Ocotillo
ENVIRONMENTAL
Dirt Work • On-Site Remediation • Soil Testing • Excavation

October 11, 2006

Mr. Chris Williams
New Mexico Oil Conservation Division – District I
1625 North French Drive
Hobbs, New Mexico 88240

RP# 1081

Re: Status
Marjo Operating Company, Inc.,
Sunray State #11, Unit Letter L (NW/4, SW/4),
Section 11, Township 10 South, Range 32 East,
Lea County, New Mexico

Dear Mr. Williams:

Background

On September 28, 2005, a Letter of Violation (LOV) was received by Marjo Operating Co. (Marjo) from the New Mexico Oil Conservation Division (NMOCD) for the above referenced facility. The issues included certain housekeeping issues, suspected contamination from the old reserve pit and impact from an apparent brine release east of the tank battery. The NMOCD requested that a C-141 form be filed and a Corrective Action Plan (CAP) prepared. Gary J. Rowell, Inc coordinated submission of the C-141 which was filed on October 4, 2005, a copy of which is included in Appendix A. Figure 1 presents a site location and topographic map.

Gary J. Rowell Inc. further recommended that a local consultant be retained to coordinate and respond to the remaining issues of the LOV. Accordingly, Marjo retained Ocotillo Environmental, LLC (Ocotillo) which has been responsible for all subsequent field activity, notifications and report preparation. The CAP was submitted to the NMOCD on October 28, 2005. Marjo received approval of the CAP on November 15, 2005. The CAP approval addressed various housekeeping responsibilities and required horizontal and vertical delineation and a Remediation plan.

Debris at the Site and visibly impacted soil around the heater treater was removed, a firewall was constructed around the tank battery, and samples were collected for delineation. On March 16, 2006, a Remediation Plan was submitted to the NMOCD that proposed leaving the reserve pit area undisturbed, excavating the top three (3) feet of soil in the tank battery area, blending with clean soil and backfilling. The Remediation Plan was approved on March 20, 2006, with the requirement that the area east of the tank battery be delineated until chlorides consistently decreased with depth to below 250 milligrams per kilogram (mg/kg).

Soil samples were collected from the area east of the tank battery on March 22, 2006, from a depth of approximately five (5) feet below ground surface (bgs). On April 4, 2006, additional soil samples were collected from the area at a depth of approximately fifteen (15) feet bgs. Laboratory results from these soil samples indicated that those efforts did not reach the NMOCD required delineation levels for chloride. Figure 2 shows the locations of the sample points.

Application - pPAC0714237928

P.O. Box 1816 • Hobbs, NM 88241
Office (505) 393-6371 • Fax (505) 393-6374

Current Investigation

On August 14, 2006, Ocotillo installed six (6) soil borings at the Site (BH-1 through BH-6) using an air rotary drilling rig to assess the vertical and horizontal limits of the spill. BH-6 was installed as a background sample approximately 59 feet northeast of the northeast corner of the spill area. Split spoon samples were collected from exploratory borings BH-1, BH-3 and BH-4 from ground surface to a depth of approximately 27 feet bgs, and from borings BH-2, BH-5 and BH-6 to a depth of approximately 22 feet bgs, The sampling equipment was thoroughly cleaned between soil boring locations with a solution of laboratory-grade detergent and potable water, and rinsed with distilled water. A duplicate of each sample was field tested for chloride concentrations. Table 1 shows the field chloride results. All soil borings were plugged with bentonite. Figure 2 shows the locations of the soil borings. Soil Boring Logs are included in Appendix B.

Wet soil was encountered in all soil borings at a depth of approximately 20 to 30 feet bgs, where drilling was stopped. Referring to Table1, soil samples collected from borings BH-1, BH-2 and BH-6 reported chloride concentrations below the delineation standard of 250 mg/kg. Samples collected from borings BH-3, BH-4 and BH-5 reported chloride concentrations above 250 mg/kg (846 mg/kg [BH-3], 3,550 mg/kg [BH-4], and 410 mg/kg [BH-5]) at the deepest point, immediately above wet soil.

The soil samples were placed in clean glass sample jars, labeled, chilled in an ice chest, and delivered under chain-of-custody control to Environmental Lab of Texas (ELOT), in Odessa, Texas. All soil samples collected from borings BH-1 through BH-6 were analyzed for chlorides by EPA method 300. Table 1 presents a summary of laboratory analysis of soil samples. Soil boring logs are included in Appendix B. Laboratory analyses and chain of custody documentation are included in Appendix C.

Proposed Additional Delineation Activity

Borings will be re-drilled at locations BH-3 (BH-3a), BH-4 (BH-4a) and BH-5 (BH-5a) to complete the vertical delineation. Soil samples will be collected in five foot intervals from a depth of 30 feet bgs at boring BH-3a and 4a and from 25 feet bgs at BH-5a until field chloride analyses indicate concentrations below 250 mg/kg. It is anticipated that BH-3a or 4a will be completed as a monitoring well within the wet zone (MW-1). Field conductivity and/or TDS may be conducted to determine if the wet zone is groundwater or perched brine. If the wet zone is natural groundwater then Marjo will install an additional boring (BH-7) in an upgradient position to the tank battery. If saturated soil is encountered in BH-7, the boring will be completed as a monitoring well to establish the groundwater background parameters (MW-2). If the liquid in MW 1 is brine, BH-7 will not be drilled and any additional monitoring wells will be installed within the current area of investigation directly east of the tank battery.

Monitoring wells will be bailed after installation to remove fine-grained sediment disturbed during drilling. A groundwater sample will be collected from each well within 48 hours, and analyzed for anions, cations and total dissolved solids (TDS). All samples will be labeled, chilled in an ice chest, and delivered under chain-of-custody control to ELOT for chloride analysis. Depth-to-groundwater will be measured in the monitoring wells before the wells are purged and sampled. The groundwater samples will be collected using dedicated disposable polyethylene bailers, and carefully poured into laboratory-prepared containers. The sample containers will be labeled, immediately chilled in an ice chest, and transferred under chain-of-custody

control to ELOT. The field observations will be documented in a bound field notebook, and a construction diagram and geologic log will be prepared for each monitoring well. Monitoring well MW-1 (BH-3a or 4a) will be completed as a four (4) inch diameter PVC monitoring well. Other monitoring wells will be constructed with two (2) inch diameter PVC. Approximately 15 feet of well screen will be placed in each well, with approximately 10 feet of screen extending into groundwater, and 5 feet extending above groundwater.

Silica sand will be placed around the well screen to about 2 feet above the screen. The monitoring wells will be surveyed by a registered professional surveyor for X,Y and Z coordinates as well as relevant site features for site map scaling.

Notification will be provided to the NMOCD at least 48 hours prior to any activity at the Site. A report with an updated Remediation Plan, based upon findings of this activity, will be submitted to the NMOCD following completion of these additional delineation activities.

We appreciate your cooperation. Please call Mr. Gary Rowell at (918) 645-1467, or at Marjo (918) 583-0241, extension 215, or myself at (505) 441-7244 if you have any questions. We may also be reached by email at garyr@marjoop.com or cindy.crain@gmail.com.

Sincerely,
Ocotillo Environmental, LLC.

Cindy K. Crain

Cindy K. Crain, P.G.

Encl.

cc: Mr. Brian Keefer – Marjo Operating Company Inc
Mr. Gary Rowell – Gary J. Rowell, Inc
Mr. Paul Sheeley – NMOCD, District I
Mr. Larry Johnson – NMOCD, District I

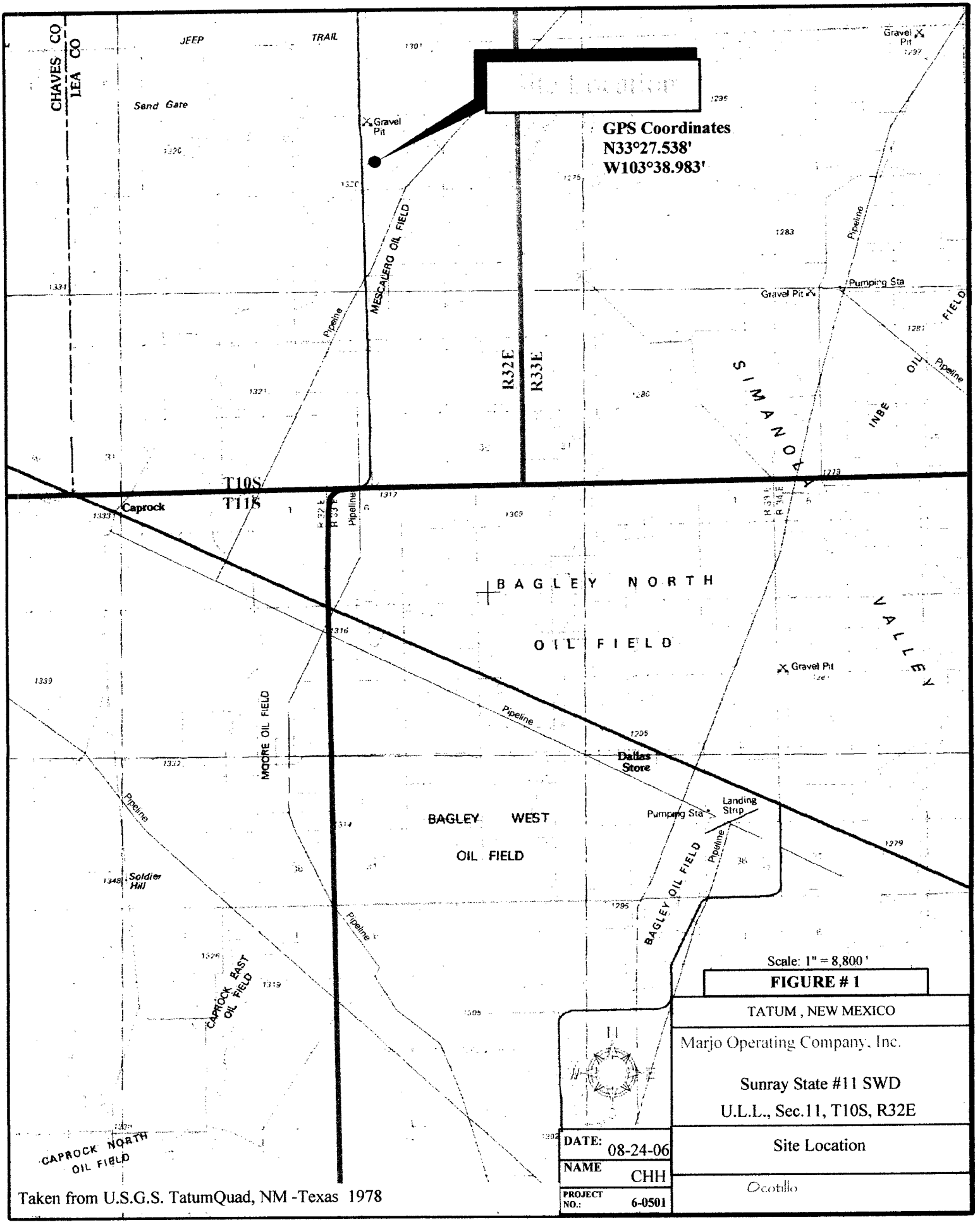
TABLE

Table 1: Summary of Laboratory Analysis of Soil Samples
Marjo Operating, Sunray State #11 SWD
Unit Letter L, Section 11, Township 10 South, Range 32 East
Lea County, New Mexico

Borehole Number	Sample Date	Sample Depth (feet BGS)	Chloride mg/kg	Field Chloride mg/kg
Standard (WQCC)			250	
BH-1	8/14/2006	5-7'	157	84
	8/14/2006	10-12'	499	221
	8/14/2006	15-17'	329	147
	8/14/2006	20-21'	219	39
	8/14/2006	25-27'	87.4	65.0
BH-2	8/14/2006	5-7'	21.8	10
	8/14/2006	10-12'	51.9	34
	8/14/2006	15-17'	136	70
	8/14/2006	20-22'	237	153
BH-3	8/14/2006	10-12'	8,170	>648
	8/14/2006	15-17'	4,320	>648
	8/14/2006	20-22'	2,110	>648
	8/14/2006	25-27'	846	516
BH-4	8/14/2006	10-12'	16,400	>648
	8/14/2006	15-17'	11,000	>648
	8/14/2006	20-22'	8,720	>648
	8/14/2006	25-27'	3,550	>648
BH-5	8/14/2006	5-7'	3,810	>648
	8/14/2006	10-12'	2,670	>648
	8/14/2006	15-17'	263	>648
	8/14/2006	20-22'	410	247
BH-6	8/14/2006	5-7'	213.0	---
	8/14/2006	10-12'	128.0	---
	8/14/2006	15-17'	57.1	---
	8/14/2006	20-22'	31.0	---

Notes: Laboratory analyses performed by Environmental Lab of Texas, Inc. Odessa, Texas
1. BGS: Depth in feet below ground surface
2. mg/kg: Milligrams per kilogram
3.---: No data available

FIGURES



Taken from U.S.G.S. TatumQuad, NM -Texas 1978

Scale: 1" = 8,800 '

FIGURE # 1

TATUM , NEW MEXICO

Marjo Operating Company, Inc.

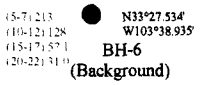
Sunray State #11 SWD

U.L.L., Sec.11, T10S, R32E

Site Location

Ocotillo

DATE:	08-24-06
NAME	CHH
PROJECT NO.:	6-0501



Graphic Scale in Feet

0' 15' 30'

Scale: 1" = 15'

LEGEND

Sample Location with Depth (feet) and Chloride Concentrations (mg/kg). 5' Samples Collected 3/22/06, 10' and 15' Samples Collected 04/04/06.

N33°27.539'
W103°38.943' GPS Coordinates

(5-7) 157
(10-12) 499
(15-17) 329
(20-21) 219
(25-27) 87.4

BH-1

Boring Location with Depth (feet) and Laboratory Chloride Concentrations (mg/kg) on 8/14/06.

N
W E
S

FIGURE #2

LEA COUNTY, NEW MEXICO

MARJO OPERATING COMPANY, INC.

Sunray State 11 SWD #1
U.L.L, Sec.11, T10S, R32E

Site Drawing with Laboratory Chloride Analysis

Ocotillo

DATE: 09-28-06
NAME: CHH
PROJECT NO.: 6-0501

APPENDIX A

Release Notification and Corrective Action Form (C-141)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☑ Initial Report ☐ Final Report

Name of Company Marjo Operating Co.	Contact Brian Keeter or Mark Meador
Address 427 S. Boston Ste 240, Tulsa	Telephone No. 918 5830241
Facility Name Sunray State 11 SWD #1, 74101	Facility Type Disposal Well

Surface Owner Curt L. Johnson	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
UL-L	11	T10S	R32E	UNK	UNK	UNK	UNK	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Brine	Volume of Release Unknown	Volume Recovered None
Source of Release Unknown at this time	Date and Hour of Occurrence UNK	Date and Hour of Discovery UNK
Was Immediate Notice Given? ☐ Yes ☑ No ☐ Not Required	If YES, To Whom? NA	
By Whom? NA	Date and Hour NA	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

Pending - Site inspection being coordinated for development of Corrective Action Plan

Describe Area Affected and Cleanup Action Taken.*

area around tank battery and well head

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:	**OIL CONSERVATION DIVISION**
Printed Name: Mark E. Meador	Approved by District Supervisor:
Title: President	Approval Date: / Expiration Date:
E-mail Address: Mark@Marjoop.com	Conditions of Approval: / Attached ☐
Date: 10/4/2005 Phone: 918 5830241	

* Attach Additional Sheets If Necessary

APPENDIX B

Soil Boring Logs

Client: Marjo Operating Company, Inc.
Project: Sunray State #11 SWD
Project No.: 6-0501
Location: Tatum, New Mexico, U.L. L, Sec.11, T10S, R32E

Log: BH-1

Page: 1 of 1
Geologist: Cindy Crain

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description	Number	Type	Recovery	PID ppm (2 – 10 – 18)	Analytical Data
0		Ground Surface					
		Silty Sand Reddish-brown, fine grained, moderately well sorted, loose	1				5-7' bgs Chloride: 157 mg/kg Field Chloride: 84 mg/kg
10		**Silty Sand** Light tan, moderately well sorted, loose	2				10-12' bgs Chloride: 499 mg/kg Field Chloride: 221 mg/kg
			3				15-17' bgs Chloride: 329 mg/kg Field Chloride: 147 mg/kg
20			4				20-21' bgs Chloride: 219 mg/kg Field Chloride: 39 mg/kg
		Gravelly Silty Sand Golden brown, fine grained, poorly sorted, moist	5				25-27' bgs Chloride: 87.4 mg/kg Field Chloride: 65 mg/kg
30		Wet at 30'					
		TD: 32'					
40							
50							

Drill Method: Air Rotary
Drill Date: 08/14/06
Hole Size:

Ocotillo
2125 French Drive
Hobbs, New Mexico 88240
(505) 393-6371

Elevation: N/A
Checked by: CKC
Drilled by:
Scarborough Drilling

Client: Marjo Operating Company, Inc.
Project: Sunray State #11 SWD
Project No.: 6-0501
Location: Tatum, New Mexico, U.L. L, Sec.11, T10S, R32E

Log: BH-2

Page: 1 of 1
Geologist: Cindy Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	PID ppm (2 – 10 – 18)	Analytical Data
0		Ground Surface					
		Silty Sand Light tan, fine grained, moderately well sorted, loose, damp					
			1				5-7' bgs Chloride: 21.8 mg/kg Field Chloride: 10 mg/kg
10			2				10-12' bgs Chloride:51.9 mg/kg Field Chloride: 34 mg/kg
			3				15-17' bgs Chloride: 136 mg/kg Field Chloride: 70 mg/kg
20			4				20-22' bgs Chloride: 237 mg/kg Field Chloride: 153 mg/kg
		Gravelly Silty Sand Golden brown, fine grained, poorly sorted, wet					
30		**TD: 27'**					
40							
50							

Drill Method: Air Rotary
Drill Date: 08/14/06
Hole Size:

Ocotillo
2125 French Drive
Hobbs, New Mexico 88240
(505) 393-6371

Elevation: N/A
Checked by: CKC
Drilled by: Scarborough Drilling

Client: Marjo Operating Company, Inc.
Project: Sunray State #11 SWD
Project No.: 6-0501
Location: Tatum, New Mexico, U.L. L, Sec.11, T10S, R32E

Log: BH-3

Page: 1 of 1
Geologist: Cindy Crain

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description	Number	Type	Recovery	PID ppm (2 – 10 – 18)	Analytical Data
		Inside (middle) of excavation at 6' bgs.					
0		**Silty Sand** Light tan, fine grained, moderately well sorted, loose, dry					
10			1				10-12' bgs Chloride:8,170 mg/kg Field Chloride: >648 mg/kg
			2				15-17' bgs Chloride: 4,320 mg/kg Field Chloride: >648 mg/kg
20			3				20-22' bgs Chloride: 2,110 mg/kg Field Chloride: >648 mg/kg
		Gravelly Silty Sand Golden brown, fine grained, poorly sorted, wet	4				25-27' bgs Chloride: 846 mg/kg Field Chloride: 516 mg/kg
30		**TD: 27'**					
40							
50							

Drill Method: Air Rotary
Drill Date: 08/14/06
Hole Size:

Ocotillo

2125 French Drive
Hobbs, New Mexico 88240
(505) 393-6371

Elevation: N/A
Checked by: CKC
Drilled by:
Scarborough Drilling

Client: Marjo Operating Company, Inc.
Project: Sunray State #11 SWD
Project No.: 6-0501
Location: Tatum, New Mexico, U.L. L, Sec.11, T10S, R32E

Log: BH-4

Page: 1 of 1
Geologist: Cindy Crain

Depth	Symbol	Description	Sample Number	Sample Type	Recovery	PID ppm (2 10 18)	Analytical Data
0		Inside (west side) of excavation at 6' bgs.					
		Silty Sand Light tan, fine grained, moderately well sorted, loose, dry					
10			1				10-12' bgs Chloride:16,400 mg/kg Field Chloride: >648 mg/kg
			2				15-17' bgs Chloride:11,000 mg/kg Field Chloride: >648 mg/kg
20			3				20-22' bgs Chloride:8,720 mg/kg Field Chloride: >648 mg/kg
		Moist at 25'					
			4				25-27' bgs Chloride: 3,550 mg/kg Field Chloride: >648 mg/kg
		Gravelly Silty Sand Golden brown, fine grained, poorly sorted, wet					
30		**TD: 27'**					
40							
50							

Drill Method: Air Rotary
Drill Date: 08/14/06
Hole Size:

Ocotillo
2125 French Drive
Hobbs, New Mexico 88240
(505) 393-6371

Elevation: N/A
Checked by: CKC
Drilled by: Scarborough Drilling

Client: Marjo Operating Company, Inc.
Project: Sunray State #11 SWD
Project No.: 6-0501
Location: Tatum, New Mexico, U.L. L, Sec.11, T10S, R32E

Log: BH-5

Page: 1 of 1
Geologist: Cindy Crain

Depth	Symbol	Description	Sample Number	Sample Type	Sample Recovery	PID ppm (2 – 10 – 18)	Analytical Data
0		Ground Surface					
		Silty Sand Light tan, fine grained, moderately well sorted, loose, dry					
			1				5-7' bgs Chloride: 3,810 mg/kg Field Chloride: >648 mg/kg
10			2				10-12' bgs Chloride: 2,670 mg/kg Field Chloride: >648 mg/kg
			3				15-17' bgs Chloride: 263 mg/kg Field Chloride: >648 mg/kg
20			4				20-22' bgs Chloride: 410 mg/kg Field Chloride: 247 mg/kg
		Gravelly Silty Sand Golden brown, fine grained, poorly sorted, wet					
		TD: 27'					
30							
40							
50							

Drill Method: Air Rotary
Drill Date: 08/14/06
Hole Size:

Ocotillo
2125 French Drive
Hobbs, New Mexico 88240
(505) 393-6371

Elevation: N/A
Checked by: CKC
Drilled by: Scarborough Drilling

Client: Marjo Operating Company, Inc.

Project: Sunray State #11 SWD

Project No.: 6-0501

Location: Tatum, New Mexico, U.L. L, Sec.11, T10S, R32E

Log: BH-6

Page: 1 of 1

Geologist: Cindy Crain

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description	Number	Type	Recovery	PID ppm (2 – 10 – 18)	Analytical Data
0		Ground Surface					
		Silty Sand Light tan, fine grained, moderately well sorted, loose, dry					
			1				5-7' bgs Chloride: 213 mg/kg
10			2				10-12' bgs Chloride: 128 mg/kg
			3				15-17' bgs Chloride: 57.1 mg/kg
20			4				20-22' bgs Chloride: 31.0 mg/kg
		Gravelly Silty Sand Golden brown, fine grained, poorly sorted, wet					
		TD: 27'					
30							
40							
50							

Drill Method: Air Rotary

Drill Date: 08/14/06

Hole Size:

Ocotillo

2125 French Drive
Hobbs, New Mexico 88240
(505) 393-6371

Elevation: N/A

Checked by: CKC

Drilled by:
Scarborough Drilling

APPENDIX C

Laboratory Reports

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Cindy Crain

Ocotillo Environmental

2125 French Dr.

Hobbs, NM 88201

Project: Marjo Sunray State #11 SWD

Project Number: 6-0501

Location: Tatum, NM

Lab Order Number: 6H16008

Report Date: 08/21/06

Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 5-7'	6H16008-01	Soil	08/14/06 08:54	08-16-2006 11:07
BH-1 10-12'	6H16008-02	Soil	08/14/06 08:59	08-16-2006 11:07
BH-1 15-17'	6H16008-03	Soil	08/14/06 09:04	08-16-2006 11:07
BH-1 20-22'	6H16008-04	Soil	08/14/06 09:10	08-16-2006 11:07
BH-1 25-27'	6H16008-05	Soil	08/14/06 10:17	08-16-2006 11:07
BH-2 5-7'	6H16008-06	Soil	08/14/06 10:47	08-16-2006 11:07
BH-2 10-12'	6H16008-07	Soil	08/14/06 10:53	08-16-2006 11:07
BH-2 15-17'	6H16008-08	Soil	08/14/06 10:59	08-16-2006 11:07
BH-2 20-22'	6H16008-09	Soil	08/14/06 11:05	08-16-2006 11:07
BH-3 10-12'	6H16008-10	Soil	08/14/06 12:20	08-16-2006 11:07
BH-3 15-17'	6H16008-11	Soil	08/14/06 12:26	08-16-2006 11:07
BH-3 20-22'	6H16008-12	Soil	08/14/06 12:29	08-16-2006 11:07
BH-3 25-27'	6H16008-13	Soil	08/14/06 12:32	08-16-2006 11:07
BH-4 10-12'	6H16008-14	Soil	08/14/06 12:46	08-16-2006 11:07
BH-4 15-17'	6H16008-15	Soil	08/14/06 12:53	08-16-2006 11:07
BH-4 20-22'	6H16008-16	Soil	08/14/06 12:59	08-16-2006 11:07
BH-4 25-27'	6H16008-17	Soil	08/14/06 13:03	08-16-2006 11:07
BH-5 5-7'	6H16008-18	Soil	08/14/06 13:22	08-16-2006 11:07
BH-5 10-12'	6H16008-19	Soil	08/14/06 13:29	08-16-2006 11:07
BH-5 15-17'	6H16008-20	Soil	08/14/06 13:33	08-16-2006 11:07
BH-5 20-22'	6H16008-21	Soil	08/14/06 13:40	08-16-2006 11:07
BH-6 5-7'	6H16008-22	Soil	08/14/06 13:59	08-16-2006 11:07
BH-6 10-12'	6H16008-23	Soil	08/14/06 14:03	08-16-2006 11:07
BH-6 15-17'	6H16008-24	Soil	08/14/06 14:07	08-16-2006 11:07
BH-6 20-22'	6H16008-25	Soil	08/14/06 14:20	08-16-2006 11:07

Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 5-7' (6H16008-01) Soil									
Chloride	**157**	25.0	mg/kg	50	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-1 10-12' (6H16008-02) Soil									
Chloride	**499**	25.0	mg/kg	50	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-1 15-17' (6H16008-03) Soil									
Chloride	**329**	10.0	mg/kg	20	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-1 20-22' (6H16008-04) Soil									
Chloride	**219**	10.0	mg/kg	20	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-1 25-27' (6H16008-05) Soil									
Chloride	**87.4**	5.00	mg/kg	10	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-2 5-7' (6H16008-06) Soil									
Chloride	**21.8**	5.00	mg/kg	10	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-2 10-12' (6H16008-07) Soil									
Chloride	**51.9**	10.0	mg/kg	20	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-2 15-17' (6H16008-08) Soil									
Chloride	**136**	10.0	mg/kg	20	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-2 20-22' (6H16008-09) Soil									
Chloride	**237**	10.0	mg/kg	20	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-3 10-12' (6H16008-10) Soil									
Chloride	**8170**	100	mg/kg	200	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-3 15-17' (6H16008-11) Soil									
Chloride	**4320**	50.0	mg/kg	100	EH61803	08/17/06	08/17/06	EPA 300.0	

Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-3 20-22' (6H16008-12) Soil									
Chloride	**2110**	25.0	mg/kg	50	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-3 25-27' (6H16008-13) Soil									
Chloride	**846**	20.0	mg/kg	40	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-4 10-12' (6H16008-14) Soil									
Chloride	**16400**	200	mg/kg	400	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-4 15-17' (6H16008-15) Soil									
Chloride	**11000**	200	mg/kg	400	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-4 20-22' (6H16008-16) Soil									
Chloride	**8720**	100	mg/kg	200	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-4 25-27' (6H16008-17) Soil									
Chloride	**3550**	50.0	mg/kg	100	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-5 5-7' (6H16008-18) Soil									
Chloride	**3810**	50.0	mg/kg	100	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-5 10-12' (6H16008-19) Soil									
Chloride	**2670**	50.0	mg/kg	100	EH61804	08/17/06	08/18/06	EPA 300.0	
BH-5 15-17' (6H16008-20) Soil									
Chloride	**263**	20.0	mg/kg	40	EH61803	08/17/06	08/17/06	EPA 300.0	
BH-5 20-22' (6H16008-21) Soil									
Chloride	**410**	10.0	mg/kg	20	EH61804	08/17/06	08/18/06	EPA 300.0	
BH-6 5-7' (6H16008-22) Soil									
Chloride	**213**	10.0	mg/kg	20	EH61804	08/17/06	08/18/06	EPA 300.0	

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Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-6 10-12' (6H16008-23) Soil									
Chloride	**128**	10.0	mg/kg	20	EH61804	08/17/06	08/18/06	EPA 300.0	
BH-6 15-17' (6H16008-24) Soil									
Chloride	**57.1**	5.00	mg/kg	10	EH61804	08/17/06	08/18/06	EPA 300.0	
BH-6 20-22' (6H16008-25) Soil									
Chloride	**31.0**	5.00	mg/kg	10	EH61804	08/17/06	08/18/06	EPA 300.0	

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Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH61803 - Water Extraction										
Blank (EH61803-BLK1)				Prepared & Analyzed: 08/17/06						
Chloride	ND	0.500	mg/kg							
LCS (EH61803-BS1)				Prepared & Analyzed: 08/17/06						
Chloride	10.5	0.500	mg/kg	10.0		105	80-120			
Calibration Check (EH61803-CCV1)				Prepared & Analyzed: 08/17/06						
Chloride	10.6		mg/L	10.0		106	80-120			
Duplicate (EH61803-DUP1)		**Source: 6H16008-06**		Prepared & Analyzed: 08/17/06						
Chloride	18.7	5.00	mg/kg		21.8			15.3	20	
Duplicate (EH61803-DUP2)		**Source: 6H16008-09**		Prepared & Analyzed: 08/17/06						
Chloride	229	10.0	mg/kg		237			3.43	20	
Matrix Spike (EH61803-MS1)		**Source: 6H16008-06**		Prepared & Analyzed: 08/17/06						
Chloride	121	5.00	mg/kg	100	21.8	99.2	80-120			
Matrix Spike (EH61803-MS2)		**Source: 6H16008-09**		Prepared & Analyzed: 08/17/06						
Chloride	450	10.0	mg/kg	200	237	106	80-120			
Batch EH61804 - Water Extraction										
Blank (EH61804-BLK1)				Prepared & Analyzed: 08/18/06						
Chloride	ND	0.500	mg/kg							
LCS (EH61804-BS1)				Prepared & Analyzed: 08/18/06						
Chloride	9.72	0.500	mg/kg	10.0		97.2	80-120			

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Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH61804 - Water Extraction										
Calibration Check (EH61804-CCV1)				Prepared & Analyzed: 08/18/06						
Chloride	9.69		mg/L	10.0		96.9	80-120			
Duplicate (EH61804-DUP1)		**Source: 6H16008-19**		Prepared & Analyzed: 08/18/06						
Chloride	2580	50.0	mg/kg		2670			3.43	20	
Duplicate (EH61804-DUP2)		**Source: 6H16008-22**		Prepared & Analyzed: 08/18/06						
Chloride	204	10.0	mg/kg		213			4.32	20	
Matrix Spike (EH61804-MS1)		**Source: 6H16008-19**		Prepared & Analyzed: 08/18/06						
Chloride	3820	50.0	mg/kg	1000	2670	115	80-120			
Matrix Spike (EH61804-MS2)		**Source: 6H16008-22**		Prepared & Analyzed: 08/18/06						
Chloride	433	10.0	mg/kg	200	213	110	80-120			

Ocotillo Environmental	Project: Marjo Sunray State #11 SWD	Fax: (432) 367-6747
2125 French Dr.	Project Number: 6-0501	
Hobbs NM, 88201	Project Manager: Cindy Crain	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 8/21/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

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Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental
Company Address: 2125 French Drive, P.O. Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244 Fax No: (432) 367-6747
Sampler Signature: Cindy Crain
Email: Cindy.Crain@gmail.com

Project Name: Marjo Suncay State #11SWD
Project #: 6-0501
Project Loc: Tatum, NM
PO #:

LAB # (lab use only) 61160	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO_4, CO_3, HCO_3)	SAR / ESP / CEC	TOTAL: Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	IRC	N.O.R.M.	RUSH TAT (Pre-Schedule)	Standard TAT
01	BH-1 (5-7')	8/14/06	0854	1						✓				✓				✓									
02	" (10-12')	"	0859	1						✓				✓				✓									
03	" (15-17')	"	0904	1						✓				✓				✓									
04	" (20-22')	"	0910	1						✓				✓				✓									
05	" (25-27')	"	1017	1						✓				✓				✓									
06	BH-2 (5-7')	"	1047	1						✓				✓				✓									
07	" (10-12')	"	1053	1						✓				✓				✓									
08	" (15-17')	"	1059	1						✓				✓				✓									
09	" (20-22')	"	1105	1						✓				✓				✓									
10	BH-3 (10-12')	"	1220	1						✓				✓				✓									

Special Instructions:

Sample Containers Intact? (Y) N
Labels on container? Y (N)
Custody Seals: Containers / Cooler
Temperature Upon Receipt: 23.0

Laboratory Comments: 4oz glass w/ label

Relinquished by:	Date	Time	Received by:	Date	Time
Cindy Crain	8/16/06	1107			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Carrie Kelly	8/16/06	11:07

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Environmental Lab of Texas

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Odessa, Texas 79765
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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental
Company Address: 2125 French Drive, P.O. Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244 Fax No: (432) 367-6747
Sampler Signature: Cindy Crain
Email: cindy.crain@gmail.com

Project Name: Macjo Sunray State #11 SWD
Project #: 6-0501
Project Loc: Tatum, NM
PO #:

LAB # (lab use only) 6H16008	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	TCLP: Cations (Ca, Mg, Na, K)	TCLP: Anions (Cl, SO_4, CO_3, HCO_3)	SAR / ESP / CEC	TOTAL: Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.					RUSH TAT (Pre-Schedule)	Standard TAT
11	BH-3 (15-17')	8/14/06	1226	1						✓				✓				✓													
12	" (20-22')	"	1229	1						✓				✓				✓													
13	(25-27')	"	1232	1						✓				✓				✓													
14	BH-4 (10-12')	"	1246	1						✓				✓				✓													
15	" (15-17')	"	1253	1						✓				✓				✓													
16	" (20-22')	"	1259	1						✓				✓				✓													
17	" (25-27')	"	1303	1						✓				✓				✓													
18	BH-5 (5-7')	"	1322	1						✓				✓				✓													
19	" (10-12')	"	1329	1						✓				✓				✓													
20	" (15-17')	"	1333	1						✓				✓				✓													

Special Instructions:

Sample Containers Intact? Y (N)
Labels on container? (Y) N
Custody Seals: Containers / Cooler
Temperature Upon Receipt.

Relinquished by:	Date	Time	Received by:	Date	Time
Cindy Crain	8/16/06	1107			
Relinquished by	Date	Time	Received by ELOT:	Date	Time
			[illegible]	8/16/06	11:07

Laboratory Comments:
4oz glass w/ label

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Cindy Crain
Company Name: Ocotillo Environmental
Company Address: 2125 French Drive, P.O. Box 1816
City/State/Zip: Hobbs, NM 88241
Telephone No: (505) 441-7244
Fax No: (432) 367-6747
Sampler Signature: Cindy Crain
Email: Cindy.Crain@gmail.com

Project Name: Marjo Sunray State #11 SWD
Project #: 6-0501
Project Loc: Tatum, NM
PO #:

6H16008

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Water	Sludge	Soil	Other (specify):	TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule)	Standard TAT
-01	BH-5 (20-22')	8/14/06	1340	1						✓				✓				✓									
-02	BH-6 (5-7')	"	1359							✓				✓				✓									
-03	" (10-12')	"	1403							✓				✓				✓									
-04	" (15-17')	"	1407							✓				✓				✓									
-05	" (20-22')	"	1420							✓				✓				✓									

Analyze For: TCLP: / TOTAL:

Special Instructions:

Sample Containers Intact? (Y) N
Labels on container? Y (N)
Custody Seals: Containers / Cooler
Temperature Upon Receipt:

Relinquished by:	Date	Time	Received by:	Date	Time
Cindy Crain	8/16/06	1107			

Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			[illegible signature]	8/16/06	11:07

Laboratory Comments:
4oz glass
w/ label

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Ocotillo Env.

Date/ Time: 8/16/06 11:07

Lab ID # : 6H1160

Initials: CK

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	2.3 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: ________ Contacted by: ________ Date/ Time: ________

Regarding:

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event