0	70-130			
Surrogate: o-Terphenyl	46.5		"	50.0		92.9	70-130			

LCS (P7D2403-BS1)

Prepared & Analyzed: 04/21/17

C6-C12	788	25.0	mg/kg wet	1000		78.8	75-125			
>C12-C28	760	25.0	"	1000		76.0	75-125			
Surrogate: 1-Chlorooctane	93.4		"	100		93.4	70-130			
Surrogate: o-Terphenyl	41.4		"	50.0		82.7	70-130			

LCS Dup (P7D2403-BSD1)

Prepared & Analyzed: 04/21/17

C6-C12	815	25.0	mg/kg wet	1000		81.5	75-125	3.29	20	
>C12-C28	776	25.0	"	1000		77.6	75-125	2.08	20	
Surrogate: 1-Chlorooctane	97.2		"	100		97.2	70-130			
Surrogate: o-Terphenyl	43.8		"	50.0		87.6	70-130			

Matrix Spike (P7D2403-MS1)

Source: 7D20006-01

Prepared: 04/21/17 Analyzed: 04/24/17

C6-C12	411	27.2	mg/kg dry	1090	20.5	36.0	75-125			QM-07
>C12-C28	426	27.2	"	1090	24.1	37.0	75-125			QM-07
Surrogate: 1-Chlorooctane	55.1		"	109		50.7	70-130			S-GCI
Surrogate: o-Terphenyl	25.4		"	54.3		46.7	70-130			S-GCI

Matrix Spike Dup (P7D2403-MSD1)

Source: 7D20006-01

Prepared: 04/21/17 Analyzed: 04/24/17

C6-C12	415	27.2	mg/kg dry	1090	20.5	36.3	75-125	0.847	20	QM-07
>C12-C28	428	27.2	"	1090	24.1	37.2	75-125	0.618	20	QM-07
Surrogate: 1-Chlorooctane	55.0		"	109		50.6	70-130			S-GCI
Surrogate: o-Terphenyl	25.3		"	54.3		46.6	70-130			S-GCI

Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
Midland TX, 79707

Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control
Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P7D2505 - TX 1005

Blank (P7D2505-BLK1)

Prepared & Analyzed: 04/24/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	82.2		"	100		82.2	70-130			
Surrogate: o-Terphenyl	44.8		"	50.0		89.5	70-130			

LCS (P7D2505-BS1)

Prepared & Analyzed: 04/24/17

C6-C12	803	25.0	mg/kg wet	1000		80.3	75-125			
>C12-C28	851	25.0	"	1000		85.1	75-125			
Surrogate: 1-Chlorooctane	88.9		"	100		88.9	70-130			
Surrogate: o-Terphenyl	41.7		"	50.0		83.4	70-130			

LCS Dup (P7D2505-BSD1)

Prepared & Analyzed: 04/24/17

C6-C12	873	25.0	mg/kg wet	1000		87.3	75-125	8.32	20	
>C12-C28	1070	25.0	"	1000		107	75-125	23.1	20	R2
Surrogate: 1-Chlorooctane	113		"	100		113	70-130			
Surrogate: o-Terphenyl	52.1		"	50.0		104	70-130			

Matrix Spike (P7D2505-MS1)

Source: 7D24005-01

Prepared: 04/24/17 Analyzed: 04/25/17

C6-C12	863	28.1	mg/kg dry	1120	ND	76.8	75-125			
>C12-C28	1100	28.1	"	1120	17.8	96.1	75-125			
Surrogate: 1-Chlorooctane	118		"	112		105	70-130			
Surrogate: o-Terphenyl	52.2		"	56.2		92.8	70-130			

Matrix Spike Dup (P7D2505-MSD1)

Source: 7D24005-01

Prepared: 04/24/17 Analyzed: 04/25/17

C6-C12	819	28.1	mg/kg dry	1120	ND	72.9	75-125	5.28	20	QM-05
>C12-C28	1030	28.1	"	1120	17.8	90.0	75-125	6.55	20	
Surrogate: 1-Chlorooctane	113		"	112		101	70-130			
Surrogate: o-Terphenyl	50.2		"	56.2		89.3	70-130			

Notes and Definitions

S-GC1	Surrogate recovery outside of control limits. A second analysis confirmed the original results..
S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
R2	The RPD exceeded the acceptance limit.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:



Date:

5/2/2017

Brent Barron, Laboratory Director/Technical Director

Fasken Oil & Ranch, Ltd.
6101 Holiday Hill Road
Midland TX, 79707

Project: Gossett '20' Battery
Project Number: [none]
Project Manager: Aaron Pachlhofer

Fax: 43-687-1570

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Project Manager: Aaron Pachlhofer

Company Name Fasken Oil and Ranch, Ltd

Company Address: 6101 Holiday Hill Road

City/State/Zip: Midland, TX 79707

Telephone No: 432-687-1777

Sampler Signature:

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Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Loc: Eddy County, NM

Project #:

Project Name: Gossett '20' Battery

Page 15 of 15

(lab use only)					
ORDER #:		7D21003			
LAB # (lab use only)					
FIELD CODE		Beginning Depth		Ending Depth	
-01	S-1 Surface	Date Sampled		Time Sampled	
-02	S-1 1"	4/20/2017		12:15	
-03	S-2 Surface	4/20/2017		12:20	
-04	S-2 1"	4/20/2017		12:33	
Field Filtered		Total #. of Containers		Ice	
HNO ₃		HCl		H ₂ SO ₄	
NaOH		Na ₂ S ₂ O ₃		None	
Other (Specify)		DW=Drinking Water SL=Sludge		GW = Groundwater S=Soil/Solid	
NP=Non-Potable Specify Other		TPH: 418.1 8015M 8015B		TPH: TX 1005 TX 1006	
Cations (Ca, Mg, Na, K)		Anions (Cl, SO ₄ , Alkalinity)		SAR / ESP / CEC	
Metals: As Ag Ba Cd Cr Pb Hg Se		Volatiles		Semivolatiles	
BTX 8021B/5030 or BTX 8260		RCI		N.O.R.M.	
Glycol		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs		Standard TAT	
Relinquished by:		Date	Time	Received by:	
Relinquished by:		Date	Time	Received by:	
Relinquished by:		Date	Time	Received by:	
Special Instructions:					
Laboratory Comments:					
Sample Containers Intact?					
VOCs Free of Headspace?					
Labels on container(s)?					
Custody seals on container(s)?					
Custody seals on cooler(s)?					
Sample Hand Delivered					
by Courier? UPS DHL FedEx Home Star					
Temperature Upon Receipt:					
Adjusted: 4.0 °C Factor					