

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NVF1905937101
District RP	
Facility ID	
Application ID	

Release Notification

RCVD Email 6/25/19

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Jennifer Deal	Contact Telephone 505-801-6517
Contact email jdeal@hilcorp.com	Incident # NVF1905937101
Contact mailing address 382 Road 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.8070183 _____ Longitude -107.8778305 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Sunray B 1F	Site Type Gas Well
Date Release Discovered 2/28/2019 @ 7:00am	API# 30-045-34494

Unit Letter	Section	Township	Range	County
M	15	30N	10W	San Juan

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> Condensate	Volume Released (bbls) 20	Volume Recovered (bbls) 0
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A release of 20.04bbls of oil/condensate was released due to corrosion on bottom of the tank. When operator was gauging tank, he noticed a drop in tank level from previous month. There was a trace of condensate on the liner and under the snow. There are no visible leaks on the side of the tank. Nothing was recovered. Tank was taken out of service. Release remained inside the berm.

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>50 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

<p>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"><input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.<input checked="" type="checkbox"/> Field data<input checked="" type="checkbox"/> Data table of soil contaminant concentration data<input checked="" type="checkbox"/> Depth to water determination<input checked="" type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release<input type="checkbox"/> Boring or excavation logs<input checked="" type="checkbox"/> Photographs including date and GIS information<input checked="" type="checkbox"/> Topographic/Aerial maps<input checked="" type="checkbox"/> Laboratory data including chain of custody
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If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: ____Jennifer Deal____ Title: ____Environmental Specialist____

Signature: _____ Date: ____5/21/2019____

email: ____jdeal@hilcorp.com____ Telephone: ____ (505) 324-5128 ____

OCD Only

Received by: _____ Date: _____

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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jennifer Deal Title: Environmental Specialist

Signature: _____ Date: 5/21/2019

email: jdeal@hilcorp.com Telephone: 505-801-6517

OCD Only

Received by: OCD Via Email Date: 6/25/19

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

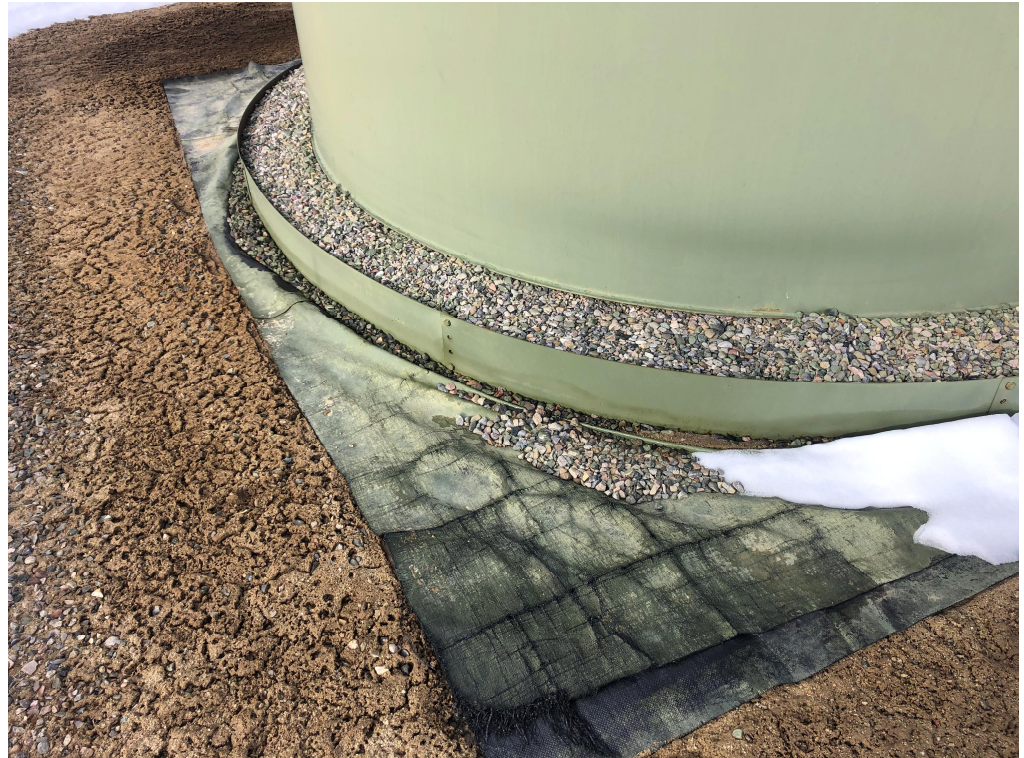
Closure Approved by:  Date: 7/22/19

Printed Name: Cory Title: Environmental Specialist

Scaled Map



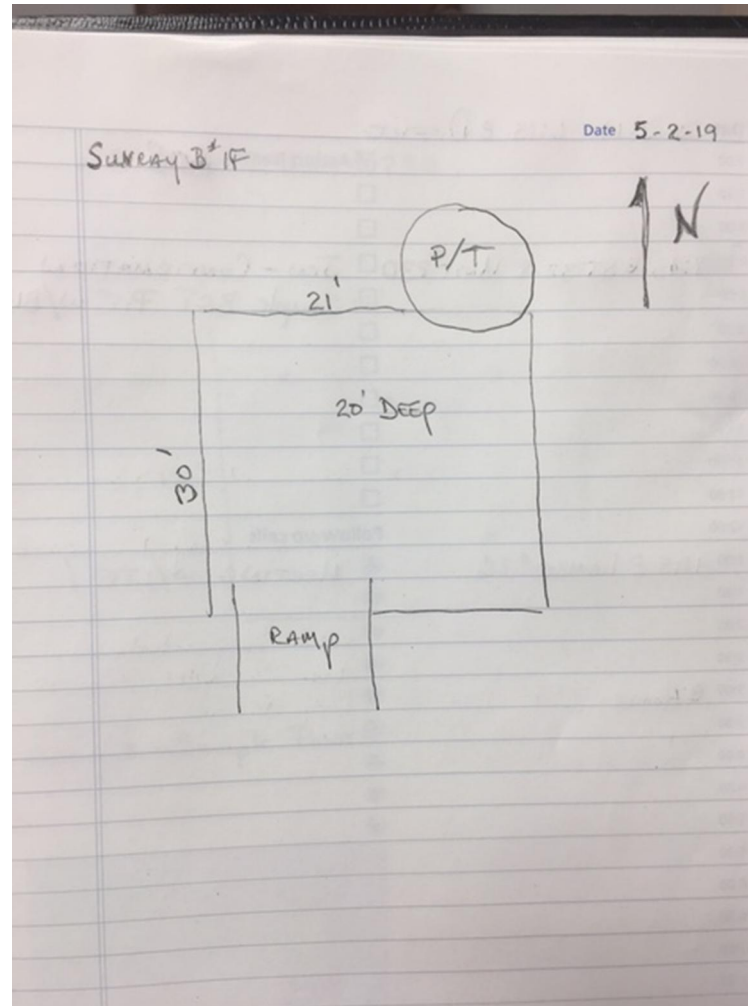
Photographs – 2/28/19 Release Event



Sunray B 1F Release Info

- Began dig and haul on 4/17 and ended 4/23. Hauled a total of 740yds of contaminated soil to IEI and brought in ~740yds of clean soil from Mesa Sand & Gravel
- Confirmation sampling occurred on 5/2 at 9am. Kurt was onsite with Emmanuel from BLM present and directing the sampling
- Site was backfilled 5/15/19

Field Data



Data table of soil contaminant concentration data

TABLE 1

SOIL ANALYTICAL RESULTS													
SUNRAY B 1F													
HILCORP ENERGY - L48 WEST													
Soil Sample Identification	Sample Date	Field Headspace	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes	Total BTEX	Chlorides (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	MRO+DRO (mg/kg)	TPH (mg/kg)
Base	5/2/2019		<0.000505	<0.00505	<0.000505	<0.00152	<0.00505	<10	<0.100	<4.0	<4.0	<4.0	<4.0
W. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
S. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
N. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
E. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
NMOCD Standards		NE	10	NE	NE	NE	50	10,000	NE	NE	NE	1,000	2,500

Depth to water determination



New Mexico Office of the State Engineer **Water Column/Average Depth to Water**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

No records found.

PLSS Search:

Section(s): 15, 16, 21, 22

Township: 30N

Range: 10W

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/22/19 3:46 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Ground Water Depth

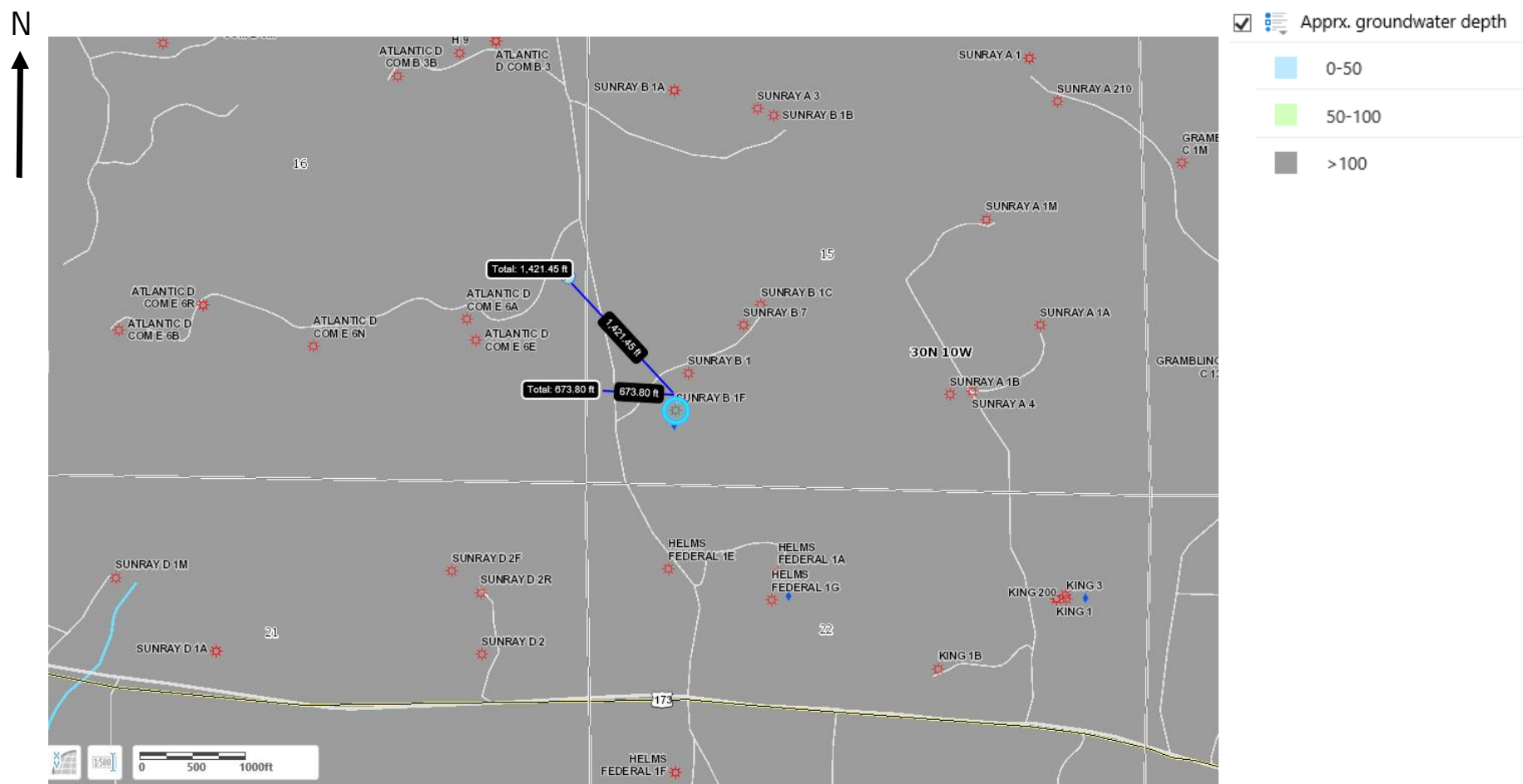
- No depth to ground water data found
- OCD website shows temporary pit closure with closure standards of 2500mg/kg for TPH. (*Full permit is attached*)

8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul.

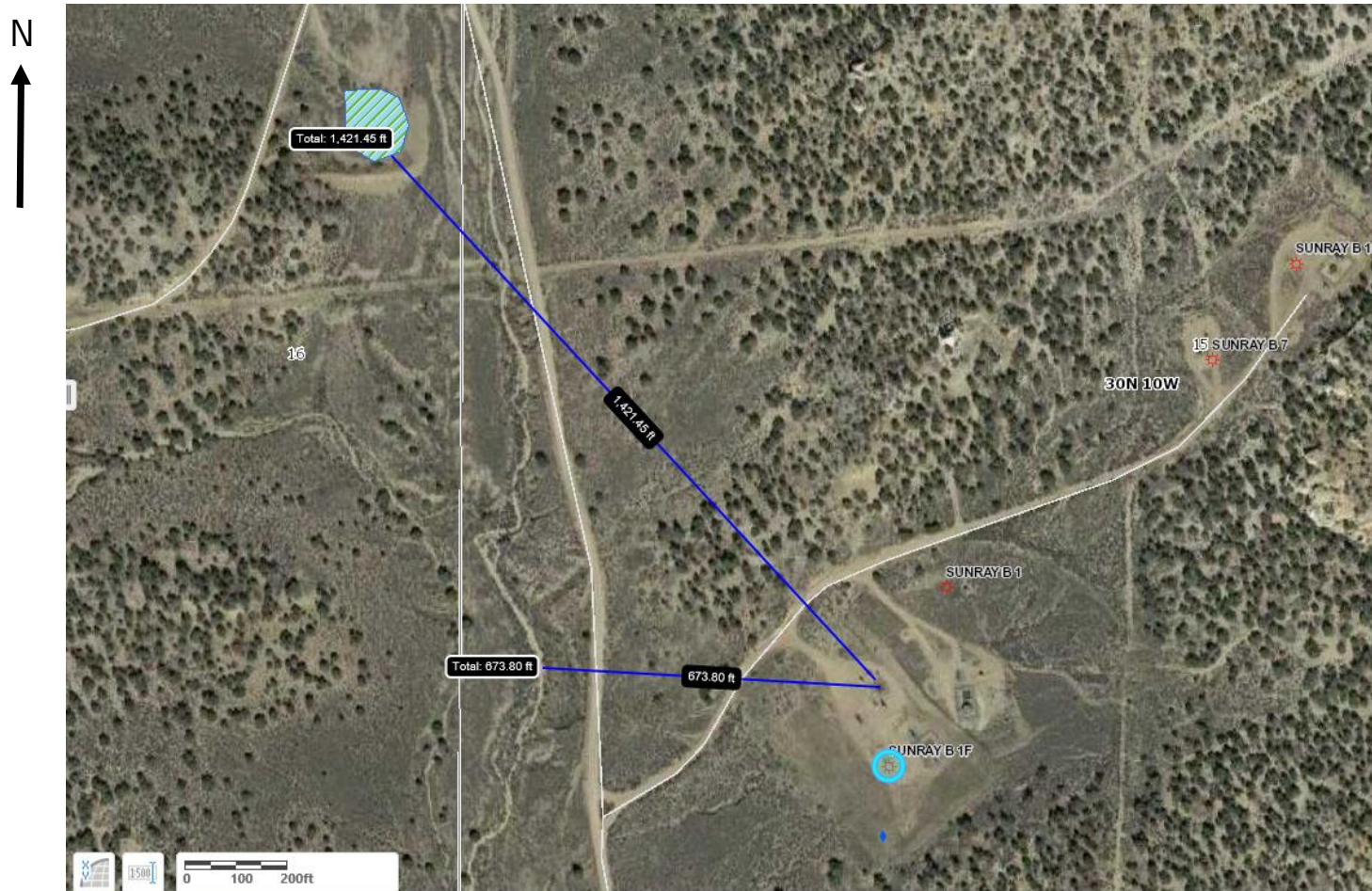
A five point composite sample was taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.1 3(B)(1)(b). (Sample results attached).

Components	Tests Method	Limit (mg/Kg)	Results
Benzene	EPA SW-846 8021B or 8260B	0.2	.9 ug/kg
BTEX	EPA SW-846 8021B or 8260B	50	14.3 ug/kG
TPH	EPA SW-846 418.1	2500	504 mg/kg
GRO/DRO	EPA SW-846 8015M	500	ND mg/Kg
Chlorides	EPA 300.1	1000 /500	24.5 mg/L

Ground water depth determination



Determination of water sources and significant watercourses within
 $\frac{1}{2}$ mile of the lateral extent of the release



Photographs – 5/2/19 Sampling Event

Base Sample



North Wall Sample



Photographs – 5/2/19 Sampling Event

West Sample



East Wall Sample



South Sample



Topographic/Aerial Maps



Jennifer Deal

From: Jennifer Deal
Sent: Monday, April 29, 2019 10:03 AM
To: cory.smith@state.nm.us; Abiodun Adelaye; whitney thomas (l1thomas@blm.gov)
Cc: Bobby Spearman; Kurt Hoekstra
Subject: Confirmation Sampling: Sunray B 1F

Good morning,

Hilcorp Energy is providing 48-hour notice of confirmation sampling to occur on Thursday, May 2nd at 9:00am at the Sunray B 1F. Please let me know if you have any questions.

Thank you,

Jennifer Deal
Environmental Specialist
Hilcorp Energy – L48 West
jdeal@hilcorp.com
382 Road 3100
Aztec, NM 87410
Office: (505) 324-5128
Cell: (505) 801-6517

May 13, 2019

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

HilCorp-Farmington, NM

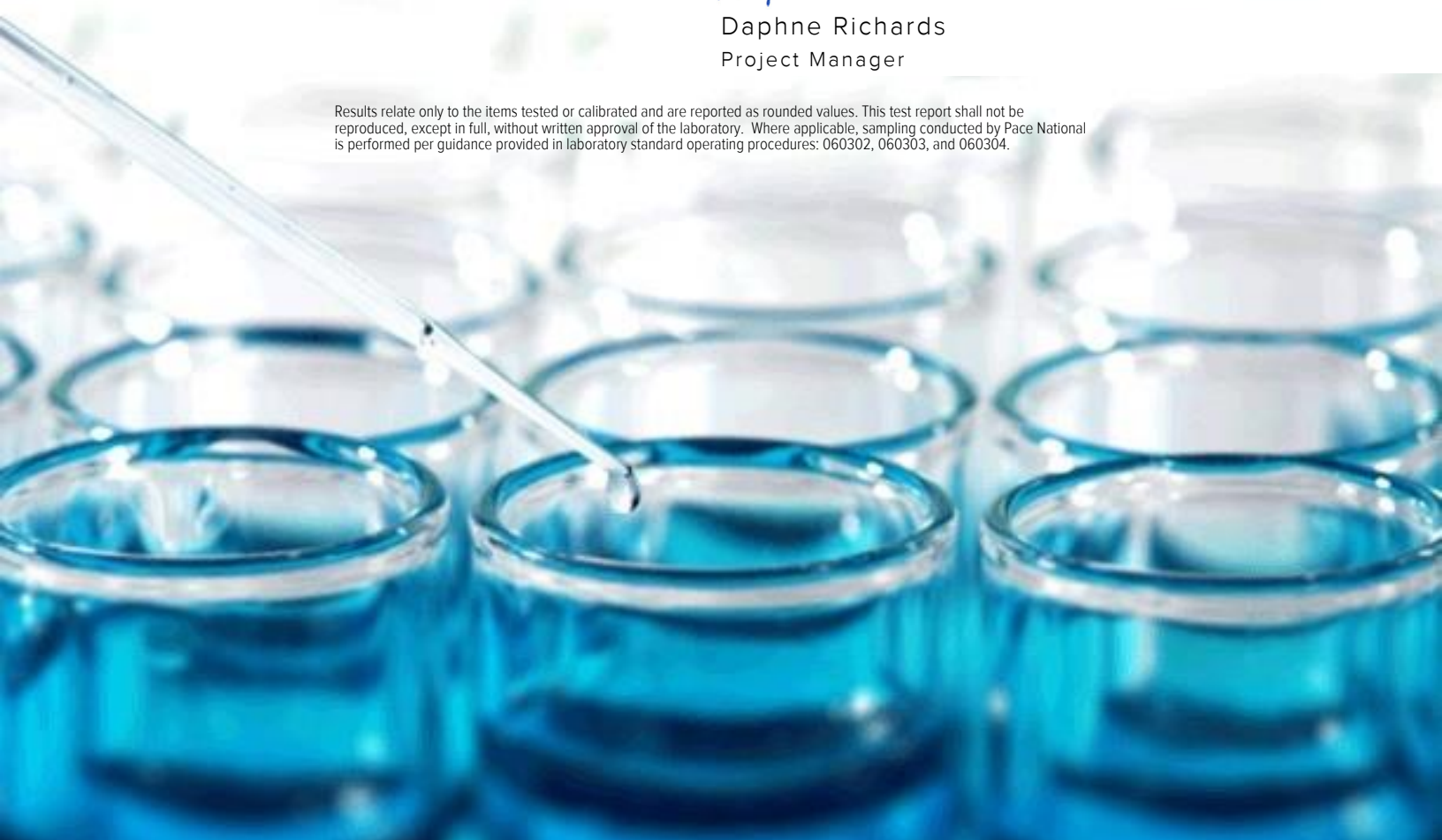
Sample Delivery Group: L1095333
Samples Received: 05/04/2019
Project Number: SUNRAY B #1F
Description: SUNRAY B #1F
Site: SUNRAY B #1F
Report To: Jennifer Deal
382 Road 3100
Aztec, NM 87401

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





Cp: Cover Page	1
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BASE L1095333-01 Solid

				Collected by Kurt	Collected date/time 05/02/19 09:22	Received date/time 05/04/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277444	1	05/08/19 14:50	05/08/19 19:52	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 14:53	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1.01	05/06/19 17:30	05/09/19 18:52	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 19:16	KME	Mt. Juliet, TN

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

W. WALL L1095333-02 Solid

				Collected by Kurt	Collected date/time 05/02/19 09:25	Received date/time 05/04/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 13:37	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 15:16	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 19:12	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:30	KME	Mt. Juliet, TN

S. WALL L1095333-03 Solid

				Collected by Kurt	Collected date/time 05/02/19 09:30	Received date/time 05/04/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 13:55	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 15:40	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 19:33	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:41	KME	Mt. Juliet, TN

N. WALL L1095333-04 Solid

				Collected by Kurt	Collected date/time 05/02/19 09:33	Received date/time 05/04/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 14:04	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 16:04	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 19:53	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:07	KME	Mt. Juliet, TN

E. WALL L1095333-05 Solid

				Collected by Kurt	Collected date/time 05/02/19 09:53	Received date/time 05/04/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 14:13	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1277873	1	05/06/19 17:30	05/08/19 16:28	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 20:14	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:18	KME	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	ND		10.0	1	05/08/2019 19:52	WG1277444

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000505	1.01	05/09/2019 18:52	WG1278441
Toluene	ND		0.00505	1.01	05/09/2019 18:52	WG1278441
Ethylbenzene	ND		0.000505	1.01	05/09/2019 18:52	WG1278441
Total Xylene	ND		0.00152	1.01	05/09/2019 18:52	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 14:53	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	97.9		77.0-120		05/08/2019 14:53	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	92.6		77.0-120		05/09/2019 18:52	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	102		72.0-128		05/08/2019 14:53	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	96.9		72.0-128		05/09/2019 18:52	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 19:16	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 19:16	WG1276910
(S) o-Terphenyl	40.7		18.0-148		05/07/2019 19:16	WG1276910



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	ND		10.0	1	05/13/2019 13:37	WG1277447

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	05/09/2019 19:12	WG1278441
Toluene	ND		0.00500	1	05/09/2019 19:12	WG1278441
Ethylbenzene	ND		0.000500	1	05/09/2019 19:12	WG1278441
Total Xylene	ND		0.00150	1	05/09/2019 19:12	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 15:16	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-120		05/08/2019 15:16	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	89.8		77.0-120		05/09/2019 19:12	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	99.9		72.0-128		05/08/2019 15:16	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	93.7		72.0-128		05/09/2019 19:12	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:30	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:30	WG1276910
(S) o-Terphenyl	53.3		18.0-148		05/07/2019 18:30	WG1276910



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	ND		10.0	1	05/13/2019 13:55	WG1277447

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	05/09/2019 19:33	WG1278441
Toluene	ND		0.00500	1	05/09/2019 19:33	WG1278441
Ethylbenzene	ND		0.000500	1	05/09/2019 19:33	WG1278441
Total Xylene	ND		0.00150	1	05/09/2019 19:33	WG1278441
TPH (GC/FID) Low Fraction	ND	J3	0.100	1	05/08/2019 15:40	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	97.3		77.0-120		05/08/2019 15:40	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	93.0		77.0-120		05/09/2019 19:33	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	102		72.0-128		05/08/2019 15:40	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	96.3		72.0-128		05/09/2019 19:33	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:41	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:41	WG1276910
(S) o-Terphenyl	51.9		18.0-148		05/07/2019 18:41	WG1276910



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	ND		10.0	1	05/13/2019 14:04	WG1277447

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	05/09/2019 19:53	WG1278441
Toluene	ND		0.00500	1	05/09/2019 19:53	WG1278441
Ethylbenzene	ND		0.000500	1	05/09/2019 19:53	WG1278441
Total Xylene	ND		0.00150	1	05/09/2019 19:53	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 16:04	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	98.1		77.0-120		05/08/2019 16:04	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	92.6		77.0-120		05/09/2019 19:53	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	103		72.0-128		05/08/2019 16:04	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	96.5		72.0-128		05/09/2019 19:53	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:07	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:07	WG1276910
(S) o-Terphenyl	46.2		18.0-148		05/07/2019 18:07	WG1276910



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	ND		10.0	1	05/13/2019 14:13	WG1277447

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	05/09/2019 20:14	WG1278441
Toluene	ND		0.00500	1	05/09/2019 20:14	WG1278441
Ethylbenzene	ND		0.000500	1	05/08/2019 16:28	WG1277873
Total Xylene	ND		0.00150	1	05/09/2019 20:14	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 16:28	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	98.1		77.0-120		05/08/2019 16:28	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	92.9		77.0-120		05/09/2019 20:14	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	102		72.0-128		05/08/2019 16:28	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	96.0		72.0-128		05/09/2019 20:14	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:18	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:18	WG1276910
(S) o-Terphenyl	55.7		18.0-148		05/07/2019 18:18	WG1276910



Method Blank (MB)

(MB) R3409466-1 05/08/19 15:52

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	3.22	⬇	0.795	10.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1094990-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1094990-27 05/08/19 16:53 • (DUP) R3409466-3 05/08/19 17:01

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	1330	1520	5	13.1		15

L1095457-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1095457-02 05/08/19 20:17 • (DUP) R3409466-6 05/08/19 20:26

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	17.6	17.4	1	0.854		15

Laboratory Control Sample (LCS)

(LCS) R3409466-2 05/08/19 16:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	201	100	80.0-120	

L1095029-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095029-13 05/08/19 17:10 • (MS) R3409466-4 05/08/19 17:18 • (MSD) R3409466-5 05/08/19 17:27

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	619	1600	2310	2420	114	131	1	80.0-120	⬇	⬇ J5	4.58	15

Method Blank (MB)

(MB) R3410702-1 05/13/19 13:11

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	3.79	⬇	0.795	10.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1095333-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1095333-02 05/13/19 13:37 • (DUP) R3410702-3 05/13/19 13:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	ND	4.14	1	0.000		15

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3410702-2 05/13/19 13:20

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	214	107	80.0-120	

⁹Sc



Method Blank (MB)

(MB) R3409525-5 05/08/19 12:14

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Ethylbenzene	U		0.000110	0.000500
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.9			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409525-1 05/08/19 10:14 • (LCSD) R3409525-2 05/08/19 10:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0500	0.0562	0.0483	112	96.6	80.0-124			15.1	20
(S) a,a,a-Trifluorotoluene(FID)				99.1	98.3	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				103	100	72.0-128				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409525-3 05/08/19 11:02 • (LCSD) R3409525-4 05/08/19 11:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.49	6.37	118	116	72.0-127			1.77	20
(S) a,a,a-Trifluorotoluene(FID)				107	108	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				110	111	72.0-128				

L1095333-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095333-03 05/08/19 15:40 • (MS) R3409525-6 05/08/19 20:07 • (MSD) R3409525-7 05/08/19 20:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0500	ND	0.0447	0.0398	88.9	79.0	1	10.0-160			11.7	32
(S) a,a,a-Trifluorotoluene(FID)					97.0	97.7		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					99.4	100		72.0-128				



L1095333-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095333-03 05/08/19 15:40 • (MS) R3409525-8 05/08/19 20:54 • (MSD) R3409525-9 05/08/19 21:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	3.71	1.90	67.5	34.6	1	10.0-151		J3	64.5	28
(S) a,a,a-Trifluorotoluene(FID)					102	98.3		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					106	102		72.0-128				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3409968-5 05/09/19 13:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000164	U	0.000120	0.000500
Toluene	0.000332	U	0.000150	0.00500
Ethylbenzene	0.000197	U	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
(S) a,a,a-Trifluorotoluene(FID)	96.2			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	101			72.0-128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409968-1 05/09/19 11:03 • (LCSD) R3409968-2 05/09/19 11:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0507	0.0572	101	114	76.0-121			12.1	20
Toluene	0.0500	0.0499	0.0552	99.7	110	80.0-120			10.2	20
Ethylbenzene	0.0500	0.0501	0.0577	100	115	80.0-124			14.1	20
Total Xylene	0.150	0.160	0.179	107	119	37.0-160			11.0	20
(S) a,a,a-Trifluorotoluene(FID)				95.5	94.6	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				96.8	95.6	72.0-128				

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3409145-1 05/07/19 17:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	53.8			18.0-148

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS)

(LCS) R3409145-2 05/07/19 17:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.2	62.4	50.0-150	
(S) o-Terphenyl			58.0	18.0-148	

L1095219-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095219-02 05/07/19 19:50 • (MS) R3409145-3 05/07/19 20:01 • (MSD) R3409145-4 05/08/19 09:42

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	64.1	10.6	45.4	39.6	54.3	45.8	1	50.0-150		J6	13.5	20
(S) o-Terphenyl					36.9	38.4		18.0-148				



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



HilCorp-Farmington, NM
382 Road 3100
Aztec, NM 87401

Billing Information:

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page ____ of ____



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



Report to:

JENNIFER DEAL

Email To:

jdeal@hilcorp.com

Project

Description:

City/State
Collected:

Lab Project #

Phone: 505-486-9543

Fax:

Client Project #

Collected by (print):

KURT

Site/Facility ID #

SUNRAY B#1F

P.O. #

Collected by (signature):

Kurt Haskett

Rush? (Lab MUST Be Notified)

Same Day ☒ Five Day
Next Day ☐ 5 Day (Rad Only)
Two Day ☐ 10 Day (Rad Only)
Three Day ☐

Date Results Needed

No.
of
Cntrs

Immediately

Packed on Ice N ☐ Y ☒

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

BASE

Comp

Soil

5-2

9:22

1

X

X

X

W. WALL

"

"

"

9:25

1

X

X

X

S. WALL

"

"

"

9:30

1

X

X

X

N. WALL

"

"

"

9:33

1

X

X

X

E. WALL

"

"

"

9:53

1

X

X

X

* Matrix:

SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:

UPS ☐ FedEx ☐ Courier ☐

Tracking #

7305 8947 5000

Trip Blank Received: Yes ☒ No ☐

HCL / MeOH
TBR

Temp: _____ °C Bottles Received: 5

2.14 - 0.1 = 2.04

Date: 5/4/19 Time: 845

Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☐ Y ☐ N
COC Signed/Accurate: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
If Applicable
VOA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ Y ☐ N

If preservation required by Login: Date/Time

Hold:

Condition:
NCF / ☒ OK

Relinquished by: (Signature)

Date:

5-3-19

Time:

6:25

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

K Willis

District I
1625 N French Dr, Hobbs, NM 88240

District II
1301 W Grand Ave, Artesia, NM 88210

District III
1000 Rio Brazos Rd, Aztec, NM 87410

District IV
1220 S. St Francis Dr, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

- 5209 Type of action:
- ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
 - ☒ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
 - ☐ Modification to an existing permit
 - ☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances

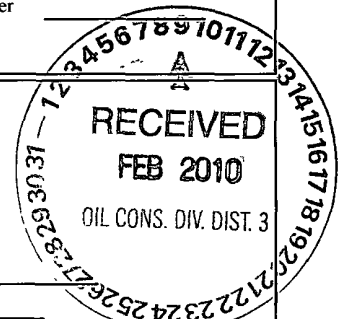
1
Operator: Burlington Resources Oil & Gas Company, LP OGRID#: 14538
Address: P.O. Box 4289, Farmington, NM 87499
Facility or well name: SUNRAY B 1F
API Number: 30-045-34494 OCD Permit Number _____
U/L or Qtr/Qtr: M(SW/SW) Section: 15 Township: 30N Range: 10W County: San Juan
Center of Proposed Design: Latitude: 36.807035 °N Longitude: 107.877875 °W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2
☒ **Pit:** Subsection F or G of 19 15 17 11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type _____ Thickness 12 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams ☒ Welded ☒ Factory ☐ Other _____ Volume 4400 bbl Dimensions L 65' x W 45' x D 10'

3
☐ **Closed-loop System:** Subsection H of 19 15 17 11 NMAC
Type of Operation ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type _____ Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVD ☐ Other _____
Liner Seams ☐ Welded ☐ Factory ☐ Other _____

4
☐ **Below-grade tank:** Subsection I of 19 15 17.11 NMAC
Volume: _____ bbl Type of fluid _____
Tank Construction material _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner Type: _____ Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

5
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval



33

6	<p>Fencing: Subsection D of 19 15 17 11 NMAC (<i>Applies to permanent pit, temporary pits, and below-grade tanks</i>)</p> <p><input type="checkbox"/> Chain link, six feet in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)</p> <p><input type="checkbox"/> Four foot height, four strands of barbed wire evenly spaced between one and four feet</p> <p><input type="checkbox"/> Alternate Please specify _____</p>																				
7	<p>Netting: Subsection E of 19 15 17 11 NMAC (<i>Applies to permanent pits and permanent open top tanks</i>)</p> <p><input type="checkbox"/> Screen <input type="checkbox"/> Netting <input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Monthly inspections (<i>If netting or screening is not physically feasible</i>)</p>																				
8	<p>Signs: Subsection C of 19 15 17 11 NMAC</p> <p><input type="checkbox"/> 12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers</p> <p><input checked="" type="checkbox"/> Signed in compliance with 19 15 3 103 NMAC</p>																				
9	<p>Administrative Approvals and Exceptions:</p> <p>Justifications and/or demonstrations of equivalency are required Please refer to 19.15 17 NMAC for guidance</p> <p><i>Please check a box if one or more of the following is requested, if not leave blank:</i></p> <p><input type="checkbox"/> Administrative approval(s) Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval (Fencing/BGT Liner)</p> <p><input type="checkbox"/> Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval</p>																				
10	<p>Siting Criteria (regarding permitting): 19.15.17.10 NMAC</p> <p><i>Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau Office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above grade-tanks associated with a closed-loop system.</i></p> <table style="width: 100%;"> <tr> <td style="width: 80%;"> <p>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p> </td> <td style="width: 20%; text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</p> <p>- Topographic map; Visual inspection (certification) of the proposed site</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <p>(<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo, Satellite image</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA </td> </tr> <tr> <td> <p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <p>(<i>Applied to permanent pits</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA </td> </tr> <tr> <td> <p>Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.</p> <p>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended</p> <p>- Written confirmation or verification from the municipality; Written approval obtained from the municipality</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within 500 feet of a wetland.</p> <p>- US Fish and Wildlife Wetland Identification map, Topographic map; Visual inspection (certification) of the proposed site</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within the area overlying a subsurface mine.</p> <p>- Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within an unstable area.</p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> <tr> <td> <p>Within a 100-year floodplain</p> <p>- FEMA map</p> </td> <td style="text-align: right;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </td> </tr> </table>	<p>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</p> <p>- Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <p>(<i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo, Satellite image</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <p>(<i>Applied to permanent pits</i>)</p> <p>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	<p>Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.</p> <p>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended</p> <p>- Written confirmation or verification from the municipality; Written approval obtained from the municipality</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within 500 feet of a wetland.</p> <p>- US Fish and Wildlife Wetland Identification map, Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within the area overlying a subsurface mine.</p> <p>- Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within an unstable area.</p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<p>Within a 100-year floodplain</p> <p>- FEMA map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.</p> <p>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
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<p>Within an unstable area.</p> <p>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				
<p>Within a 100-year floodplain</p> <p>- FEMA map</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No																				

11

Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Previously Approved Design (attach copy of design) API _____ or Permit _____

12

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

- Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*
- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Previously Approved Design (attach copy of design) API _____
☐ Previously Approved Operating and Maintenance Plan API _____

13

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Climatological Factors Assessment
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Dike Protection and Structural Integrity Design: based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Quality Control/Quality Assurance Construction and Installation Plan
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
☐ Emergency Response Plan
☐ Oil Field Waste Stream Characterization
☐ Monitoring and Inspection Plan
☐ Erosion Control Plan
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14

Proposed Closure: 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System
☐ Alternative
 Proposed Closure Method. ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☐ On-site Closure Method (only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench
☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19 15 17 13 D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name _____ Disposal Facility Permit # _____

Disposal Facility Name _____ Disposal Facility Permit # _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and

☐ Yes (If yes, please provide the information) ☐ No

Required for impacted areas which will not be used for future service and operations

☐ Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

Siting Criteria (Regarding on-site closure methods only: 19 15 17 10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19 15 17 10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells

☐ Yes ☐ No

☐ N/A

Ground water is between 50 and 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells

☐ Yes ☐ No

☐ N/A

Ground water is more than 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search; USGS, Data obtained from nearby wells

☐ Yes ☐ No

☐ N/A

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)

- Topographic map, Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application

- Visual inspection (certification) of the proposed site, Aerial photo, satellite image

☐ Yes ☐ No

☐ Yes ☐ No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of the initial application

- NM Office of the State Engineer - iWATERS database, Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended

- Written confirmation or verification from the municipality, Written approval obtained from the municipality

☐ Yes ☐ No

Within 500 feet of a wetland

- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within the area overlying a subsurface mine

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map

☐ Yes ☐ No

Within a 100-year floodplain

- FEMA map

On-Site Closure Plan Checklist: (19 15 17 13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19 15 17 11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) - based upon the appropriate requirements of 19 15 17 11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17 13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19 15 17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

19

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief

Name (Print) _____ Title _____
 Signature _____ Date _____
 e-mail address _____ Telephone _____

20

OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)OCD Representative Signature: Donnell D. Kelly Approval Date: 9/15/2011Title: Compliance Officer OCD Permit Number: _____

21

Closure Report (required within 60 days of closure completion): Subsection K of 19 15 17 13 NMAC

Instructions Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed

☒ Closure Completion Date: September 11, 2008

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Closure Method:

☐ Waste Excavation and Removal ☒ On-site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain

23

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name _____ Disposal Facility Permit Number _____

Disposal Facility Name _____ Disposal Facility Permit Number _____

Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24

Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.

☒ Proof of Closure Notice (surface owner and division)
☒ Proof of Deed Notice (required for on-site closure)
☒ Plot Plan (for on-site closures and temporary pits)
☒ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (if applicable)
☒ Disposal Facility Name and Permit Number
☒ Soil Backfilling and Cover Installation
☒ Re-vegetation Application Rates and Seeding Technique
☒ Site Reclamation (Photo Documentation)

On-site Closure Location Latitude 36.806775 °N Longitude 107.8779139 °W NAD ☐ 1927 ☒ 1983

25

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan

Name (Print) Crystal Tafoya Title: Regulatory Technician
 Signature Crystal Tafoya Date 2/5/2010
 e-mail address crystal.tafoya@conocophillips.com Telephone 505-326-9837

Burlington Resources Oil Gas Company, LP
San Juan Basin
Closure Report

Lease Name: Sunray B 1F

API No.: 30-045-34494

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure of the temporary pit referenced above. All proper documentation regarding closure activities is being included with the C-144. The temporary pit for this location was constructed and location drilled before June 16, 2008 (effective date for Rule 19.15.17). While closure of the temporary pit did fall within the rule some dates for submittals are after the rig release date.

- Details on Capping and Covering, where applicable. **(See report)**
- Plot Plan (Pit Diagram) **(Included as an attachment)**
- Inspection Reports **(Included as an attachment)**
- Sampling Results **(Included as an attachment)**
- C-105 **(Included as an attachment)**
- Copy of Deed Notice will be filed with County Clerk **(Not required on Federal, State, or Tribal land as stated by FAQ dated October 30, 2008)**

General Plan:

1. All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves.

All recovered liquids were disposed of at Basin Disposal (Permit #NM-01-005) and any sludge or soil required to be removed to facilitate closure was hauled to Envirotech Land Farm (Permit #NM-01-011) and JFJ Landfarm % IEI (Permit #NM-01-0010B).

2. The preferred method of closure for all temporary pits will be on-site burial, assuming that all the criteria listed in sub-section (B) of 19.15.17.13 are met.

The pit was closed using onsite burial.

3. The surface owner shall be notified of BR's closing of the temporary pit as per the approved closure plan using certified mail, return receipt requested.

The closure process notification to the landowner was sent via email. (See Attached)(Well located on Federal Land, certified mail is not required for Federal Land per BLM/OCD MOU.)

4. Within 6 months of the Rig Off status occurring BR will ensure that temporary pits are closed, re-contoured, and reseeded.

Provision 4 of the closure plan requirements were not met due to rig move off date as noted on C-105 which was prior to pit rule change. Burlington will ensure compliance with this rule in the future.

5. Notice of Closure will be given to the Aztec Division office between 72 hours and one week of closure via email, or verbally. The notification of closure will include the following:
 - i. Operator's name
 - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

Notification is attached.

6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "All" of the liner i.e., edges of liner entrenched or buried. All excessive liner will be disposed of at a licensed disposal facility.

Liner of temporary pit was removed above "mud level" after stabilization. Removal of the liner consisted of manually cutting liner at mud level and removing all remaining liner. Care was taken to remove "ALL" of the liner i.e., edges of liner entrenched or buried. All excessive liner was disposed of at a licensed disposal facility, (San Juan County Landfill).

7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.

Burlington mixed the Pit contents with non-waste containing, earthen material in order to achieve the solidification process. The solidification process was accomplished by using a combination of natural drying and mechanically mixing. Pit contents were mixed with non-waste, earthen material to a consistency that is deemed as safe and stable. The mixing ratio consisted of approximately 3 parts clean soil to 1 part pit contents.

8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul.

A five point composite sample was taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). (Sample results attached).

Components	Tests Method	Limit (mg/Kg)	Results
Benzene	EPA SW-846 8021B or 8260B	0.2	.9 ug/kg
BTEX	EPA SW-846 8021B or 8260B	50	14.3 ug/kG
TPH	EPA SW-846 418.1	2500	504 mg/kg
GRO/DRO	EPA SW-846 8015M	500	ND mg/Kg
Chlorides	EPA 300.1	1000 /500	24.5 mg/L

9. Upon completion of solidification and testing standards being passed, the pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. If standard testing fails BR will dig and haul all contents pursuant to 19.15.17.13.i.a. After doing such, confirmation sampling will be conducted to ensure a release has not occurred.

The pit material passed solidification and testing standards. The pit area was then backfilled with compacted, non-waste containing, earthen material. More than four feet of cover was achieved and the cover included one foot of suitable material to establish vegetation at the site.

10. During the stabilization process if the liner is ripped by equipment the Aztec OCD office will be notified within 48 hours and the liner will be repaired if possible. If the liner can not be repaired then all contents will be excavated and removed.

The integrity of the liner was not damaged in the pit closure process.

11. Dig and Haul Material will be transported to the Envirotech Land Farm located 16 miles south of Bloomfield on Angel Peak Road, CR 7175. Permit # NM010011

Dig and Haul was not required.

12. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.

The pit area was re-contoured to match fit, shape, line, form and texture of the surrounding area. Re-shaping included drainage control, to prevent ponding and erosion. Natural drainages were unimpeded and water bars and/or silt traps were placed in areas where needed to prevent erosion on a large scale. Final re-contour has a uniform appearance with smooth surface, fitting the natural landscape.

13. Notification will be sent to OCD when the reclaimed area is seeded.

Provision 13 was accomplished through complying with BLM seeding requirements as allowed by the BLM/OCD MOU.

14. BR shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

Provision 14 was accomplished through complying with BLM seeding requirements as allowed by the BLM/OCD MOU.

15. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

Provision 15 was accomplished by installing a steel marker in the temporary pit, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial. The marker is flush with the ground to allow access of the active well pad and for safety concerns. The top of the marker contains a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate contains the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the following operator's information at the time of all wells on the pad are abandoned. The riser will be labeled: BR, BLM, SUNRAY B 1F, UL-M, Sec. 15, T 30N, R 10W, API # 30-045-34494

Tafoya, Crystal

From: Tafoya, Crystal
Sent: Friday, August 08, 2008 9:10 AM
To: 'mark_kelly@nm.blm.gov'
Subject: Surface Owner Notification

The following temporary pits will be closed on-site. Please let me know if you have any questions.

Sunray B #1F
Maddox C WN Federal Com #1F
Huerfano Unit #304

Thank you,

Crystal L. Tafoya
Regulatory Technician
ConocoPhillips Company
San Juan Business Unit
Phone: (505) 326-9837
Email: Crystal.Tafoya@conocophillips.com

STRICT I
25 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised October 12, 2005

STRICT II
01 West Grand Avenue, Artesia, N.M. 88210

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

STRICT III
100 Rio Brazos Rd., Aztec, N.M. 87410

STRICT IV
120 S. St. Francis Dr., Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name BASIN DAKOTA	
4 Property Code		5 Property Name SUNRAY B			6 Well Number 1F
7 GRID No.		8 Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP			9 Elevation 6339'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	15	30-N	10-W		700'	SOUTH	860'	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
12 Dedicated Acres 319.34			13 Joint or Infill		14 Consolidation Code		15 Order No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16

LOT 4	LOT 3	LOT 2	LOT 1
USA SF-078125			
LOT 5	LOT 6	LOT 7	LOT 8
USA SF-078208			
LOT 12	LOT 11	LOT 10	LOT 9
LOT 13	LOT 14	LOT 15	LOT 16

15

N 0° 12' 15" E
2838.63'

860'

700'

S 88° 45' 04" E
2694.18'

LAT: 36° 48' 42.19" N.
LONG: 107° 52' 53.53" W.
NAD 1927

LAT: 36.807036° N.
LONG: 107.877875° W.
NAD 1983

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or a working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature

Printed Name

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey

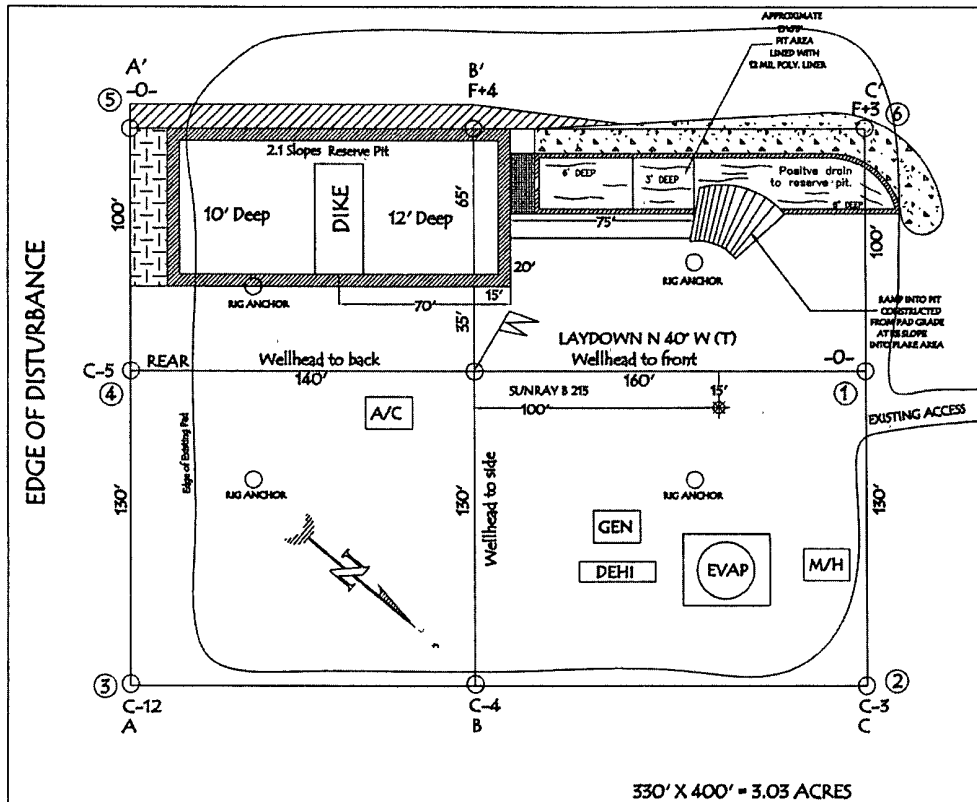
Signature

Certificate Number

15703

BURLINGTON RESOURCES OIL & GAS COMPANY LP
SUNRAY B 1F, 700' FSL & 860' FWL
SECTION 15, T-30- N, R-10-W, NMPM, SAN JUAN COUNTY, NM
GROUND ELEVATION: 6339', DATE: JULY 11, 2007

RESERVE PIT DIKE. TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).
 BLOW PIT: OVERFLOW PIPE 4' ABOVE BOTTOM OF BLOW PIT.



NOTE: VECTOR SURVEYS LLC IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.
 CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED
 PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

LAT: 36° 48.4219' N LONG: 107° 52.6353' W NAD27

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sumray B-1-E	Date Reported:	08-18-08
Laboratory Number:	46713	Date Sampled:	08-12-08
Chain of Custody No:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Extracted:	08-13-08
Preservative:	Cool	Date Analyzed:	08-14-08
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Drilling Pit Sample**

Analyst

Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F Background	Date Reported:	08-18-08
Laboratory Number:	46714	Date Sampled:	08-12-08
Chain of Custody No:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Extracted:	08-13-08
Preservative:	Cool	Date Analyzed:	08-14-08
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

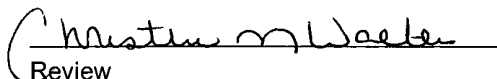
References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Drilling Pit Sample**

Analyst



Review



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-14-08 QA/QC	Date Reported:	08-18-08
Laboratory Number:	46700	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-14-08
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.0079E+003	1.0083E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.0025E+003	1.0029E+003	0.04%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	33.0	34.2	3.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	252	101%	75 - 125%
Diesel Range C10 - C28	33.0	250	290	102%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 46700, 46713 - 46714, and 46731.

Analyst

Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F	Date Reported:	08-18-08
Laboratory Number:	46713	Date Sampled:	08-12-08
Chain of Custody:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Analyzed:	08-14-08
Preservative:	Cool	Date Extracted:	08-13-08
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	0.9	0.9
Toluene	3.3	1.0
Ethylbenzene	3.8	1.0
p,m-Xylene	4.6	1.2
o-Xylene	1.7	0.9
Total BTEX	14.3	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

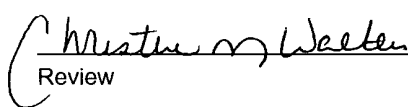
Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Drilling Pit Sample

Analyst



Review



EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F Background	Date Reported:	08-18-08
Laboratory Number:	46714	Date Sampled:	08-12-08
Chain of Custody:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Analyzed:	08-14-08
Preservative:	Cool	Date Extracted:	08-13-08
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Drilling Pit Sample

Analyst



Review



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	08-14-BT QA/QC	Date Reported:	08-18-08
Laboratory Number:	46700	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-14-08
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect Limit
		Accept Range	0 - 15%		
Benzene	9.9655E+007	9.9855E+007	0.2%	ND	0.1
Toluene	7.3805E+007	7.3953E+007	0.2%	ND	0.1
Ethylbenzene	5.9452E+007	5.9571E+007	0.2%	ND	0.1
p,m-Xylene	1.2457E+008	1.2482E+008	0.2%	ND	0.1
o-Xylene	5.8593E+007	5.8710E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect Limit
Benzene	1.1	1.0	9.1%	0 - 30%	0.9
Toluene	1.8	1.5	16.7%	0 - 30%	1.0
Ethylbenzene	1.8	1.6	11.1%	0 - 30%	1.0
p,m-Xylene	3.6	3.2	11.1%	0 - 30%	1.2
o-Xylene	2.0	1.6	20.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	1.1	50.0	50.7	99.2%	39 - 150
Toluene	1.8	50.0	49.8	96.1%	46 - 148
Ethylbenzene	1.8	50.0	48.8	94.2%	32 - 160
p,m-Xylene	3.6	100	101	97.1%	46 - 148
o-Xylene	2.0	50.0	50.0	96.2%	46 - 148

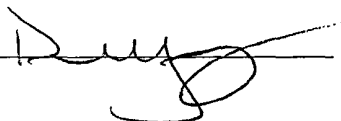
ND - Parameter not detected at the stated detection limit.

References:

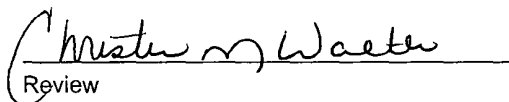
Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 46700, 46713 - 46714, 46728, and 46731 - 46732 .

Analyst



Review



Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F	Date Reported:	08-18-08
Laboratory Number:	46713	Date Sampled:	08-12-08
Chain of Custody:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Analyzed:	08-15-08
Preservative:	Cool	Date Digested:	08-15-08
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.090	0.001	5.0
Barium	4.7	0.001	100
Cadmium	0.002	0.001	1.0
Chromium	0.189	0.001	5.0
Lead	0.449	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.028	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

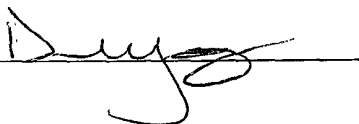
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

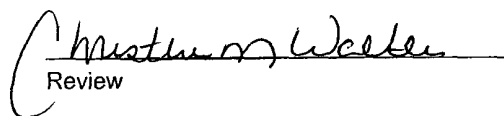
Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Drilling Pit Sample.**

Analyst



Review



Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F Background	Date Reported:	08-18-08
Laboratory Number:	46714	Date Sampled:	08-12-08
Chain of Custody:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Analyzed:	08-15-08
Preservative:	Cool	Date Digested:	08-15-08
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.082	0.001	5.0
Barium	3.53	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.066	0.001	5.0
Lead	0.135	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.016	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

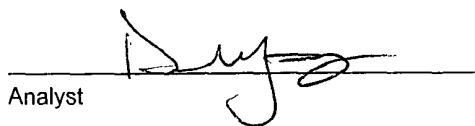
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

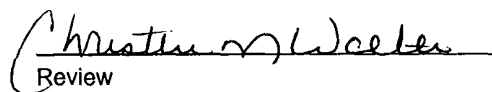
Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Drilling Pit Sample.**

Analyst



Review



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	QA/QC
Sample ID:	08-15 TM QA/AC	Date Reported:	08-18-08
Laboratory Number:	46713	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-15-08
Condition:	N/A	Date Digested:	08-15-08

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/Kg)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.090	0.100	11.4%	0% - 30%
Barium	ND	ND	0.001	4.67	4.65	0.4%	0% - 30%
Cadmium	ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.189	0.192	1.9%	0% - 30%
Lead	ND	ND	0.001	0.449	0.441	1.7%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.028	0.022	22.1%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.250	0.090	0.295	86.8%	80% - 120%
Barium	0.500	4.67	5.15	99.6%	80% - 120%
Cadmium	0.250	0.002	0.206	81.9%	80% - 120%
Chromium	0.500	0.189	0.612	88.9%	80% - 120%
Lead	0.500	0.449	0.791	83.4%	80% - 120%
Mercury	0.100	ND	0.094	94.0%	80% - 120%
Selenium	0.100	0.028	0.105	82.0%	80% - 120%
Silver	0.100	ND	0.098	97.5%	80% - 120%

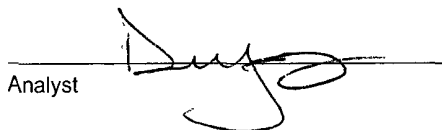
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

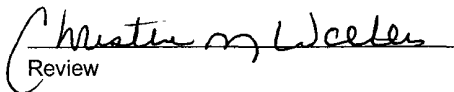
Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/1QC for Samples 46713 - 46722.

Analyst



Review



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

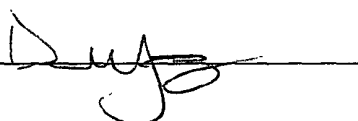
CATION / ANION ANALYSIS

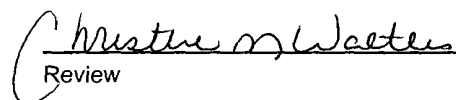
Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F	Date Reported:	08-19-08
Laboratory Number:	46713	Date Sampled:	08-12-08
Chain of Custody:	4980	Date Received:	08-12-08
Sample Matrix:	Soil Extract	Date Extracted:	08-14-08
Preservative:	Cool	Date Analyzed:	08-15-08
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	8.11	s.u.		
Conductivity @ 25° C	295	umhos/cm		
Total Dissolved Solids @ 180C	180	mg/L		
Total Dissolved Solids (Calc)	172	mg/L		
SAR	1.5	ratio		
Total Alkalinity as CaCO3	58.0	mg/L		
Total Hardness as CaCO3	41.6	mg/L		
Bicarbonate as HCO3	58.0	mg/L	0.95	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	3.16	mg/L	0.05	meq/L
Nitrite Nitrogen	<0.01	mg/L	0.00	meq/L
Chloride	24.5	mg/L	0.69	meq/L
Fluoride	1.32	mg/L	0.07	meq/L
Phosphate	4.536	mg/L	0.14	meq/L
Sulfate	36.9	mg/L	0.77	meq/L
Iron	0.229	mg/L	0.01	meq/L
Calcium	14.2	mg/L	0.71	meq/L
Magnesium	1.49	mg/L	0.12	meq/L
Potassium	29.3	mg/L	0.75	meq/L
Sodium	21.5	mg/L	0.94	meq/L
Cations			2.52	meq/L
Anions			2.67	meq/L
Cation/Anion Difference			5.60%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Drilling Pit Sample.**

Analyst 

Review 

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F Background	Date Reported:	08-19-08
Laboratory Number:	46714	Date Sampled:	08-12-08
Chain of Custody:	4980	Date Received:	08-12-08
Sample Matrix:	Soil Extract	Date Extracted:	08-14-08
Preservative:	Cool	Date Analyzed:	08-15-08
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	7.00	s.u.		
Conductivity @ 25° C	135	umhos/cm		
Total Dissolved Solids @ 180C	60	mg/L		
Total Dissolved Solids (Calc)	64	mg/L		
SAR	2.7	ratio		
Total Alkalinity as CaCO3	25.0	mg/L		
Total Hardness as CaCO3	8.7	mg/L		
Bicarbonate as HCO3	25.0	mg/L	0.41	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	8.67	mg/L	0.14	meq/L
Nitrite Nitrogen	5.06	mg/L	0.11	meq/L
Chloride	2.69	mg/L	0.08	meq/L
Fluoride	1.57	mg/L	0.08	meq/L
Phosphate	5.26	mg/L	0.17	meq/L
Sulfate	3.14	mg/L	0.07	meq/L
Iron	1.28	mg/L	0.05	meq/L
Calcium	2.67	mg/L	0.13	meq/L
Magnesium	0.503	mg/L	0.04	meq/L
Potassium	1.20	mg/L	0.03	meq/L
Sodium	18.3	mg/L	0.80	meq/L
Cations			1.05	meq/L
Anions			1.05	meq/L
Cation/Anion Difference			0.24%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Drilling Pit Sample.**

Analyst

Review


Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F	Date Reported:	08-15-08
Laboratory Number:	46713	Date Sampled:	08-12-08
Chain of Custody No:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Extracted:	08-13-08
Preservative:	Cool	Date Analyzed:	08-14-08
Condition:	Intact	Analysis Needed:	TPH-418.1

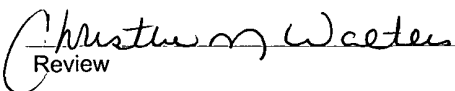
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	504	5.0

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Drilling Pit Sample.**

Analyst 

Review 

Client:	ConocoPhillips	Project #:	96052-0026
Sample ID:	Sunray B1F Background	Date Reported:	08-15-08
Laboratory Number:	46714	Date Sampled:	08-12-08
Chain of Custody No:	4980	Date Received:	08-12-08
Sample Matrix:	Soil	Date Extracted:	08-13-08
Preservative:	Cool	Date Analyzed:	08-14-08
Condition:	Intact	Analysis Needed:	TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	92.9	5.0

ND = Parameter not detected at the stated detection limit.

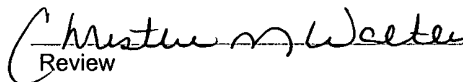
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Drilling Pit Sample.

Analyst



Review



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	QA/QC	Date Reported:	08-15-08
Laboratory Number:	08-14-TPH QA/QC 46683	Date Sampled:	N/A
Sample Matrix:	Freon-113	Date Analyzed:	08-14-08
Preservative:	N/A	Date Extracted:	08-13-08
Condition:	N/A	Analysis Needed:	TPH

Calibration	I-Cal Date	C-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
	08-01-08	08-14-08	1,790	1,700	5.0%	+/- 10%

Blank Conc. (mg/Kg)	Concentration	Detection Limit
TPH	ND	7.1

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
TPH	3,720	3,640	2.1%	+/- 30%


Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	3,715	2,000	5,930	104%	80 - 120%

ND = Parameter not detected at the stated detection limit.

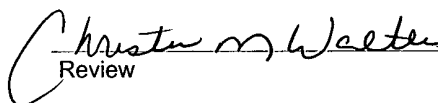
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

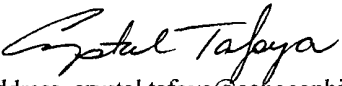
Comments: QA/QC for Samples 46683, 44684, 44698, 46699, 46713, 46714, 46725 and 46726.

Analyst



Review



Submit To Appropriate District Office Two Copies District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505	Form C-105 July 17, 2008 1. WELL API NO. 30-045-34494 2. Type of Lease <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/> FED/INDIAN 3. State Oil & Gas Lease No. SF-078208								
WELL COMPLETION OR RECOMPLETION REPORT AND LOG										
4. Reason for filing: <input type="checkbox"/> COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) <input checked="" type="checkbox"/> C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33, attach this and the plat to the C-144 closure report in accordance with 19.15.17.13 K NMAC)		5. Lease Name or Unit Agreement Name Sunray B 6. Well Number: 1F								
7. Type of Completion: <input checked="" type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input type="checkbox"/> OTHER										
8. Name of Operator Burlington Resources Oil Gas Company, LP		9. OGRID 14538								
10. Address of Operator PO Box 4298, Farmington, NM 87499		11. Pool name or Wildcat								
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:										
BH:										
13. Date Spudded	14. Date T D. Reached	15. Date Rig Released 03/13/2008		16. Date Completed (Ready to Produce)			17. Elevations (DF and RKB, RT, GR, etc.)			
18. Total Measured Depth of Well		19. Plug Back Measured Depth		20. Was Directional Survey Made?			21. Type Electric and Other Logs Run			
22. Producing Interval(s), of this completion - Top, Bottom, Name										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB /FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
24. LINER RECORD						25. TUBING RECORD				
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN		SIZE	DEPTH SET	PACKER SET		
26. Perforation record (interval, size, and number)						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.				
						DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED		
28. PRODUCTION										
Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)				
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio			
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr)				
29. Disposition of Gas (Sold, used for fuel, vented, etc.)								30. Test Witnessed By		
31. List Attachments										
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.										
33. If an on-site burial was used at the well, report the exact location of the on-site burial:										
Latitude 36.806775°N Longitude 107.8779139°W NAD <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983										
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief										
Signature 			Printed Name Crystal Tafoya			Title: Regulatory Technician		Date: 2/5/2010		
E-mail Address crystal.tafoya@cohnocophillips.com										



Pit Closure Form:

Date: 9/11/2008

Well Name: Sunray B 1F

Footages: 700 FSH 860 FWL Unit Letter:

Section: 15, T-30-N, R-10-W, County: SJ State: NM

Contractor Closing Pit: Acc

Construction Inspector: Norman Faver Date: 9/11/2008

Inspector Signature: Norman Faver

Tafoya, Crystal

From: Busse, Dollie L
Sent: Wednesday, September 03, 2008 8 14 AM
To: Brandon Powell, Mark Kelly, Robert Switzer, Sherrie Landon
Cc: acedragline@yahoo.com, Chavez, Virgil E, GRP SJB� Production Leads, Kramme, Jeff L, Larry Thacker, Blair, Maxwell O, Blakley, Maclovía; Clark, Joan E, Cornwall, Mary K (SOS Staffing Services, Inc.), Farrell, Juanita R; Maxwell, Mary Alice, McWilliams, Peggy L, Seabolt, Elmo F
Subject: Clean Up Notice - Sunray B 1F
Importance: High

Ace Services will move a tractor to the **Sunray B 1F** on **Monday, September 8, 2008** to start the reclamation process. Please contact Norman Faver (320-0670) if you have any questions or need additional information.

Thanks!
Dollie

Network #: 10198140

Operator: Burlington Resources
Legals: 700' FSL, 860' FWL
Section 15, T30N, R10W
Unit Letter 'M' (SWSW)
San Juan County, NM
Lease: USA SF-078208
API #: 30-045-34494
Surface/Minerals: BLM/BLM

Thanks!
Dollie

Dollie L. Busse

ConocoPhillips Company-SJB�

Construction Technician

Project Development

505-324-6104

505-599-4062 (fax)

Dollie.L.Busse@conocophillips.com

Tracking:	Recipient	Read
	Brandon Powell	
	Mark Kelly	

Recipient**Read**

Robert Switzer
Sherrie Landon
acedragline@yahoo.com
Chavez, Virgil E
GRP SJBW Production Leads
Kramme, Jeff L
Larry Thacker
Blair, Maxwell O
Blakley, Maclovio
Clark, Joan E
Cornwall, Mary K (SOS Staffing Services, Inc)
Farrell, Juanita R
Maxwell, Mary Alice
McWilliams, Peggy L
Seabolt, Elmo F

Read 9/3/2008 8 23 AM

ConocoPhillips

Pit Closure Form:

Date: 9-11-2008

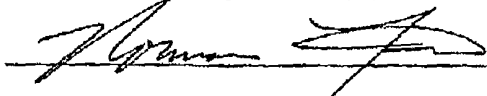
Well Name: Sunray B 1F

Footages: 700 FSL 660 FWL Unit Letter: M

Section: 15, T-30-N, R-10-W, County: SJ State: NM

Contractor Closing Pit: Ace

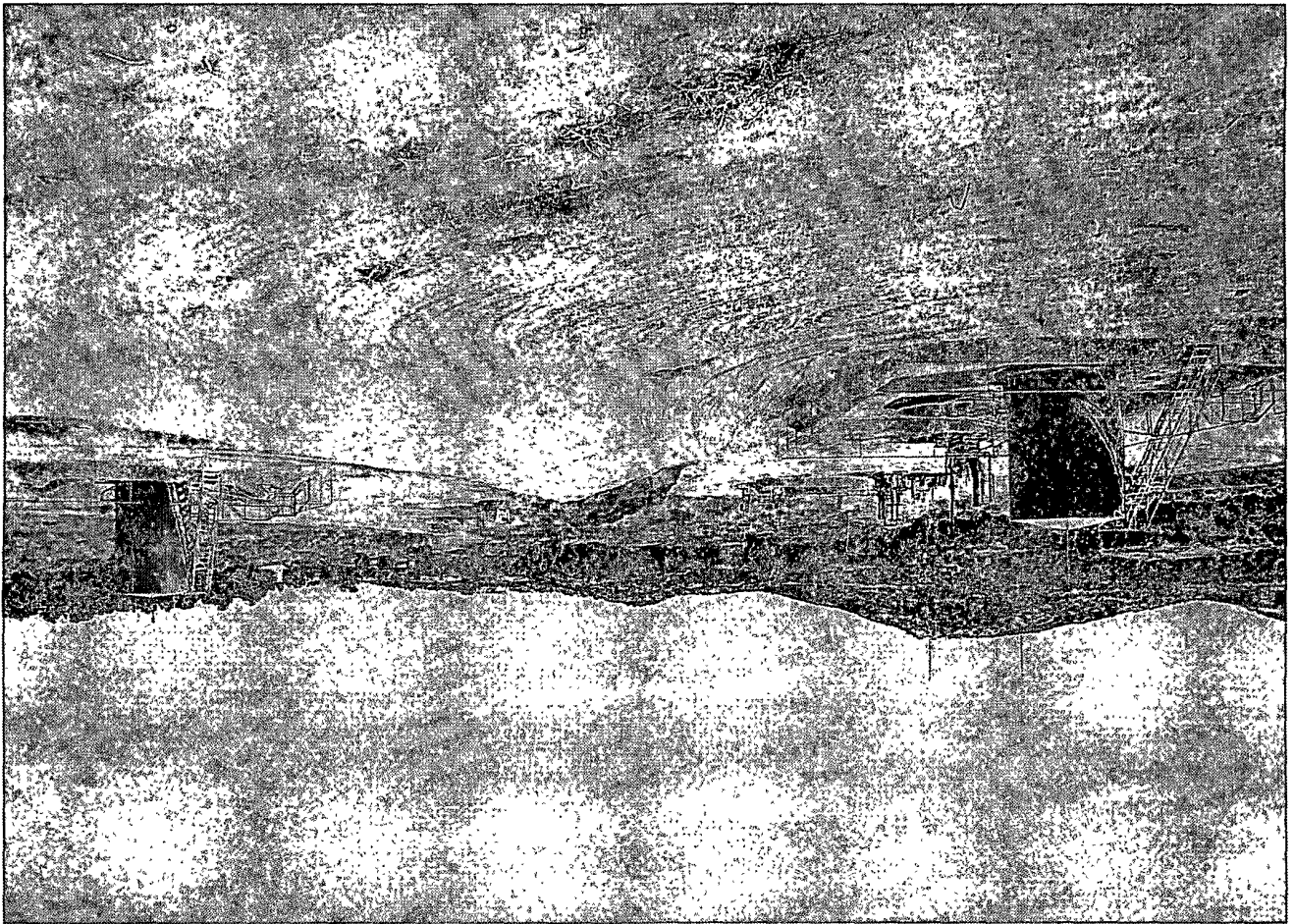
Construction Inspector: Norman Faver Date: 9-11-2008

Inspector Signature: 

BURLINGTON
ConocoPhillips **RESOURCES**
SUNRAY B #1F
LATITUDE 36.807036° N (NAD83)
LONGITUDE 107.877875° W
UNIT M SEC 15 T30N R10W
700' FSL 860' FWL
API # 30-045-34494
LEASE #SF-078208 ELEV. 6339' GL
SAN JUAN COUNTY, NEW MEXICO
EMERGENCY CONTACT: 1-505-599-3400

07/02/2008

Sunray B #1F
S12, T030N, R012W
OBL, BLM, BR
M



WELL PAD SAFETY AND ENVIRONMENTAL CHECK LIST

WELL NAME: Sunray B 1F

API#: 30-045-34494

DATE	INSPECTOR	SAFETY CHECK	LOCATION CHECK	PICTURES TAKEN	COMMENTS
2/27/08	Eric Smith	X	X		
3/17/08	Eric Smith	X	X		Liner torn in blow pit, called MVCI to repair and notified OCD
4/4/08	T. Jones	X	X		
4/11/08	T. Jones				Frac on location
4/17/08	J. McDonald	X	X	X	
4/28/08	Jared Chavez	X	X		Holes in liner near water level, called Brandon with OCD, fence needs tightened
5/30/08	Jared Chavez	X	X		Pit and location in good condition
6/11/08	Jared Chavez				Drake rig #24 is on location
6/18/08	Jared Chavez				Drake rig #24 is on location
6/25/08	Jared Chavez	X	X		Hole in liner, fence needs tightened, called MVCI and Brandon with OCD
7/2/08	Jared Chavez	X	X		Pit and location in good condition
7/9/08	Jared Chavez	X	X		Hole in liner, called Crossfire and Brandon with OCD
7/16/08	Jared Chavez	X	X		Pit and location in good condition
7/22/08	Jared Chavez	X	X		Pit and location in good condition
7/30/08	Jared Chavez	X	X		Blow pit water need pulled, contacted Noble trucking
8/6/08	Jared Chavez	X	X		Pit and location in good condition
8/12/08	Jared Chavez	X	X		Blow pit water needs pulled, called ACE services
8/20/08	Jared Chavez	X	X		Pit and location in good condition
9/3/08	Jared Chavez	X	X		Pit and location in good condition
9/16/08	Jared Chavez				Location has been reclaimed