

DELINEATION INVESTIGATION REPORT

**Blue Dunn #1 Site Release
Lea County, New Mexico**

December 15, 2016

Prepared for:

Siana Operating LLC
12012 Wickchester Lane, Ste 410
Houston, Texas 77079

Prepared by:

Charger Services, Inc.
3300 N. A Street, Bldg 7
Midland, Texas 79705

Coty Woolf
Environmental Professional

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1.0 EXECUTIVE SUMMARY

This report is submitted to Siana Operating LLC (Siana), by Charger Services, Inc., (Charger), to present the delineation investigation of a crude oil and produced water spill at the Blue Dunn #1 Site, located in Lea County, New Mexico. The spill occurred before March 24, 2016, because of equipment failure. An unknown quantity of oil and produced water were lost at the Site and covering approximately 6,100 sq. ft. of the facility. Zero bbl of oil and water were recovered with unknown total lost.

On March 24, 2016, Charger personnel arrived at the Blue Dunn #1 Site to initiate an investigation into the release. While at the site, Charger personnel collected photo documentation of the incident and established a work plan with Siana field personnel.

On October 10, 2016, October 17, 2016, October 20, 2016, and March 22, 2017, Charger personnel delineated the Site. The samples were analyzed for BTEX, TPH, and Chlorides. The laboratory ran samples consecutively until below NMOCD action limits for each sample point.

Remediation recommendations will be submitted in a separate proposal.

2.0 INTRODUCTION

This report is submitted to Siana Operating LLC (Siana), by Charger Services, Inc., (Charger), to present the delineation investigation of a crude oil and produced water spill at the Blue Dunn #1 Site, located in Lea County, New Mexico. The spill occurred before March 24, 2016, because of equipment failure. An unknown quantity of oil and produced water were lost at the Site and covering approximately 6,100 sq. ft. of the facility. Zero bbl of oil and water were recovered with unknown total lost. The geodetic position for the spill is 32°37'57.21"N, 103°19'56.25"W. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

2.1 Setting

The setting is as follows:

- The Site is located approximately 4 miles west of Monument, in Lea County, New Mexico;
- The elevation is approximately 3,700 feet above mean sea level (MSL);
- Groundwater was encountered at 46 ft bgs;
- The topography is slightly undulating and slopes to the northeast;
- The nearest water well is located about 0.3 miles east;
- The closet surface water feature is a playa lake (seasonal) located about 0.3 miles east of the Site;
- Runoff is to the north and east.

3.0 SPILL INVESTIGATION

On March 24, 2016, Charger personnel arrived at the Site to initiate an investigation into the crude oil and produced water release. While at the Site, Charger personnel collected photo documentation of the releases and established a work plan.

On October 10, 2016, October 17, 2016, October 20, 2016, and March 22, 2017, Charger personnel used an air rotary drill to collect soil samples at seven (7) boring locations. The samples were collected at 2 ft, 5ft, 10 ft, etc. to 100 foot below ground surface (bgs) and analyzed by Permian Basin Environmental Lab, LP, (PBELAB) for total petroleum hydrocarbons (TPH) by method 8015M, BTEX by method 8021B, and Chlorides by method E-300.

The laboratory reported chlorides concentrations above the NMOCD action level of 250 milligrams per kilogram (mg/kg) in samples down to 40 ft bgs. Table 1 presents a summary of the laboratory analysis. Appendix B presents the laboratory reports.

4.0 RECOMMENDATION

Remediation recommendations will be submitted in a separate proposal.

Move Management Group Inc.
372 S. Eagle Road, #154
Eagle, ID 83616-5908
Phone: 877-664-4968
Fax: 877-381-1754
www.managemove.com



Reference Number
HU304940

DEBRIS PICK UP COMPLETION FORM

Name: Brian Player

Address: 4204 Guadalupe Street , Midland, TX 79707

Phone: 940-368-4957

Service Date: _____

Signature: _____

Signature acknowledges that all moving debris has been picked up from the premises and job has been completed to your satisfaction.

If not, please indicate reason below:

SP Name: Woolf

CID No: 80866182

Expiration Date: 2018-01-11

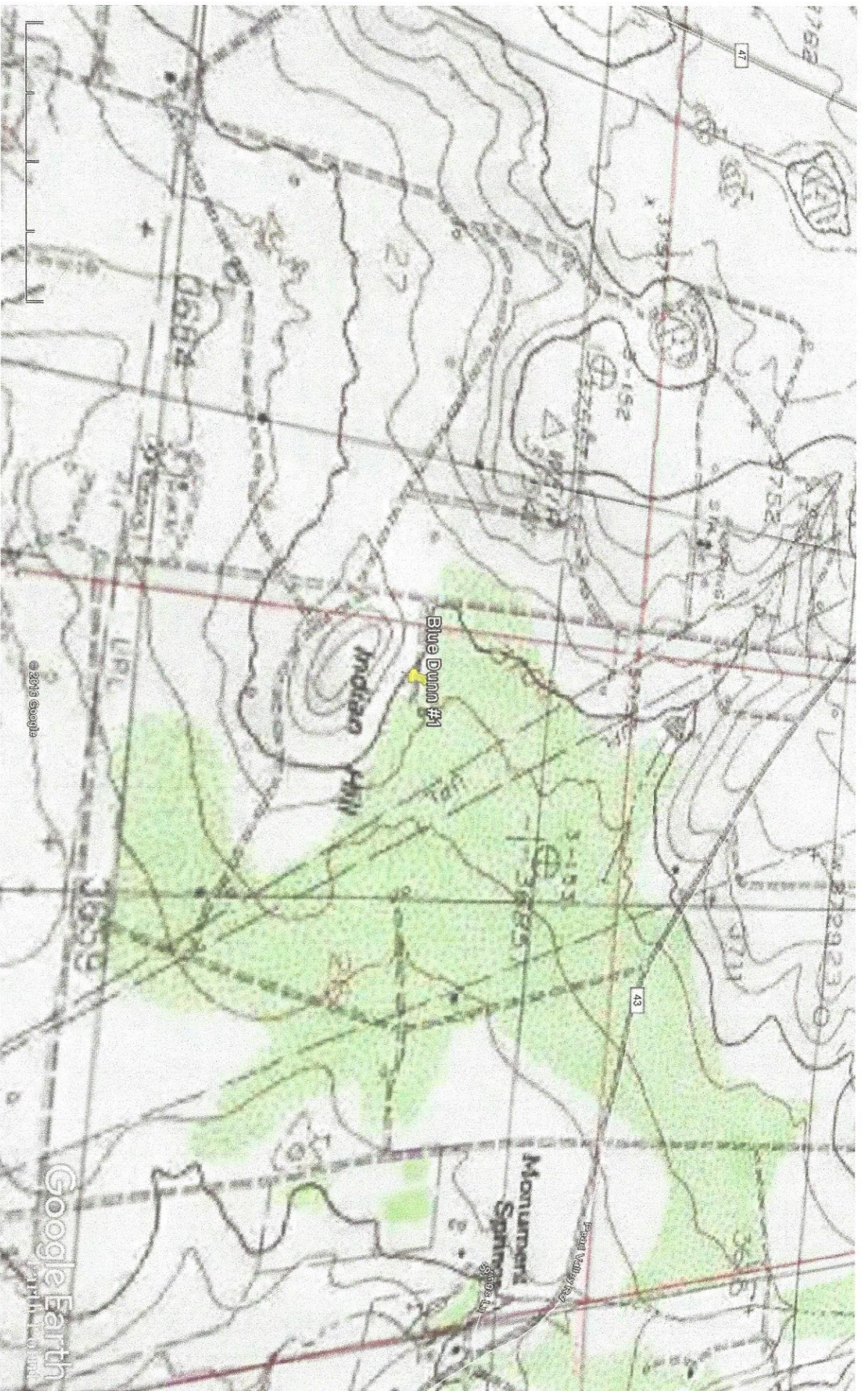
TABLES

Table 1
Soil Samples Analytical Summary
Siana Oil and Gas, Blue Dunn #1
Lea County, New Mexico

Boring	Depth Feet BGS	Date	Chloride mg/Kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylene mg/kg	GRO mg/Kg	DRO mg/Kg	Oil mg/Kg	Total TPH mg/Kg
RRAL:											
SB-1	2 - 3	10/17/2016	213	<0.00110	<0.00110	<0.00110	<0.00220	640	4,240.0	616.0	5,496
	5 - 6	10/17/2016	472	--	--	--	--	60.0	767	108	935
SB-1'	5 - 6	3/22/2017	--	<0.00120	<0.00241	<0.00120	<0.00241	55.6	101	44	201
	10 - 11	10/17/2016	1,480	--	--	--	--	--	--	--	0
SB-1'	10 - 11	3/22/2017	--	<0.00119	<0.00238	<0.00119	<0.00238	<29.8	<29.8	<29.8	<29.8
	15 - 16	10/17/2016	563	--	--	--	--	--	--	--	0
	20 - 21	10/17/2016	238	--	--	--	--	--	--	--	0
	25 - 26	10/17/2016	316	--	--	--	--	--	--	--	0
	30 - 31	10/17/2016	239	--	--	--	--	--	--	--	0
	35 - 36	10/17/2016	320	--	--	--	--	--	--	--	0
	40 - 41	10/17/2016	348	--	--	--	--	--	--	--	0
	45 - 46	10/17/2016	185	--	--	--	--	--	--	--	0
	2 - 3	10/10/2016	573	<0.00106	<0.00213	<0.00106	<0.00213	245	2,010	248	2,503
	5 - 6	10/10/2016	163	<0.00108	<0.00215	0.0122	0.01374	32.4	302	72.6	407
SB-2	10 - 11	10/10/2016	46.6	<0.00111	<0.00222	0.00206	0.00321	<27.8	97.1	32.9	130
	15 - 16	10/10/2016	69.3	<0.00111	<0.00222	0.00111	0.00190	28.4	78.8	<27.8	107
	20 - 21	10/10/2016	39.5	<0.00105	<0.00211	<0.00105	<0.00211	<26.3	57.1	<26.3	57.1
	25 - 26	10/10/2016	36.0	<0.00105	<0.00211	<0.00105	<0.00211	<26.4	51.1	26.6	77.7
	2 - 3	10/10/2016	344	<0.00108	<0.00215	<0.00108	<0.00215	<26.9	142	38.4	180
SB-3	5 - 6	10/10/2016	86.3	<0.00118	<0.00235	<0.00118	<0.00235	<29.4	<29.4	<29.4	<29.4
	10 - 11	10/10/2016	186	<0.00109	<0.00217	<0.00109	<0.00217	<27.2	48.4	<27.2	48.4
	15 - 16	10/10/2016	5.30	<0.00109	<0.00217	0.00239	0.00654	<27.2	<27.2	<27.2	<27.2
	20 - 21	10/10/2016	196	<0.00103	<0.00206	<0.00103	<0.00206	<25.8	47.8	<25.8	47.8
	25 - 26	10/10/2016	346	<0.00110	<0.00220	<0.00110	<0.00220	<27.5	36.2	<27.5	36.2
	30 - 31	10/10/2016	328	<0.00103	<0.00206	<0.00103	<0.00206	<25.8	64.9	30.9	95.8
	35 - 36	10/10/2016	197	<0.00104	<0.00208	<0.00104	<0.00208	<26.0	48.1	<26.0	48.1
	40 - 41	10/10/2016	156	<0.00104	<0.00208	<0.00104	<0.00208	<26.0	30.2	<26.0	30.2
	45 - 46	10/10/2016	51.8	<0.00108	<0.00215	<0.00108	<0.00215	<26.9	53.6	<26.9	53.6
	50 - 51	10/10/2016	47.0	<0.00105	<0.00211	<0.00105	<0.00211	<26.3	<26.3	<26.3	<26.3
SB-4	2 - 3	10/20/2016	<1.06	<0.00106	<0.00213	<0.00106	<0.00213	79.8	47	<26.6	127
	5 - 6	10/20/2016	90.8	<0.00109	<0.00217	<0.00109	<0.00217	69.4	<27.2	<27.2	69
	10 - 11	10/20/2016	36	--	--	--	--	--	--	--	--
SB-4'	10 - 11	3/22/2017	--	<0.00114	<0.00227	<0.00114	<0.00227	<28.4	41.3	<28.4	41.3
SB-5	2 - 3	10/20/2016	15	<0.00128	<0.00256	<0.00128	<0.00256	<32.1	54	<32.1	54
	5 - 6	10/20/2016	13.8	--	--	--	--	--	--	--	--
SB-5'	5 - 6	3/22/2017	--	<0.00119	<0.00238	<0.00119	<0.00238	<29.8	<29.8	<29.8	<29.8
	10 - 11	10/20/2016	499	--	--	--	--	--	--	--	--
SB-5'	10 - 11	3/22/2017	--	<0.00120	<0.00241	<0.00120	<0.00241	<30.1	38.7	35.0	73.7
	15 - 16	10/20/2016	132	--	--	--	--	--	--	--	--
	20 - 21	10/20/2016	186	--	--	--	--	--	--	--	--
SB-6	2 - 3	10/20/2016	403	<0.00112	<0.00225	<0.00112	<0.00225	<28.1	<28.1	<28.1	<28.1
	5 - 6	10/20/2016	315.0	--	--	--	--	--	--	--	--
SB-6'	5 - 6	3/22/2017	--	<0.00115	<0.00230	<0.00115	<0.00230	<28.7	31.5	<28.7	31.5
	10 - 11	10/20/2016	3,210	--	--	--	--	--	--	--	--
SB-6'	10 - 11	3/22/2017	--	<0.00119	<0.00238	<0.00119	<0.00238	<29.8	<29.8	<29.8	<29.8
	15 - 16	10/20/2016	127	--	--	--	--	--	--	--	--
	20 - 21	10/20/2016	180	--	--	--	--	--	--	--	--
SB-7	2 - 3	10/20/2016	14	<0.00112	<0.00225	<0.00112	<0.00225	<28.1	<28.1	<28.1	<28.1
	5 - 6	10/20/2016	38.2	--	--	--	--	--	--	--	--
SB-7'	5 - 6	3/22/2017	--	<0.00112	<0.00225	<0.00112	<0.00225	<28.1	29.9	<28.1	29.9
	10 - 11	10/20/2016	32	--	--	--	--	--	--	--	--
SB-7'	10 - 11	3/22/2017	--	<0.00111	<0.00222	<0.00111	<0.00222	<27.8	<27.8	<27.8	<27.8

Notes: Analysis performed by Permian Basin Environmental Lab, Midland, Texas
Samples analyzed via EPA method SW-8015M (TPH) and SW-300 (chloride).
Depth measurements are in feet below ground surface (bgs).
All concentrations are in milligrams per kilogram (mg/Kg) equivalent to parts per million (ppm).

FIGURES



Google Earth

miles
km



Google Earth





Google Earth

feet
meters



Google Earth

Appendix A

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-1
Date: 10/17/2016
Geologist: A. Pachlhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	14:00	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	14:10	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	14:20	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays
15	14:30	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
20	14:40	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
25	14:50	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
30	15:00	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
35	15:10	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
40	15:20	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
45	15:30	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-2
Date: 10/10/2016
Geologist: A. Pachlhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	10:00	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	10:15	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	10:30	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays
15	10:45	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
20	11:00	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
25	11:15	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-3
Date: 10/10/2016
Geologist: A. Pachhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	11:30	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	11:45	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	12:00	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays
15	12:15	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
20	12:30	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
25	12:45	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
30	13:00	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
35	13:15	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
40	13:30	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
45	13:45	0.0	SP	Orange to light orange	Medium to fine sand/little to no silts or clays
50	14:00	0.0	SP	Lighter orange	Medium to fine sand/little to no silts or clays

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-4
Date: 10/20/2016
Geologist: A. Pachlhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	8:50	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	9:00	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	9:10	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-5
Date: 10/20/2016
Geologist: A. Pachlhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	9:20	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	9:30	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	9:40	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays
15	9:50	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
20	10:00	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-6
Date: 10/20/2016
Geologist: A. Pachlhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	10:30	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	10:40	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	10:50	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays
15	11:00	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays
20	11:10	0.0	SM	Light orange to tan	Medium sized sand/25% - 40% fines/silts & clays

Site Name: Siana Blue Dunn #1
Job Number: 16-0401
Driller: Scarborough Drilling
Drill Method: Air Rotary
Latitude: 32°37'57.21"N

Location: Lea County, NM
Boring ID: SB-7
Date: 10/20/2016
Geologist: A. Pachlhofer
Longitude: 103°19'56.25"W

Depth	Time	PID (ppm)	USCS	Munsell Color	Description
Surface					
2	11:20	0.0	CH	Medium brown/slight red	Organic silt & clays/top soil with angular cobbles of caliche
5	11:30	0.0	SM	Pinkish brown	Sand with fines/silts & clays/fine ground caliche
10	11:40	0.0	SM	Light orange	Medium sized sand/25% - 40% fines/silts & clays

Appendix B

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



Analytical Report

Prepared for:

Coty Woolf
Charger Services
P.O. Box 53070
Midland, TX 79710

Project: Siana Blue Dunn #1

Project Number: [none]

Location:

Lab Order Number: 6J10011



NELAP/TCEQ # T104704156-16-6

Report Date: 10/14/16

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-2 (2-3)	6J10011-01	Soil	10/10/16 10:00	10-10-2016 16:45
SB-2 (5-6)	6J10011-02	Soil	10/10/16 10:15	10-10-2016 16:45
SB-2 (10-11)	6J10011-03	Soil	10/10/16 10:30	10-10-2016 16:45
SB-2 (15-16)	6J10011-04	Soil	10/10/16 10:45	10-10-2016 16:45
SB-2 (20-21)	6J10011-05	Soil	10/10/16 11:00	10-10-2016 16:45
SB-2 (25-26)	6J10011-06	Soil	10/10/16 11:15	10-10-2016 16:45
SB-3 (2-3)	6J10011-07	Soil	10/10/16 11:30	10-10-2016 16:45
SB-3 (5-6)	6J10011-08	Soil	10/10/16 11:45	10-10-2016 16:45
SB-3 (10-11)	6J10011-09	Soil	10/10/16 12:00	10-10-2016 16:45
SB-3 (15-16)	6J10011-10	Soil	10/10/16 12:15	10-10-2016 16:45
SB-3 (20-21)	6J10011-11	Soil	10/10/16 12:30	10-10-2016 16:45
SB-3 (25-26)	6J10011-12	Soil	10/10/16 12:45	10-10-2016 16:45
SB-3 (30-31)	6J10011-13	Soil	10/10/16 13:00	10-10-2016 16:45
SB-3 (35-36)	6J10011-14	Soil	10/10/16 13:15	10-10-2016 16:45
SB-3 (40-41)	6J10011-15	Soil	10/10/16 13:30	10-10-2016 16:45
SB-3 (45-46)	6J10011-16	Soil	10/10/16 13:45	10-10-2016 16:45
SB-3 (50-51)	6J10011-17	Soil	10/10/16 14:00	10-10-2016 16:45

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-2 (2-3)
6J10011-01 (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	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		76.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		73.1 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	573	10.6	mg/kg dry	10	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	245	26.6	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	2010	26.6	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	248	26.6	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		90.8 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		98.8 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	2500	26.6	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-2 (5-6)
6J10011-02 (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	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	0.0122	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	0.00869	0.00215	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	0.00505	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		90.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		120 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	163	10.8	mg/kg dry	10	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	32.4	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	302	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	72.6	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		85.8 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		94.7 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	407	26.9	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-2 (10-11)
6J10011-03 (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	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	0.00206	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	0.00321	0.00222	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		80.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.0 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	46.6	5.56	mg/kg dry	5	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	10.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	97.1	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	32.9	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		92.4 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		99.4 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	130	27.8	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-2 (15-16)
6J10011-04 (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	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00222	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	0.00190	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		72.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		84.3 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	69.3	1.11	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	10.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	28.4	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	78.8	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	ND	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		93.1 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	107	27.8	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-2 (20-21)
6J10011-05 (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	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		85.9 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		92.1 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	39.5	1.05	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	5.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	57.1	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		90.7 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		97.4 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	57.1	26.3	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-2 (25-26)
6J10011-06 (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	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		74.4 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		80.9 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	36.0	1.05	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	5.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	51.1	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	26.6	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		90.7 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		97.3 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	77.7	26.3	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (2-3)
6J10011-07 (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	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		82.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		92.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	344	1.08	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	142	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	38.4	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		86.1 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		93.6 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	180	26.9	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (5-6)
6J10011-08 (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	0.00118	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00235	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00118	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00235	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00118	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		73.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		82.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	86.3	1.18	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	15.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	29.4	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	ND	29.4	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	ND	29.4	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		98.0 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		107 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	29.4	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (10-11)
6J10011-09 (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	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		85.3 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		75.8 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	186	1.09	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	8.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C12-C28	48.4	27.2	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: 1-Chlorooctane		83.5 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Surrogate: o-Terphenyl		91.5 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	48.4	27.2	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (15-16)
6J10011-10 (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	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	0.00239	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	0.00654	0.00217	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		69.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		78.6 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	5.30	1.09	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	8.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.2	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		88.1 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		91.2 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	27.2	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

Charger Services
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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (20-21)
6J10011-11 (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	0.00103	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		66.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
Surrogate: 4-Bromofluorobenzene		76.4 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	196	1.03	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	3.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	47.8	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		89.8 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		93.1 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	47.8	25.8	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

Charger Services
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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (25-26)
6J10011-12 (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	0.00110	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Toluene	ND	0.00220	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		82.6 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		79.9 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	346	1.10	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	9.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.5	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	36.2	27.5	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	27.5	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		88.6 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		91.8 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	36.2	27.5	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (30-31)
6J10011-13 (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	0.00103	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		80.7 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		89.1 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	328	1.03	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	3.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	64.9	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	30.9	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		85.9 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		88.4 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	95.8	25.8	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (35-36)
6J10011-14 (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	0.00104	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		86.5 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		78.4 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	197	1.04	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	48.1	26.0	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		90.7 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		94.3 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	48.1	26.0	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

Charger Services
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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (40-41)
6J10011-15 (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	0.00104	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		84.5 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		78.4 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	156	1.04	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.0	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	30.2	26.0	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		99.5 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		103 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	30.2	26.0	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

Charger Services
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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (45-46)
6J10011-16 (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	P6J1408	10/13/16	10/13/16	EPA 8021B	
Toluene	ND	0.00215	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00108	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00215	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00108	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		98.8 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		83.1 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	51.8	1.08	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.9	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	53.6	26.9	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	26.9	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		93.3 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		97.2 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	53.6	26.9	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-3 (50-51)
6J10011-17 (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	P6J1408	10/13/16	10/13/16	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		79.9 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		75.2 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	47.0	1.05	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	5.0	0.1	%	1	P6J1205	10/12/16	10/12/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	26.3	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C12-C28	ND	26.3	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: 1-Chlorooctane		90.1 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Surrogate: o-Terphenyl		92.6 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	26.3	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1303 - General Preparation (GC)

Blank (P6J1303-BLK1)

Prepared: 10/12/16 Analyzed: 10/13/16

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	0.0736		"	0.0800		92.0	75-125			
Surrogate: 1,4-Difluorobenzene	0.0633		"	0.0800		79.2	75-125			

LCS (P6J1303-BS1)

Prepared: 10/12/16 Analyzed: 10/13/16

Benzene	0.0868	0.00100	mg/kg wet	0.100		86.8	70-130			
Toluene	0.0828	0.00200	"	0.100		82.8	70-130			
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130			
Xylene (p/m)	0.205	0.00200	"	0.200		102	70-130			
Xylene (o)	0.103	0.00100	"	0.100		103	70-130			
Surrogate: 1,4-Difluorobenzene	0.0593		"	0.0800		74.1	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0610		"	0.0800		76.3	75-125			

LCS Dup (P6J1303-BSD1)

Prepared: 10/12/16 Analyzed: 10/13/16

Benzene	0.108	0.00100	mg/kg wet	0.100		108	70-130	21.6	20	
Toluene	0.109	0.00200	"	0.100		109	70-130	26.9	20	
Ethylbenzene	0.111	0.00100	"	0.100		111	70-130	1.62	20	
Xylene (p/m)	0.199	0.00200	"	0.200		99.7	70-130	2.55	20	
Xylene (o)	0.120	0.00100	"	0.100		120	70-130	15.5	20	
Surrogate: 1,4-Difluorobenzene	0.0678		"	0.0800		84.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.0683		"	0.0800		85.4	75-125			

Matrix Spike (P6J1303-MS1)

Source: 6J10011-10

Prepared: 10/12/16 Analyzed: 10/13/16

Benzene	0.164	0.00109	mg/kg dry	0.217	ND	75.3	80-120			QM-07
Toluene	0.172	0.00217	"	0.217	ND	78.9	80-120			QM-07
Ethylbenzene	0.225	0.00109	"	0.217	0.00239	103	80-120			
Xylene (p/m)	0.385	0.00217	"	0.435	0.00654	87.0	80-120			
Xylene (o)	0.188	0.00109	"	0.217	ND	86.5	80-120			
Surrogate: 4-Bromofluorobenzene	0.0722		"	0.0870		83.1	75-125			
Surrogate: 1,4-Difluorobenzene	0.0863		"	0.0870		99.3	75-125			

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1303 - General Preparation (GC)

Matrix Spike Dup (P6J1303-MSD1)

Source: 6J10011-10

Prepared: 10/12/16 Analyzed: 10/13/16

Benzene	0.139	0.00109	mg/kg dry	0.217	ND	63.9	80-120	16.3	20	QM-07
Toluene	0.150	0.00217	"	0.217	ND	68.9	80-120	13.6	20	QM-07
Ethylbenzene	0.203	0.00109	"	0.217	0.00239	92.3	80-120	10.5	20	
Xylene (p/m)	0.349	0.00217	"	0.435	0.00654	78.8	80-120	9.92	20	QM-07
Xylene (o)	0.170	0.00109	"	0.217	ND	78.2	80-120	10.0	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.0838		"	0.0870		96.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.0796		"	0.0870		91.5	75-125			

Batch P6J1408 - General Preparation (GC)

Blank (P6J1408-BLK1)

Prepared & Analyzed: 10/13/16

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	0.0595		"	0.0800		74.3	75-125			S-GC
Surrogate: 4-Bromofluorobenzene	0.0694		"	0.0800		86.8	75-125			

LCS (P6J1408-BS1)

Prepared & Analyzed: 10/13/16

Benzene	0.0906	0.00100	mg/kg wet	0.100		90.6	70-130			
Toluene	0.0933	0.00200	"	0.100		93.3	70-130			
Ethylbenzene	0.0951	0.00100	"	0.100		95.1	70-130			
Xylene (p/m)	0.226	0.00200	"	0.200		113	70-130			
Xylene (o)	0.110	0.00100	"	0.100		110	70-130			
Surrogate: 1,4-Difluorobenzene	0.0713		"	0.0800		89.1	75-125			
Surrogate: 4-Bromofluorobenzene	0.0696		"	0.0800		87.0	75-125			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1408 - General Preparation (GC)

LCS Dup (P6J1408-BSD1)

Prepared & Analyzed: 10/13/16

Benzene	0.0954	0.00100	mg/kg wet	0.100		95.4	70-130	5.25	20	
Toluene	0.0971	0.00200	"	0.100		97.1	70-130	4.07	20	
Ethylbenzene	0.101	0.00100	"	0.100		101	70-130	5.78	20	
Xylene (p/m)	0.230	0.00200	"	0.200		115	70-130	1.81	20	
Xylene (o)	0.119	0.00100	"	0.100		119	70-130	7.19	20	
Surrogate: 1,4-Difluorobenzene	0.0696		"	0.0800		87.0	75-125			
Surrogate: 4-Bromofluorobenzene	0.0702		"	0.0800		87.7	75-125			

Matrix Spike (P6J1408-MS1)

Source: 6J11002-03

Prepared: 10/13/16 Analyzed: 10/14/16

Benzene	0.119	0.00114	mg/kg dry	0.114	ND	105	80-120			
Toluene	0.134	0.00227	"	0.114	ND	118	80-120			
Ethylbenzene	0.132	0.00114	"	0.114	ND	117	80-120			
Xylene (p/m)	0.265	0.00227	"	0.227	ND	116	80-120			
Xylene (o)	0.130	0.00114	"	0.114	ND	114	80-120			
Surrogate: 4-Bromofluorobenzene	0.0645		"	0.0909		70.9	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0786		"	0.0909		86.5	75-125			

Matrix Spike Dup (P6J1408-MSD1)

Source: 6J11002-03

Prepared: 10/13/16 Analyzed: 10/14/16

Benzene	0.129	0.00114	mg/kg dry	0.114	ND	114	80-120	8.36	20	
Toluene	0.143	0.00227	"	0.114	ND	125	80-120	6.19	20	QM-07
Ethylbenzene	0.136	0.00114	"	0.114	ND	120	80-120	2.52	20	
Xylene (p/m)	0.262	0.00227	"	0.227	ND	115	80-120	1.18	20	
Xylene (o)	0.151	0.00114	"	0.114	ND	133	80-120	14.9	20	QM-07
Surrogate: 4-Bromofluorobenzene	0.0812		"	0.0909		89.3	75-125			
Surrogate: 1,4-Difluorobenzene	0.0873		"	0.0909		96.0	75-125			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1106 - * DEFAULT PREP *****

Blank (P6J1106-BLK1)

Prepared: 10/11/16 Analyzed: 10/13/16

Chloride	ND	1.00	mg/kg wet							
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LCS (P6J1106-BS1)

Prepared: 10/11/16 Analyzed: 10/13/16

Chloride	409	1.00	mg/kg wet	400		102	80-120			
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LCS Dup (P6J1106-BSD1)

Prepared: 10/11/16 Analyzed: 10/13/16

Chloride	415	1.00	mg/kg wet	400		104	80-120	1.42	20	
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Duplicate (P6J1106-DUP1)

Source: 6J10011-01

Prepared: 10/11/16 Analyzed: 10/13/16

Chloride	581	10.6	mg/kg dry		573			1.44	20	
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Duplicate (P6J1106-DUP2)

Source: 6J10011-11

Prepared: 10/11/16 Analyzed: 10/13/16

Chloride	208	1.03	mg/kg dry		196			6.02	20	
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Matrix Spike (P6J1106-MS1)

Source: 6J10011-01

Prepared: 10/11/16 Analyzed: 10/13/16

Chloride	1480	10.6	mg/kg dry	1060	573	85.0	80-120			
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Batch P6J1205 - * DEFAULT PREP *****

Blank (P6J1205-BLK1)

Prepared & Analyzed: 10/12/16

% Moisture	ND	0.1	%							
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Duplicate (P6J1205-DUP1)

Source: 6J10011-17

Prepared & Analyzed: 10/12/16

% Moisture	5.0	0.1	%		5.0			0.00	20	
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Duplicate (P6J1205-DUP2)

Source: 6J11006-03

Prepared & Analyzed: 10/12/16

% Moisture	6.0	0.1	%		7.0			15.4	20	
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Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1205 - * DEFAULT PREP *****

Duplicate (P6J1205-DUP3)			Source: 6J11008-16		Prepared & Analyzed: 10/12/16		
% Moisture	2.0	0.1	%		2.0	0.00	20
Duplicate (P6J1205-DUP4)			Source: 6J11010-05		Prepared & Analyzed: 10/12/16		
% Moisture	1.0	0.1	%		1.0	0.00	20

Charger Services
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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1213 - TX 1005

Blank (P6J1213-BLK1)

Prepared & Analyzed: 10/12/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	93.5		"	100		93.5	70-130			
Surrogate: o-Terphenyl	48.8		"	50.0		97.5	70-130			

LCS (P6J1213-BS1)

Prepared & Analyzed: 10/12/16

C6-C12	1150	25.0	mg/kg wet	1000		115	75-125			
>C12-C28	1150	25.0	"	1000		115	75-125			
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	58.4		"	50.0		117	70-130			

Batch P6J1214 - TX 1005

Blank (P6J1214-BLK1)

Prepared: 10/11/16 Analyzed: 10/12/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	91.4		"	100		91.4	70-130			
Surrogate: o-Terphenyl	51.9		"	50.0		104	70-130			

LCS (P6J1214-BS1)

Prepared: 10/11/16 Analyzed: 10/12/16

C6-C12	854	25.0	mg/kg wet	1000		85.4	75-125			
>C12-C28	764	25.0	"	1000		76.4	75-125			
Surrogate: 1-Chlorooctane	93.0		"	100		93.0	70-130			
Surrogate: o-Terphenyl	46.6		"	50.0		93.1	70-130			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J1214 - TX 1005

LCS Dup (P6J1214-BSD1)

Prepared: 10/11/16 Analyzed: 10/12/16

C6-C12	894	25.0	mg/kg wet	1000		89.4	75-125	4.61	20	
>C12-C28	800	25.0	"	1000		80.0	75-125	4.62	20	
Surrogate: 1-Chlorooctane	94.5		"	100		94.5	70-130			
Surrogate: o-Terphenyl	49.0		"	50.0		98.1	70-130			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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:

10/14/2016

Brent Barron, Laboratory Director/Technical Director

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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUIREMENTS

Permian Basin Environmental Lab, LP
1400 Rankin Hwy
Midland, Texas 79701

Phone: 432-686-7235

Project Manager:

Company Name

Company Address:

City/State/Zip:

Telephone No:

Sampler Signature:

Fax No:

e-mail:

Report Format: X Standard

20#

Project Loc:

Project #:

Project Name:

Slang Blue Dun #1

Page 29 of 29

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



Analytical Report

Prepared for:

Coty Woolf
Charger Services
P.O. Box 53070
Midland, TX 79710

Project: Siana Blue Dunn #1

Project Number: [none]

Location:

Lab Order Number: 6J20001



NELAP/TCEQ # T104704156-16-6

Report Date: 11/04/16

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 (2')	6J20001-01	Soil	10/17/16 14:00	10-20-2016 16:43
SB-1 (5')	6J20001-02	Soil	10/17/16 14:10	10-20-2016 16:43
SB-1 (10')	6J20001-03	Soil	10/17/16 14:20	10-20-2016 16:43
SB-1 (15')	6J20001-04	Soil	10/17/16 14:30	10-20-2016 16:43
SB-1 (20')	6J20001-05	Soil	10/17/16 14:40	10-20-2016 16:43
SB-1 (25')	6J20001-06	Soil	10/17/16 14:50	10-20-2016 16:43
SB-1 (30')	6J20001-07	Soil	10/17/16 15:00	10-20-2016 16:43
SB-1 (35')	6J20001-08	Soil	10/17/16 15:10	10-20-2016 16:43
SB-1 (40')	6J20001-09	Soil	10/17/16 15:20	10-20-2016 16:43
SB-1 (45')	6J20001-10	Soil	10/17/16 15:30	10-20-2016 16:43

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (2')
6J20001-01 (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	0.00110	mg/kg dry	1	P6J2509	10/24/16	10/24/16	EPA 8021B	
Toluene	ND	0.00110	mg/kg dry	1	P6J2509	10/24/16	10/24/16	EPA 8021B	
Ethylbenzene	ND	0.00110	mg/kg dry	1	P6J2509	10/24/16	10/24/16	EPA 8021B	
Xylene (p/m)	ND	0.00220	mg/kg dry	1	P6J2509	10/24/16	10/24/16	EPA 8021B	
Xylene (o)	ND	0.00110	mg/kg dry	1	P6J2509	10/24/16	10/24/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		85.0 %	80-120		P6J2509	10/24/16	10/24/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		96.4 %	80-120		P6J2509	10/24/16	10/24/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	213	1.10	mg/kg dry	1	P6J2002	10/20/16	10/24/16	EPA 300.0	
% Moisture	9.0	0.1	%	1	P6J2201	10/22/16	10/22/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	640	137	mg/kg dry	5	P6J2105	10/20/16	10/21/16	TPH 8015M	
>C12-C28	4240	137	mg/kg dry	5	P6J2105	10/20/16	10/21/16	TPH 8015M	
>C28-C35	616	137	mg/kg dry	5	P6J2105	10/20/16	10/21/16	TPH 8015M	
Surrogate: 1-Chlorooctane		97.0 %	70-130		P6J2105	10/20/16	10/21/16	TPH 8015M	
Surrogate: o-Terphenyl		106 %	70-130		P6J2105	10/20/16	10/21/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	5490	137	mg/kg dry	5	[CALC]	10/20/16	10/21/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (5')
6J20001-02 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	472	1.12	mg/kg dry	1	P6J2002	10/20/16	10/24/16	EPA 300.0	
% Moisture	11.0	0.1	%	1	P6J2201	10/22/16	10/22/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (10')
6J20001-03 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	1480	10.3	mg/kg dry	10	P6J2004	10/20/16	10/21/16	EPA 300.0	
% Moisture	3.0	0.1	%	1	P6J2201	10/22/16	10/22/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (15')
6J20001-04 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	563	1.14	mg/kg dry	1	P6J2004	10/20/16	10/21/16	EPA 300.0	
% Moisture	12.0	0.1	%	1	P6J2201	10/22/16	10/22/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (20')
6J20001-05 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	238	1.03	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
% Moisture	3.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (25')
6J20001-06 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	316	1.04	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (30')
6J20001-07 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	239	1.04	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
% Moisture	4.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (35')
6J20001-08 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	320	1.05	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
% Moisture	5.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (40')
6J20001-09 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	348	1.05	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
% Moisture	5.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1 (45')
6J20001-10 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	185	1.03	mg/kg dry	1	P6K0202	11/02/16	11/03/16	EPA 300.0	
% Moisture	3.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2509 - General Preparation (GC)

Blank (P6J2509-BLK1)

Prepared & Analyzed: 10/24/16

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0601		"	0.0600		100	80-120			
Surrogate: 4-Bromofluorobenzene	0.0477		"	0.0600		79.5	80-120			S-GC

LCS (P6J2509-BS1)

Prepared & Analyzed: 10/24/16

Benzene	0.0904	0.00100	mg/kg wet	0.100		90.4	80-120			
Toluene	0.0934	0.00100	"	0.100		93.4	80-120			
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120			
Xylene (p/m)	0.213	0.00200	"	0.200		106	80-120			
Xylene (o)	0.0968	0.00100	"	0.100		96.8	80-120			
Surrogate: 4-Bromofluorobenzene	0.0461		"	0.0600		76.8	80-120			S-GC
Surrogate: 1,4-Difluorobenzene	0.0653		"	0.0600		109	80-120			

LCS Dup (P6J2509-BSD1)

Prepared & Analyzed: 10/24/16

Benzene	0.0925	0.00100	mg/kg wet	0.100		92.5	80-120	2.35	20	
Toluene	0.0945	0.00100	"	0.100		94.5	80-120	1.18	20	
Ethylbenzene	0.117	0.00100	"	0.100		117	80-120	0.845	20	
Xylene (p/m)	0.216	0.00200	"	0.200		108	80-120	1.46	20	
Xylene (o)	0.100	0.00100	"	0.100		100	80-120	3.54	20	
Surrogate: 1,4-Difluorobenzene	0.0692		"	0.0600		115	80-120			
Surrogate: 4-Bromofluorobenzene	0.0460		"	0.0600		76.6	80-120			S-GC

Matrix Spike (P6J2509-MS1)

Source: 6J20005-01

Prepared: 10/24/16 Analyzed: 10/25/16

Benzene	0.193	0.0241	mg/kg dry	0.241	ND	80.1	80-120			
Toluene	0.171	0.0241	"	0.241	ND	71.0	80-120			QM-07
Ethylbenzene	0.230	0.0241	"	0.241	ND	95.4	80-120			
Xylene (p/m)	0.358	0.0482	"	0.482	ND	74.4	80-120			QM-07
Xylene (o)	0.147	0.0241	"	0.241	ND	60.9	80-120			QM-07
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0723		56.0	80-120			S-GC
Surrogate: 1,4-Difluorobenzene	0.0741		"	0.0723		103	80-120			

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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2509 - General Preparation (GC)

Matrix Spike Dup (P6J2509-MSD1)

Source: 6J20005-01

Prepared: 10/24/16 Analyzed: 10/25/16

Benzene	0.174	0.0241	mg/kg dry	0.241	ND	72.1	80-120	10.5	20	QM-07
Toluene	0.176	0.0241	"	0.241	ND	73.1	80-120	2.91	20	QM-07
Ethylbenzene	0.218	0.0241	"	0.241	ND	90.4	80-120	5.38	20	
Xylene (p/m)	0.338	0.0482	"	0.482	ND	70.1	80-120	5.96	20	QM-07
Xylene (o)	0.150	0.0241	"	0.241	ND	62.4	80-120	2.43	20	QM-07
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0723		53.4	80-120			S-GC
Surrogate: 1,4-Difluorobenzene	0.0728		"	0.0723		101	80-120			

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Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2002 - * DEFAULT PREP *****

Blank (P6J2002-BLK1)

Prepared: 10/20/16 Analyzed: 10/24/16

Chloride	ND	1.00	mg/kg wet							
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LCS (P6J2002-BS1)

Prepared: 10/20/16 Analyzed: 10/24/16

Chloride	436	1.00	mg/kg wet	400		109	80-120			
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LCS Dup (P6J2002-BSD1)

Prepared: 10/20/16 Analyzed: 10/24/16

Chloride	454	1.00	mg/kg wet	400		113	80-120	4.04	20	
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Duplicate (P6J2002-DUP1)

Source: 6J19003-03

Prepared: 10/20/16 Analyzed: 10/24/16

Chloride	1030	5.49	mg/kg dry		1030			0.331	20	
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Duplicate (P6J2002-DUP2)

Source: 6J19003-13

Prepared: 10/20/16 Analyzed: 10/24/16

Chloride	2220	11.2	mg/kg dry		2220			0.0203	20	
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Matrix Spike (P6J2002-MS1)

Source: 6J19003-03

Prepared: 10/20/16 Analyzed: 10/24/16

Chloride	2120	5.49	mg/kg dry	1100	1030	99.6	80-120			
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Batch P6J2004 - * DEFAULT PREP *****

Blank (P6J2004-BLK1)

Prepared: 10/20/16 Analyzed: 10/21/16

Chloride	ND	1.00	mg/kg wet							
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LCS (P6J2004-BS1)

Prepared: 10/20/16 Analyzed: 10/21/16

Chloride	468	1.00	mg/kg wet	400		117	80-120			
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LCS Dup (P6J2004-BSD1)

Prepared: 10/20/16 Analyzed: 10/21/16

Chloride	477	1.00	mg/kg wet	400		119	80-120	1.93	20	
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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

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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 P6J2004 - * DEFAULT PREP *****

Duplicate (P6J2004-DUP1)		Source: 6J20001-03		Prepared: 10/20/16 Analyzed: 10/21/16						
Chloride	1490	10.3	mg/kg dry		1480			0.445	20	
Duplicate (P6J2004-DUP2)		Source: 6J20007-04		Prepared: 10/20/16 Analyzed: 10/21/16						
Chloride	6740	26.0	mg/kg dry		6100			9.97	20	
Matrix Spike (P6J2004-MS1)		Source: 6J20001-03		Prepared: 10/20/16 Analyzed: 10/21/16						
Chloride	2260	10.3	mg/kg dry	773	1480	101	80-120			

Batch P6J2201 - * DEFAULT PREP *****

Blank (P6J2201-BLK1)				Prepared & Analyzed: 10/22/16						
% Moisture	ND	0.1	%							
Duplicate (P6J2201-DUP1)		Source: 6J19003-12		Prepared & Analyzed: 10/22/16						
% Moisture	11.0	0.1	%		11.0			0.00	20	
Duplicate (P6J2201-DUP2)		Source: 6J19010-01		Prepared & Analyzed: 10/22/16						
% Moisture	13.0	0.1	%		14.0			7.41	20	

Batch P6K0104 - * DEFAULT PREP *****

Blank (P6K0104-BLK1)				Prepared & Analyzed: 11/01/16						
% Moisture	ND	0.1	%							
Duplicate (P6K0104-DUP1)		Source: 6J31008-02		Prepared & Analyzed: 11/01/16						
% Moisture	2.0	0.1	%		3.0			40.0	20	

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Fax: (432) 695-6247

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 P6K0104 - * DEFAULT PREP *****

Duplicate (P6K0104-DUP2)	Source: 6J20003-13		Prepared & Analyzed: 11/01/16							
% Moisture	2.0	0.1	%		1.0			66.7	20	

Batch P6K0110 - * DEFAULT PREP *****

Blank (P6K0110-BLK1)	Prepared: 11/01/16 Analyzed: 11/02/16									
Chloride	ND	1.00	mg/kg wet							

LCS (P6K0110-BS1)	Prepared: 11/01/16 Analyzed: 11/02/16									
Chloride	417	1.00	mg/kg wet	400		104	80-120			

LCS Dup (P6K0110-BSD1)	Prepared: 11/01/16 Analyzed: 11/02/16									
Chloride	426	1.00	mg/kg wet	400		107	80-120	2.09	20	

Duplicate (P6K0110-DUP1)	Source: 6J17005-07		Prepared: 11/01/16 Analyzed: 11/02/16							
Chloride	150	1.05	mg/kg dry		150			0.0979	20	

Duplicate (P6K0110-DUP2)	Source: 6J17005-17		Prepared: 11/01/16 Analyzed: 11/02/16							
Chloride	32.9	1.04	mg/kg dry		32.8			0.349	20	

Matrix Spike (P6K0110-MS1)	Source: 6J17005-07		Prepared: 11/01/16 Analyzed: 11/02/16							
Chloride	1090	1.05	mg/kg dry	1050	150	89.2	80-120			

Batch P6K0202 - * DEFAULT PREP *****

Blank (P6K0202-BLK1)	Prepared: 11/02/16 Analyzed: 11/03/16									
Chloride	ND	1.00	mg/kg wet							

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Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6K0202 - * DEFAULT PREP *****

LCS (P6K0202-BS1)

Prepared: 11/02/16 Analyzed: 11/03/16

Chloride	389	1.00	mg/kg wet	400		97.2	80-120			
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LCS Dup (P6K0202-BSD1)

Prepared: 11/02/16 Analyzed: 11/03/16

Chloride	387	1.00	mg/kg wet	400		96.8	80-120	0.461	20	
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Duplicate (P6K0202-DUP1)

Source: 6J20001-10

Prepared: 11/02/16 Analyzed: 11/03/16

Chloride	137	1.03	mg/kg dry		185			29.6	20	R3
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Duplicate (P6K0202-DUP2)

Source: 6J21003-05

Prepared: 11/02/16 Analyzed: 11/03/16

Chloride	505	1.09	mg/kg dry		499			1.10	20	
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Matrix Spike (P6K0202-MS1)

Source: 6J20001-10

Prepared: 11/02/16 Analyzed: 11/03/16

Chloride	1030	1.03	mg/kg dry	1030	185	81.7	80-120			
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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2105 - TX 1005

Blank (P6J2105-BLK1)

Prepared & Analyzed: 10/20/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	68.1		"	50.0		136	70-130			S-GC

LCS (P6J2105-BS1)

Prepared & Analyzed: 10/20/16

C6-C12	916	25.0	mg/kg wet	1000		91.6	75-125			
>C12-C28	904	25.0	"	1000		90.4	75-125			
Surrogate: 1-Chlorooctane	112		"	100		112	70-130			
Surrogate: o-Terphenyl	54.7		"	50.0		109	70-130			

LCS Dup (P6J2105-BSD1)

Prepared & Analyzed: 10/20/16

C6-C12	900	25.0	mg/kg wet	1000		90.0	75-125	1.83	20	
>C12-C28	809	25.0	"	1000		80.9	75-125	11.0	20	
Surrogate: 1-Chlorooctane	104		"	100		104	70-130			
Surrogate: o-Terphenyl	50.8		"	50.0		102	70-130			

Matrix Spike (P6J2105-MS1)

Source: 6J20003-02

Prepared: 10/20/16 Analyzed: 10/21/16

C6-C12	872	29.8	mg/kg dry	1190	ND	73.2	75-125			
>C12-C28	803	29.8	"	1190	18.0	66.0	75-125			
Surrogate: 1-Chlorooctane	88.8		"	119		74.6	70-130			
Surrogate: o-Terphenyl	41.1		"	59.5		69.0	70-130			

Matrix Spike Dup (P6J2105-MSD1)

Source: 6J20003-02

Prepared: 10/20/16 Analyzed: 10/21/16

C6-C12	1110	29.8	mg/kg dry	1190	ND	93.5	75-125	24.4	20	
>C12-C28	1100	29.8	"	1190	18.0	91.1	75-125	32.0	20	
Surrogate: 1-Chlorooctane	126		"	119		106	70-130			
Surrogate: o-Terphenyl	56.9		"	59.5		95.7	70-130			

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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:

11/4/2016

Brent Barron, Laboratory Director/Technical Director

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.

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

Project Manager: Longwell
Company Name: Charger Services
Company Address: _____
City/State/Zip: _____
Telephone No.: _____
Fax No.: _____
Sampler Signature: [Signature] e-mail: _____

Project Name: Singapore Blue Bay

Project #: _____

Project Loc: _____

PO #: _____

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

LAB # (lab use only)					
FIELD CODE					
Beginning Depth					
Ending Depth					
Date Sampled					
Time Sampled					
Field Filtered					
Total #. of Containers					
Ice					
HNO ₃ 250 ml Poly					
HCl					
H ₂ SO ₄					
NaOH					
Na ₂ S ₂ O ₃					
None 1L Poly					
NaOH/ZnAc					
DW=Drinking Water SL=Sludge					
GW = Groundwater S=Soil/Solid					
NP=Non-Potable Specify Other					
TPH by TX 1005 80154 8015M					
Chloride					
BTEX by 8021E					
Rush 24 48 72 (Please call)					
Standard					

ORDER #: 6520001	(lab use only)
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Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Special Instructions:	Laboratory Comments:
Held lower samples unless threshold breached	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 Sampler Client Rep ? by Courier? UPS DHL FedEx Lone Star Temperature upon Receipt: Adjusted: 2.0 °C

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



Analytical Report

Prepared for:

Coty Woolf
Charger Services
P.O. Box 53070
Midland, TX 79710

Project: Siana Blue Dunn #1

Project Number: [none]

Location:

Lab Order Number: 6J21003



NELAP/TCEQ # T104704156-16-6

Report Date: 03/19/17

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-4 (2)	6J21003-01	Soil	10/20/16 09:50	10-21-2016 08:15
SB-4 (5)	6J21003-02	Soil	10/20/16 10:00	10-21-2016 08:15
SB-5 (2)	6J21003-03	Soil	10/20/16 09:20	10-21-2016 08:15
SB-5 (5)	6J21003-04	Soil	10/20/16 09:30	10-21-2016 08:15
SB-5 (10)	6J21003-05	Soil	10/20/16 09:40	10-21-2016 08:15
SB-6 (2)	6J21003-06	Soil	10/20/16 10:30	10-21-2016 08:15
SB-6 (5)	6J21003-07	Soil	10/20/16 10:40	10-21-2016 08:15
SB-6 (10)	6J21003-08	Soil	10/20/16 10:50	10-21-2016 08:15
SB-7 (2)	6J21003-09	Soil	10/20/16 10:10	10-21-2016 08:15
SB-7 (5)	6J21003-10	Soil	10/20/16 10:20	10-21-2016 08:15
SB-4 (10ft)	7C13016-01	Soil	10/20/16 10:05	03-13-2017 16:30
SB-5 (15ft)	7C13016-02	Soil	10/20/16 11:20	03-13-2017 16:30
SB-5 (20ft)	7C13016-03	Soil	10/20/16 11:30	03-13-2017 16:30
SB-6 (15ft)	7C13016-04	Soil	10/20/16 11:00	03-13-2017 16:30
SB-6 (20ft)	7C13016-05	Soil	10/20/16 11:10	03-13-2017 16:30
SB-7 (10ft)	7C13016-06	Soil	10/20/16 11:40	03-13-2017 16:30

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-4 (2)
6J21003-01 (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	P6J2603	10/25/16	10/25/16	EPA 8021B	
Toluene	ND	0.00213	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Ethylbenzene	ND	0.00106	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Xylene (p/m)	ND	0.00213	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Xylene (o)	ND	0.00106	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		71.6 %	75-125		P6J2603	10/25/16	10/25/16	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		80.1 %	75-125		P6J2603	10/25/16	10/25/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	ND	1.06	mg/kg dry	1	P6J2503	10/25/16	10/26/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6J2502	10/25/16	10/25/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	79.8	26.6	mg/kg dry	1	P6J2602	10/24/16	10/24/16	TPH 8015M	
>C12-C28	47.4	26.6	mg/kg dry	1	P6J2602	10/24/16	10/24/16	TPH 8015M	
>C28-C35	ND	26.6	mg/kg dry	1	P6J2602	10/24/16	10/24/16	TPH 8015M	
Surrogate: 1-Chlorooctane		87.1 %	70-130		P6J2602	10/24/16	10/24/16	TPH 8015M	
Surrogate: o-Terphenyl		100 %	70-130		P6J2602	10/24/16	10/24/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	127	26.6	mg/kg dry	1	[CALC]	10/24/16	10/24/16	calc	

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-4 (5)
6J21003-02 (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	0.00109	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Toluene	ND	0.00217	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Ethylbenzene	ND	0.00109	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Xylene (p/m)	ND	0.00217	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Xylene (o)	ND	0.00109	mg/kg dry	1	P6J2603	10/25/16	10/25/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		79.5 %	75-125		P6J2603	10/25/16	10/25/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		69.2 %	75-125		P6J2603	10/25/16	10/25/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	90.8	1.09	mg/kg dry	1	P6J2506	10/25/16	10/27/16	EPA 300.0	
% Moisture	8.0	0.1	%	1	P6J2502	10/25/16	10/25/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	69.4	27.2	mg/kg dry	1	P6J2602	10/24/16	10/24/16	TPH 8015M	
>C12-C28	ND	27.2	mg/kg dry	1	P6J2602	10/24/16	10/24/16	TPH 8015M	
>C28-C35	ND	27.2	mg/kg dry	1	P6J2602	10/24/16	10/24/16	TPH 8015M	
Surrogate: 1-Chlorooctane		86.2 %	70-130		P6J2602	10/24/16	10/24/16	TPH 8015M	
Surrogate: o-Terphenyl		102 %	70-130		P6J2602	10/24/16	10/24/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	69.4	27.2	mg/kg dry	1	[CALC]	10/24/16	10/24/16	calc	

Charger Services
P.O. Box 53070
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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5 (2)
6J21003-03 (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	0.00128	mg/kg dry	1	P6J2807	10/28/16	10/29/16	EPA 8021B	
Toluene	ND	0.00256	mg/kg dry	1	P6J2807	10/28/16	10/29/16	EPA 8021B	
Ethylbenzene	ND	0.00128	mg/kg dry	1	P6J2807	10/28/16	10/29/16	EPA 8021B	
Xylene (p/m)	ND	0.00256	mg/kg dry	1	P6J2807	10/28/16	10/29/16	EPA 8021B	
Xylene (o)	ND	0.00128	mg/kg dry	1	P6J2807	10/28/16	10/29/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		76.7 %	75-125		P6J2807	10/28/16	10/29/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		35.0 %	75-125		P6J2807	10/28/16	10/29/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	15.3	1.28	mg/kg dry	1	P6J2506	10/25/16	10/27/16	EPA 300.0	
% Moisture	22.0	0.1	%	1	P6J2502	10/25/16	10/25/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	32.1	mg/kg dry	1	P6K0205	11/01/16	11/01/16	TPH 8015M	
>C12-C28	54.0	32.1	mg/kg dry	1	P6K0205	11/01/16	11/01/16	TPH 8015M	
>C28-C35	ND	32.1	mg/kg dry	1	P6K0205	11/01/16	11/01/16	TPH 8015M	
Surrogate: 1-Chlorooctane		86.7 %	70-130		P6K0205	11/01/16	11/01/16	TPH 8015M	
Surrogate: o-Terphenyl		98.1 %	70-130		P6K0205	11/01/16	11/01/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	54.0	32.1	mg/kg dry	1	[CALC]	11/01/16	11/01/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5 (5)
6J21003-04 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	13.8	1.28	mg/kg dry	1	P6J2506	10/25/16	10/27/16	EPA 300.0	
% Moisture	23.0	0.1	%	1	P6J2502	10/25/16	10/25/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5 (10)
6J21003-05 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	499	1.09	mg/kg dry	1	P6K0202	11/02/16	11/03/16	EPA 300.0	
% Moisture	8.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6 (2)
6J21003-06 (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	0.00112	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Toluene	ND	0.00225	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		36.3 %	75-125		P6J2807	10/28/16	10/28/16	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		80.4 %	75-125		P6J2807	10/28/16	10/28/16	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

Chloride	403	1.12	mg/kg dry	1	P6J2806	10/28/16	11/02/16	EPA 300.0	
% Moisture	11.0	0.1	%	1	P6J3101	10/31/16	10/31/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.1	mg/kg dry	1	P6J3105	10/28/16	10/31/16	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P6J3105	10/28/16	10/31/16	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P6J3105	10/28/16	10/31/16	TPH 8015M	
Surrogate: 1-Chlorooctane		81.5 %	70-130		P6J3105	10/28/16	10/31/16	TPH 8015M	
Surrogate: o-Terphenyl		95.9 %	70-130		P6J3105	10/28/16	10/31/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	10/28/16	10/31/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6 (5)
6J21003-07 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	315	1.06	mg/kg dry	1	P6K0202	11/02/16	11/03/16	EPA 300.0	
% Moisture	6.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6 (10)
6J21003-08 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	3210	27.8	mg/kg dry	25	P6K0202	11/02/16	11/03/16	EPA 300.0
% Moisture	10.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-7 (2)
6J21003-09 (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	0.00112	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Toluene	ND	0.00225	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P6J2807	10/28/16	10/28/16	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		80.6 %	75-125		P6J2807	10/28/16	10/28/16	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		34.0 %	75-125		P6J2807	10/28/16	10/28/16	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

Chloride	13.8	1.12	mg/kg dry	1	P6J2806	10/28/16	11/02/16	EPA 300.0	
% Moisture	11.0	0.1	%	1	P6J3101	10/31/16	10/31/16	% calculation	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.1	mg/kg dry	1	P6J3105	10/28/16	10/28/16	TPH 8015M	
>C12-C28	ND	28.1	mg/kg dry	1	P6J3105	10/28/16	10/28/16	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P6J3105	10/28/16	10/28/16	TPH 8015M	
Surrogate: 1-Chlorooctane		65.7 %	70-130		P6J3105	10/28/16	10/28/16	TPH 8015M	S-GC
Surrogate: o-Terphenyl		75.6 %	70-130		P6J3105	10/28/16	10/28/16	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	28.1	mg/kg dry	1	[CALC]	10/28/16	10/28/16	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-7 (5)
6J21003-10 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	38.2	1.08	mg/kg dry	1	P6K0202	11/02/16	11/03/16	EPA 300.0	
% Moisture	7.0	0.1	%	1	P6K0104	11/01/16	11/01/16	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-4 (10ft)
7C13016-01 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	36.2	1.10	mg/kg dry	1	P7C1603	03/16/17	03/16/17	EPA 300.0
% Moisture	9.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5 (15ft)
7C13016-02 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	132	1.04	mg/kg dry	1	P7C1603	03/16/17	03/16/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5 (20ft)
7C13016-03 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	186	1.02	mg/kg dry	1	P7C1603	03/16/17	03/16/17	EPA 300.0
% Moisture	2.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6 (15ft)
7C13016-04 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	127	1.02	mg/kg dry	1	P7C1603	03/16/17	03/16/17	EPA 300.0
% Moisture	2.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6 (20ft)
7C13016-05 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	180	1.04	mg/kg dry	1	P7C1603	03/16/17	03/16/17	EPA 300.0	
% Moisture	4.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-7 (10ft)
7C13016-06 (Soil)

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

General Chemistry Parameters by EPA / Standard Methods

Chloride	31.5	1.04	mg/kg dry	1	P7C1603	03/16/17	03/16/17	EPA 300.0
% Moisture	4.0	0.1	%	1	P7C1703	03/17/17	03/17/17	% calculation

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2603 - General Preparation (GC)

Blank (P6J2603-BLK1)

Prepared & Analyzed: 10/25/16

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	0.0670		"	0.0600		112	75-125			
Surrogate: 4-Bromofluorobenzene	0.0543		"	0.0600		90.4	75-125			

LCS (P6J2603-BS1)

Prepared & Analyzed: 10/25/16

Benzene	0.0876	0.00100	mg/kg wet	0.100		87.6	70-130			
Toluene	0.0846	0.00200	"	0.100		84.6	70-130			
Ethylbenzene	0.102	0.00100	"	0.100		102	70-130			
Xylene (p/m)	0.192	0.00200	"	0.200		96.2	70-130			
Xylene (o)	0.0892	0.00100	"	0.100		89.2	70-130			
Surrogate: 1,4-Difluorobenzene	0.0721		"	0.0600		120	75-125			
Surrogate: 4-Bromofluorobenzene	0.0466		"	0.0600		77.8	75-125			

LCS Dup (P6J2603-BSD1)

Prepared & Analyzed: 10/25/16

Benzene	0.0942	0.00100	mg/kg wet	0.100		94.2	70-130	7.30	20	
Toluene	0.0903	0.00200	"	0.100		90.3	70-130	6.47	20	
Ethylbenzene	0.117	0.00100	"	0.100		117	70-130	13.7	20	
Xylene (p/m)	0.211	0.00200	"	0.200		106	70-130	9.31	20	
Xylene (o)	0.0962	0.00100	"	0.100		96.2	70-130	7.59	20	
Surrogate: 4-Bromofluorobenzene	0.0553		"	0.0600		92.2	75-125			
Surrogate: 1,4-Difluorobenzene	0.0768		"	0.0600		128	75-125			S-GC

Matrix Spike (P6J2603-MS1)

Source: 6J21002-03

Prepared & Analyzed: 10/25/16

Benzene	0.176	0.00105	mg/kg dry	0.211	ND	83.4	80-120			
Toluene	0.177	0.00211	"	0.211	0.00151	83.5	80-120			
Ethylbenzene	0.200	0.00105	"	0.211	0.00275	93.5	80-120			
Xylene (p/m)	0.342	0.00211	"	0.421	0.0133	78.1	80-120			QM-07
Xylene (o)	0.154	0.00105	"	0.211	0.0377	55.1	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	0.0741		"	0.0632		117	75-125			
Surrogate: 4-Bromofluorobenzene	0.0508		"	0.0632		80.5	75-125			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2603 - General Preparation (GC)

Matrix Spike Dup (P6J2603-MSD1)

Source: 6J21002-03

Prepared & Analyzed: 10/25/16

Benzene	0.159	0.00105	mg/kg dry	0.211	ND	75.5	80-120	9.90	20	QM-07
Toluene	0.155	0.00211	"	0.211	0.00151	73.0	80-120	13.4	20	QM-07
Ethylbenzene	0.174	0.00105	"	0.211	0.00275	81.6	80-120	13.6	20	
Xylene (p/m)	0.295	0.00211	"	0.421	0.0133	67.0	80-120	15.3	20	QM-07
Xylene (o)	0.131	0.00105	"	0.211	0.0377	44.2	80-120	22.0	20	QM-07
Surrogate: 4-Bromofluorobenzene	0.0469		"	0.0632		74.2	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0783		"	0.0632		124	75-125			

Batch P6J2807 - General Preparation (GC)

Blank (P6J2807-BLK1)

Prepared & Analyzed: 10/28/16

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	0.0286		"	0.0800		35.8	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0615		"	0.0800		76.9	75-125			

LCS (P6J2807-BS1)

Prepared & Analyzed: 10/28/16

Benzene	0.0847	0.00100	mg/kg wet	0.100		84.7	70-130			
Toluene	0.0880	0.00200	"	0.100		88.0	70-130			
Ethylbenzene	0.0930	0.00100	"	0.100		93.0	70-130			
Xylene (p/m)	0.171	0.00200	"	0.200		85.4	70-130			
Xylene (o)	0.0828	0.00100	"	0.100		82.8	70-130			
Surrogate: 1,4-Difluorobenzene	0.0748		"	0.0800		93.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.0263		"	0.0800		32.8	75-125			S-GC

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2807 - General Preparation (GC)

LCS Dup (P6J2807-BSD1)

Prepared & Analyzed: 10/28/16

Benzene	0.0846	0.00100	mg/kg wet	0.100		84.6	70-130	0.154	20	
Toluene	0.0882	0.00200	"	0.100		88.2	70-130	0.204	20	
Ethylbenzene	0.0893	0.00100	"	0.100		89.3	70-130	4.10	20	
Xylene (p/m)	0.166	0.00200	"	0.200		83.1	70-130	2.70	20	
Xylene (o)	0.0850	0.00100	"	0.100		85.0	70-130	2.68	20	
Surrogate: 1,4-Difluorobenzene	0.0754		"	0.0800		94.2	75-125			
Surrogate: 4-Bromofluorobenzene	0.0259		"	0.0800		32.4	75-125			S-GC

Matrix Spike (P6J2807-MS1)

Source: 6J21004-04

Prepared: 10/28/16 Analyzed: 10/29/16

Benzene	0.164	0.00143	mg/kg dry	0.286	ND	57.3	80-120			QM-07
Toluene	0.160	0.00286	"	0.286	ND	56.1	80-120			QM-07
Ethylbenzene	0.149	0.00143	"	0.286	ND	52.3	80-120			QM-07
Xylene (p/m)	0.253	0.00286	"	0.571	ND	44.3	80-120			QM-07
Xylene (o)	0.111	0.00143	"	0.286	ND	38.7	80-120			QM-07
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.114		34.1	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.113		"	0.114		99.2	75-125			

Matrix Spike Dup (P6J2807-MSD1)

Source: 6J21004-04

Prepared: 10/28/16 Analyzed: 10/29/16

Benzene	0.163	0.00143	mg/kg dry	0.286	ND	57.2	80-120	0.227	20	QM-07
Toluene	0.154	0.00286	"	0.286	ND	53.8	80-120	4.12	20	QM-07
Ethylbenzene	0.138	0.00143	"	0.286	ND	48.3	80-120	7.95	20	QM-07
Xylene (p/m)	0.234	0.00286	"	0.571	ND	40.9	80-120	8.03	20	QM-07
Xylene (o)	0.100	0.00143	"	0.286	ND	35.0	80-120	9.94	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.105		"	0.114		91.8	75-125			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.114		33.0	75-125			S-GC

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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6J2502 - * DEFAULT PREP *****

Blank (P6J2502-BLK1)		Prepared & Analyzed: 10/25/16								
% Moisture	ND	0.1	%							
Duplicate (P6J2502-DUP1)		Source: 6J21001-03		Prepared & Analyzed: 10/25/16						
% Moisture	12.0	0.1	%		12.0			0.00	20	
Duplicate (P6J2502-DUP2)		Source: 6J21008-04		Prepared & Analyzed: 10/25/16						
% Moisture	2.0	0.1	%		1.0			66.7	20	
Duplicate (P6J2502-DUP3)		Source: 6J21013-03		Prepared & Analyzed: 10/25/16						
% Moisture	13.0	0.1	%		13.0			0.00	20	
Duplicate (P6J2502-DUP4)		Source: 6J24001-08		Prepared & Analyzed: 10/25/16						
% Moisture	9.0	0.1	%		8.0			11.8	20	

Batch P6J2503 - * DEFAULT PREP *****

Blank (P6J2503-BLK1)		Prepared & Analyzed: 10/25/16								
Chloride	ND	1.00	mg/kg wet							
LCS (P6J2503-BS1)		Prepared & Analyzed: 10/25/16								
Chloride	368	1.00	mg/kg wet	400		91.9	80-120			
LCS Dup (P6J2503-BSD1)		Prepared & Analyzed: 10/25/16								
Chloride	376	1.00	mg/kg wet	400		94.0	80-120	2.21	20	
Duplicate (P6J2503-DUP1)		Source: 6J20019-BF		Prepared & Analyzed: 10/25/16						
Chloride	942	26.9	mg/kg dry		947			0.541	20	

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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 P6J2503 - * DEFAULT PREP *****

Duplicate (P6J2503-DUP2)		Source: 6J20019-BP		Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	1030	27.5	mg/kg dry		1040			0.318	20	
Matrix Spike (P6J2503-MS1)		Source: 6J20019-BF		Prepared & Analyzed: 10/25/16						
Chloride	13800	26.9	mg/kg dry	10800	947	119	80-120			

Batch P6J2506 - * DEFAULT PREP *****

Blank (P6J2506-BLK1)				Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	ND	1.00	mg/kg wet							
LCS (P6J2506-BS1)				Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	413	1.00	mg/kg wet	400		103	80-120			
LCS Dup (P6J2506-BSD1)				Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	414	1.00	mg/kg wet	400		103	80-120	0.181	20	
Duplicate (P6J2506-DUP1)		Source: 6J21004-01		Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	2.47	1.35	mg/kg dry		ND				20	
Duplicate (P6J2506-DUP2)		Source: 6J21006-03		Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	3.21	1.05	mg/kg dry		3.57			10.6	20	
Matrix Spike (P6J2506-MS1)		Source: 6J21004-01		Prepared: 10/25/16 Analyzed: 10/26/16						
Chloride	1070	1.35	mg/kg dry	1350	ND	79.0	80-120			QM-07

Batch P6J2806 - * DEFAULT PREP *****

Blank (P6J2806-BLK1)				Prepared: 10/28/16 Analyzed: 11/02/16						
Chloride	ND	1.00	mg/kg wet							

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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 P6J2806 - * DEFAULT PREP *****

LCS (P6J2806-BS1)

Prepared: 10/28/16 Analyzed: 11/02/16

Chloride	438	1.00	mg/kg wet	400	110	80-120
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LCS Dup (P6J2806-BSD1)

Prepared: 10/28/16 Analyzed: 11/02/16

Chloride	438	1.00	mg/kg wet	400	109	80-120	0.0548	20
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Duplicate (P6J2806-DUP2)

Source: 6J26002-02

Prepared: 10/28/16 Analyzed: 11/02/16

Chloride	3260	30.1	mg/kg dry	3220	1.15	20
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Matrix Spike (P6J2806-MS1)

Source: 6J21003-06

Prepared: 10/28/16 Analyzed: 11/02/16

Chloride	1620	1.12	mg/kg dry	1120	403	108	80-120
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Batch P6J3101 - * DEFAULT PREP *****

Blank (P6J3101-BLK1)

Prepared & Analyzed: 10/31/16

% Moisture	ND	0.1	%
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Duplicate (P6J3101-DUP1)

Source: 6J28004-04

Prepared & Analyzed: 10/31/16

% Moisture	3.0	0.1	%	3.0	0.00	20
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Duplicate (P6J3101-DUP2)

Source: 6J28009-04

Prepared & Analyzed: 10/31/16

% Moisture	8.0	0.1	%	8.0	0.00	20
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Batch P6K0104 - * DEFAULT PREP *****

Blank (P6K0104-BLK1)

Prepared & Analyzed: 11/01/16

% Moisture	ND	0.1	%
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Project Manager: Coty Woolf

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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 P6K0104 - * DEFAULT PREP *****

Duplicate (P6K0104-DUP1)		Source: 6J31008-02			Prepared & Analyzed: 11/01/16					
% Moisture	2.0	0.1	%		3.0			40.0	20	
Duplicate (P6K0104-DUP2)		Source: 6J20003-13			Prepared & Analyzed: 11/01/16					
% Moisture	2.0	0.1	%		1.0			66.7	20	

Batch P6K0202 - * DEFAULT PREP *****

Blank (P6K0202-BLK1)		Prepared: 11/02/16 Analyzed: 11/03/16								
Chloride	ND	1.00	mg/kg wet							
LCS (P6K0202-BS1)		Prepared: 11/02/16 Analyzed: 11/03/16								
Chloride	389	1.00	mg/kg wet	400		97.2	80-120			
LCS Dup (P6K0202-BSD1)		Prepared: 11/02/16 Analyzed: 11/03/16								
Chloride	387	1.00	mg/kg wet	400		96.8	80-120	0.461	20	
Duplicate (P6K0202-DUP1)		Source: 6J20001-10			Prepared: 11/02/16 Analyzed: 11/03/16					
Chloride	137	1.03	mg/kg dry		185			29.6	20	R3
Duplicate (P6K0202-DUP2)		Source: 6J21003-05			Prepared: 11/02/16 Analyzed: 11/03/16					
Chloride	505	1.09	mg/kg dry		499			1.10	20	
Matrix Spike (P6K0202-MS1)		Source: 6J20001-10			Prepared: 11/02/16 Analyzed: 11/03/16					
Chloride	1030	1.03	mg/kg dry	1030	185	81.7	80-120			

Batch P7C1603 - * DEFAULT PREP *****

Blank (P7C1603-BLK1)		Prepared & Analyzed: 03/16/17								
Chloride	ND	1.00	mg/kg wet							

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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 P7C1603 - * DEFAULT PREP *****

LCS (P7C1603-BS1)

Prepared & Analyzed: 03/16/17

Chloride	403	1.00	mg/kg wet	400	101	80-120
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LCS Dup (P7C1603-BSD1)

Prepared & Analyzed: 03/16/17

Chloride	403	1.00	mg/kg wet	400	101	80-120	0.0993	20
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Duplicate (P7C1603-DUP1)

Source: 7C13014-01

Prepared & Analyzed: 03/16/17

Chloride	371	1.06	mg/kg dry	369	0.575	20
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Duplicate (P7C1603-DUP2)

Source: 7C13017-03

Prepared & Analyzed: 03/16/17

Chloride	26.4	1.04	mg/kg dry	28.2	6.72	20
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Matrix Spike (P7C1603-MS1)

Source: 7C13014-01

Prepared & Analyzed: 03/16/17

Chloride	566	1.06	mg/kg dry	213	369	92.5	80-120
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Batch P7C1703 - * DEFAULT PREP *****

Blank (P7C1703-BLK1)

Prepared & Analyzed: 03/17/17

% Moisture	ND	0.1	%
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Blank (P7C1703-BLK2)

Prepared & Analyzed: 03/17/17

% Moisture	ND	0.1	%
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Duplicate (P7C1703-DUP1)

Source: 7C14004-12

Prepared & Analyzed: 03/17/17

% Moisture	12.0	0.1	%	8.0	40.0	20
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Duplicate (P7C1703-DUP2)

Source: 7C14007-08

Prepared & Analyzed: 03/17/17

% Moisture	6.0	0.1	%	7.0	15.4	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 P7C1703 - * DEFAULT PREP *****

Duplicate (P7C1703-DUP3)	Source: 7C14011-27			Prepared & Analyzed: 03/17/17						
% Moisture	12.0	0.1	%		9.0			28.6	20	
Duplicate (P7C1703-DUP4)	Source: 7C15004-01			Prepared & Analyzed: 03/17/17						
% Moisture	1.0	0.1	%		2.0			66.7	20	
Duplicate (P7C1703-DUP5)	Source: 7C15005-33			Prepared & Analyzed: 03/17/17						
% Moisture	16.0	0.1	%		15.0			6.45	20	

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

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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
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Batch P6J2602 - TX 1005

Blank (P6J2602-BLK1)

Prepared & Analyzed: 10/24/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	78.9		"	100		78.9	70-130			
Surrogate: o-Terphenyl	61.0		"	50.0		122	70-130			

LCS (P6J2602-BS1)

Prepared & Analyzed: 10/24/16

C6-C12	1130	25.0	mg/kg wet	1000		113	75-125			
>C12-C28	956	25.0	"	1000		95.6	75-125			
Surrogate: 1-Chlorooctane	93.8		"	100		93.8	70-130			
Surrogate: o-Terphenyl	57.0		"	50.0		114	70-130			

LCS Dup (P6J2602-BSD1)

Prepared & Analyzed: 10/24/16

C6-C12	1070	25.0	mg/kg wet	1000		107	75-125	4.91	20	
>C12-C28	945	25.0	"	1000		94.5	75-125	1.15	20	
Surrogate: 1-Chlorooctane	96.0		"	100		96.0	70-130			
Surrogate: o-Terphenyl	56.2		"	50.0		112	70-130			

Matrix Spike (P6J2602-MS1)

Source: 6J21006-02

Prepared & Analyzed: 10/24/16

C6-C12	1280	36.2	mg/kg dry	1450	22.9	87.0	75-125			
>C12-C28	1150	36.2	"	1450	ND	79.1	75-125			
Surrogate: 1-Chlorooctane	151		"	145		104	70-130			
Surrogate: o-Terphenyl	75.2		"	72.5		104	70-130			

Matrix Spike Dup (P6J2602-MSD1)

Source: 6J21006-02

Prepared & Analyzed: 10/24/16

C6-C12	1350	36.2	mg/kg dry	1450	22.9	91.5	75-125	5.02	20	
>C12-C28	1190	36.2	"	1450	ND	82.3	75-125	3.99	20	
Surrogate: 1-Chlorooctane	156		"	145		108	70-130			
Surrogate: o-Terphenyl	78.1		"	72.5		108	70-130			

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Project Number: [none]
Project Manager: Coty Woolf

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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
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Batch P6J3105 - TX 1005

Blank (P6J3105-BLK1)

Prepared & Analyzed: 10/28/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	76.0		"	100		76.0	70-130			
Surrogate: o-Terphenyl	50.3		"	50.0		101	70-130			

LCS (P6J3105-BS1)

Prepared & Analyzed: 10/28/16

C6-C12	937	25.0	mg/kg wet	1000		93.7	75-125			
>C12-C28	861	25.0	"	1000		86.1	75-125			
Surrogate: 1-Chlorooctane	77.5		"	100		77.5	70-130			
Surrogate: o-Terphenyl	43.1		"	50.0		86.2	70-130			

LCS Dup (P6J3105-BSD1)

Prepared & Analyzed: 10/28/16

C6-C12	963	25.0	mg/kg wet	1000		96.3	75-125	2.77	20	
>C12-C28	879	25.0	"	1000		87.9	75-125	2.05	20	
Surrogate: 1-Chlorooctane	97.8		"	100		97.8	70-130			
Surrogate: o-Terphenyl	45.1		"	50.0		90.2	70-130			

Matrix Spike (P6J3105-MS1)

Source: 6J21006-05

Prepared: 10/28/16 Analyzed: 10/29/16

C6-C12	1130	28.4	mg/kg dry	1140	19.2	97.9	75-125			
>C12-C28	1040	28.4	"	1140	ND	91.9	75-125			
Surrogate: 1-Chlorooctane	126		"	114		111	70-130			
Surrogate: o-Terphenyl	53.7		"	56.8		94.5	70-130			

Matrix Spike Dup (P6J3105-MSD1)

Source: 6J21006-05

Prepared: 10/28/16 Analyzed: 10/29/16

C6-C12	1110	28.4	mg/kg dry	1140	19.2	96.1	75-125	1.88	20	
>C12-C28	861	28.4	"	1140	ND	75.8	75-125	19.2	20	
Surrogate: 1-Chlorooctane	104		"	114		91.3	70-130			
Surrogate: o-Terphenyl	43.6		"	56.8		76.8	70-130			

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Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P6K0205 - TX 1005

Blank (P6K0205-BLK1)

Prepared & Analyzed: 11/01/16

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	73.1		"	100		73.1	70-130			
Surrogate: o-Terphenyl	44.4		"	50.0		88.9	70-130			

LCS (P6K0205-BS1)

Prepared & Analyzed: 11/01/16

C6-C12	984	25.0	mg/kg wet	1000		98.4	75-125			
>C12-C28	916	25.0	"	1000		91.6	75-125			
Surrogate: 1-Chlorooctane	77.5		"	100		77.5	70-130			
Surrogate: o-Terphenyl	41.1		"	50.0		82.2	70-130			

LCS Dup (P6K0205-BSD1)

Prepared & Analyzed: 11/01/16

C6-C12	1020	25.0	mg/kg wet	1000		102	75-125	3.64	20	
>C12-C28	944	25.0	"	1000		94.4	75-125	3.06	20	
Surrogate: 1-Chlorooctane	90.0		"	100		90.0	70-130			
Surrogate: o-Terphenyl	44.6		"	50.0		89.1	70-130			

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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:

3/19/2017

Brent Barron, Laboratory Director/Technical Director

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.

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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Sima -
Blue Dan #1

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Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Preservation & # of Containers

(e call)

BTEX by 8021B

Rush 24 48 72 (Please call)

Standard

Laboratory Comments:

Labels on container(s)

Sample Hand Delivered

Temperature Upon Receipt

by Sampler/Client Rep. ?	☒	N
by Counter? UPS DHL FedEx Lone Star		
Temperature Upon Receipt:		
Received: 7.0 °C		
Adjusted:		
C Factor		

Permian Basin Environmental Lab, LP
1400 Rankin Hwy
Midland, Texas 79701

Phone: 432-686-7235

Project Manager:

Coty Woolf

Project Name:

Siena Blue Puma

Company Name

Charger Services

Project #:

Company Address:

Project Loc:

City/State/Zip:

PO #:

Telephone No:

Fax No:

Report Format: X Standard

☐ TRRP

☐ NPDES

Sampler Signature:

e-mail:

coty.woolf@chargerservices.com

((lab use only))

ORDER #: 7C13016

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Ice

HNO₃ 250ml Poly

HCl

H₂SO₄

NaOH

Na₂S₂O₃

None 1L Poly

NaOH/ZnAc

DW=Drinking Water SL=Sludge

GW = Groundwater S=Soil/Solid

NP=Non-Potable Specify Other

TPH by TX 1005 8015B 8015M

Chloride

BTEX by 8021B

Preservation & # of Containers

Matrix

Analyze For:

Rush 24 48 72 (Please call)

Standard

Special Instructions:

Relinquished by:

Date

Time

Date

Time

Relinquished by:

Date

Time

Date

Time

Relinquished by:

Date

Time

Date

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered

by Courier?

Temperature Upon Receipt:

Adjusted:

Factor

N

N

N

N

N

N

N

N

N

N

N

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



Analytical Report

Prepared for:

Coty Woolf
Charger Services
P.O. Box 53070
Midland, TX 79710

Project: Siana Blue Dunn #1

Project Number: [none]

Location: New Mexico

Lab Order Number: 7C29020



NELAP/TCEQ # T104704156-16-6

Report Date: 04/02/17

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1' (5-6)	7C29020-01	Soil	03/22/17 07:36	03-29-2017 17:00
SB-1' (10-11)	7C29020-02	Soil	03/22/17 07:45	03-29-2017 17:00
SB-4' (10-11)	7C29020-03	Soil	03/22/17 08:00	03-29-2017 17:00
SB-5' (5-6)	7C29020-04	Soil	03/22/17 08:15	03-29-2017 17:00
SB-5' (10-11)	7C29020-05	Soil	03/22/17 08:30	03-29-2017 17:00
SB-6' (5-6)	7C29020-06	Soil	03/22/17 08:45	03-29-2017 17:00
SB-6' (10-11)	7C29020-07	Soil	03/22/17 09:00	03-29-2017 17:00
SB-7' (5-6)	7C29020-08	Soil	03/22/17 09:15	03-29-2017 17:00
SB-7' (10-11)	7C29020-09	Soil	03/22/17 09:30	03-29-2017 17:00

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1' (5-6)
7C29020-01 (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	0.00120	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00241	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		144 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		91.4 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	17.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	55.6	30.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	101	30.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	44.1	30.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		79.0 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		82.2 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	200	30.1	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-1' (10-11)
7C29020-02 (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	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00238	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00238	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.5 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		143 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	16.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		80.8 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		85.2 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	29.8	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

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Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-4' (10-11)
7C29020-03 (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	0.00114	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00227	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00114	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00227	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00114	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.5 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		144 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	12.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.4	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	41.3	28.4	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	ND	28.4	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		82.1 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		85.0 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	41.3	28.4	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

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P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5' (5-6)
7C29020-04 (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	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00238	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00238	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		137 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		93.1 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	16.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		79.3 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		84.7 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	29.8	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

Charger Services
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Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-5' (10-11)
7C29020-05 (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	0.00120	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00241	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00120	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00241	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00120	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		98.9 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		141 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	17.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	30.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	38.7	30.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	35.0	30.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		80.9 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		85.9 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	73.8	30.1	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6' (5-6)
7C29020-06 (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	0.00115	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00230	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00115	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00230	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00115	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		133 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC
Surrogate: 1,4-Difluorobenzene		99.5 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	13.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.7	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	31.5	28.7	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	ND	28.7	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		75.3 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		79.5 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	31.5	28.7	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-6' (10-11)
7C29020-07 (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	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Toluene	ND	0.00238	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Ethylbenzene	ND	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (p/m)	ND	0.00238	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Xylene (o)	ND	0.00119	mg/kg dry	1	P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		94.5 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		135 %	75-125		P7C3003	03/29/17	03/30/17	EPA 8021B	S-GC

General Chemistry Parameters by EPA / Standard Methods

% Moisture	16.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	ND	29.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		77.6 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		80.1 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	29.8	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-7' (5-6)
7C29020-08 (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	0.00112	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B	
Toluene	ND	0.00225	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B	
Ethylbenzene	ND	0.00112	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B	
Xylene (p/m)	ND	0.00225	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B	
Xylene (o)	ND	0.00112	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		P7D0207	03/30/17	04/02/17	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	75-125		P7D0207	03/30/17	04/02/17	EPA 8021B	

General Chemistry Parameters by EPA / Standard Methods

% Moisture	11.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation	
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	28.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C12-C28	29.9	28.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
>C28-C35	ND	28.1	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: 1-Chlorooctane		79.4 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Surrogate: o-Terphenyl		84.8 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	29.9	28.1	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc	

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

SB-7' (10-11)
7C29020-09 (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	0.00111	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B
Toluene	ND	0.00222	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B
Ethylbenzene	ND	0.00111	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B
Xylene (p/m)	ND	0.00222	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B
Xylene (o)	ND	0.00111	mg/kg dry	1	P7D0207	03/30/17	04/02/17	EPA 8021B
Surrogate: 1,4-Difluorobenzene		93.5 %	75-125		P7D0207	03/30/17	04/02/17	EPA 8021B
Surrogate: 4-Bromofluorobenzene		88.3 %	75-125		P7D0207	03/30/17	04/02/17	EPA 8021B

General Chemistry Parameters by EPA / Standard Methods

% Moisture	10.0	0.1	%	1	P7C3006	03/30/17	03/30/17	% calculation
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Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M

C6-C12	ND	27.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M
>C12-C28	ND	27.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M
>C28-C35	ND	27.8	mg/kg dry	1	P7D0202	03/30/17	03/30/17	TPH 8015M
Surrogate: 1-Chlorooctane		79.6 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M
Surrogate: o-Terphenyl		82.3 %	70-130		P7D0202	03/30/17	03/30/17	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	27.8	mg/kg dry	1	[CALC]	03/30/17	03/30/17	calc

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P7C3003 - General Preparation (GC)

Blank (P7C3003-BLK1)

Prepared: 03/29/17 Analyzed: 03/30/17

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	0.0806		"	0.0600		134	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0521		"	0.0600		86.9	75-125			

LCS (P7C3003-BS1)

Prepared: 03/29/17 Analyzed: 03/30/17

Benzene	0.0866	0.00100	mg/kg wet	0.100		86.6	70-130			
Toluene	0.0946	0.00200	"	0.100		94.6	70-130			
Ethylbenzene	0.118	0.00100	"	0.100		118	70-130			
Xylene (p/m)	0.211	0.00200	"	0.200		106	70-130			
Xylene (o)	0.111	0.00100	"	0.100		111	70-130			
Surrogate: 1,4-Difluorobenzene	0.0653		"	0.0600		109	75-125			
Surrogate: 4-Bromofluorobenzene	0.0588		"	0.0600		98.0	75-125			

LCS Dup (P7C3003-BS1)

Prepared: 03/29/17 Analyzed: 03/30/17

Benzene	0.0926	0.00100	mg/kg wet	0.100		92.6	70-130	6.71	20	
Toluene	0.0950	0.00200	"	0.100		95.0	70-130	0.433	20	
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130	4.76	20	
Xylene (p/m)	0.234	0.00200	"	0.200		117	70-130	9.94	20	
Xylene (o)	0.110	0.00100	"	0.100		110	70-130	1.04	20	
Surrogate: 1,4-Difluorobenzene	0.0640		"	0.0600		107	75-125			
Surrogate: 4-Bromofluorobenzene	0.0667		"	0.0600		111	75-125			

Matrix Spike (P7C3003-MS1)

Source: 7C29014-01

Prepared: 03/29/17 Analyzed: 03/30/17

Benzene	0.931	0.0206	mg/kg dry	0.206	0.667	128	80-120			QM-07
Toluene	4.60	0.0412	"	0.206	4.81	NR	80-120			QM-07
Ethylbenzene	3.39	0.0206	"	0.206	2.60	383	80-120			QM-07
Xylene (p/m)	15.6	0.0412	"	0.412	14.8	199	80-120			QM-07
Xylene (o)	7.84	0.0206	"	0.206	7.72	60.5	80-120			QM-07
Surrogate: 4-Bromofluorobenzene	0.0637		"	0.0619		103	75-125			
Surrogate: 1,4-Difluorobenzene	0.0507		"	0.0619		82.0	75-125			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P7C3003 - General Preparation (GC)

Matrix Spike Dup (P7C3003-MSD1)

Source: 7C29014-01

Prepared: 03/29/17 Analyzed: 03/30/17

Benzene	1.06	0.0206	mg/kg dry	0.206	0.667	191	80-120	39.7	20	QM-07
Toluene	5.94	0.0412	"	0.206	4.81	551	80-120	NR	20	QM-07
Ethylbenzene	4.44	0.0206	"	0.206	2.60	893	80-120	80.0	20	QM-07
Xylene (p/m)	16.3	0.0412	"	0.412	14.8	376	80-120	61.9	20	QM-07
Xylene (o)	7.17	0.0206	"	0.206	7.72	NR	80-120	NR	20	QM-07
Surrogate: 1,4-Difluorobenzene	0.0644		"	0.0619		104	75-125			
Surrogate: 4-Bromofluorobenzene	0.0829		"	0.0619		134	75-125			S-GC

Batch P7D0207 - General Preparation (GC)

Blank (P7D0207-BLK1)

Prepared: 03/30/17 Analyzed: 04/02/17

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	0.0548		"	0.0600		91.4	75-125			
Surrogate: 4-Bromofluorobenzene	0.0543		"	0.0600		90.5	75-125			

LCS (P7D0207-BS1)

Prepared: 03/30/17 Analyzed: 04/02/17

Benzene	0.0840	0.00100	mg/kg wet	0.100		84.0	70-130			
Toluene	0.0842	0.00200	"	0.100		84.2	70-130			
Ethylbenzene	0.0805	0.00100	"	0.100		80.5	70-130			
Xylene (p/m)	0.166	0.00200	"	0.200		83.1	70-130			
Xylene (o)	0.0906	0.00100	"	0.100		90.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.0650		"	0.0600		108	75-125			
Surrogate: 1,4-Difluorobenzene	0.0610		"	0.0600		102	75-125			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P7D0207 - General Preparation (GC)

LCS Dup (P7D0207-BSD1)

Prepared: 03/30/17 Analyzed: 04/02/17

Benzene	0.0848	0.00100	mg/kg wet	0.100		84.8	70-130	0.995	20	
Toluene	0.0884	0.00200	"	0.100		88.4	70-130	4.94	20	
Ethylbenzene	0.0815	0.00100	"	0.100		81.5	70-130	1.20	20	
Xylene (p/m)	0.167	0.00200	"	0.200		83.7	70-130	0.809	20	
Xylene (o)	0.0879	0.00100	"	0.100		87.9	70-130	3.00	20	
Surrogate: 1,4-Difluorobenzene	0.0637		"	0.0600		106	75-125			
Surrogate: 4-Bromofluorobenzene	0.0633		"	0.0600		106	75-125			

Matrix Spike (P7D0207-MS1)

Source: 7C29021-01

Prepared: 03/30/17 Analyzed: 04/02/17

Benzene	0.0555	0.00119	mg/kg dry	0.238	ND	23.3	80-120			QM-07
Toluene	0.0422	0.00238	"	0.238	ND	17.7	80-120			QM-07
Ethylbenzene	0.0485	0.00119	"	0.238	ND	20.4	80-120			QM-07
Xylene (p/m)	0.0114	0.00238	"	0.476	ND	2.39	80-120			QM-07
Xylene (o)	0.0445	0.00119	"	0.238	ND	18.7	80-120			QM-07
Surrogate: 1,4-Difluorobenzene	0.0711		"	0.0714		99.5	75-125			
Surrogate: 4-Bromofluorobenzene	0.0637		"	0.0714		89.1	75-125			

Matrix Spike Dup (P7D0207-MSD1)

Source: 7C29021-01

Prepared: 03/30/17 Analyzed: 04/02/17

Benzene	ND	0.00119	mg/kg dry	0.238	ND		80-120		20	QM-07
Toluene	ND	0.00238	"	0.238	ND		80-120		20	QM-07
Ethylbenzene	ND	0.00119	"	0.238	ND		80-120		20	QM-07
Xylene (p/m)	ND	0.00238	"	0.476	ND		80-120		20	QM-07
Xylene (o)	ND	0.00119	"	0.238	ND		80-120		20	QM-07
Surrogate: 4-Bromofluorobenzene	0.00		"	0.0714			75-125			
Surrogate: 1,4-Difluorobenzene	0.00		"	0.0714			75-125			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P7C3006 - * DEFAULT PREP *****

Blank (P7C3006-BLK1)

Prepared & Analyzed: 03/30/17

% Moisture	ND	0.1	%
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Duplicate (P7C3006-DUP1)

Source: 7C29022-07

Prepared & Analyzed: 03/30/17

% Moisture	15.0	0.1	%	15.0	0.00	20
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Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

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 P7D0202 - TX 1005

Blank (P7D0202-BLK1)

Prepared: 03/30/12 Analyzed: 03/30/17

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	84.9		"	100		84.9	70-130			
Surrogate: o-Terphenyl	45.5		"	50.0		91.0	70-130			

LCS (P7D0202-BS1)

Prepared: 03/30/12 Analyzed: 03/30/17

C6-C12	861	25.0	mg/kg wet	1000		86.1	75-125			
>C12-C28	857	25.0	"	1000		85.7	75-125			
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	52.1		"	50.0		104	70-130			

LCS Dup (P7D0202-BS1)

Prepared: 03/30/12 Analyzed: 03/30/17

C6-C12	799	25.0	mg/kg wet	1000		79.9	75-125	7.44	20	
>C12-C28	840	25.0	"	1000		84.0	75-125	1.98	20	
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	47.0		"	50.0		94.1	70-130			

Matrix Spike (P7D0202-MS1)

Source: 7C29021-02

Prepared: 03/30/12 Analyzed: 03/31/17

C6-C12	920	30.1	mg/kg dry	1200	17.4	74.9	75-125			QM-07
>C12-C28	965	30.1	"	1200	33.0	77.4	75-125			
Surrogate: 1-Chlorooctane	110		"	120		91.6	70-130			
Surrogate: o-Terphenyl	54.2		"	60.2		90.0	70-130			

Matrix Spike Dup (P7D0202-MSD1)

Source: 7C29021-02

Prepared: 03/30/12 Analyzed: 03/31/17

C6-C12	913	30.1	mg/kg dry	1200	17.4	74.3	75-125	0.819	20	QM-07
>C12-C28	992	30.1	"	1200	33.0	79.6	75-125	2.82	20	
Surrogate: 1-Chlorooctane	128		"	120		106	70-130			
Surrogate: o-Terphenyl	49.1		"	60.2		81.4	70-130			

Charger Services
P.O. Box 53070
Midland TX, 79710

Project: Siana Blue Dunn #1
Project Number: [none]
Project Manager: Coty Woolf

Fax: (432) 695-6247

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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:

4/2/2017

Brent Barron, Laboratory Director/Technical Director

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.

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP
1400 Rankin Hwy
Midland, Texas 79701

Phone: 432-686-7235

Project Manager:

Cathy Webb

Project Name:

Sigma Blue Darry

Company Name

Charger Services

Project #:

Company Address:

Project Loc:

City/State/Zip:

PO #:

Telephone No:

Fax No:

Report Format: ☒ Standard

☐ TRRP

☐ NPDES

Sampler Signature:

[Signature]

e-mail:

Cathy Webb

(lab use only)

ORDER #: *7029020*

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO ₃ 250,ml Poly	HCl	H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	None 1L Poly	NaOH/ZnAc	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH by TX 1005 8015B 4015M	Chloride	BTEX by 8021B	Analyze For:	Rush 24 49-72 (Please call)	Standard
-01	SB-1'	5	10	3/22/17	736		1	X																
-02	-1'	10	11		745		1	X																
-03	SB-4'	10	11		800		1	X																
-04	SB-5'	5	6		815		1	X																
-05	-5'	10	11		830		1	X																
-06	SB-6'	5	6		845		1	X																
-07	-6'	10	11		900		1	X																
-08	SB-7'	5	6		915		1	X																
-09	7'	10	11		930		1	X																

Special Instructions:

Relinquished by:

Relinquished by:

Relinquished by:

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Date

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered

by Courier? UPS DHL

Temperature Upon Receipt: °C

Adjusted: 3.5 °C Factor NCFE 1