

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



Analytical Report

Prepared for:

Curt Stanley
TRC Solutions- Midland, Texas
2057 Commerce Street
Midland, TX 79703

Project: Plains- Belloq 2 State CTB

Project Number: TBD

Location: Eddy Co NM

Lab Order Number: 7G19014



NELAP/TCEQ # T104704516-16-7

Report Date: 07/26/17

TRC Solutions- Midland, Texas
2057 Commerce Street
Midland TX, 79703

Project: Plains- Belloq 2 State CTB
Project Number: TBD
Project Manager: Curt Stanley

Fax: (432) 520-7701

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH- South @ 4"	7G19014-01	Soil	07/18/17 16:10	07-19-2017 12:50
BH- Release Point @ 4"	7G19014-02	Soil	07/18/17 16:05	07-19-2017 12:50
BH- North @ 3"	7G19014-03	Soil	07/18/17 16:00	07-19-2017 12:50

BH- South @ 4"
7G19014-01 (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	0.00106	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.6 %		75-125	P7G2102	07/20/17	07/20/17	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		83.4 %		75-125	P7G2102	07/20/17	07/20/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	31.9	1.06	mg/kg dry	1	P7G2503	07/25/17	07/26/17	EPA 300.0	
% Moisture	6.0	0.1	%	1	P7G2008	07/20/17	07/20/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.6	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
>C12-C28	43.4	26.6	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		110 %		70-130	P7G2402	07/21/17	07/21/17	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		126 %		70-130	P7G2402	07/21/17	07/21/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	43.4	26.6	mg/kg dry	1	[CALC]	07/21/17	07/21/17	calc	

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BH- Release Point @ 4"
7G19014-02 (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	0.00105	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		82.5 %		75-125	P7G2102	07/20/17	07/20/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		78.2 %		75-125	P7G2102	07/20/17	07/20/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	157	1.05	mg/kg dry	1	P7G2503	07/25/17	07/26/17	EPA 300.0	
% Moisture	5.0	0.1	%	1	P7G2008	07/20/17	07/20/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
Surrogate: 1-Chlorooctane		108 %		70-130	P7G2402	07/21/17	07/21/17	TPH 8015M	
Surrogate: o-Terphenyl		126 %		70-130	P7G2402	07/21/17	07/21/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	07/21/17	07/21/17	calc	

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BH- North @ 3"
7G19014-03 (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	0.00108	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P7G2102	07/20/17	07/20/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		75.6 %	75-125		P7G2102	07/20/17	07/20/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		88.4 %	75-125		P7G2102	07/20/17	07/20/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	97.1	1.08	mg/kg dry	1	P7G2503	07/25/17	07/26/17	EPA 300.0	
% Moisture	7.0	0.1	%	1	P7G2008	07/20/17	07/20/17	ASTM D2216	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
>C12-C28	ND	26.9	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P7G2402	07/21/17	07/21/17	TPH 8015M	
Surrogate: 1-Chlorooctane		110 %	70-130		P7G2402	07/21/17	07/21/17	TPH 8015M	
Surrogate: o-Terphenyl		119 %	70-130		P7G2402	07/21/17	07/21/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.9	mg/kg dry	1	[CALC]	07/21/17	07/21/17	calc	

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 P7G2102 - General Preparation (GC)

Blank (P7G2102-BLK1)										
										Prepared & Analyzed: 07/20/17
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	"							
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0558</i>		<i>"</i>	<i>0.0600</i>		<i>93.0</i>	<i>75-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0492</i>		<i>"</i>	<i>0.0600</i>		<i>81.9</i>	<i>75-125</i>			

LCS (P7G2102-BS1)										
										Prepared & Analyzed: 07/20/17
Benzene	0.109	0.00100	mg/kg wet	0.100		109	70-130			
Toluene	0.107	0.00200	"	0.100		107	70-130			
Ethylbenzene	0.106	0.00100	"	0.100		106	70-130			
Xylene (p/m)	0.188	0.00200	"				70-130			
Xylene (o)	0.0908	0.00100	"				70-130			
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0624</i>		<i>"</i>	<i>0.0600</i>		<i>104</i>	<i>75-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0426</i>		<i>"</i>	<i>0.0600</i>		<i>70.9</i>	<i>75-125</i>			<i>S-GC</i>

LCS Dup (P7G2102-BSD1)										
										Prepared & Analyzed: 07/20/17
Benzene	0.118	0.00100	mg/kg wet	0.100		118	70-130	7.72	20	
Toluene	0.114	0.00200	"	0.100		114	70-130	6.66	20	
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130	6.41	20	
Xylene (p/m)	0.201	0.00200	"				70-130		20	
Xylene (o)	0.0989	0.00100	"				70-130		20	
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0654</i>		<i>"</i>	<i>0.0600</i>		<i>109</i>	<i>75-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0468</i>		<i>"</i>	<i>0.0600</i>		<i>78.0</i>	<i>75-125</i>			

Matrix Spike (P7G2102-MS1)										
			Source: 7G20003-03			Prepared: 07/20/17	Analyzed: 07/21/17			
Benzene	0.160	0.00108	mg/kg dry	0.108	ND	149	80-120			QM-05
Toluene	0.122	0.00215	"	0.108	ND	113	80-120			
Ethylbenzene	0.0981	0.00108	"	0.108	ND	91.2	80-120			
Xylene (p/m)	0.145	0.00215	"		ND		80-120			
Xylene (o)	0.0790	0.00108	"		ND		80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0578</i>		<i>"</i>	<i>0.0645</i>		<i>89.6</i>	<i>75-125</i>			
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0738</i>		<i>"</i>	<i>0.0645</i>		<i>114</i>	<i>75-125</i>			

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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 P7G2102 - General Preparation (GC)

Matrix Spike Dup (P7G2102-MSD1)

Source: 7G20003-03

Prepared: 07/20/17

Analyzed: 07/21/17

Benzene	0.179	0.00108	mg/kg dry	0.108	ND	166	80-120	10.9	20	QM-05
Toluene	0.147	0.00215	"	0.108	ND	137	80-120	19.2	20	QM-05
Ethylbenzene	0.126	0.00108	"	0.108	ND	118	80-120	25.3	20	QM-05
Xylene (p/m)	0.214	0.00215	"		ND		80-120		20	
Xylene (o)	0.103	0.00108	"		ND		80-120		20	
Surrogate: 4-Bromofluorobenzene	0.0498		"	0.0645		77.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.0698		"	0.0645		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 P7G2008 - * DEFAULT PREP *****

Blank (P7G2008-BLK1)				Prepared & Analyzed: 07/20/17						
% Moisture	ND	0.1	%							
Duplicate (P7G2008-DUP1)				Source: 7G19004-04 Prepared & Analyzed: 07/20/17						
% Moisture	4.0	0.1	%		3.0			28.6	20	
Duplicate (P7G2008-DUP2)				Source: 7G19016-04 Prepared & Analyzed: 07/20/17						
% Moisture	6.0	0.1	%		7.0			15.4	20	
Duplicate (P7G2008-DUP3)				Source: 7G20001-08 Prepared & Analyzed: 07/20/17						
% Moisture	11.0	0.1	%		11.0			0.00	20	

Batch P7G2503 - * DEFAULT PREP *****

Blank (P7G2503-BLK1)				Prepared & Analyzed: 07/25/17						
Chloride	ND	1.00	mg/kg wet							
LCS (P7G2503-BS1)				Prepared & Analyzed: 07/25/17						
Chloride	410	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P7G2503-BSD1)				Prepared & Analyzed: 07/25/17						
Chloride	389	1.00	mg/kg wet	400		97.3	80-120	5.27	20	
Duplicate (P7G2503-DUP1)				Source: 7G19014-01 Prepared: 07/25/17 Analyzed: 07/26/17						
Chloride	ND	1.06	mg/kg dry		31.9				20	
Duplicate (P7G2503-DUP2)				Source: 7G19016-04 Prepared: 07/25/17 Analyzed: 07/26/17						
Chloride	ND	1.08	mg/kg dry		10800				20	

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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 P7G2503 - * DEFAULT PREP *****

Matrix Spike (P7G2503-MS1)

Source: 7G19014-01

Prepared: 07/25/17 Analyzed: 07/26/17

Chloride	ND	1.06	mg/kg dry	1060	31.9	NR	80-120			
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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
Batch P7G2402 - TX 1005										
Blank (P7G2402-BLK1)										
Prepared & Analyzed: 07/21/17										
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	65.0		"	50.0		130	70-130			
LCS (P7G2402-BS1)										
Prepared & Analyzed: 07/21/17										
C6-C12	1040	25.0	mg/kg wet	1000		104	75-125			
>C12-C28	1040	25.0	"	1000		104	75-125			
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	56.9		"	50.0		114	70-130			
LCS Dup (P7G2402-BSD1)										
Prepared & Analyzed: 07/21/17										
C6-C12	1050	25.0	mg/kg wet	1000		105	75-125	0.481	20	
>C12-C28	1040	25.0	"	1000		104	75-125	0.0682	20	
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	57.5		"	50.0		115	70-130			
Duplicate (P7G2402-DUP1)										
Source: 7G19006-01 Prepared & Analyzed: 07/21/17										
C6-C12	ND	25.5	mg/kg dry		ND				20	
>C12-C28	679	25.5	"		582			15.3	20	
Surrogate: 1-Chlorooctane	124		"	102		122	70-130			
Surrogate: o-Terphenyl	68.5		"	51.0		134	70-130			S-GC

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
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.
BULK	Samples received in Bulk soil containers
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:

7/26/2017

Brent Barron, Laboratory Director/Technical Director

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