

# SUNDOWN ENERGY, LP

## INITIAL C-141 AND WORK PLAN

### FOSTER RANCH #1 WELL/BATTERY RELEASE

API # 3002527260 0000

PROJECT REF: SUN-05-001

UL-A (NE $\frac{1}{4}$  OF THE NE $\frac{1}{4}$ ) OF SECTION 6 T19S R39E

LATITUDE: N32° 41.697'      LONGITUDE: 103° 04.622'

~3.0 MILES EAST (BEARING 92°) OF HOBBS

LEA COUNTY, NEW MEXICO

September 28, 2005

PREPARED FOR SUNDOWN ENERGY, LP BY:

Ocotillo  
ENVIRONMENTAL

414 N. Turner, P.O. Box 1816, Hobbs, New Mexico 88241

(505) 393-6371; Fax (505) 393-6374

incident - n PAC0705227444  
application - p PAC0705227582

RPT# 1203

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## 1.0 Introduction and Background

This report addresses a production well work-over release into an unlined fluid receiving pit at the Sundown Energy's Foster Ranch #1 Production Well/Battery site. Fluids were released into the pit prior to notification by NMOCD that this practice was unacceptable. The total release volume is unknown, however, assumed to be >5-bbl.

This release site is located on deeded land (Edwin D. Johnson) in Unit Letter A, (NE¼ of the NE¼), Section 6, T19S, R39E. . The GPS coordinates are: Latitude: N32° 41.697'; Longitude: 103° 04.622'. A location map, plat reproduction of UL-A (showing ownership) and a site detail drawing are included as Plates 1-3 in the Attachments.

## 2.0 Site Description

### 2.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil." The release site is located in the High Plains (Llano Estacado) physiographic subdivision, described by Nicholson & Clebsch as a predominantly flat area (with gradual slope to the southeast) underlain by a hard caliche surface that is generally covered by sandy topsoil. The thickness of the topsoil ranges from 2-15 feet in most areas of the High Plains subdivision.

### 2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Quercus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

### 2.3 Area Ground Water

Based on information obtained from the New Mexico State Engineer online database, the average depth to water (26 recorded wells) in Section 6, T19S, R39E is 75-ft below ground surface (bgs). The minimum recorded depth to ground water (51-ft bgs) is for Well # L04398, located in the NE quadrant of UL-A of Section 6 (~620-ft north of the release pit based on GPS demarcation). The records of this well indicate that it was drilled in 1960 and completed to a total depth of 70-ft bgs.

This abandoned water well was measured for water depth on 9-27-05, yielding a total well depth of 115-ft bgs and it was dry to the bottom.

## **2.4 Area Water Wells**

The New Mexico State Engineer online database indicates only the L04398 water well on the Juarez property north of the release site. As stated in 2.3, this well is abandoned with a dry depth of 115-ft bgs. An investigation of the property indicates that there must be an operating water well on this property. A new pressure tank and control unit was installed in October-2004, and all outside faucets were functioning. The location of the recently installed water well was not ascertained, however, the horizontal distance to the release location must be less than 1000-ft.

## **2.5 Area Surface Water Features**

No surface water bodies exist within 1000 horizontal feet of the site.

## **3.0 Contaminant and Size of Area**

The primary contaminant is produced water with some associated crude oil. The release is the result of produced fluids from the work-over project running from the wellhead to an un-lined pit ~50-ft north of the wellhead. Runoff to the unlined pit ceased after the company was notified by NMOCD that this was an illegal practice in New Mexico. The unlined pit is approximately 20' X 30' X 10' deep. Exact measurements of the affected surface areas were not obtained due to the ongoing work of the pulling unit. Some produced fluids have been spilled on the pad surface in and around the working area. These areas will be remediated in conjunction with the pit. The estimated total surface area of the affected area(s) is approximately 2000-ft<sup>2</sup> (See Plate 3).

The produced water and minor portion of associated crude oil with this release are considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

## **4.0 Vertical Extent of Contamination**

The vertical contamination (TPH, BTEX and Chlorides) extent beneath the fluids pit will be determined during the excavation phase of the remediation process. Based on the sandy nature of the excavated soil onsite and the depth of the pit, the vertical contamination extent is projected to be 15-ft to 20-ft bgs.

## **5.0 NMOCD Site Ranking**

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil and the physical parameters of the ground water were characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- *Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)*
- *Unlined Surface Impoundment Closure Guidelines (February 1993)*

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH<sup>8015m</sup>, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX<sup>8260</sup>), was determined based on the NMOCD Ranking Criteria as follows:

- *Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.*
- *Wellhead Protection Area, i.e., distance from fresh water supply wells.*
- *Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.*

Based on the proximity of the site to area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 20 points with the soil remedial goals highlighted in the Site Ranking table presented below.

NMOCD Site Ranking Table

1. GROUND WATER		2. WELLHEAD PROTECTION	3. DISTANCE TO SURFACE WATER
DEPTH TO GW <50 FEET: 20 POINTS		IF <1000' FROM WATER SOURCE, OR; <200' FROM PRIVATE DOMESTIC WATER SOURCE: 20 POINTS	<200 HORIZONTAL FEET: 20 POINTS
DEPTH TO GW 50 TO 99 FEET: 10 POINTS			200-1000 HORIZONTAL FEET: 10 POINTS
DEPTH TO GW >100 FEET: 0 POINTS		IF >1000' FROM WATER SOURCE, OR; >200' FROM PRIVATE DOMESTIC WATER SOURCE: 0 POINTS	>1000 HORIZONTAL FEET: 0 POINTS
GROUND WATER SCORE = 0		WELLHEAD PROTECTION SCORE= 20	SURFACE WATER SCORE= 0
SITE RANK (1+2+3) = 0 + 20 + 0 = 0 POINTS			
TOTAL SITE RANKING SCORE AND ACCEPTABLE REMEDIAL GOAL CONCENTRATIONS			
PARAMETER	20+	10	0
BENZENE	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	100 PPM	1000 PPM	5000 PPM

## 6.0 Remediation Action Plan

The contaminated pit and the affected well pad surface areas will be excavated vertically and laterally sufficient to achieve contaminant levels below the remedial action levels (100-ppm TPH; 50-ppm BTEX; 10-ppm Benzene; 250-ppm Chlorides).

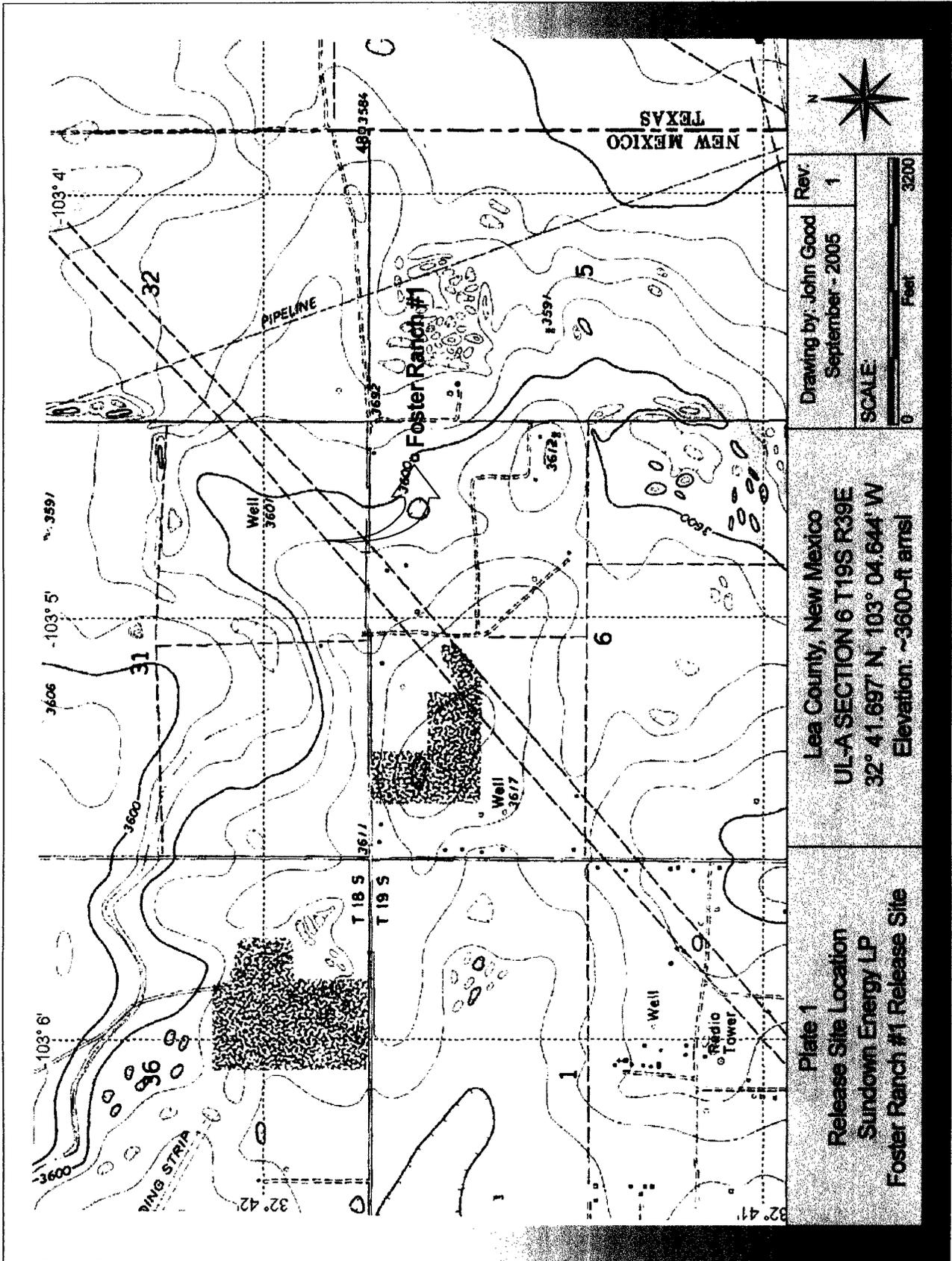
In addition to the areas immediately impacted by the current well work-over project, a historical release area immediately south of the southern battery boundary fence will also be remediated. It appears that a gas line running parallel to the southern fence lost integrity sometime in the past and sprayed NGL on an approximate 200-ft<sup>2</sup> area beyond the fence line. This area will be excavated to a depth sufficient to achieve a chloride level below 250-ppm.

All excavated areas will be backfilled with clean soil and covered with clean caliche where necessary. Excavated contaminated soil will be removed and transported to a licensed disposal facility approved for the acceptance of high chloride containing waste materials.

Closure confirmation samples of excavation bottoms and sidewalls will be obtained prior to backfill. All samples will be carried to Cardinal Laboratories, Hobbs, NM under Chain of Custody.

## ATTACHMENTS

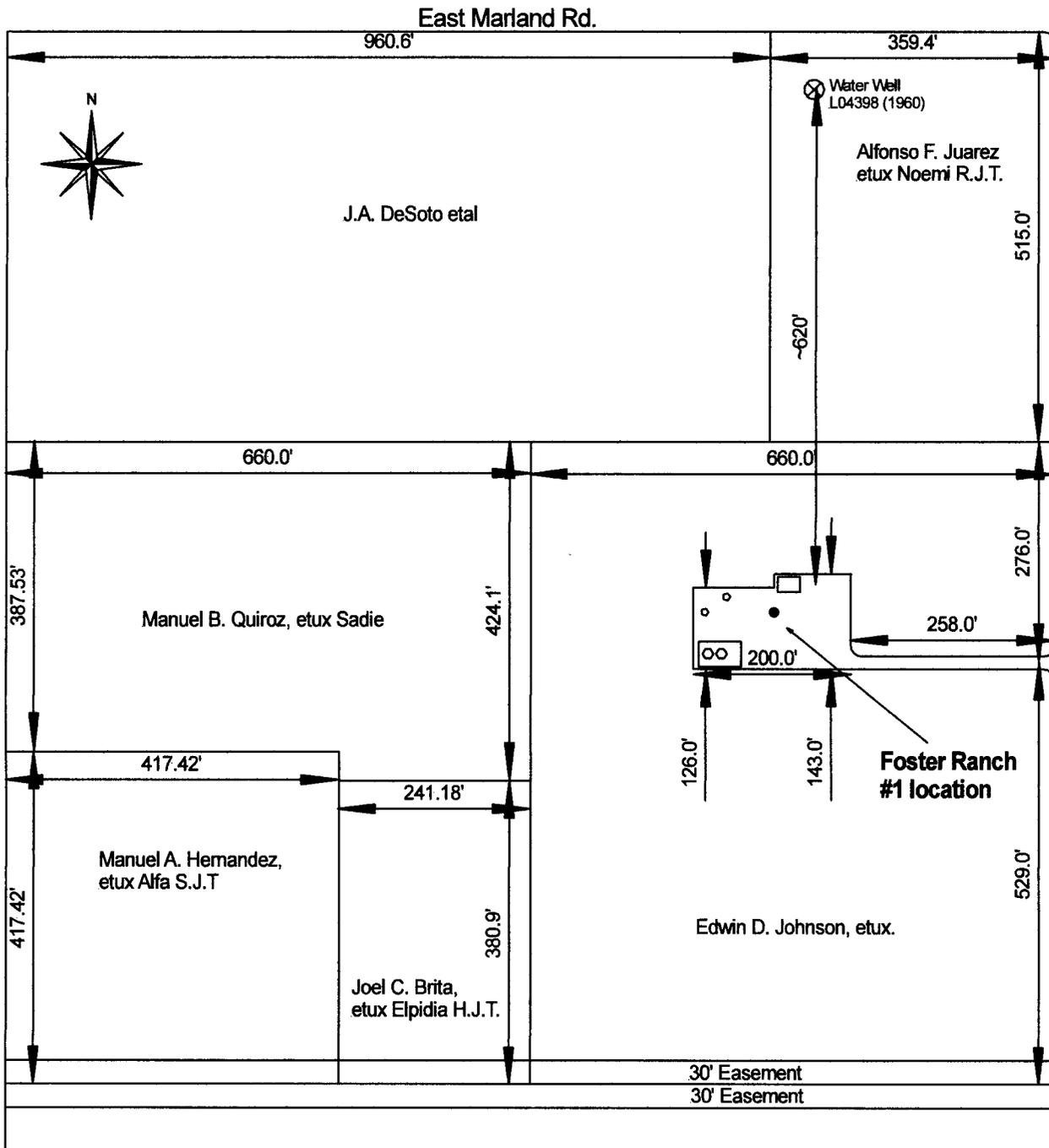
Plate 1: Site Location Map .....	7
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Drawing by: John Good  
 September - 2005  
 Rev: 1  
 SCALE  
 0 Feet 3200

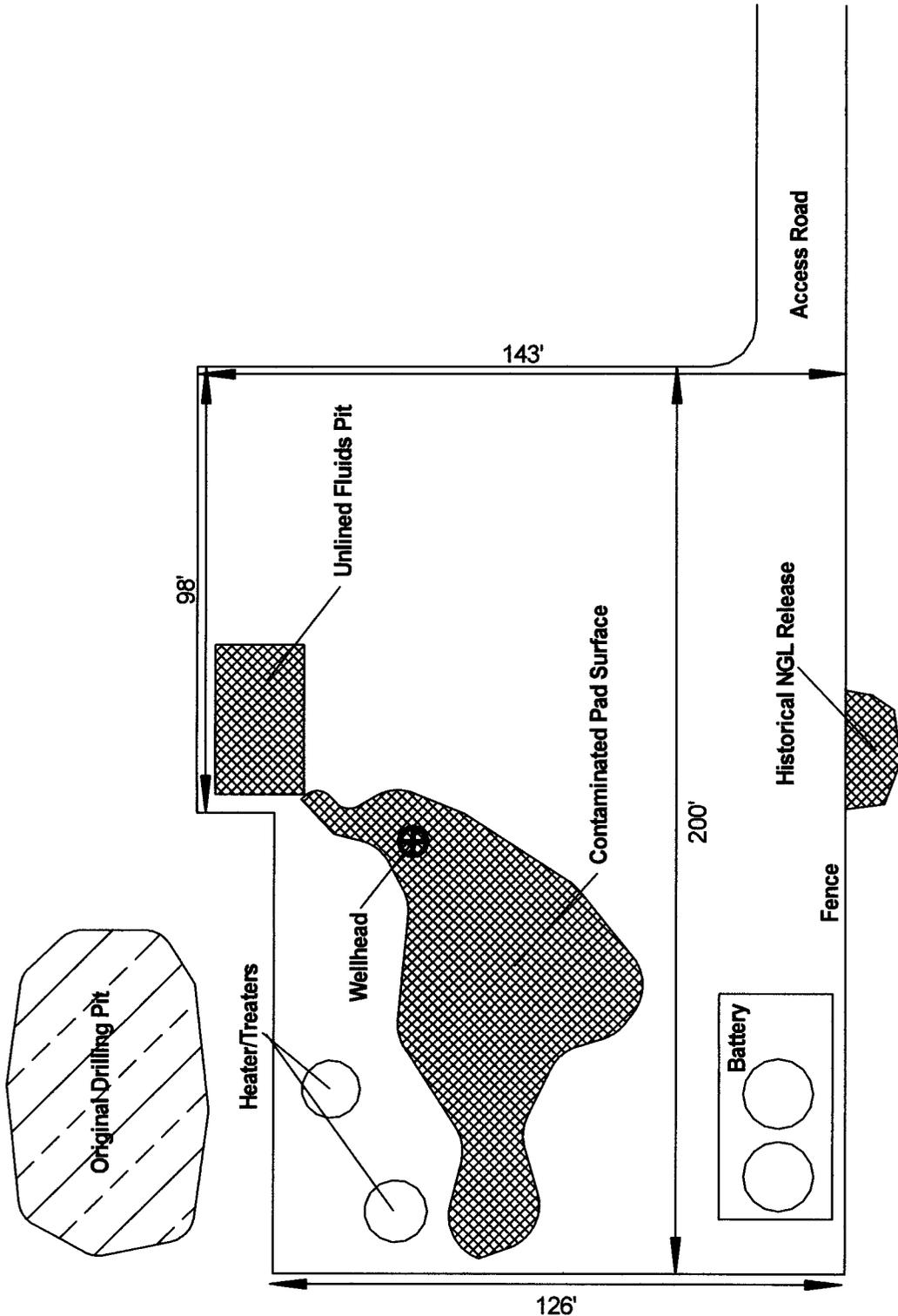
Lea County, New Mexico  
 UL-A SECTION 6 T19S R39E  
 32° 41.697' N, 103° 04.644' W  
 Elevation: ~3600-ft amsl

Plate 1  
 Release Site Location  
 Sundown Energy LP  
 Foster Ranch #1 Release Site



<p><b>Plate 2</b>  <b>Release Area Ownership Plat</b>  <b>Sundown Energy LP</b>  <b>Foster Ranch #1 Release Site</b></p>	<p><b>Lea County, New Mexico</b>  <b>UL-A SECTION 6 T19S R39E</b>  <b>32° 41.697' N, 103° 04.644' W</b>  <b>Elevation: ~3600-ft amsl</b></p>
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Drawing by: John Good September - 2005



<b>Plate 3</b> Release Site Detail Sundown Energy LP Foster Ranch #1 Release Site	Lea County, New Mexico UL-A SECTION 6 T19S R39E 32° 41.697' N, 103° 04.644' W Elevation: ~3600-ft amsl		Drawing by: John Good September - 2005 Rev. 1	
	SCALE: 0 100 Feet			

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

Form C-141

Revised June 10, 2003

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

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	Sundown Energy LP	Contact	Don Heald, Production Foreman
Address	P.O. Box 277 Wickett, TX 79788	Telephone No.	432-208-7254
Facility Name	Foster Ranch #1	Facility Type	Production Well and Battery

Surface Owner	Edwin D. Johnson	Mineral Owner		Lease No.	
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from North Line	Feet from East Line	Longitude-W	Latitude-N	County
A	6	19S	39E	665	340	103deg 04.622'	32deg 41.697'	Lea

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Produced Water + Crude Oil component	greater than 5 bbl	0 bbl

Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Produced fluids from well workover		

Was Immediate Notice Given?	If YES, To Whom?
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Not Required	

By Whom?	Date and Hour

Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	NA

If a Watercourse was Impacted, Describe Fully\*

Describe Cause of Problem and Remedial Action Taken. \*

Well workover fluids released to unlined pit. Practice was stopped, free fluids removed by vacuum truck. Portable tank was obtained for on-site fluid storage.

Describe Area Affected and Cleanup Action Taken. \*

20' X 30' X 10' deep unlined pit + well pad surface around wellhead area. Ocotillo Environmental contracted for site remediation upon completion of well workover.

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Don Heald	Approved by District Supervisor:	
Title: Production Foreman	Approval Date:	Expiration Date:
E-Mail Address: dheald@sundownenergy.com	Conditions of Approval:	
Date: 9/28/2005 Phone: 432-208-7254	<input type="checkbox"/> Attached	

Incident Date: NA		NMOCD Notified: NA	
SITE: Foster Ranch #1		Assigned Site Reference: SUN-05-001	
Company: Sundown Energy LP			
Street Address:			
Mailing Address: P.O. Box 277			
City, State, Zip: Wickett, TX 79788			
Representative: Don Heald, Production Foreman			
Representative Telephone: 432-208-7254			
Telephone: 432-943-8770			
Fluid Volume Released (bbl): > 5		Volume Recovered (bbl): ~ 0	
Net Release: > 5			
<i>&gt;25 bbl: Notify NMOCD verbally within 24 hours and submit C-141 within 15 days.  5-25 bbl: Submit Form C-141 within 15 days. (Also applies to unauthorized release of &gt;50 mcf Natural Gas).</i>			
Leak, Spill, or Pit (LSP) Name: Foster Ranch #1			
Source of Contamination: Produced fluids from well workover			
Land Owner, i.e. BLM, ST, Fee, Other: Edwin D. Johnson			
LSP Dimensions: (see Site Diagram)			
LSP Area ~ 2000 -ft <sup>2</sup>			
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: North		32deg 41.697'	
Longitude: West		103deg 04.622'	
Elevation above mean sea level (amsl):		3600 feet 1097 meters	
Distance from North Section Line (feet):		665	
Distance from East Section Line (feet):		340	
Location - Unit Letter and 1/4 1/4:		UL- A NE - 1/4 of NE - 1/4	
Location - Section		6	
Location - Township		19S	
Location - Range		39E	
Surface water body within 1000' radius of site:		0	
Surface water body within 1000' radius of site:		0	
Domestic water wells within 1000' radius of site:		1	
Domestic water wells within 1000' radius of site:		0	
Agricultural water wells within 1000' radius of site:		0	
Agricultural water wells within 1000' radius of site:		0	
Public water supply wells within 1000' radius of site:		0	
Public water supply wells within 1000' radius of site:		0	
Depth (feet) from land surface to Ground Water (DG): >		116	
Depth (feet) of lowest contamination (DC):		15	
Depth (feet) to Ground Water (DG - DC = DtGW): >		101	
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50-feet: 20 points		If <1000' from water source, or, <200' from private domestic water source: 20 points	
If Depth to GW 50 to 100-feet: 10 points		If >1000' from water source, or, >200' from private domestic water source: 0 points	
If Depth to GW >100-feet: 0 points			
Ground Water Score: 0		Wellhead Protection Score: 20	
Site Ranking (1 + 2 + 3): 20		Surface Water Score: 0	
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10-ppm	10-ppm	10-ppm
BTEX <sup>1</sup>	50-ppm	50-ppm	50-ppm
TPH	100-ppm	1000-ppm	5000-ppm

<sup>1</sup> 100-ppm field VOC headspace measurement may be substituted for lab analysis



Unlined pit north of well head

Pad surface contamination



NW corner of location - -  
surface contamination



Pad surface contamination

Historical NGL release outside of fence on south boundary of location.



Abandoned water well on Alfonso Juarez property north of location (within 1000-ft)



COVER LETTER

Friday, February 02, 2007

TANK AREA  
CLEANUP ANALYSIS

Don  
Sundown  
PO Box 277  
Wickett, TX 79788-0277

TEL: (432) 943-8770  
FAX

RE: Foster Ranch #1

Order No.: 0701235

Dear Don:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 1/18/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 02-Feb-07

<b>CLIENT:</b> Sundown	<b>Client Sample ID:</b> ABC
<b>Lab Order:</b> 0701235	<b>Tag Number:</b>
<b>Project:</b> Foster Ranch #1	<b>Collection Date:</b> 1/16/2007 12:30:00 PM
<b>Lab ID:</b> 0701235-01A	<b>Date Received:</b> 1/18/2007
	<b>Matrix:</b> SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8081: PESTICIDES SPLP</b>						<b>Analyst: SCC</b>
Chlordane	ND	0.030		mg/L	1	1/31/2007 3:42:37 PM
Endrin	ND	0.020		mg/L	1	1/31/2007 3:42:37 PM
gamma-BHC (Lindane)	ND	0.40		mg/L	1	1/31/2007 3:42:37 PM
Heptachlor	ND	0.0080		mg/L	1	1/31/2007 3:42:37 PM
Heptachlor epoxide	ND	0.0080		mg/L	1	1/31/2007 3:42:37 PM
Methoxychlor	ND	10		mg/L	1	1/31/2007 3:42:37 PM
Toxaphene	ND	0.50		mg/L	1	1/31/2007 3:42:37 PM
Surr: Decachlorobiphenyl	109	84.7-119		%REC	1	1/31/2007 3:42:37 PM
Surr: Tetrachloro-m-xylene	86.4	49.2-103		%REC	1	1/31/2007 3:42:37 PM
<b>MERCURY, SPLP</b>						<b>Analyst: CMS</b>
Mercury	ND	0.020		mg/L	1	1/26/2007
<b>EPA METHOD 60108: SPLP METALS</b>						<b>Analyst: NMO</b>
Arsenic	ND	5.0		mg/L	1	1/30/2007 1:08:39 PM
Barium	ND	100		mg/L	1	1/30/2007 1:08:39 PM
Cadmium	ND	1.0		mg/L	1	1/30/2007 1:08:39 PM
Chromium	ND	5.0		mg/L	1	1/30/2007 1:08:39 PM
Lead	ND	5.0		mg/L	1	1/30/2007 1:08:39 PM
Selenium	ND	1.0		mg/L	1	1/30/2007 1:08:39 PM
Silver	ND	5.0		mg/L	1	1/30/2007 1:08:39 PM
<b>EPA METHOD 8270C SPLP</b>						<b>Analyst: BL</b>
2,4-Dinitrotoluene	ND	0.13		mg/L	1	1/29/2007
Hexachlorobenzene	ND	0.13		mg/L	1	1/29/2007
Hexachlorobutadiene	ND	0.50		mg/L	1	1/29/2007
Hexachloroethane	ND	3.0		mg/L	1	1/29/2007
Nitrobenzene	ND	2.0		mg/L	1	1/29/2007
Pentachlorophenol	ND	100		mg/L	1	1/29/2007
Pyridine	ND	5.0		mg/L	1	1/29/2007
2,4,5-Trichlorophenol	ND	400		mg/L	1	1/29/2007
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	1/29/2007
Cresols, Total	ND	200		mg/L	1	1/29/2007
Surr: 2,4,6-Tribromophenol	30.8	20.9-128		%REC	1	1/29/2007
Surr: 2-Fluorobiphenyl	46.2	18.3-119		%REC	1	1/29/2007
Surr: 2-Fluorophenol	41.2	16.6-101		%REC	1	1/29/2007
Surr: 4-Terphenyl-d14	65.1	32.3-135		%REC	1	1/29/2007
Surr: Nitrobenzene-d5	51.9	22.6-117		%REC	1	1/29/2007

<b>Qualifiers:</b>	• Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E	Value above quantitation range	H Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL Reporting Limit
S	Spike recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Date: 02-Feb-07

CLIENT:	Sundown	Client Sample ID:	ABC
Lab Order:	0701235	Tag Number:	
Project:	Foster Ranch #1	Collection Date:	1/16/2007 12:30:00 PM
Lab ID:	0701235-01A	Date Received:	1/18/2007
		Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C SPLP</b>						Analyst: BL
Surr: Phenol-d5	29.2	8-77.9		%REC	1	1/29/2007
<b>VOLATILES BY 8260B/1312</b>						Analyst: NSB
Benzene	ND	0.50		mg/L	1	1/27/2007
2-Butanone	ND	10		mg/L	1	1/27/2007
Carbon Tetrachloride	ND	0.50		mg/L	1	1/27/2007
Chlorobenzene	ND	100		mg/L	1	1/27/2007
Chloroform	ND	6.0		mg/L	1	1/27/2007
1,4-Dichlorobenzene	ND	7.5		mg/L	1	1/27/2007
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	1	1/27/2007
1,1-Dichloroethene	ND	0.70		mg/L	1	1/27/2007
Hexachlorobutadiene	ND	0.50		mg/L	1	1/27/2007
Tetrachloroethene (PCE)	ND	0.70		mg/L	1	1/27/2007
Trichloroethane (TCE)	ND	0.50		mg/L	1	1/27/2007
Vinyl chloride	ND	0.20		mg/L	1	1/27/2007
Surr: 1,2-Dichloroethane-d4	109	69.9-130		%REC	1	1/27/2007
Surr: 4-Bromofluorobenzene	106	71.2-123		%REC	1	1/27/2007
Surr: Dibromofluoromethane	119	73.9-134		%REC	1	1/27/2007
Surr: Toluene-d8	97.5	81.9-122		%REC	1	1/27/2007

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
	ND Not Detected at the Reporting Limit	RL Reporting Limit
	S Spike recovery outside accepted recovery limits	

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com  
 504 E Sprague Ste. D - Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB  
**Address:** 4901 HAWKINS NE SUITE D  
 ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

**Batch #:** 070130017  
**Project Name:** 0701235

## Analytical Results Report

**Sample Number** 070130017-001      **Sampling Date** 1/26/2007      **Date/Time Received** 1/30/2007 11:30 AM  
**Client Sample ID** 0701235-01B / ABC      **Extraction Date** 1/31/2007  
**Matrix:** Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2,4,5-TP (Silvex)	ND	ug/L	0.1	2/1/2007	SAT	EPA 8151A	
2,4-D	ND	ug/L	0.1	2/1/2007	SAT	EPA 8151A	

Authorized Signature



MCL EPA's Maximum Contaminant Level  
 ND Not Detected  
 PQL Practical Quantitation Limit

Comments:

QA/QC SUMMARY REPORT

Client: Sundown  
 Project: Foster Ranch #1

Work Order: 0701235

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: SW1311/8080

Sample ID: MB-12197 MBLK Batch ID: 12197 Analysis Date: 1/31/2007 15:01 PM

Chlordane	ND	mg/L	0.030						
Endrin	ND	mg/L	0.020						
gamma-BHC (Lindane)	ND	mg/L	0.40						
Heptachlor	ND	mg/L	0.0080						
Heptachlor epoxide	ND	mg/L	0.0080						
Methoxychlor	ND	mg/L	10						
Toxaphene	ND	mg/L	0.50						

Sample ID: LCS-12197 LCS Batch ID: 12197 Analysis Date: 1/31/2007 13:52 PM

Endrin	0.0004800	mg/L	0.00030	96.0	65	108			
gamma-BHC (Lindane)	0.0005100	mg/L	0.00030	102	54.8	103			
Heptachlor	0.0005000	mg/L	0.00030	100	55.2	104			
Heptachlor epoxide	0.0005000	mg/L	0.00030	100	55	108			
Methoxychlor	0.0005000	mg/L	0.00030	100	65	108			

Sample ID: LCSD-12197 LCSD Batch ID: 12197 Analysis Date: 1/31/2007 10:45 PM

Endrin	0.0004800	mg/L	0.00030	96.0	65	108	0	18	
gamma-BHC (Lindane)	0.0005000	mg/L	0.00030	100	54.8	103	1.98	18	
Heptachlor	0.0004900	mg/L	0.00030	98.0	55.2	104	2.02	18	
Heptachlor epoxide	0.0004900	mg/L	0.00030	98.0	55	108	2.02	18	
Methoxychlor	0.0005000	mg/L	0.00030	100	65	108	0	18	

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected (at the Reporting Limit)
- S  $\frac{C_{meas}}{C_{std}}$  recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Sundown  
Project: Foster Ranch #1

Work Order: 0701235

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW1311/8270

Sample ID: MB-12198 *MBLK* Batch ID: 12198 Analysis Date: 1/29/2007

2,4-Dinitrotoluene	ND	mg/L	0.13						
Hexachlorobenzene	ND	mg/L	0.13						
Hexachlorobutadiene	ND	mg/L	0.50						
Hexachloroethane	ND	mg/L	3.0						
Nitrobenzene	ND	mg/L	2.0						
Pentachlorophenol	ND	mg/L	100						
Pyridine	ND	mg/L	5.0						
2,4,5-Trichlorophenol	ND	mg/L	400						
2,4,6-Trichlorophenol	ND	mg/L	2.0						
Cresols, Total	ND	mg/L	200						

Sample ID: LCS-12198 *LCS* Batch ID: 12198 Analysis Date: 1/29/2007

2,4-Dinitrotoluene	0.05372	mg/L	0.010	53.7	38.4	94.2			
Hexachlorobenzene	0.06666	mg/L	0.010	66.7	42.1	81.1			
Hexachlorobutadiene	0.04536	mg/L	0.010	45.4	34.3	85.2			
Hexachloroethane	0.04636	mg/L	0.010	45.4	33.2	85.3			
Nitrobenzene	0.06294	mg/L	0.010	62.9	6.84	126			
Pentachlorophenol	0.04850	mg/L	0.010	48.5	6.48	109			
Pyridine	0.02566	mg/L	0.010	25.7	1.11	76.5			
2,4,5-Trichlorophenol	0.04914	mg/L	0.010	49.1	18.5	95.3			
2,4,6-Trichlorophenol	0.04474	mg/L	0.010	44.7	13	103			
Cresols, Total	0.1532	mg/L	0.010	51.1	5.76	107			

Sample ID: LCSD-12198 *LCSD* Batch ID: 12198 Analysis Date: 1/29/2007

2,4-Dinitrotoluene	0.05290	mg/L	0.010	52.9	38.4	94.2	1.54	15.5	
Hexachlorobenzene	0.06650	mg/L	0.010	66.5	42.1	81.1	0.240	15.9	
Hexachlorobutadiene	0.04652	mg/L	0.010	46.5	34.3	85.2	2.53	32.7	
Hexachloroethane	0.04528	mg/L	0.010	45.3	33.2	85.3	0.177	36.7	
Nitrobenzene	0.06112	mg/L	0.010	61.1	6.84	126	2.93	23	
Pentachlorophenol	0.05038	mg/L	0.010	50.4	6.48	109	3.80	18.6	
Pyridine	0.02368	mg/L	0.010	23.7	1.11	76.5	8.03	52	
2,4,5-Trichlorophenol	0.05064	mg/L	0.010	50.6	18.5	95.3	3.01	38.3	
2,4,6-Trichlorophenol	0.04834	mg/L	0.010	48.3	13	103	7.74	59.6	
Cresols, Total	0.1458	mg/L	0.010	48.6	5.76	107	4.87	28.5	

Method: SW7470

Sample ID: 0701235-01AMSD *MSD* Batch ID: 12206 Analysis Date: 1/26/2007

Mercury	0.004470	mg/L	0.0020	89.4	75	125	0.673	20	
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Sample ID: MB-12206 *MBLK* Batch ID: 12206 Analysis Date: 1/26/2007

Mercury	ND	mg/L	0.020						
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Sample ID: LCS-12206 *LCS* Batch ID: 12206 Analysis Date: 1/26/2007

Mercury	0.004770	mg/L	0.0020	95.4	80	120			
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Sample ID: 0701235-01AMS *MS* Batch ID: 12206 Analysis Date: 1/26/2007

Mercury	0.004440	mg/L	0.0020	88.8	75	125			
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Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

### QA/QC SUMMARY REPORT

Client: Sundown  
 Project: Foster Ranch #1

Work Order: 0701235

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qud
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Method: SW1311/6010

Sample ID: 0701235-01A MSD

MSD

Batch ID: 12212 Analysis Date: 1/30/2007 1:14:21 PM

Barium	0.5145	mg/L	0.20	95.5	75	125	0.679	20	
Cadmium	0.4868	mg/L	0.20	97.4	75	125	0.0172	20	
Lead	0.4792	mg/L	0.20	95.8	75	125	0.0979	20	
Selenium	0.4685	mg/L	0.20	93.7	75	125	4.26	20	

Sample ID: MB-12212

MBLK

Batch ID: 12212 Analysis Date: 1/30/2007 1:00:50 PM

Arsenic	ND	mg/L	5.0						
Barium	ND	mg/L	100						
Cadmium	ND	mg/L	1.0						
Chromium	ND	mg/L	5.0						
Lead	ND	mg/L	5.0						
Selenium	ND	mg/L	1.0						
Silver	ND	mg/L	5.0						

Sample ID: LCS-12212

LCS

Batch ID: 12212 Analysis Date: 1/30/2007 1:03:11 PM

Arsenic	0.5004	mg/L	0.20	100	80	120			
Barium	0.4817	mg/L	0.20	98.3	80	120			
Cadmium	0.4824	mg/L	0.20	96.5	80	120			
Chromium	0.4831	mg/L	0.20	96.6	80	120			
Lead	0.4797	mg/L	0.20	95.9	80	120			
Selenium	0.4748	mg/L	0.20	95.0	80	120			
Silver	0.4932	mg/L	0.20	98.5	80	120			

Sample ID: 0701235-01A MS

MS

Batch ID: 12212 Analysis Date: 1/30/2007 1:11:44 PM

Barium	0.5110	mg/L	0.20	94.8	75	125			
Cadmium	0.4869	mg/L	0.20	97.4	75	125			
Lead	0.4788	mg/L	0.20	95.8	75	125			
Selenium	0.4889	mg/L	0.20	97.8	75	125			

**Qualifiers:**

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SUNDOWN

Date and Time Received:

1/18/2007

Work Order Number 0701235

Received by AT

Checklist completed by

*[Signature]*  
Signature

1/18/07  
Date

Matrix

Carrier name UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present  Not Shipped
- Custody seals intact on sample bottles? Yes  No  N/A
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Water - VOA vials have zero headspace? Yes  No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  N/A

Container/Temp Blank temperature? 3° 4° C ± 2 Acceptable if given sufficient time to cool.

COMMENTS:

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Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# CHAIN-OF-CUSTODY RECORD

Client: Sawdwood

Address: P.O. Box 277

Wickett, TX 79788

Phone #: 432-943-8770

Fax #:

DA/DC Package:  
Std  Level 4

Other:

Foster Ranch #1

Project #:

Last Sample.

Project Manager:

Mike Dow

Sampler:

Mike Felkins

Sample Temperature:

350 80

Date: 1-16 Time: 12:30 Matrix: Soil Sample I.D. No.: A.B.C.

Number/Volume

3 X 8oz

Preservative

HgCl<sub>2</sub> HNO<sub>3</sub>

HEAL No.

0701235

-1

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature)

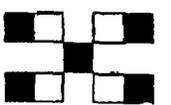
Received By: (Signature)

1/16/17

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Relinquished By: (Signature)

Received By: (Signature)

Remarks:



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel: 505.345.9975 Fax 505.345.4107  
www.hallenvironmental.com

## ANALYSIS REQUEST

<input type="checkbox"/>	BTEX + MTBE + TMB's (8021)
<input type="checkbox"/>	BTEX + MTBE + TPH (Gasoline Only)
<input type="checkbox"/>	TPH Method 8015B (Gas/Diesel)
<input type="checkbox"/>	TPH (Method 418.1)
<input type="checkbox"/>	EOB (Method 504.1)
<input type="checkbox"/>	EDC (Method 8021)
<input type="checkbox"/>	8310 (PNA or PAH)
<input type="checkbox"/>	RCRA 8 Metals
<input type="checkbox"/>	Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> )
<input type="checkbox"/>	8081 Pesticides / PCB's (8082)
<input type="checkbox"/>	8260B (VOA)
<input type="checkbox"/>	8270 (Semi-VOA)
<input checked="" type="checkbox"/>	SPLP 8260, 8270
<input checked="" type="checkbox"/>	RCRA 8 Pesticides
<input checked="" type="checkbox"/>	Herbicides SPLP
<input type="checkbox"/>	Air Bubbles or Headspace (Y or N)