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

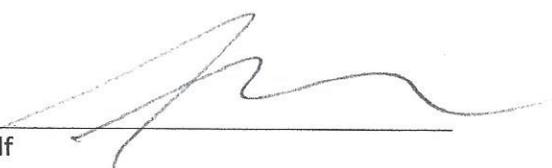
December 15, 2016

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



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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 and October 17, 2016, 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 closest 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 and October 17, 2016, Charger personnel used an air rotary drill to collect soil samples at three (3) 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 in sample SB-1 and down to 5 ft bgs in sample SB-3. 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.

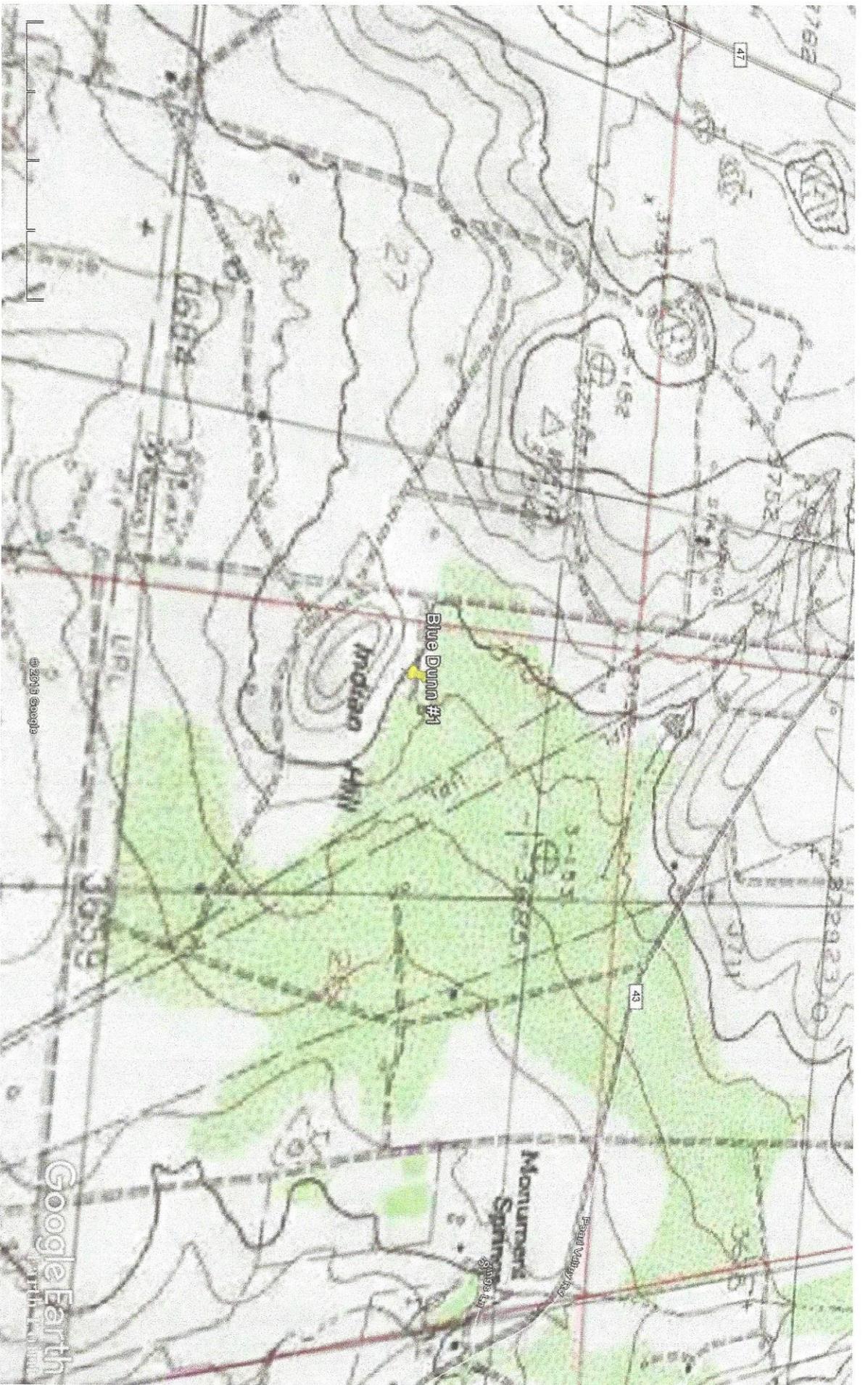
TABLES

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:											5,000
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
	10 - 11	10/17/2016	1,480	--	--	--	--	--	--	--	0
	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
SB-2	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
	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
SB-3	2 - 3	10/10/2016	344	<0.00108	<0.00215	<0.00108	<0.00215	<26.9	142	38.4	180
	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	

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



1

1



Google Earth



Google Earth

feet  
meters



100



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. Pachlhofer  
**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

## 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: 6J20001



NELAP/TCEQ # T104704156-16-6

Report Date: 11/08/16

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

**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	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.0 %	80-120		P6J2509	10/24/16	10/24/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		96.4 %	80-120		P6J2509	10/24/16	10/24/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

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

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>640</b>	137	mg/kg dry	5	P6J2105	10/20/16	10/21/16	TPH 8015M	
<b>&gt;C12-C28</b>	<b>4240</b>	137	mg/kg dry	5	P6J2105	10/20/16	10/21/16	TPH 8015M	
<b>&gt;C28-C35</b>	<b>616</b>	137	mg/kg dry	5	P6J2105	10/20/16	10/21/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		97.0 %	70-130		P6J2105	10/20/16	10/21/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		106 %	70-130		P6J2105	10/20/16	10/21/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>5490</b>	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**

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

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

<b>C6-C12</b>	<b>60.0</b>	28.1	mg/kg dry	1	P6J2105	10/20/16	10/21/16	TPH 8015M	
<b>&gt;C12-C28</b>	<b>767</b>	28.1	mg/kg dry	1	P6J2105	10/20/16	10/21/16	TPH 8015M	
<b>&gt;C28-C35</b>	<b>108</b>	28.1	mg/kg dry	1	P6J2105	10/20/16	10/21/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		89.2 %	70-130		P6J2105	10/20/16	10/21/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		95.0 %	70-130		P6J2105	10/20/16	10/21/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>936</b>	28.1	mg/kg dry	1	[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 (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**

<b>Chloride</b>	<b>1480</b>	10.3	mg/kg dry	10	P6J2004	10/20/16	10/21/16	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	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**

<b>Chloride</b>	<b>563</b>	1.14	mg/kg dry	1	P6J2004	10/20/16	10/21/16	EPA 300.0	
<b>% Moisture</b>	<b>12.0</b>	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**

<b>Chloride</b>	<b>238</b>	1.03	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	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**

<b>Chloride</b>	<b>316</b>	1.04	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	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**

<b>Chloride</b>	<b>239</b>	1.04	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	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**

<b>Chloride</b>	<b>320</b>	1.05	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	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**

<b>Chloride</b>	<b>348</b>	1.05	mg/kg dry	1	P6K0110	11/01/16	11/02/16	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	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**

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

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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)**

<b>Blank (P6J2509-BLK1)</b>										
										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	"							
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0601</i>		<i>"</i>	<i>0.0600</i>		<i>100</i>	<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0477</i>		<i>"</i>	<i>0.0600</i>		<i>79.5</i>	<i>80-120</i>			<i>S-GC</i>

<b>LCS (P6J2509-BS1)</b>										
										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			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0461</i>		<i>"</i>	<i>0.0600</i>		<i>76.8</i>	<i>80-120</i>			<i>S-GC</i>
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0653</i>		<i>"</i>	<i>0.0600</i>		<i>109</i>	<i>80-120</i>			

<b>LCS Dup (P6J2509-BSD1)</b>										
										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	
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0692</i>		<i>"</i>	<i>0.0600</i>		<i>115</i>	<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0460</i>		<i>"</i>	<i>0.0600</i>		<i>76.6</i>	<i>80-120</i>			<i>S-GC</i>

<b>Matrix Spike (P6J2509-MS1)</b>										
			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
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0405</i>		<i>"</i>	<i>0.0723</i>		<i>56.0</i>	<i>80-120</i>			<i>S-GC</i>
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0741</i>		<i>"</i>	<i>0.0723</i>		<i>103</i>	<i>80-120</i>			

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Project: Siana Blue Dunn #1  
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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: 1,4-Difluorobenzene	0.0728		"	0.0723		101	80-120			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0723		53.4	80-120			S-GC

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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 P6J2002 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P6J2002-BLK1)</b>				Prepared: 10/20/16 Analyzed: 10/24/16						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P6J2002-BS1)</b>				Prepared: 10/20/16 Analyzed: 10/24/16						
Chloride	436	1.00	mg/kg wet	400		109	80-120			
<b>LCS Dup (P6J2002-BSD1)</b>				Prepared: 10/20/16 Analyzed: 10/24/16						
Chloride	454	1.00	mg/kg wet	400		113	80-120	4.04	20	
<b>Duplicate (P6J2002-DUP1)</b>				Source: 6J19003-03 Prepared: 10/20/16 Analyzed: 10/24/16						
Chloride	1030	5.49	mg/kg dry		1030			0.331	20	
<b>Duplicate (P6J2002-DUP2)</b>				Source: 6J19003-13 Prepared: 10/20/16 Analyzed: 10/24/16						
Chloride	2220	11.2	mg/kg dry		2220			0.0203	20	
<b>Matrix Spike (P6J2002-MS1)</b>				Source: 6J19003-03 Prepared: 10/20/16 Analyzed: 10/24/16						
Chloride	2120	5.49	mg/kg dry	1100	1030	99.6	80-120			

**Batch P6J2004 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P6J2004-BLK1)</b>				Prepared: 10/20/16 Analyzed: 10/21/16						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P6J2004-BS1)</b>				Prepared: 10/20/16 Analyzed: 10/21/16						
Chloride	468	1.00	mg/kg wet	400		117	80-120			
<b>LCS Dup (P6J2004-BSD1)</b>				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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**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	
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**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	
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**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			
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**Batch P6J2201 - \*\*\* DEFAULT PREP \*\*\***

**Blank (P6J2201-BLK1)** Prepared & Analyzed: 10/22/16

% Moisture	ND	0.1	%							
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**Duplicate (P6J2201-DUP1)** Source: 6J19003-12 Prepared & Analyzed: 10/22/16

% Moisture	11.0	0.1	%		11.0			0.00	20	
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**Duplicate (P6J2201-DUP2)** Source: 6J19010-01 Prepared & Analyzed: 10/22/16

% Moisture	13.0	0.1	%		14.0			7.41	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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**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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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 P6K0104 - \*\*\* DEFAULT PREP \*\*\***

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

**Batch P6K0110 - \*\*\* DEFAULT PREP \*\*\***

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

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

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

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

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

<b>Matrix Spike (P6K0110-MS1)</b>		<b>Source: 6J17005-07</b>			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 \*\*\***

<b>Blank (P6K0202-BLK1)</b>		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

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

### 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: 11/8/2016

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.

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



**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

**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	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		73.1 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

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

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

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

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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	<b>0.0122</b>	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	<b>0.00869</b>	0.00215	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (o)	<b>0.00505</b>	0.00108	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		90.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		120 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

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

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

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

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Project Number: [none]  
Project Manager: Coty Woolf

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**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	<b>0.00206</b>	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
Xylene (p/m)	<b>0.00321</b>	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	
<i>Surrogate: 1,4-Difluorobenzene</i>		80.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	<b>46.6</b>	5.56	mg/kg dry	5	P6J1106	10/11/16	10/13/16	EPA 300.0	
% Moisture	<b>10.0</b>	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	<b>97.1</b>	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	<b>32.9</b>	27.8	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		92.4 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		99.4 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>130</b>	27.8	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

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Project Number: [none]  
Project Manager: Coty Woolf

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**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	
<b>Xylene (o)</b>	<b>0.00190</b>	0.00111	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		72.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		84.3 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

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

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

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

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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	
<i>Surrogate: 1,4-Difluorobenzene</i>		85.9 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.1 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>39.5</b>	1.05	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	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	
<b>&gt;C12-C28</b>	<b>57.1</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		90.7 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		97.4 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>57.1</b>	26.3	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

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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	
<i>Surrogate: 1,4-Difluorobenzene</i>		74.4 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		80.9 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>36.0</b>	1.05	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	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	
<b>&gt;C12-C28</b>	<b>51.1</b>	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
<b>&gt;C28-C35</b>	<b>26.6</b>	26.3	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		90.7 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		97.3 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>77.7</b>	26.3	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

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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	
<i>Surrogate: 1,4-Difluorobenzene</i>		82.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>344</b>	1.08	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	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	<b>142</b>	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
>C28-C35	<b>38.4</b>	26.9	mg/kg dry	1	P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		86.1 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		93.6 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>180</b>	26.9	mg/kg dry	1	[CALC]	10/11/16	10/12/16	calc	

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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	
<i>Surrogate: 1,4-Difluorobenzene</i>		73.7 %		75-125	P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		82.5 %		75-125	P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>86.3</b>	1.18	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>15.0</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		98.0 %		70-130	P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		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	

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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	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.3 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		75.8 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>186</b>	1.09	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>8.0</b>	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	<b>48.4</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		83.5 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		91.5 %	70-130		P6J1214	10/11/16	10/12/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>48.4</b>	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	
<b>Ethylbenzene</b>	<b>0.00239</b>	0.00109	mg/kg dry	1	P6J1303	10/12/16	10/13/16	EPA 8021B	
<b>Xylene (p/m)</b>	<b>0.00654</b>	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	
<i>Surrogate: 1,4-Difluorobenzene</i>		69.5 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		78.6 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>5.30</b>	1.09	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>8.0</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		88.1 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		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	

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Project: Siana Blue Dunn #1  
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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	
<i>Surrogate: 1,4-Difluorobenzene</i>		66.7 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	S-GC
<i>Surrogate: 4-Bromofluorobenzene</i>		76.4 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>196</b>	1.03	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	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	
<b>&gt;C12-C28</b>	<b>47.8</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		89.8 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		93.1 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>47.8</b>	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 (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	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.6 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		79.9 %	75-125		P6J1303	10/12/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>346</b>	1.10	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>9.0</b>	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	
<b>&gt;C12-C28</b>	<b>36.2</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		88.6 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		91.8 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>36.2</b>	27.5	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 (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	
<i>Surrogate: 1,4-Difluorobenzene</i>		80.7 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.1 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>328</b>	1.03	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>3.0</b>	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	<b>64.9</b>	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
>C28-C35	<b>30.9</b>	25.8	mg/kg dry	1	P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: 1-Chlorooctane</i>		85.9 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		88.4 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>95.8</b>	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	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.5 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		78.4 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>197</b>	1.04	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	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	
<b>&gt;C12-C28</b>	<b>48.1</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		90.7 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		94.3 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>48.1</b>	26.0	mg/kg dry	1	[CALC]	10/12/16	10/13/16	calc	

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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	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.5 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		78.4 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>156</b>	1.04	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>4.0</b>	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	<b>30.2</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		99.5 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		103 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>30.2</b>	26.0	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 (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	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		83.1 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>51.8</b>	1.08	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>7.0</b>	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	
<b>&gt;C12-C28</b>	<b>53.6</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		93.3 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		97.2 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<b>Total Petroleum Hydrocarbon C6-C35</b>	<b>53.6</b>	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	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.9 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		75.2 %	75-125		P6J1408	10/13/16	10/13/16	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>47.0</b>	1.05	mg/kg dry	1	P6J1106	10/11/16	10/13/16	EPA 300.0	
<b>% Moisture</b>	<b>5.0</b>	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	
<i>Surrogate: 1-Chlorooctane</i>		90.1 %	70-130		P6J1213	10/12/16	10/13/16	TPH 8015M	
<i>Surrogate: o-Terphenyl</i>		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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**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)**

<b>Blank (P6J1303-BLK1)</b>		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			

<b>LCS (P6J1303-BS1)</b>		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			

<b>LCS Dup (P6J1303-BSD1)</b>		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			

<b>Matrix Spike (P6J1303-MS1)</b>		<b>Source: 6J10011-10</b>		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			

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 P6J1303 - General Preparation (GC)**

<b>Matrix Spike Dup (P6J1303-MSD1)</b>	<b>Source: 6J10011-10</b>		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
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0838</i>		<i>"</i>	<i>0.0870</i>		<i>96.4</i>	<i>75-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0796</i>		<i>"</i>	<i>0.0870</i>		<i>91.5</i>	<i>75-125</i>			

**Batch P6J1408 - General Preparation (GC)**

<b>Blank (P6J1408-BLK1)</b>			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	"							
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0595</i>		<i>"</i>	<i>0.0800</i>	<i>74.3</i>	<i>75-125</i>				<i>S-GC</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0694</i>		<i>"</i>	<i>0.0800</i>	<i>86.8</i>	<i>75-125</i>				

<b>LCS (P6J1408-BS1)</b>			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
<i>Surrogate: 1,4-Difluorobenzene</i>	<i>0.0713</i>		<i>"</i>	<i>0.0800</i>	<i>89.1</i>	<i>75-125</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0696</i>		<i>"</i>	<i>0.0800</i>	<i>87.0</i>	<i>75-125</i>

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 \*\*\***

<b>Blank (P6J1106-BLK1)</b>		Prepared: 10/11/16 Analyzed: 10/13/16								
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P6J1106-BS1)</b>		Prepared: 10/11/16 Analyzed: 10/13/16								
Chloride	409	1.00	mg/kg wet	400		102	80-120			
<b>LCS Dup (P6J1106-BSD1)</b>		Prepared: 10/11/16 Analyzed: 10/13/16								
Chloride	415	1.00	mg/kg wet	400		104	80-120	1.42	20	
<b>Duplicate (P6J1106-DUP1)</b>		<b>Source: 6J10011-01</b>		Prepared: 10/11/16 Analyzed: 10/13/16						
Chloride	581	10.6	mg/kg dry		573			1.44	20	
<b>Duplicate (P6J1106-DUP2)</b>		<b>Source: 6J10011-11</b>		Prepared: 10/11/16 Analyzed: 10/13/16						
Chloride	208	1.03	mg/kg dry		196			6.02	20	
<b>Matrix Spike (P6J1106-MS1)</b>		<b>Source: 6J10011-01</b>		Prepared: 10/11/16 Analyzed: 10/13/16						
Chloride	1480	10.6	mg/kg dry	1060	573	85.0	80-120			

**Batch P6J1205 - \*\*\* DEFAULT PREP \*\*\***

<b>Blank (P6J1205-BLK1)</b>		Prepared & Analyzed: 10/12/16								
% Moisture	ND	0.1	%							
<b>Duplicate (P6J1205-DUP1)</b>		<b>Source: 6J10011-17</b>		Prepared & Analyzed: 10/12/16						
% Moisture	5.0	0.1	%		5.0			0.00	20	
<b>Duplicate (P6J1205-DUP2)</b>		<b>Source: 6J11006-03</b>		Prepared & Analyzed: 10/12/16						
% 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 P6J1205 - \*\*\* DEFAULT PREP \*\*\***

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

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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 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	"							
<i>Surrogate: 1-Chlorooctane</i>	93.5		"	100		93.5	70-130			
<i>Surrogate: o-Terphenyl</i>	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			
<i>Surrogate: 1-Chlorooctane</i>	116		"	100		116	70-130			
<i>Surrogate: o-Terphenyl</i>	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	"							
<i>Surrogate: 1-Chlorooctane</i>	91.4		"	100		91.4	70-130			
<i>Surrogate: o-Terphenyl</i>	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			
<i>Surrogate: 1-Chlorooctane</i>	93.0		"	100		93.0	70-130			
<i>Surrogate: o-Terphenyl</i>	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			

### 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

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:

*Coty Lebelt*

Project Name:

*Stang Blue Dam #1*

Company Name

*Charger Services*

Project #:

Company Address:

Project Loc:

City/State/Zip:

PO #:

Telephone No:

Report Format:

Standard  TRRP  NPDES

Sampler Signature:

*[Signature]*

e-mail:

*Coty Lebelt @ Charger Services Co*

(lab use only)

ORDER #: *6510011*

Preservation & # of Containers

Matrix

Analyze For:

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Ice

HNO<sub>3</sub> 250ml Poly

HCl

H<sub>2</sub>SO<sub>4</sub>

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

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

Rush 24 48 72 (Please call)

Standard

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub> 250ml Poly	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	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	
<i>11</i>	<i>SB-3</i>	<i>20</i>	<i>21</i>	<i>10/10/16</i>	<i>12:30</i>	<i>1</i>	<i>1</i>	<i>X</i>														
<i>12</i>	<i>SB-3</i>	<i>25</i>	<i>26</i>		<i>12:45</i>																	
<i>13</i>	<i>SB-3</i>	<i>30</i>	<i>31</i>		<i>1:00</i>																	
<i>14</i>	<i>SB-3</i>	<i>35</i>	<i>36</i>		<i>1:15</i>																	
<i>15</i>	<i>SB-3</i>	<i>40</i>	<i>41</i>		<i>1:30</i>																	
<i>16</i>	<i>SB-3</i>	<i>45</i>	<i>46</i>		<i>1:45</i>																	
<i>17</i>	<i>SB-3</i>	<i>50</i>	<i>51</i>		<i>2:00</i>																	

Special Instructions:

*Hold lower samples unless Threshold Breach*

Relinquished by:

Date

Time

Relinquished by:

Date

Time

Relinquished by:

Date

Time

Laboratory Comments:

Sample Containers: Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered by Sampler/Client Rep. ?

Temperature Upon Receipt: *72.0* °C

Adjusted: *72.0* °C Factor

UPS  DHL  FedEx  Lone Star