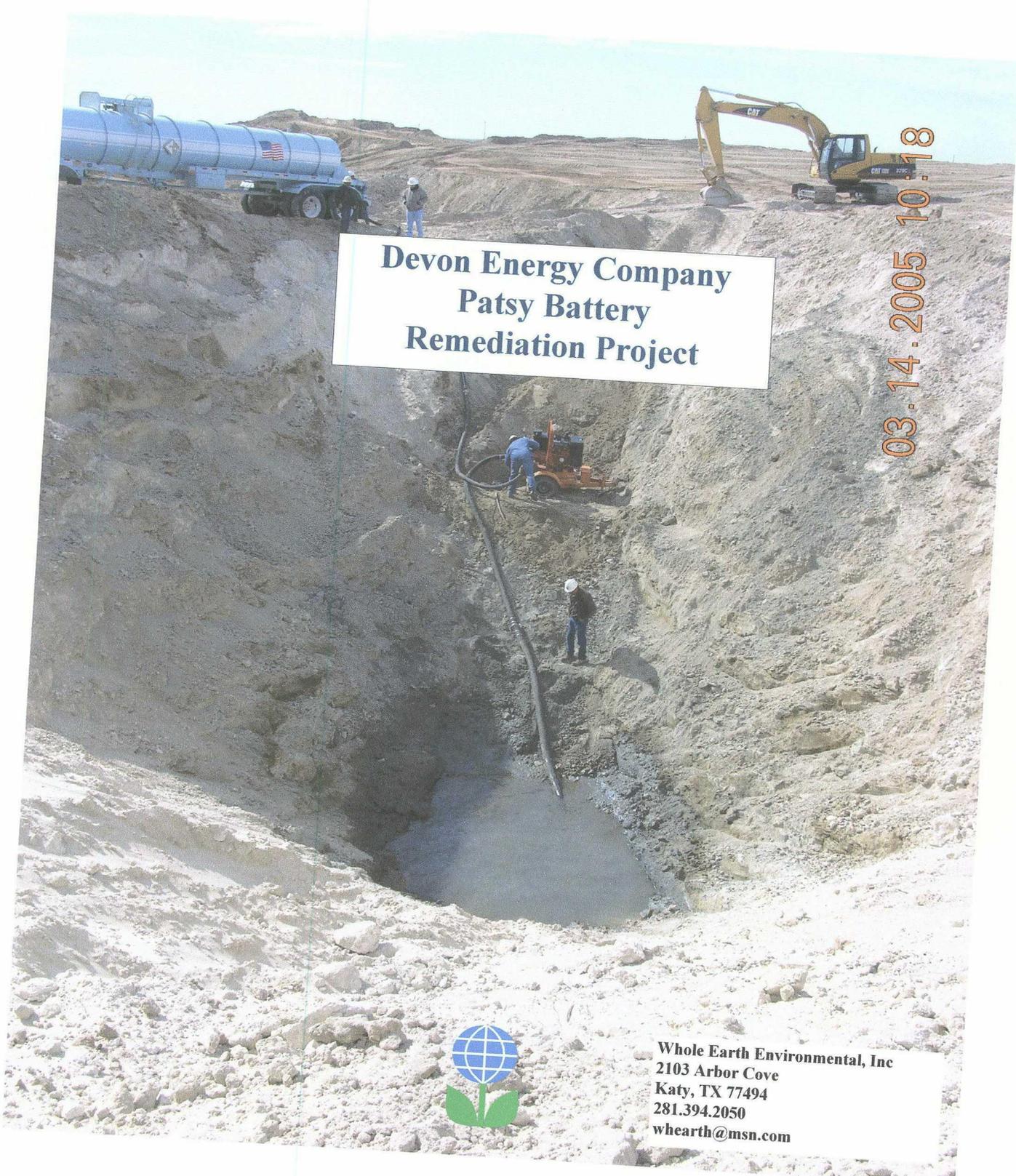


**1R - 0433**

**REPORTS**

**DATE:**

**2005**



**Devon Energy Company  
Patsy Battery  
Remediation Project**

03.14.2005 10:18



**Whole Earth Environmental, Inc**  
2103 Arbor Cove  
Katy, TX 77494  
281.394.2050  
whearth@msn.com



Office 405.228.8327  
Fax 405.552.7839  
Chris.biagi@dvn.com

Devon Energy Corporation  
20 North Broadway  
Oklahoma City, Oklahoma 73102-8260

June 23, 2005

New Mexico Oil Conservation Division  
Attention: Mr. Wayne Price  
1220 South St, Francis Drive  
Santa Fe, New Mexico 87505

IR433

RE: Patsy Tank Battery Closure  
Monument, Lea County, New Mexico

Dear Mr. Price:

Please find enclosed the Closure Report prepared to detail the remediation activities conducted at the Patsy Tank Battery site located near Monument in Lea County. The remedial activities were conducted and the report prepared by Whole Earth Environmental for Devon Energy. As a result of remedial actions taken at the site, we are requesting that the site be granted no further action required status. Upon receipt of this notification, the monitoring wells associated with the site will be properly abandoned and reported.

If you have any questions relating to this project, please contact me at 405.228.8327.

Sincerely,

Chris Biagi, REM  
Senior Remediation Specialist

Enclosure



## **Executive Summary**

### **Location**

The site is located approximately five miles southwest of Monument, New Mexico on BLM lands. The primary land use is grazing of cattle however extensive oil and gas operations are prevalent in the area. The area is semi-arid with a net precipitation / evaporation amount of -73" per year. The legal description of the site is NW ¼ of S-18, T-20, -37E.

### **Site History**

Production related activities resulted in three separate areas having environmental impairments. The first area (identified in Exhibit 3 as the Battery Area) appeared to have contained storage tanks along with related processing and load-out equipment. The second area (identified in Exhibit 3 as Area B) served as a production pit for the facility. The third area (identified in Exhibit 3 as Area C) was a spread zone where the contents of the pit were placed on the land surface to evaporate.

### **Previous Site Investigations**

Two separate investigations were commissioned by Devon Energy Company to determine the vertical and lateral extent of possible contamination. The first study was prepared by Larson Associates and reported on May 15, 2002. In this study, a series of five boreholes were advanced within areas of interest and soil samples analyzed for TPH, BTEX and chlorides. These borings revealed the presence of the three suspect areas described within the Site History section of this summary.

A second investigation conducted by ETGI advanced a series of seven monitor wells at locations suggested by the results of the Larson Associates data. None of the wells registered BTEX concentrations in excess of NMWQCC standards but each had chlorides well in excess of the 250 ppm standard.

### **Remediation Activities**

The site was initially modeled as a candidate location for a hydrostatic barrier, (essentially, an impermeable clay cap atop the contamination to prevent future vertical migration into the water table). However several factors including the relatively shallow depth and concentrations of the contaminant plumes and the relative ease of excavating sand made simple aeration and dilution a more attractive option.

### ***Removal of Piping***

Approximately two tons of metal flowlines were excavated, checked for the presence of N.O.R.M. and transported to commercial disposal at Hobbs Iron and Metal. (Disposal Manifest and N.O.R.M. logs are contained within the Exhibits section of this report).

### ***Plugging of Monitor Well No. 2***

Monitor Well no. 2 was situated in the approximate center of the battery area. Prior to excavation, Whole Earth contracted Atkins Engineering of Roswell, New Mexico to remove the wellhead, all available casing and to cement grout the well to the surface. (A copy of the plugging report and photographs of the plugging operation are contained within the Exhibits section of this report).

### ***Excavation and Remediation***

The pit area was excavated to a depth of approximately 40' below ground surface (bgs). The water table was found at a depth of 32' bgs. A minor amount of free product was found on the water table. Using a large transfer pump and transport truck Whole Earth completely evacuated the water from the hole and allowed it to recharge seventeen times until no evidence of hydrocarbons such as sheen or odor remained on the water. A total of 180 barrels were removed and sent to commercial disposal. (Disposal manifests and photographs of the fluid removal activities are included within the Exhibits section of this report).

Each site was excavated to the point at which acceptable criteria contaminant concentrations were obtained for each side-wall and bottom. Whole Earth conducted extensive field screening for these criteria contaminants prior to selecting samples for independent laboratory analysis. The Hobbs office of the NMOCD was notified of the various sampling events and witnessed the initial pit sampling on March 18, 2005.

### ***Backfilling***

The contents from each excavation were mixed and blended with the surrounding soils to achieve TPH concentrations of <5,000 ppm, chlorides of <250 ppm and benzene of less than .010 ppm. Each backfill lift was analyzed by Environmental Labs of Texas.

### ***Re-seeding***

The area was seeded with forty pounds of BLM # 2 (approximately twice the recommended amount) and lightly tilled with a surface drag. (A copy of the seed receipt is included within the Exhibits section of this report).

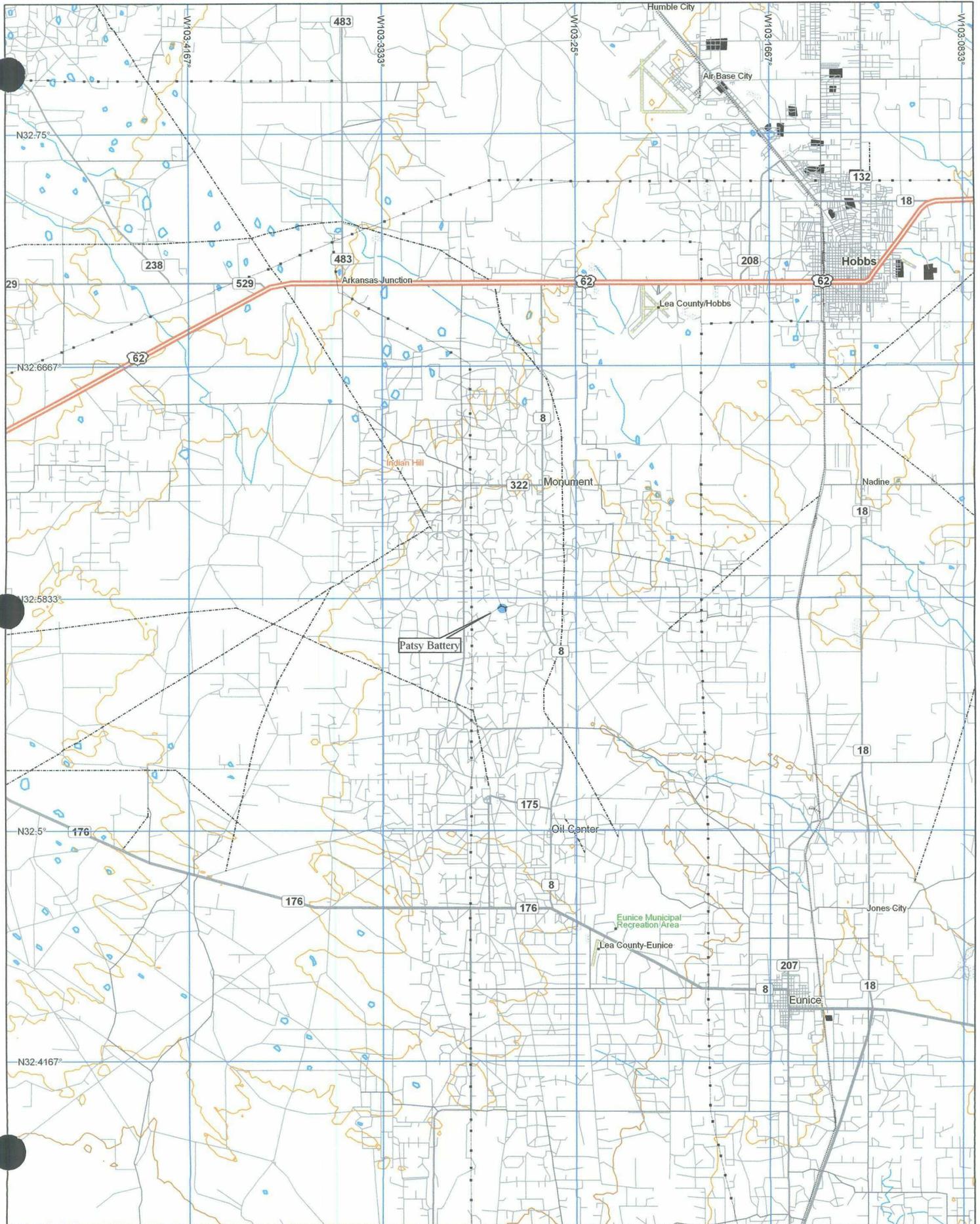
### ***Recommendations and Conclusions***

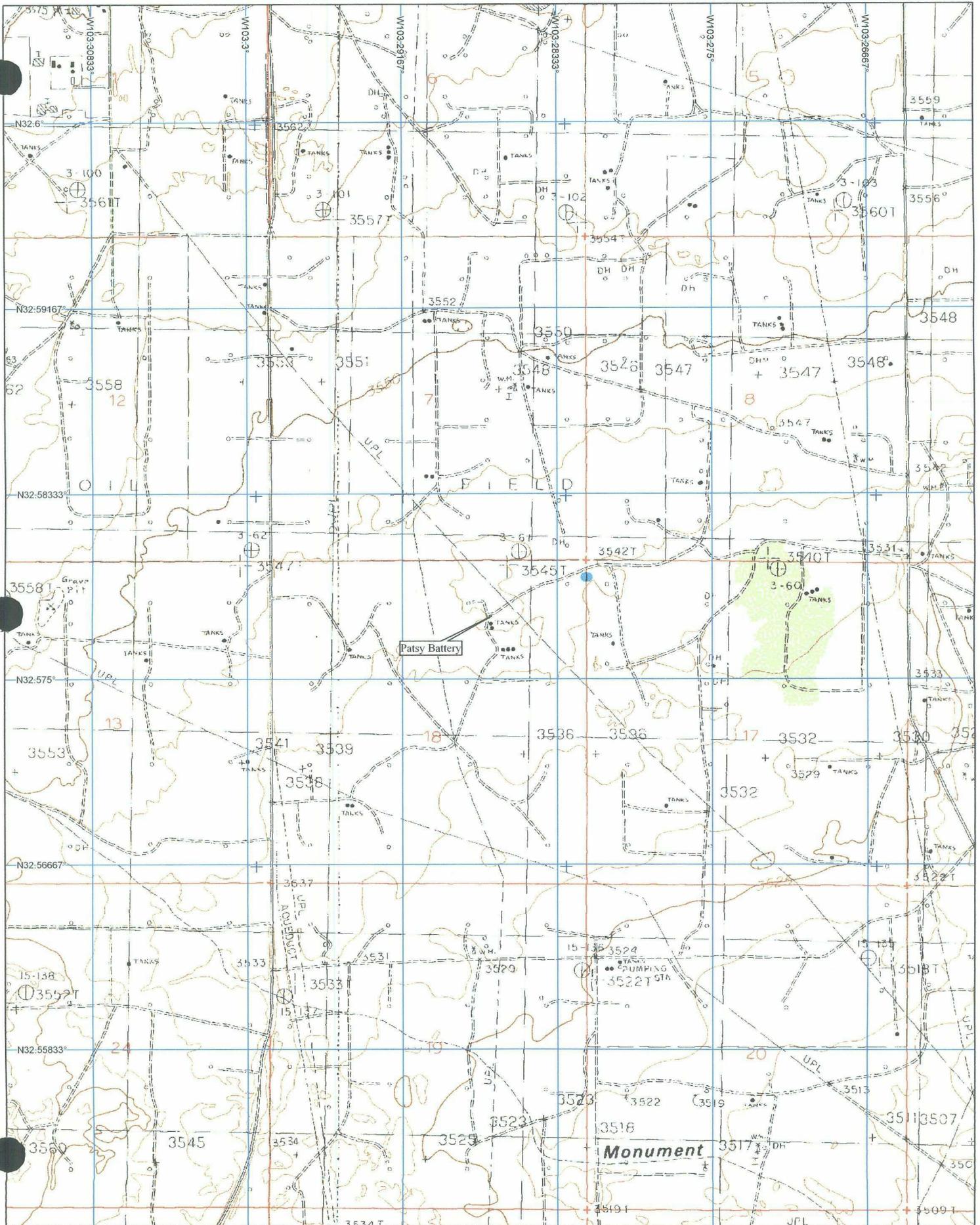
Whole Earth Environmental requests final closure of the site and permission to plug the remaining monitor wells.



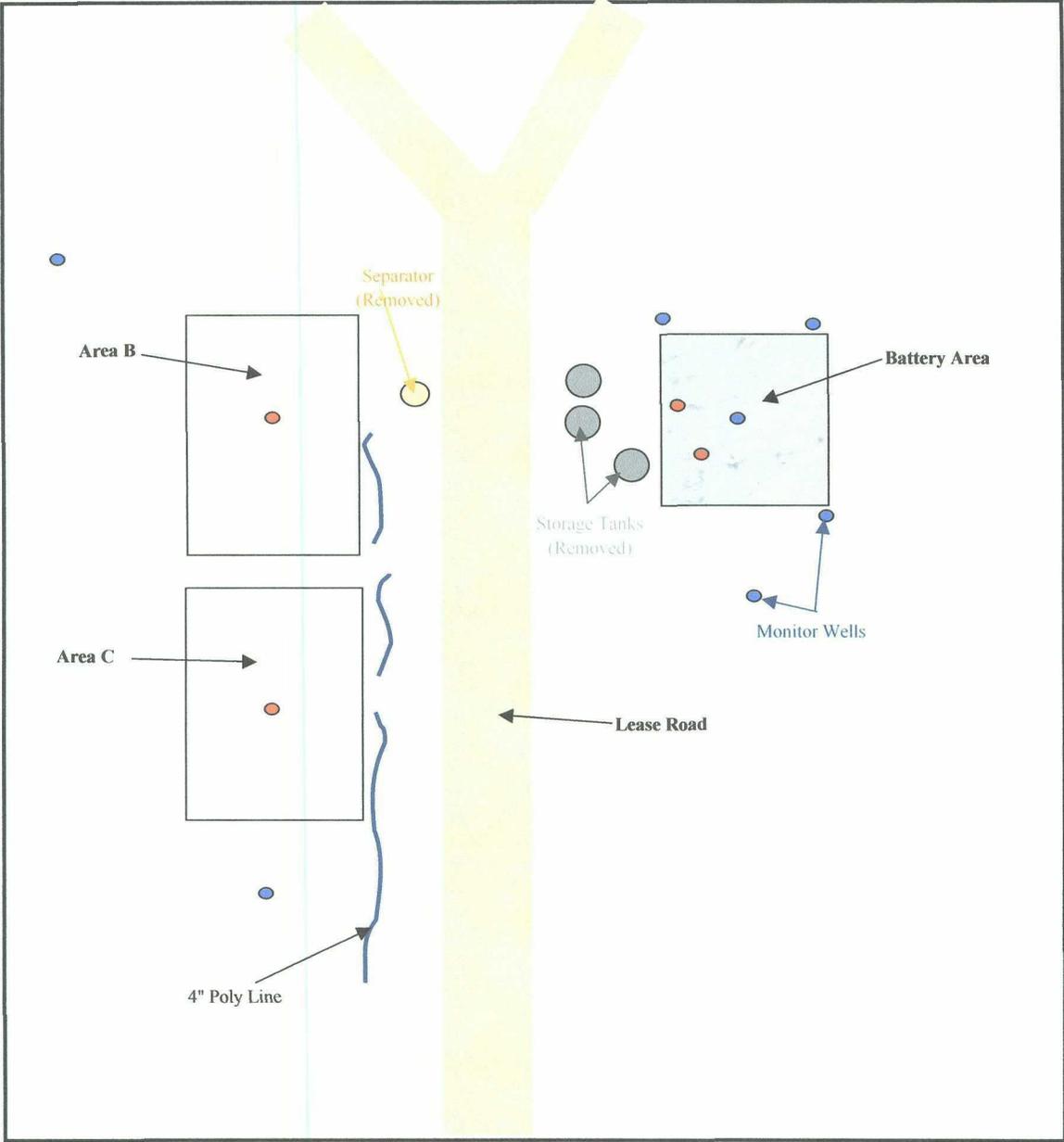
## **Exhibit Index**

1. U.S.G.S. 7.5' map zoom out
2. U.S.G.S. 7.5' map zoom in
3. Plat Map of Surface Features
4. Hydrostatic Head Data
5. Groundwater Flow Direction
6. May 3, 2005 NORM Inspection
7. May 10, 2005 NORM Inspection
8. Well Plugging Log
9. Main Battery Area Prior to Remediation
10. Area B Prior to Remediation
11. Area C Prior to Remediation
12. Monitor Well Plugging Detail
13. Monitor Well Plugging Detail
14. Line Excavation Detail
15. NORM Inspection
16. Pipe Removed from Location
17. Area B Initial Excavation Into Water Table
18. Area B Installation of Pump
19. Area B Final Removal of Free Product
20. Area B Clean Water in Hole After Pumping Activities
21. Final Contour
22. Detail of Seeding
23. Disposal Manifests for Steel Pipe
24. Disposal Manifests for Water
25. BLM # 2 Seed Mix Detail





Devon Energy Company  
Patsy Battery  
Surface Features

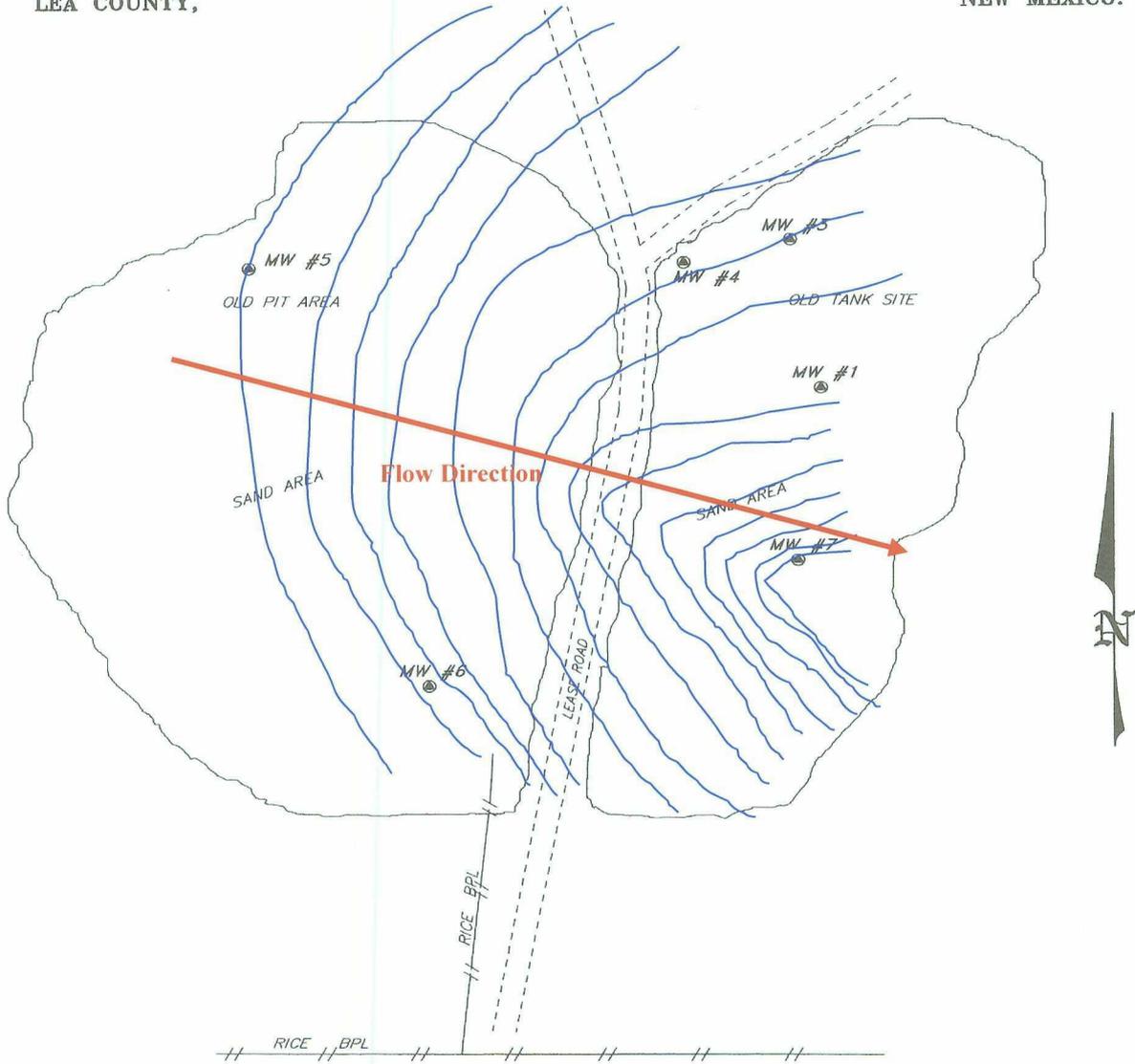




### Devon's Patsy Lease Geological-Hydrostatic Head

MW	Elevation	RTW	R	STW	TD	Groundwater		Y	X	Z
						MSL	MW	Land Surface		Geo-Hydro
								Northing	Easting	
1	3546.99	34.80	2.65	34.80	41.55	3512.19	1	575474.584	863628.018	0.71
3	3547.39	35.40	3.03	35.40	41.80	3511.99	3	575580.346	863608.566	0.51
4	3546.27	33.80	2.74	33.80	41.10	3512.47	4	575564.148	863539.895	0.99
5	3546.84	34.00	2.80	34.00	40.25	3512.84	5	575560.635	863260.263	1.36
6	3545.24	32.50	2.22	32.50	41.35	3512.74	6	575258.500	863374.845	1.26
7	3543.73	32.25	2.99	32.25	40.55	3511.48	7	575349.615	863612.419	0.00

SECTION 18, TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



NAME	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION NO. SIDE PVC	ELEVATION CONCRETE
MW #1	N575474.584	E863628.018	N32°34'39.6"	W103°17'13.4"	3549.64'	3546.99'
MW #3	N575580.346	E863608.566	N32°34'40.6"	W103°17'13.6"	3550.42'	3547.39'
MW #4	N575564.148	E863539.895	N32°34'40.5"	W103°17'14.4"	3549.01'	3546.27'
MW #5	N575560.635	E863260.263	N32°34'40.5"	W103°17'17.7"	3549.64'	3546.84'
MW #6	N575258.500	E863374.845	N32°34'37.5"	W103°17'16.4"	3547.46'	3545.24'
MW #7	N575349.615	E863612.419	N32°34'38.4"	W103°17'13.6"	3546.72'	3543.73'

ALL COORDINATES ARE BASED ON NMSPE (NAD83)

Devon Energy Company

Facility Location: \_\_\_\_\_ Survey Date: 5/3/2005  
 State: New Mexico County: Lea  
 Plant/Field: Monument  
 Lease/Battery/Well: Patsy API No.: \_\_\_\_\_

Survey Instrument Information: Scintillation Meter Coordinates

Meter: Manufacturer Ludlum 32.39946 N  
 Model No. 2241 103.15361 W  
 Serial No. 210777

Detector: Manufacturer Ludlum  
 Model No. 44-2  
 Serial No. PR - 223126

Date of Last Calibration 30-Nov-04

Battery Check OK

Check Source Used (ID/Type) Americium (Smoke Detector)

Check Source Reading \_\_\_\_\_  $\mu\text{R/hr}$

Background Reading \_\_\_\_\_  $\mu\text{R/hr}$

Description of Item/Equip/Area Surveyed	Maximum Meter Reading in $\mu\text{R/hr}$		
	@ Surface	@ 1 Foot*	@ 3 Feet*
4" Line to Tanks	5.5	4.2	
2"Flowline	5.1		
2"Flowline	5		
2"Flowline	4.6		
2"Flowline	4.8		
Barrels	4.3		

(Continue on additional pages, if necessary)

Survey Conducted By: \_\_\_\_\_ Signature \_\_\_\_\_  
 Name: M. Griffin



Devon Energy Company

Page 1 of 1

Facility Location: \_\_\_\_\_ Survey Date: 5/10/2005  
 State: New Mexico County: Lea  
 Plant/Field: Monument  
 Lease/Battery/Well: Patsy API No.: \_\_\_\_\_

Survey Instrument Information: Scintillation Meter Coordinates

Meter: Manufacturer Ludlum 32.39946 N  
 Model No. 2241 103.15361 W  
 Serial No. 210777

Detector: Manufacturer Ludlum  
 Model No. 44-2  
 Serial No. PR - 223126

Date of Last Calibration 30-Nov-04

Battery Check OK

Check Source Used (ID/Type) Americium (Smoke Detector)

Check Source Reading \_\_\_\_\_  $\mu\text{R/hr}$

Background Reading 4.3  $\mu\text{R/hr}$

Description of Item/Equip/Area Surveyed	Maximum Meter Reading in $\mu\text{R/hr}$		
	@ Surface	@ 1 Foot*	@ 3 Feet*
<u>2"Flowline</u>	<u>4.8</u>	_____	_____
<u>2"Flowline</u>	<u>4.3</u>	_____	_____
<u>2"Flowline</u>	<u>4.4</u>	_____	_____
<u>2"Flowline</u>	<u>4.7</u>	_____	_____
<u>2"Flowline</u>	<u>4.3</u>	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____
_____	_____	_____	_____

(Continue on additional pages, if necessary)

Survey Conducted By: \_\_\_\_\_ Signature \_\_\_\_\_  
 Name: M. Griffin





**Whole Earth Environmental, Inc.**  
**Well Plugging Log**

**Client:** Devon Energy Co.  
**Location:** Patsy Battery  
**County:** Lea  
**State:** New Mexico  
**Plugging Company:** Atkins Engineering  
**License No.:**  
**Date:** 3/5/2005

<b>Lat:</b>	32 <sup>0</sup> 34.675N	<b>Section</b>	18
<b>Long.</b>	103 <sup>0</sup> 17.248W	<b>Township</b>	20-S
<b>Surf. Elev.</b>	3,550 ft.	<b>Range</b>	37-E
<b>Top of Water:</b>	32.75 Ft. bgs	<b>Well Type:</b>	Monitor
<b>Bottom of Bore:</b>	37.63 Ft. bgs	<b>Cased?</b>	Y
<b>Cased Bore Volume:</b>	1,418.62 Cu. In.	<b>Casing Dia.</b>	2"
<b>Cased Bore Volume:</b>	6.14 Gal.		

**Comments**

---

Measured depths of water using Atkins depth meter. Prepared a 10 gallon  
cement slurry - pumped directly into 2" casing. Removed the 3' steel well riser with 320  
excavator. Pulled one 6' section of casing - parted at joint approx 3' bgs.  
Bore cemented to surface.

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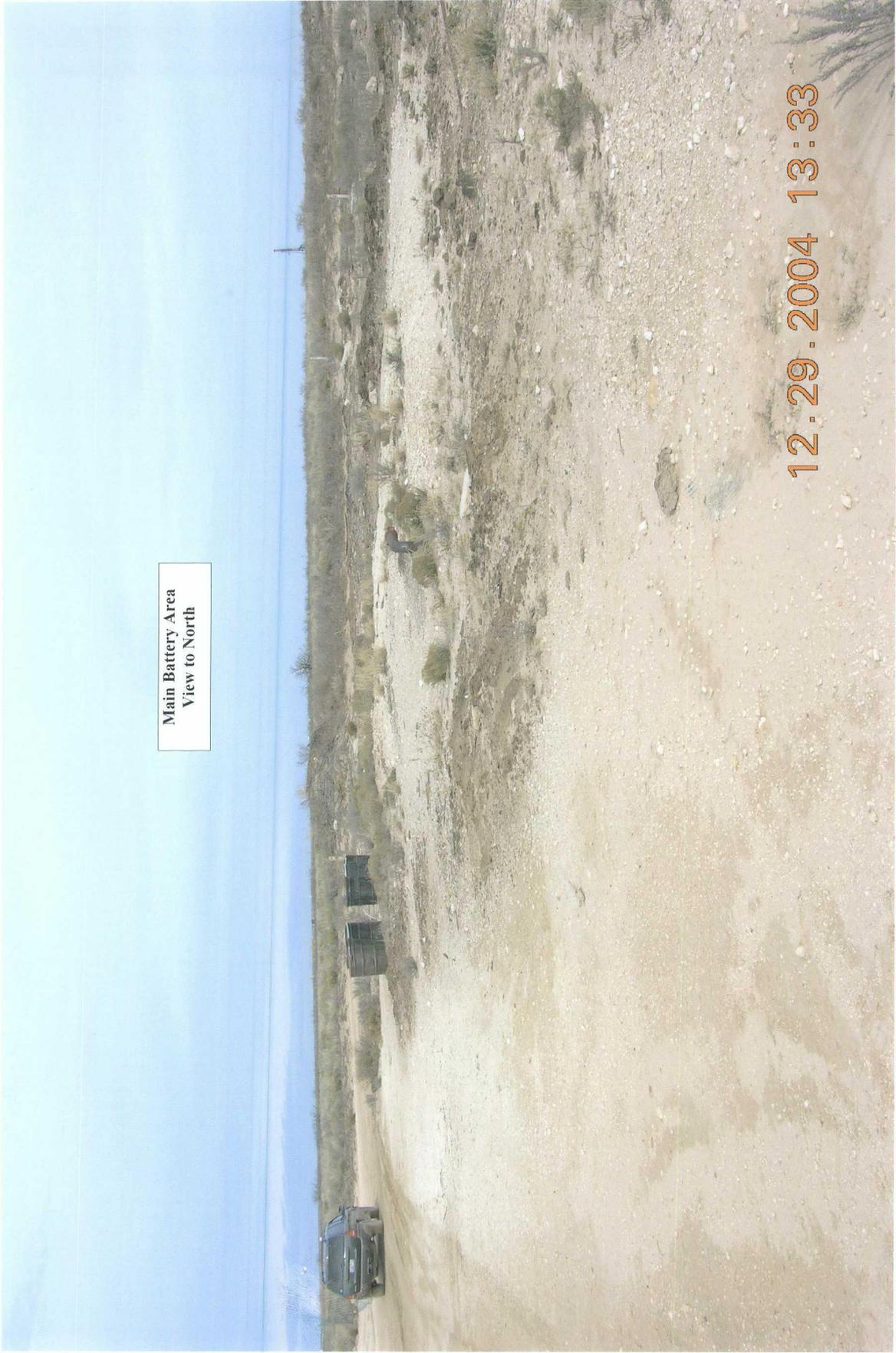
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Main Battery Area  
View to North



12.29.2004 13:33

Area B  
Surface Detail



12.29.2004 13:30

Area C  
View to South



12.29.2004 13:30



03.05.2005 09:31

B-36 GKH  
New Zealand  
New Zealand  
New Zealand

22



03.05.2005 09:52



03.03.2005 09:53



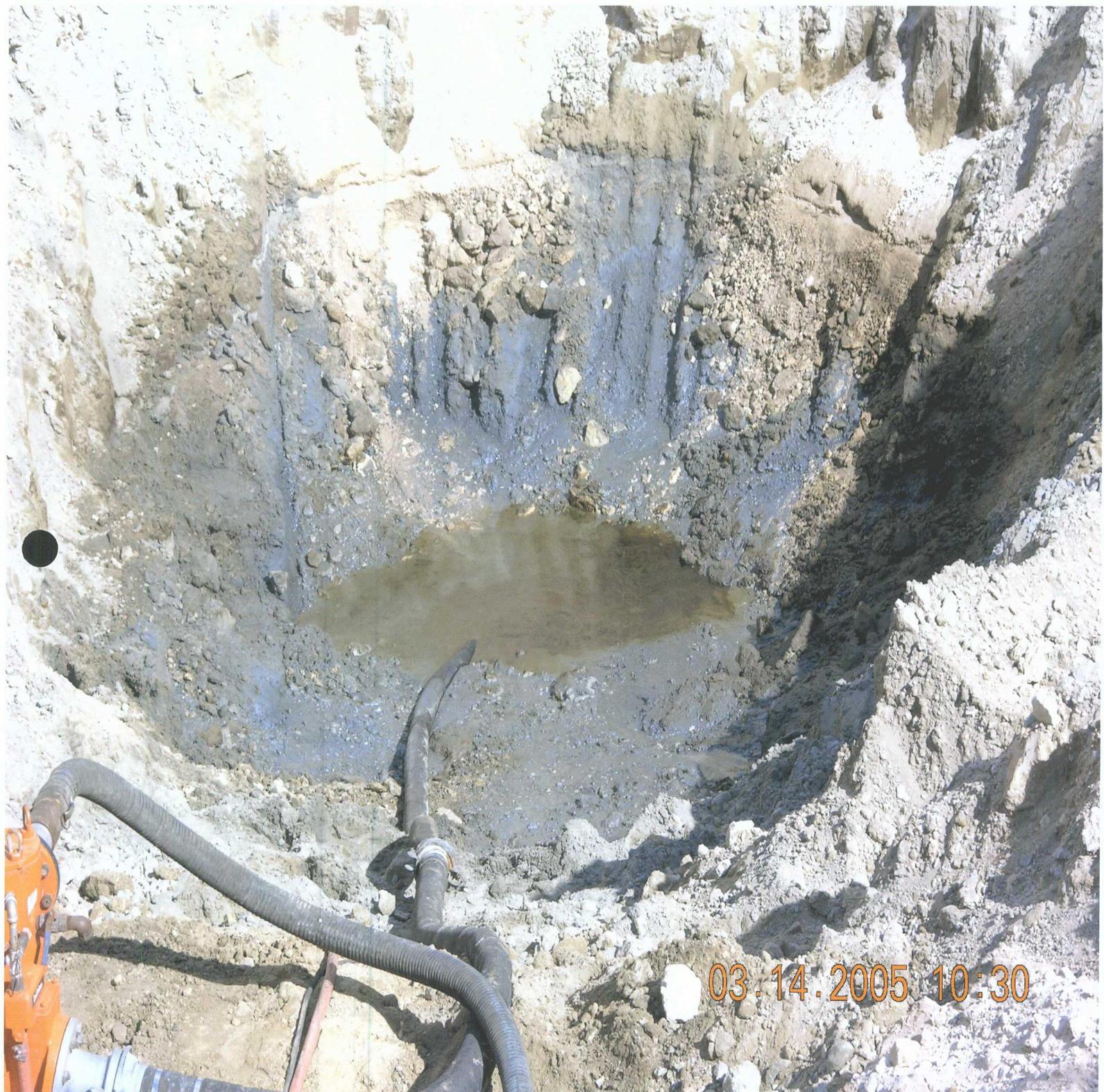
03.03.2005 10:17



03.10.2005 15:58



03.09.2005 12:50



03.14.2005 10:30



03.14.2005 10:27



03.14.2005 10:03



03:27:2005 14:30



04.03.2005 11:44

# HOBBS IRON & METAL, INC.

920 S. GRIMES • P.O. BOX 2007 • 505-393-1726

HOBBS, NEW MEXICO 88241

Date: 03/10/05  
Name: TATUM BACKHOE  
Address: PO BOX 1068  
City: TATUM

NM 88267

Ticket Number: 63631  
License Number: RONNIE W

ORIGINAL PRINTED 03/10/05

For and in consideration of the sum of \$55.50, I hereby bargain, sell, transfer and assign to HOBBS IRON & METAL, INC. the following personal property, to-wit.

ITEM	GROSS	TARE	NET	PRICE	AMOUNT
Unprepared Steel	47940	44240	3700	0.0150	55.50
				<b>TOTAL</b>	<b>\$55.50</b>

PAID BY: CASH

RECEIVED BY: *[Signature]*

398-4960 ~ Tatum  
396-4948 ~ Lovington

GANDY CORPORATION  
**WASSERHUND SWD**  
P.O. Box 827 ~ Tatum, New Mexico 88267

No 19367

Trucking Company: Gandy Date: 3-14-05  
Oil/Company: Devon - Patsy Time: \_\_\_\_\_  
Lease: S. west monument BBLS: 60  
Driver: Aligo Ponce

DRIVER COPY - White

**Coopers Salt Water Disposal**

505/397-2045 No 17547  
Box 55  
Monument, New Mexico 88265

DATE 3-14-05

COMPANY NAME Gandy Corp

ADDRESS Lovington

CITY Lovington

NO. OF BARRELS 120

Devon - Patsy Lease

SIGNATURE Aligo Ponce

CURTIS

4500 North Prince, CLOVIS  
"Specializing in Investments That Grow"

LOT# M-6272

MIKE GRIFFIN - GANDY CORP.  
1109 E. BROADWAY  
TATUM, NM 88267

BLM# 2 BROADCAST RATE  
2-2 ACRE BAGS @ 20.42 BULK POUNDS EACH

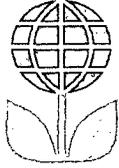
<u>ITEM</u>	<u>Total PLS Pounds</u>	<u>Total Bulk Pounds</u>
Sand Dropseed	8.00	8.56
Not Stated		
Sand Lovegrass	8.00	10.40
Bend		
Plains Bristlegrass	16.00	21.89
Not Stated		
Total:	32.00	40.85

\*\*\*THERE ARE BAGS FOR THIS MIX\*\*\*  
\*\*\*THIS BAG CONTAINS 20.42 BULK POUNDS\*\*\*  
\*\*\*PLANT 10.21 BULK POUNDS PER ACRE\*\*\*  
\*\*\*USE THIS BAG FOR 2 ACRES\*\*\*



## **Protocols**

This section contains a copy of PR-70, the remediation protocol employed on this project.



---

**Remediation Protocol  
Devon Energy Corporation  
Patsy Battery**

---

**1.0 Purpose**

This protocol is to provide a detailed outline of the steps to be employed in the remediation and closure of the Devon Energy Patsy located southwest of Monument, New Mexico.

**2.0 Scope**

This protocol is site specific for the Devon Energy remediation project.

**3.0 Preliminary**

Prior to any field operations, Whole Earth Environmental shall conduct the following activities:

**3.1 Client Review**

3.1.1 Whole Earth shall meet with cognizant personnel within Devon to review this protocol and make any requested modifications or alterations.

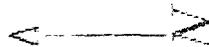
3.1.2 Changes to this protocol will be documented and submitted for final review by Devon prior to the initiation of actual field work.

**4.0 Safety**

4.1 Prior to work on the site, Whole Earth shall obtain the location and phone numbers of the nearest emergency medical treatment facility. We will review all safety related issues with the appropriate Client personnel, sub-contractors and exchange phone numbers.

4.2 A tailgate safety meeting shall be held and documented each day. All sub-contractors must attend and sign the daily log-in sheet.

4.3 Anyone allowed on to location must be wearing sleeved shirts, steel toed boots, and long pants. Each vehicle must be equipped with two way communication capabilities.



4.4 Prior to any excavation, New Mexico One Call will be notified. The One Call notification number will be included within the closure report. If lines are discovered within the area to be excavated they shall be marked with pin flags on either side of the line at maximum five-foot intervals.

4.5 Prior to any field operations, Whole Earth will prepare and submit to Devon Energy a detailed site Health and Safety Plan.

### **5.0 Preliminary Activities**

5.1 All barrels, trash and piping will be scanned for the presence and concentration of naturally occurring radioactive materials (NORM). Any component containing radiation reading exceeding 10  $\mu$ rems above background will be segregated for further inspection by a third party certified to work in New Mexico on radioactive materials.

5.2 All clean trash will be collected and sent to a commercial disposal facility. A manifest will be generated and signed by the disposal company. All such manifests shall be collected and included within the final closure report.

5.3 All cement shall be collected and deep buried on-site. The top of the cement shall be a minimum distance of 5' below ground level.

5.4 Three of the seven existing monitor wells will be grouted to surface and closed prior to any excavation.

### **6.0 Remediation**

6.1 All berms and assorted piles of contaminated soils will be spread to a maximum depth of 6 inches on the surface of the site. Three areas presently known to contain hydrocarbon concentrations in excess of NMOCD standards shall be excavated to a minimum depth of 20' below ground surface. The contaminated soils shall be set aside of the excavation but within the existing fence perimeter.

6.2 The side walls and bottom of each excavated area shall be field screened for the presence and concentration of TPH by means of EPA method 418.1 (modified). Excavation of each site shall continue until the TPH concentrations are <5,000 ppm. Prior to backfill, laboratory confirmation samples shall be taken from each side-wall and bottom. The Hobbs office of the NMOCD will be given a minimum of forty-eight hours notification of the intended sampling event.

6.3 Each excavation will be backfilled with soils containing a TPH concentration of <500 ppm to a maximum depth of 5' below ground surface. Composite confirmation samples will be collected each 3' lift and submitted to an independent laboratory for analysis under EPA SW-846 Method 8015M. Records of each test will be incorporated within the closure report.

6.5 All remaining contaminated soils will be land spread over the existing impoundment to a maximum depth of 12" and a maximum TPH concentration of 2,000 ppm. Surface treatment methods may include bio-augmentation, fertilization, inoculation, and phyto-remediation.

#### **7.0 Monitoring**

The remaining monitor four monitor wells will be tested on an annual basis for the presence and concentration of BTEX, and chlorides for a minimum period of five years. If the well shows criteria contaminant concentrations within NMWQCC standards for a minimum of the last three of five years, Devon will request final site closure to include plugging the remaining well.

#### **8.0 Closure Report**

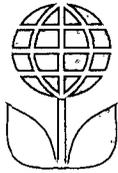
8.1 At the conclusion of the project, Whole Earth shall prepare a closure report that contains the following minimum information:

- Photographs of the location prior to remediation
- Photographs of the site at the point of maximum excavation
- Detail photographs of the liner installation
- Photographs of the location at time of final closure
- Lab analysis and related chain of custody for THP, BTEX and chloride testing of each side-wall and excavation bottom
- Lab analysis and related chain of custody for chloride testing of each 3' lift composite
- Copies of this protocol and all testing procedures
- Shipping manifests for all materials taken to disposal
- Laboratory analysis of water samples obtained from the monitoring well



## **Procedures**

This section contains copies of the individual field testing and sample collection procedures employed on this project.



QP-06 Rev. C

---

**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

---

**Procedure for Conducting Field TPH Analysis**

---

Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date: 02/15/97

---

**1.0 Purpose**

To define the procedure to be used in conducting total percentage hydrocarbon testing in accordance with EPA Method 418.1 (modified) using the "MEGA" TPH Analyzer.

**2.0 Scope**

This procedure is to be used for field testing and on site remediation information.

**3.0 Procedure**

3.1 The G.A.C. "MEGA" TPH analyzer is an instrument that measures concentrations of aliphatic hydrocarbons by means of infra-red spectrometry. It is manufactured to our specifications and can accurately measure concentrations from two parts per million through 100,000 parts per million. The unit is factory calibrated however minor calibration adjustments may be made in the field. Quality Procedure 25 defines the field calibration methods to be employed.

3.2 Prior to taking the machine into the field, insert a 500 ppm and 5,000 ppm calibration standard into the sample port of the machine. Zero out the Range dial until the instrument records the exact standard reading.

3.3 Once in the field, insert a large and small cuvette filled with clean Freon 113 into the sample port of the machine. Use the range dial to zero in the reading. If the machine does not zero, do not attempt to adjust the span dial. Immediately implement Quality Procedure 25 .

- 3.4 Place a 100 g. weight standard on the field scale to insure accuracy. Zero out the scale as necessary.
- 3.5 Tare a clean 100 ml. sample vial with the Teflon cap removed. Add 10 g. (+/- .01 g), of sample soil into the vial taking care to remove rocks or vegetable matter from the sample to be tested. If the sample is wet, add up to 5 g. silica gel or anhydrous sodium sulfate to the sample after weighing.
- 3.6 Dispense 10 ml. Freon 113 into the sample vial.
- 3.7 Cap the vial and shake for five minutes.
- 3.8 Carefully decant the liquid contents of the vial into a filter/desiccant cartridge and affix the cartridge cap. Recap the sample vial and set aside.
- 3.9 Insert the metal tip of the pressure syringe into the cap opening and slowly pressurize. **WARNING: APPLY ONLY ENOUGH PRESSURE ON THE SYRINGE TO EFFECT FLOW THROUGH THE FILTERS. TOO MUCH PRESSURE MAY CAUSE THE CAP TO SEPARATE FROM THE BODY OF THE CARTRIDGE.** Once flow is established through the cartridge direct the flow into the 5 cm. cuvette until the cuvette is full. Reverse the pressure on the syringe and remove the syringe tip from the cartridge cap. Set the cartridge aside in vertical position.
- 3.10 The cuvette has two clear and two frosted sides. Hold the cuvette by the frosted sides and carefully insert into the sample port of the machine. Read the right hand digital read-out of the instrument. If the reading is less than 1,000 ppm. the results shall be recorded in the field Soil Analysis Report. If the result is higher than 1,000 ppm, continue with the dilution procedure.

#### 4.0 Dilution Procedure

- 4.1 When initial readings are greater than 1,000 ppm using the 5 cm. cuvette, pour the contents of the 5 cm. cuvette into a 1 cm. cuvette. Insert the 1. cm cuvette into the metal holder and insert into the test port of the instrument.

4.1 Read the left hand digital read-out of the machine. If the results are less than 10,000 ppm, record the results into the field Soil Analysis Report. If greater than 10,000 ppm, continue the dilution process. **Concentrations >10,000 ppm are to be used for field screen purposes only.**

4.2 Pour the contents of the small cuvette into a graduated glass pipette. Add 10 ml. pure Freon 113 into the pipette. Shake the contents and pour into the 1cm. cuvette. Repeat step 4.2. adding two zeros to the end of the displayed number. If the reported result is greater than 100,000 ppm. the accuracy of further readings through additional dilutions is extremely questionable. **Do not use for reporting purposes.**

4.4 Pour all sample Freon into the recycling container.

### **5.0 Split Samples**

5.1 Each tenth test sample shall be a split sample. Decant approximately one half of the extraction solvent through a filter cartridge and insert into the instrument to obtain a concentration reading. Clean and rinse the cuvette and decant the remainder of the fluid to obtain a second concentration reading from the same sample. If the second reading varies by more than 1% from the original, it will be necessary to completely recalibrate the instrument.



QP-12

---

**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

---

**Procedure for Soil Sample Preparation:  
Moisture Weight Percentage**

---

Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date: / /

---

**1.0 Purpose**

This procedure outlines the methods to be employed in preparing samples to be tested for electrical conductivity and cation exchange capacities.

**2.0 Scope**

This procedure shall be followed when preparing any electrical conductivity, (EC), or cation exchange capacity, (CEC), testing.

**3.0 Procedure**

3.1 Field collection of all soil samples shall be in plastic containers. Samples may be stored for a maximum of five days prior to processing.

3.2 Homogenize sample thoroughly. Test for hydrophobic characteristics as follows:

- a. examine for visible globs of oil or grease
- b. press soil sample to determine if it compresses into a damp mass
- c. test to determine if the sample stains filter paper

If the sample exhibits hydrophobic characteristics, prepare in accordance with 3.3.2 below. Otherwise, prepare in accordance with 3.3.1.

3.3.1 Weigh 120 +/- 0.1g sample into tared crucible and dry at 105<sup>0</sup> C for 1 hour. Cool and reweigh. Repeat until weight difference is less than 1% value.

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3.3.2 Weigh 120 +/- 0.1 g sample into tared crucible and dry in oven at 250<sup>0</sup> C for one hour. Cool and heat with propane torch until sample just begins to smoke. Maintain gradual heating until smoke dissipates (approximately 1/2 hour). **DO NOT ALLOW THE SAMPLE TO CATCH FIRE OR EXCEED 390<sup>0</sup> C.** Cool and reweigh. Grind to pass 2mm sieve.

3.4 Report percent moisture to three significant figures as follows:

$$\text{Moisture \%} = [(W - D)/D] \times 100$$

W = wet sample weight

D = dry sample weight

3.5 References

Diagnosis and Improvement of Saline and Alkali Soils; U.S. Salinity Laboratory Staff, Agriculture Handbook No. 60; 1954

Deuel & Holliday, Soil Remediation for the Petroleum Extraction Industry; Houston, Tx. 1993.



QP-13

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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Procedure for Preparing a  
Paste Extraction**

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Completed By:                      Approved By:                      Effective Date:    /    /

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**1.0 Purpose**

This procedure defines the methods to be employed in preparing a paste extraction to be analyzed for conductivity and exchangeable cations.

**2.0 Scope**

This procedure shall be used in all electrical Conductivity (EC) and Cation Exchange Capacity (CEC) tests.

**3.0 Procedure**

3.1 All samples shall be prepared in accordance with QP-12.

3.2 Weigh 100 +/- 0.1g soil sample into tared sample reservoir of filter assembly. Add deionized reagent water to fill pores, stirring gently with plastic stirrer to achieve saturation. The solid/water mixture is consolidated occasionally by tapping the container on the workbench. At saturation the surface of the mixture glistens and flows slightly when tipped. Let stand for one hour. The mixture should not stiffen or puddle; add more sample or water as required and allow to stand for one additional hour.

3.3 Analyze paste extract directly for EC and pH.

3.4 Connect filter assembly to vacuum assembly and filter extract until air begins to pass through filter. Analyze directly for Na, Ca, Mg, K.



QP-14

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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Procedure for Conducting Sodium Adsorption  
Ratio (SAR) Testing**

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Completed By:                      Approved By:                      Effective Date:    /    /

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**1.0 Purpose**

This procedure defines the methods to be employed when conducting sodium adsorption ratio testing from paste extract samples.

**2.0 Scope**

This procedure shall be used in all SAR's obtained from sample paste extracts.

**3.0 Procedure**

3.1 All samples shall be prepared in accordance with QP-12 and 13.

3.2 Calibration of the equipment shall be performed daily. Calibrate using a 5 point series of standards. The range of standards must include a blank, and should span the range of expected concentrations of the samples. The following concentrations are appropriate:

Low Range: 0, 1.0, 3.0, 5.0, 10.0 ppm

High Range: 0, 10.0, 20.0, 50.0, 100 ppm

With the instrument on, inject standard mixture with 10  $\mu$ L syringe and start data collection. Store calibration data under the date of generation for use in subsequent analyses.

3.3 Calibrate instrument in accordance with 3.2. Dilute aqueous extract volumetrically so that sample concentrations fall within the working range of the instrument. Enter sample I.D. and operator name into data collection system. Inject 10  $\mu$ L sample and start data collection.

3.4 Report cation concentrations to three significant digits. Milliequivalents conversions are automatically performed in the calculation for SAR as follows:

$$\text{soluble cations (meq/100g)} = \left( \frac{[\text{Na}]}{23.0} + \frac{[\text{Ca}]}{20.0} + \frac{[\text{Mg}]}{12.2} + \frac{[\text{K}]}{39.1} \right) \times \text{SP} / 1000$$

$$\text{SAR} = \frac{[\text{Na}]}{23.0} / \left( 0.5 \left\{ \frac{[\text{Ca}]}{20.0} + \frac{[\text{Mg}]}{12.2} \right\} \right)^{-1/2}$$

Where [ ] = concentration in ppm



QP-15

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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Procedure for Determining Distribution  
of Exchangeable Cations**

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Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date:    /    /

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**1.0 Purpose**

This procedure defines the methods to be employed when determining the distribution of cations adsorbed on the solid phase.

**2.0 Scope**

This procedure shall be used in all exchangeable cation distribution testing.

**3.0 Procedure**

3.1 All samples shall be prepared in accordance with QP-12 and 13.

3.2 Calibration of the equipment shall be performed daily. Calibrate using a 5 point series of standards. The range of standards must include a blank, and should span the range of expected concentrations of the samples. The following concentrations are appropriate:

Low Range: 0, 1.0, 3.0, 5.0, 10.0 ppm

High Range: 0, 10.0, 20.0, 50.0, 100 ppm

With the instrument on, inject standard mixture with 10  $\mu$ L syringe and start data collection. Store calibration data under the date of generation for use in subsequent analyses.

3.3 Weigh 5 +/- 0.01g sample into fritted extraction tube. Add 20 mL ammonium acetate, cap and shake for 5 minutes. Connect tube into filtration apparatus and collect extract. Repeat three times. Enter sample I.D. and operator name in data collection system. Inject 10 µL into 100mL container of deionized water and shake. Extract 10 µL of dilute sample and inject into sampling port of the ion Chromatograph.

3.4 Report cation concentrations to three significant digits. Milliequivalents conversions are automatically performed in the calculation for SAR as follows:

$$\text{extractable cations} = \left( \frac{[\text{Na}]}{23.0} + \frac{[\text{Ca}]}{20.0} + \frac{[\text{Mg}]}{12.2} + \frac{[\text{K}]}{39.1} \right) \times 10 / W$$

$$\text{soluble cations} = (\text{SC} \times \text{SP}) / 1000$$

$$\text{EC} = \text{extractable cations} - \text{soluble cations}$$

Where [ ] = concentration in ppm  
W = sample weight, grams

3.5 References:

Methods for Chemical analysis of Water and Wastes; USEPA; EMSL,  
Cincinnati, OH 1979

Deuel and Holliday, Soil Remediation for the Petroleum Extraction Industry;  
Houston, Tx., 1993



3.3 Weigh 5 +/- 0.01g sample into fritted extraction tube. Add 30 mL sodium acetate, cap and shake for 5 minutes. Connect tube into filtration apparatus and discard extract. Repeat three times. Rinse sample with 30 mL iso-propyl alcohol, shaken and filtered as above. Add 30 mL ammonium acetate, shake and collect filtrate as in above. Inject 10 µL into 100mL container of deionized water and shake. Extract 10 µL of dilute sample and inject into sampling port of the ion Chromatograph.

3.4 Report cation concentrations to three significant digits. Milliequivalents conversions are automatically performed in the calculation for SAR as follows:

$$CEC = 10 [Na] / 23.0 W$$

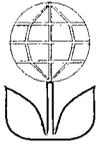
Where [ ] = concentration in ppm

W = sample weight, grams

### 3.5 References:

Methods for Chemical analysis of Water and Wastes; USEPA; EMSL,  
Cincinnati, OH 1979

Deuel and Holliday, Soil Remediation for the Petroleum Extraction Industry;  
Houston, Tx., 1993



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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Procedure for Developing Cased Water Monitoring Wells**

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Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date:    /    /

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**1.0 Purpose**

This procedure outlines the methods to be employed to develop cased monitoring wells.

**2.0 Scope**

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

**3.0 Preliminary**

3.1 Prior to development, the static water level and height of the water column within the well casing will be measured with the use of an electric D.C. probe or a steel engineer's tape and water sensitive paste.

3.2 All measurements will be recorded within a field log notebook and subsequently reported within the driller's boring log report.

3.3 All equipment used to measure the static water level will be decontaminated after each use by means of Alconox, a phosphate free laboratory detergent, and water to reduce the possibility of cross-contamination. The volume of water in each well casing will be calculated.

**4.0 Purging**

4.1 Wells will be purged by removing a minimum of three well casing volumes by using a 2" decontaminated submersible pump or dedicated one liter Teflon bailer.

4.2 If a submersible is used the pump will be decontaminated prior to use by scrubbing the outside surface of tubing and wiring with an Alconox-water mixture, pumping an Alconox-water mixture through the pump, and a final flush with fresh water.

**5.0 Water Disposal**

60 5.1 All purge and decontamination water will be temporarily stored within a gallon portable tank and then pumped into a permanent storage tank to be later disposed of in an appropriate manner.

**6.0 Records**

during 6.1 Whole Earth will record the amount of water removed from the well development procedures. The purge volume will be reported to the appropriate regulatory authority when filing the closure report.



QP-76 (Rev. A)

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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Procedure for Obtaining Water Samples (Cased Wells)  
Using One Liter Bailer**

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Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date: / /

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**1.0 Purpose**

This procedure outlines the methods to be employed in obtaining water samples from cased monitoring wells.

**2.0 Scope**

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

**3.0 Preliminary**

3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the water. The shipment should include a Certificate of Compliance from the manufacturer of the collection bottle or vial and a Serial Number for the lot of containers. Retain this Certificate for future documentation purposes.

3.2 The following table shall be used to select the appropriate sampling container, preservative method and holding times for the various elements and compounds to be analyzed.

Compound to be Analyzed	Sample Container Size	Sample Container Description	Cap Requirements	Preservative	Maximum Hold Time
BTEX	40 ml.	VOA Container	Teflon Lined	HCl	7 days
TPH	1 liter	clear glass	Teflon Lined	HCl	28 days
PAH	1 liter	clear glass	Teflon Lined	Ice	7 days
Cation / Anion	1 liter	clear glass	Teflon Lined	None	48 Hrs.
Metals	1 liter	HD polyethylene	Any Plastic	Ice / HNO <sub>3</sub>	28 Days
TDS	300 ml.	clear glass	Any Plastic	Ice	7 Days

#### **4.0 Chain of Custody**

- 4.1 Prepare a Sample Plan. The plan will list the well identification and the individual tests to be performed at that location. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.
- 4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.
- 4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label). Affix the labels to the jars.

#### **5.0 Bailing Procedure**

- 5.1 Identify the well from the site schematics. Place pre-labeled jar(s) next to the well. Remove the bolts from the well cover and place the cover with the bolts nearby. Remove the plastic cap from the well bore by first lifting the metal lever and then unscrewing the entire assembly.
- 5.2 The well may be equipped with an individual 1 liter bailing tube. If so, use the tube to bail a volume of water from the well bore equal to 10 liters for each 5' of well bore in the water table. (This assumes a 2" dia. well bore).
- 5.3 Take care to insure that the bailing device and string do not become cross-contaminated. A clean pair of rubber gloves should be used when handling either the retrieval string or bailer. The retrieval string should not be allowed to come into contact with the ground.

#### **6.0 Sampling Procedure**

- 6.1 Once the well has been bailed in accordance with 5.2 of this procedure, a sample may be decanted into the appropriate sample collection jar directly from the bailer. The collection jar should be filled to the brim. Once the jar is sealed, turn the jar over to detect any bubbles that may be present. Add additional water to remove all bubbles from the sample container.
- 6.2 Note the time of collection on the sample collection jar with a fine Sharpie.

6.3 Place the sample directly on ice for transport to the laboratory. The preceding table shows the maximum hold times between collection and testing for the various analyses.

6.4 Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

#### **7.0 Documentation**

7.1 The testing laboratory shall provide the following minimum information:

- A. Client, Project and sample name.
- B. Signed copy of the original Chain of Custody Form including data on the time the sample was received by the lab.
- C. Results of the requested analyses
- D. Test Methods employed
- E. Quality Control methods and results



**Calculation for Determining the Minimum Bailing Volume for Monitor Wells**

**Formula  $V = (\pi r^2 h)$**

V= volume

$\pi$ = pi

r= inside radius of the well bore

h= maximum height of well bore in water table

$\pi$	$r^2$	h (in)	V (cu. in)	V (gal)	X 3 Volumes	Actual
3.1416	1	180	565.488	2.448	7.344	>10



QP-78

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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Procedure for Obtaining Water Samples (Cased Wells)  
Using Enviro-Tech ES-60 Pump**

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Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date:    /    /

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**1.0 Purpose**

This procedure outlines the methods to be employed in obtaining water samples from cased monitoring wells.

**2.0 Scope**

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

**3.0 Preliminary**

3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the water. The shipment should include a Certificate of Compliance from the manufacturer of the collection bottle or vial and a Serial Number for the lot of containers. Retain this Certificate for future documentation purposes.

3.2 The following table shall be used to select the appropriate sampling container, preservative method and holding times for the various elements and compounds to be analyzed.

Compound to be Analyzed	Sample Container Size	Sample Container Description	Cap Requirements	Preservative	Maximum Hold Time
BTEX	40 ml.	VOA Container	Teflon Lined	HCl	7 days
TPH	1 liter	clear glass	Teflon Lined	HCl	28 days
PAH	1 liter	clear glass	Teflon Lined	Ice	7 days
Cation / Anion	1 liter	clear glass	Teflon Lined	None	48 Hrs.
Metals	1 liter	HD polyethylene	Any Plastic	Ice / HNO <sub>3</sub>	28 Days
TDS	300 ml.	clear glass	Any Plastic	Ice	7 Days

#### **4.0 Chain of Custody**

- 4.1 Prepare a Sample Plan. The plan will list the well identification and the individual tests to be performed at that location. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.
- 4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.
- 4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label). Affix the labels to the jars.

#### **5.0 Bailing Procedure**

- 5.1 Identify the well from the site schematics. Place pre-labeled jar(s) next to the well. Remove the bolts from the well cover and place the cover with the bolts nearby. Remove the plastic cap from the well bore by first lifting the metal lever and then unscrewing the entire assembly.
- 5.2 Lower the ES-60 pump into the monitor well bore taking care to insure that the pump and first 10' of hose and cable does not touch the ground or become cross-contaminated by contact with anything containing hydrocarbon residues. When the pump reaches the bottom of the well bore you will feel the hose and cable assembly go slack. Lift the pump a minimum distance of 18" above the bottom of the well bore and clamp the hose assembly to the top of the well bore by means of vice grips. (Take care to insure that the vice grips are adjusted so as not to "choke" the hose.
- 5.3 Attach the electrical cable leads to an automobile battery and begin pumping the well bore. If the pump does not bring fluid to the surface within one minute, disconnect the electrical leads, and re-connect for four seconds three times to remove air cavitation.
- 5.4 The pump has a minimum volume of 2.8 gallons per minute at 60'. Purge the well by pumping for a minimum of 10 minutes before taking a sample.

#### **6.0 Sampling Procedure**

- 6.1 Once the well has been bailed in accordance with 5.2 of this procedure, a sample may be decanted into the appropriate sample collection jar directly from the bailer. The collection jar should be filled to the brim. Once the jar is sealed, turn the jar over to detect any bubbles that may be present. Add additional water to remove all bubbles from the sample container.

- 6.2 Note the time of collection on the sample collection jar with a fine Sharpie.
- 6.3 Place the sample directly on ice for transport to the laboratory. The preceding table shows the maximum hold times between collection and testing for the various analyses.
- 6.4 Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

#### **7.0 Decontamination**

- 7.1 After removing the pump from the well, use an aerosol spray pump bottle filled with denatured isopropyl alcohol to clean the pump and first 10' of the cable and hose assembly. Rinse the sprayed portion with distilled water to remove the alcohol and dry with a clean rag. Discard the rag after each use. During transport, the pump assembly should be carried in a 2" PVC protective sleeve.

#### **8.0 Documentation**

- 8.1 The testing laboratory shall provide the following minimum information:
  - A. Client, Project and sample name.
  - B. Signed copy of the original Chain of Custody Form including data on the time the sample was received by the lab.
  - C. Results of the requested analyses
  - D. Test Methods employed
  - E. Quality Control methods and results



QP-96

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**WHOLE EARTH ENVIRONMENTAL  
QUALITY PROCEDURE**

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**Sampling and Testing Protocol  
Chloride Titration Using .1 Normal  
Silver Nitrate Solution**

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Completed By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Effective Date: / /

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**1.0 Purpose**

This procedure is to be used to determine the concentrations of chlorides in soils.

**2.0 Scope**

This procedure is to be used as the standard field measurement for soil chloride concentrations.

**3.0 Sample Collection and Preparation**

3.1 Collect at least 80 g. of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample of soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).

3.2 The soil sample(s) shall be immediately inserted into a one quart or larger polyethylene freezer bag. Care should be taken to insure that no cross-contamination occur between the soil sample and the collection tools or sample processing equipment.

3.3 The sealed sample bag should be massaged to break up any clods.

#### 4.0 Sample Preparation

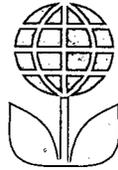
- 4.1 Tare a plastic cup having a minimum six-ounce capacity. Add between 80-120 grams of the soil sample and record the weight.
- 4.2 Add the same weight of distilled water to the soil sample and stir thoroughly using a glass or plastic stir stick.
- 4.3 Allow the sample to set for a period of thirty minutes. The sample should be stirred at least three times before fluid extraction.
- 4.4 Carefully pour off the free liquid from the sample through a paper filter into a clean plastic cup.

#### 5.0 Titration Procedure

- 5.1 Using a graduated pipette, remove 10 ml extract and dispense into a clean plastic cup.
- 5.2 Add 2-3 drops potassium chromate ( $K_2CrO_4$ ) to mixture.
- 5.3 If the sample contains any sulfides (hydrogen or iron sulfides are common to oilfield soil samples) add 2-3 drops of hydrogen peroxide ( $H_2O_2$ ) to mixture. Allow the mixture to set for a minimum of five minutes.
- 5.4 Using a 1 ml pipette, carefully add .1 normal silver nitrate solution to sample until solution turns salmon red when viewed with yellow goggles. Be consistent with endpoint recognition.

#### 6.0 Calculation

Multiply the amount of silver nitrate used in step 5.4 by 354.5 to obtain the chloride concentration in mg/L.



## **Laboratory Analytical Results**

This section contains a copy the chain of custody, laboratory analytical results and quality control information for soil samples processed during this project.



**Devon Energy Company**  
**Patsy Battery**  
**Soil Analytical Summary**

<b>Battery Area</b>						
<b>Location</b>	<b>TPH</b>	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylene</b>	<b>Chlorides</b>
East Wall	ND	ND	ND	ND	0.0672	47.1
North Wall	ND	ND	0.0119	ND	ND	27.8
South Wall	895	0.0275	0.167	0.146	0.807	56.0
West Wall	ND	ND	ND	ND	ND	35.7
Bottom	ND	ND	ND	ND	ND	71.4
Backfill 20'	1,510	0.0191	0.130	0.140	0.895	107.0
Backfill 15'	1,120	0.0506	0.381	0.442	0.928	119.0
Backfill 10'	2,320	ND	ND	0.0231	0.0433	174.0
Backfill 5'	2,400	ND	0.134	0.187	0.478	102.0
Surface	960	ND	ND	ND	ND	22.5

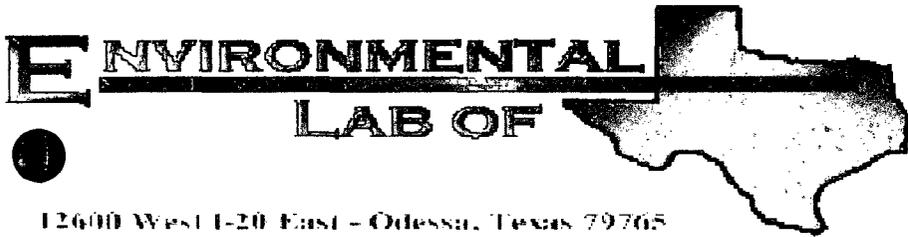
<b>Pit Area (Area B)</b>						
<b>Location</b>	<b>TPH</b>	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylene</b>	<b>Chlorides</b>
East Wall	53.5	ND	ND	ND	0.0294	160
North Wall	ND	ND	ND	ND	ND	274
South Wall	5,000	0.138	0.470	0.861	3.50	127
West Wall	ND	ND	ND	ND	ND	37
Water		ND	ND	0.0019	0.0022	1,060
Backfill 25'	63.4	ND	ND	ND	0.0344	25.4
Backfill 20'	436	ND	ND	ND	0.0309	38.2
Backfill 15'	2,500	ND	0.13	0.216	0.646	62.8
Backfill 10'	214	ND	ND	0.0294	0.0853	57.0
Backfill 5'	1,160	ND	ND	ND	0.0377	58.6
Surface	6,170	ND	ND	0.0472	0.1741	22.2

<b>Spread Zone (Area C)</b>						
<b>Location</b>	<b>TPH</b>	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylene</b>	<b>Chlorides</b>
East Wall	53.5	ND	ND	ND	0.0294	20.4
North Wall	ND	ND	0.0106	ND	0.0447	22.5
South Wall	155	ND	0.0118	0.0184	0.0843	30.2
West Wall	89.4	ND	0.3800	0.1270	0.3990	28.1
Bottom	25.8	ND	ND	ND	ND	28.9
Backfill 10'	2,100	ND	ND	ND	0.0304	129.0
Backfill 5'	1,590	ND	0.0604	0.138	0.519	40.2
Surface	1,110	ND	ND	ND	0.0244	38.2



**Devon Energy Company**  
**Patsy Battery**  
**Water Analytical Summary**

<b>Battery Area</b>					
<b>Location</b>	<b>Benzene</b>	<b>Toluene</b>	<b>Ethylbenzene</b>	<b>Xylene</b>	<b>Chlorides</b>
MW-1	0.002	0.003	0.004	0.005	560.0
MW-3	ND	ND	ND	ND	664.0
MW-4	ND	ND	ND	ND	472.0
MW-5	ND	ND	ND	ND	572.0
MW-6	ND	ND	ND	ND	1,190.0
MW-7	ND	ND	ND	ND	538.0



# Analytical Report

**Prepared for:**

Mike Griffin

WHOLE EARTH ENVIRONMENTAL

2103 Arbor Cove

Katy, TX 77494

Project: Devon

Project Number: Patsy Battery Pit Area

Location: None Given

Lab Order Number: 5C15001

Report Date: 03/18/05

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Battery Pit Area  
Project Manager: Mike Griffin

Fax: (281) 394-2051

**Reported:**  
03/18/05 16:27

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East Wall #1	5C15001-01	Soil	03/14/05 13:35	03/15/05 08:00
North Wall #1	5C15001-02	Soil	03/14/05 13:35	03/15/05 08:00
South Wall #1	5C15001-03	Soil	03/14/05 13:35	03/15/05 08:00
West Wall #1	5C15001-04	Soil	03/14/05 13:35	03/15/05 08:00
Groundwater A	5C15001-05	Water	03/14/05 15:15	03/15/05 08:00
Groundwater B	5C15001-06	Water	03/14/05 15:15	03/15/05 08:00

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East Wall #1 (5C15001-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51702	03/16/05	03/16/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>0.0394</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>ND</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96.1 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51503	03/15/05	03/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		81.0 %	67.6-140		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		96.2 %	70-130		"	"	"	"	
<b>North Wall #1 (5C15001-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51702	03/16/05	03/16/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>ND</b>	0.0250	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>ND</b>	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.7 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51503	03/15/05	03/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		89.2 %	67.6-140		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		98.0 %	70-130		"	"	"	"	
<b>South Wall #1 (5C15001-03) Soil</b>									
<b>Benzene</b>	<b>0.138</b>	0.100	mg/kg dry	100	EC51702	03/16/05	03/16/05	EPA 8021B	
<b>Toluene</b>	<b>0.470</b>	0.100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.861</b>	0.100	"	"	"	"	"	"	
<b>Xylene (p/m)</b>	<b>3.06</b>	0.100	"	"	"	"	"	"	
<b>Xylene (o)</b>	<b>0.440</b>	0.100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		100 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	584	50.0	mg/kg dry	5	EC51503	03/15/05	03/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	4420	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	5000	50.0	"	"	"	"	"	"	

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Battery Pit Area  
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
03/18/05 16:27

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**South Wall #1 (5C15001-03) Soil**

Surrogate: 1-Chlorooctane		14.0 %		67.6-140	EC51503	03/15/05	03/17/05	EPA 8015M	S-06
Surrogate: 1-Chlorooctadecane		22.8 %		70-130	"	"	"	"	S-06

**West Wall #1 (5C15001-04) Soil**

Benzene	ND	0.0250	mg/kg dry	25	EC51702	03/16/05	03/16/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.8 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %		80-120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51503	03/15/05	03/17/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		75.0 %		67.6-140	"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.6 %		70-130	"	"	"	"	

**Groundwater B (5C15001-06) Water**

Benzene	ND	0.00100	mg/L	1	EC51509	03/15/05	03/15/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	0.00187	0.00100	"	"	"	"	"	"	
Xylene (p/m)	0.00217	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.0 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.8 %		80-120	"	"	"	"	

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Reported:  
03/18/05 16:27

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>East Wall #1 (5C15001-01) Soil</b>									
Chloride	160	10.0	mg/kg	20	EC51611	03/16/05	03/16/05	EPA 300.0	
% Moisture	5.2	0.1	%	1	EC51601	03/15/05	03/16/05	% calculation	
<b>North Wall #1 (5C15001-02) Soil</b>									
Chloride	274	10.0	mg/kg	20	EC51611	03/16/05	03/16/05	EPA 300.0	
% Moisture	4.4	0.1	%	1	EC51601	03/15/05	03/16/05	% calculation	
<b>South Wall #1 (5C15001-03) Soil</b>									
Chloride	127	5.00	mg/kg	10	EC51611	03/16/05	03/16/05	EPA 300.0	
% Moisture	18.8	0.1	%	1	EC51601	03/15/05	03/16/05	% calculation	
<b>West Wall #1 (5C15001-04) Soil</b>									
Chloride	36.9	5.00	mg/kg	10	EC51611	03/16/05	03/16/05	EPA 300.0	
% Moisture	5.6	0.1	%	1	EC51601	03/15/05	03/16/05	% calculation	
<b>Groundwater A (5C15001-05) Water</b>									
Chloride	1060	10.0	mg/L	20	EC51609	03/15/05	03/15/05	EPA 300.0	

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
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**Batch EC51503 - Solvent Extraction (GC)**

**Blank (EC51503-BLK1)** Prepared: 03/15/05 Analyzed: 03/17/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	37.7		mg/kg	50.0		75.4	67.6-140			
Surrogate: 1-Chlorooctadecane	44.0		"	50.0		88.0	70-130			

**LCS (EC51503-BS1)** Prepared: 03/15/05 Analyzed: 03/17/05

Gasoline Range Organics C6-C12	431	10.0	mg/kg wet	500		86.2	76.3-104			
Diesel Range Organics >C12-C35	491	10.0	"	500		98.2	76.1-118			
Total Hydrocarbon C6-C35	922	10.0	"	1000		92.2	81.8-105			
Surrogate: 1-Chlorooctane	48.4		mg/kg	50.0		96.8	67.6-140			
Surrogate: 1-Chlorooctadecane	46.8		"	50.0		93.6	70-130			

**Calibration Check (EC51503-CCV1)** Prepared: 03/15/05 Analyzed: 03/17/05

Gasoline Range Organics C6-C12	482		mg/kg	500		96.4	80-120			
Diesel Range Organics >C12-C35	535		"	500		107	80-120			
Total Hydrocarbon C6-C35	1020		"	1000		102	80-120			
Surrogate: 1-Chlorooctane	49.4		"	50.0		98.8	67.6-140			
Surrogate: 1-Chlorooctadecane	53.2		"	50.0		106	70-130			

**Matrix Spike (EC51503-MS1)** Prepared: 03/15/05 Analyzed: 03/17/05

		Source: 5C15001-01								
Gasoline Range Organics C6-C12	483	10.0	mg/kg dry	527	ND	91.7	75.9-114			
Diesel Range Organics >C12-C35	582	10.0	"	527	ND	110	85.3-122			
Total Hydrocarbon C6-C35	1070	10.0	"	1050	ND	102	84.4-115			
Surrogate: 1-Chlorooctane	49.2		mg/kg	50.0		98.4	67.6-140			
Surrogate: 1-Chlorooctadecane	51.8		"	50.0		104	70-130			

**Matrix Spike Dup (EC51503-MSD1)** Prepared: 03/15/05 Analyzed: 03/17/05

		Source: 5C15001-01								
Gasoline Range Organics C6-C12	508	10.0	mg/kg dry	527	ND	96.4	75.9-114	5.05	10.4	
Diesel Range Organics >C12-C35	576	10.0	"	527	ND	109	85.3-122	1.04	10.4	
Total Hydrocarbon C6-C35	1080	10.0	"	1050	ND	103	84.4-115	0.930	7.6	
Surrogate: 1-Chlorooctane	48.9		mg/kg	50.0		97.8	67.6-140			
Surrogate: 1-Chlorooctadecane	51.2		"	50.0		102	70-130			

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC51509 - EPA 5030C (GC)**

Blank (EC51509-BLK1) <span style="float: right;">Prepared: 03/14/05 Analyzed: 03/15/05</span>										
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	87.3		ug/l	100		87.3	80-120			
Surrogate: 4-Bromofluorobenzene	81.9		"	100		81.9	80-120			

LCS (EC51509-BS1) <span style="float: right;">Prepared: 03/14/05 Analyzed: 03/15/05</span>										
Benzene	110		ug/l	100		110	80-120			
Toluene	113		"	100		113	80-120			
Ethylbenzene	107		"	100		107	80-120			
Xylene (p/m)	237		"	200		118	80-120			
Xylene (o)	117		"	100		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	111		"	100		111	80-120			
Surrogate: 4-Bromofluorobenzene	98.5		"	100		98.5	80-120			

Calibration Check (EC51509-CCV1) <span style="float: right;">Prepared &amp; Analyzed: 03/14/05</span>										
Benzene	105		ug/l	100		105	80-120			
Toluene	105		"	100		105	80-120			
Ethylbenzene	96.7		"	100		96.7	80-120			
Xylene (p/m)	211		"	200		106	80-120			
Xylene (o)	105		"	100		105	80-120			
Surrogate: a,a,a-Trifluorotoluene	94.3		"	100		94.3	80-120			
Surrogate: 4-Bromofluorobenzene	88.4		"	100		88.4	80-120			

Matrix Spike (EC51509-MS1) <span style="float: right;">Source: 5C15001-06 Prepared &amp; Analyzed: 03/15/05</span>										
Benzene	111		ug/l	100	ND	111	80-120			
Toluene	115		"	100	ND	115	80-120			
Ethylbenzene	115		"	100	1.87	113	80-120			
Xylene (p/m)	241		"	200	2.17	119	80-120			
Xylene (o)	118		"	100	ND	118	80-120			
Surrogate: a,a,a-Trifluorotoluene	107		"	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	103		"	100		103	80-120			

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC51509 - EPA 5030C (GC)**

Matrix Spike Dup (EC51509-MSD1)	Source: 5C15001-06	Prepared & Analyzed: 03/15/05
Benzene	113	ug/l 100 ND 113 80-120 1.79 20
Toluene	118	" 100 ND 118 80-120 2.58 20
Ethylbenzene	118	" 100 1.87 116 80-120 2.62 20
Xylene (p/m)	239	" 200 2.17 118 80-120 0.844 20
Xylene (o)	118	" 100 ND 118 80-120 0.00 20
Surrogate: a,a,a-Trifluorotoluene	112	" 100 112 80-120
Surrogate: 4-Bromofluorobenzene	110	" 100 110 80-120

**Batch EC51702 - EPA 5030C (GC)**

Blank (EC51702-BLK1)	Prepared & Analyzed: 03/16/05
Benzene	ND 0.0250 mg/kg wet
Toluene	ND 0.0250 "
Ethylbenzene	ND 0.0250 "
Xylene (p/m)	ND 0.0250 "
Xylene (o)	ND 0.0250 "
Surrogate: a,a,a-Trifluorotoluene	86.8 ug/kg 100 86.8 80-120
Surrogate: 4-Bromofluorobenzene	82.4 " 100 82.4 80-120

**LCS (EC51702-BS1)**

LCS (EC51702-BS1)	Prepared & Analyzed: 03/16/05
Benzene	115 ug/kg 100 115 80-120
Toluene	117 " 100 117 80-120
Ethylbenzene	116 " 100 116 80-120
Xylene (p/m)	239 " 200 120 80-120
Xylene (o)	116 " 100 116 80-120
Surrogate: a,a,a-Trifluorotoluene	118 " 100 118 80-120
Surrogate: 4-Bromofluorobenzene	119 " 100 119 80-120

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Battery Pit Area  
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
03/18/05 16:27

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EC51702 - EPA 5030C (GC)</b>										
<b>Calibration Check (EC51702-CCV1)</b>				Prepared & Analyzed: 03/16/05						
Benzene	113		ug/kg	100		113	80-120			
Toluene	118		"	100		118	80-120			
Ethylbenzene	111		"	100		111	80-120			
Xylene (p/m)	238		"	200		119	80-120			
Xylene (o)	117		"	100		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	114		"	100		114	80-120			
Surrogate: 4-Bromofluorobenzene	95.1		"	100		95.1	80-120			
<b>Matrix Spike (EC51702-MS1)</b>				Source: 5C15001-04		Prepared & Analyzed: 03/16/05				
Benzene	112		ug/kg	100	ND	112	80-120			
Toluene	119		"	100	ND	119	80-120			
Ethylbenzene	116		"	100	ND	116	80-120			
Xylene (p/m)	239		"	200	ND	120	80-120			
Xylene (o)	117		"	100	ND	117	80-120			
Surrogate: a,a,a-Trifluorotoluene	107		"	100		107	80-120			
Surrogate: 4-Bromofluorobenzene	111		"	100		111	80-120			
<b>Matrix Spike Dup (EC51702-MSD1)</b>				Source: 5C15001-04		Prepared & Analyzed: 03/16/05				
Benzene	111		ug/kg	100	ND	111	80-120	0.897	20	
Toluene	118		"	100	ND	118	80-120	0.844	20	
Ethylbenzene	117		"	100	ND	117	80-120	0.858	20	
Xylene (p/m)	240		"	200	ND	120	80-120	0.00	20	
Xylene (o)	119		"	100	ND	119	80-120	1.69	20	
Surrogate: a,a,a-Trifluorotoluene	110		"	100		110	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

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 Reported:  
 03/18/05 16:27

**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
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**Batch EC51601 - General Preparation (Prep)**

<b>Blank (EC51601-BLK1)</b>		Prepared: 03/15/05 Analyzed: 03/16/05								
% Moisture	ND	0.1	%							
<b>Duplicate (EC51601-DUP1)</b>		Source: 5C14009-01		Prepared: 03/15/05 Analyzed: 03/16/05						
% Moisture	15.9	0.1	%		16.8			5.50	20	

**Batch EC51609 - General Preparation (WetChem)**

<b>Blank (EC51609-BLK1)</b>		Prepared & Analyzed: 03/15/05								
Chloride	ND	0.500	mg/L							
<b>LCS (EC51609-BS1)</b>		Prepared & Analyzed: 03/15/05								
Chloride	10.1		mg/L	10.0		101	80-120			
<b>Calibration Check (EC51609-CCV1)</b>		Prepared & Analyzed: 03/15/05								
Chloride	10.3		mg/L	10.0		103	80-120			
<b>Duplicate (EC51609-DUP1)</b>		Source: 5C15002-02		Prepared & Analyzed: 03/15/05						
Chloride	392	10.0	mg/L		391			0.255	20	

**Batch EC51611 - Water Extraction**

<b>Blank (EC51611-BLK1)</b>		Prepared & Analyzed: 03/16/05								
Chloride	ND	0.500	mg/kg							
<b>LCS (EC51611-BS1)</b>		Prepared & Analyzed: 03/16/05								
Chloride	10.3		mg/L	10.0		103	80-120			

WHOLE EARTH ENVIRONMENTAL  
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Katy TX, 77494

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Project Number: Patsy Battery Pit Area  
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
03/18/05 16:27

**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
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**Batch EC51611 - Water Extraction**

**Calibration Check (EC51611-CCV1)**

Prepared & Analyzed: 03/16/05

Chloride 10.4 mg/L 10.0 104 80-120

**Duplicate (EC51611-DUP1)**

Source: 5C14001-01

Prepared & Analyzed: 03/16/05

Chloride 31.5 5.00 mg/kg 31.3 0.637 20

### Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

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:

3/18/05

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.



**Environmental Lab of Texas  
Variance / Corrective Action Report – Sample Log-In**

Client: Whole Earth Env.

Date/Time: 03-15-05 @ 0800

Order #: 505001

Initials: JMM

**Sample Receipt Checklist**

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	0.5	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Custody Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<del>(Not present)</del>	
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Not Applicable

Other observations: \*Client added BTEX to soil request 03-15-05

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**Variance Documentation:**

Contact Person: -Mike Griffin Date/Time: 03-15-05 @ 1130 Contacted by: Jeanne M. Mur

Regarding: 40mL VOAS coc said none label said H<sub>2</sub>SO<sub>4</sub> as preservative client said it is HCl

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Corrective Action Taken:

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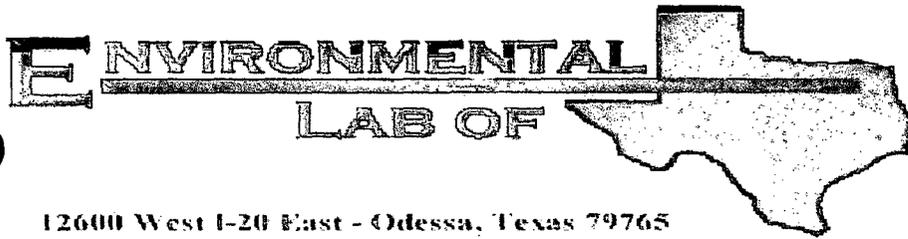
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Mike Griffin

WHOLE EARTH ENVIRONMENTAL

2103 Arbor Cove

Katy, TX 77494

Project: Devon

Project Number: Patsy Lease

Location: Lea County, New Mexico

Lab Order Number: 5C17010

Report Date: 03/23/05

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Lease  
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
03/23/05 12:15

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Batt'y, North Wall	5C17010-01	Soil	03/16/05 09:00	03/17/05 12:30
Batt'y, South Wall	5C17010-02	Soil	03/16/05 09:00	03/17/05 12:30
Batt'y, East Wall	5C17010-03	Soil	03/16/05 09:05	03/17/05 12:30
Batt'y, West Wall	5C17010-04	Soil	03/16/05 09:05	03/17/05 12:30
Batt'y, Bottom	5C17010-05	Soil	03/16/05 09:10	03/17/05 12:30
Batt'y, Backfill at -20'	5C17010-06	Soil	03/16/05 09:20	03/17/05 12:30
Batt'y, Backfill at -15'	5C17010-07	Soil	03/16/05 09:25	03/17/05 12:30
Spread Zone, North Wall	5C17010-08	Soil	03/16/05 09:30	03/17/05 12:30
Spread Zone, South Wall	5C17010-09	Soil	03/16/05 09:35	03/17/05 12:30
Spread Zone, East Wall	5C17010-10	Soil	03/16/05 09:40	03/17/05 12:30
Spread Zone, Bottom	5C17010-11	Soil	03/16/05 09:40	03/17/05 12:30
Spread Zone, West Wall	5C17010-12	Soil	03/16/05 09:45	03/17/05 12:30
Pit, Backfill at -25'	5C17010-13	Soil	03/16/05 09:50	03/17/05 12:30
Pit, Backfill at -20'	5C17010-14	Soil	03/16/05 09:55	03/17/05 12:30
Batt'y, Backfill at -10'	5C17010-15	Soil	03/16/05 14:00	03/17/05 12:30
Spread Zone, Backfill at -10'	5C17010-16	Soil	03/16/05 10:30	03/17/05 12:30
Pit Backfill at -15'	5C17010-17	Soil	03/16/05 14:05	03/17/05 12:30
Pit Backfill at -5'	5C17010-18	Soil	03/17/05 08:20	03/17/05 12:30
Spread Zone Backfill at -5'	5C17010-19	Soil	03/16/05 14:10	03/17/05 12:30
Pit Backfill at -10'	5C17010-20	Soil	03/16/05 10:25	03/17/05 12:30
Background, East of Activity	5C17010-21	Soil	03/16/05 10:15	03/17/05 12:30
Batt'y Backfill at -5'	5C17010-22	Soil	03/17/05 08:10	03/17/05 12:30
Batt'y Backfill at Surface	5C17010-23	Soil	03/17/05 08:10	03/17/05 12:30
Pit Backfill at Surface	5C17010-24	Soil	03/17/05 08:25	03/17/05 12:30
Spread Zone at Surface	5C17010-25	Soil	03/17/05 08:15	03/17/05 12:30

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Batt'y, North Wall (5C17010-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	J [0.0119]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		81.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51714	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		83.0 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		86.6 %	70-130		"	"	"	"	
<b>Batt'y, South Wall (5C17010-02) Soil</b>									
Benzene	0.0275	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	0.167	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.146	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.648	0.0250	"	"	"	"	"	"	
Xylene (o)	0.159	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	183	10.0	mg/kg dry	1	EC51714	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	712	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	895	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		93.0 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	70-130		"	"	"	"	
<b>Batt'y, East Wall (5C17010-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0488	0.0250	"	"	"	"	"	"	
Xylene (o)	J [0.0184]	0.0250	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		80.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51714	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Batt'y, East Wall (5C17010-03) Soil</b>									
Surrogate: 1-Chlorooctane		82.4 %		67.6-140	EC51714	03/17/05	03/18/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		91.2 %		70-130	"	"	"	"	
<b>Batt'y, West Wall (5C17010-04) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.8 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.2 %		80-120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51714	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.6 %		67.6-140	"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.0 %		70-130	"	"	"	"	
<b>Batt'y, Bottom (5C17010-05) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		80.5 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.8 %		80-120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51714	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		94.6 %		67.6-140	"	"	"	"	
Surrogate: 1-Chlorooctadecane		94.0 %		70-130	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Batt'y, Backfill at -20' (5C17010-06) Soil</b>									
Benzene	J [0.0191]	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	J
Toluene	0.130	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.140	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.688	0.0250	"	"	"	"	"	"	
Xylene (o)	0.207	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		97.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	386	10.0	mg/kg dry	1	EC51714	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	1120	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1510	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		104 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		122 %	70-130		"	"	"	"	
<b>Batt'y, Backfill at -15' (5C17010-07) Soil</b>									
Benzene	J [0.0506]	0.100	mg/kg dry	100	EC51711	03/17/05	03/17/05	EPA 8021B	J
Toluene	0.381	0.100	"	"	"	"	"	"	
Ethylbenzene	0.442	0.100	"	"	"	"	"	"	
Xylene (p/m)	1.74	0.100	"	"	"	"	"	"	
Xylene (o)	0.754	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		93.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	316	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	807	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1120	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.8 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	
<b>Spread Zone, North Wall (5C17010-08) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	J [0.0106]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0447	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		91.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Spread Zone, North Wall (5C17010-08) Soil</b>									
Surrogate: 1-Chlorooctane		80.8 %	67.6-140		EC51715	03/17/05	03/18/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		94.2 %	70-130		"	"	"	"	
<b>Spread Zone, South Wall (5C17010-09) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/17/05	EPA 8021B	
Toluene	J [0.0118]	0.0250	"	"	"	"	"	"	J
Ethylbenzene	J [0.0184]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0843	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		87.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	16.3	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	139	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	155	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		89.2 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		93.8 %	70-130		"	"	"	"	
<b>Spread Zone, East Wall (5C17010-10) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/18/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0294	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.9 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	J [6.56]	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	J
Diesel Range Organics >C12-C35	53.5	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	53.5	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		90.6 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.6 %	70-130		"	"	"	"	

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Spread Zone, Bottom (5C17010-11) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC51711	03/17/05	03/18/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		101 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		80-120	"	"	"	"	
<b>Gasoline Range Organics C6-C12</b>	<b>J [6.10]</b>	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	J
<b>Diesel Range Organics &gt;C12-C35</b>	<b>25.8</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>25.8</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		80.2 %		67.6-140	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		88.6 %		70-130	"	"	"	"	
<b>Spread Zone, West Wall (5C17010-12) Soil</b>									
Benzene	0.0656	0.0250	mg/kg dry	25	EC51711	03/17/05	03/18/05	EPA 8021B	
Toluene	0.380	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.127	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.290	0.0250	"	"	"	"	"	"	
Xylene (o)	0.109	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89.8 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.6 %		80-120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>89.4</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>89.4</b>	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		92.2 %		67.6-140	"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		95.2 %		70-130	"	"	"	"	
<b>Pit, Backfil at -25' (5C17010-13) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/21/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0344	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		89.3 %		80-120	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.1 %		80-120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
<b>Diesel Range Organics &gt;C12-C35</b>	<b>63.4</b>	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>63.4</b>	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Lease  
Project Manager: Mike Griffin

Fax: (281) 394-2051  
Reported:  
03/23/05 12:15

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Pit, Backfill at -25' (5C17010-13) Soil</b>									
Surrogate: 1-Chlorooctane		97.0 %	67.6-140		EC51715	03/17/05	03/18/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		97.2 %	70-130		"	"	"	"	
<b>Pit, Backfill at -20' (5C17010-14) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0309	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	18.2	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	418	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	436	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		88.2 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		100 %	70-130		"	"	"	"	
<b>att'y, Backfill at -10' (5C17010-15) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/21/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	J [0.0231]	0.0250	"	"	"	"	"	"	J
Xylene (p/m)	0.0433	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		87.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.1 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	119	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	2200	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2320	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		91.4 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Lease  
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
03/23/05 12:15

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Spread Zone, Backfill at -10' (5C17010-16) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0304	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		88.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.6 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	111	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	1990	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2100	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		78.2 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	
<b>Pit Backfill at -15' (5C17010-17) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	0.130	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.216	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.367	0.0250	"	"	"	"	"	"	
Xylene (o)	0.279	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		102 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	416	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	2180	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2500	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		89.0 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		106 %	70-130		"	"	"	"	
<b>Pit Backfill at -5' (5C17010-18) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0377	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		88.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.9 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	61.6	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	1100	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1160	10.0	"	"	"	"	"	"	

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Lease  
Project Manager: Mike Griffin

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Reported:  
03/23/05 12:15

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Pit Backfill at -5' (5C17010-18) Soil</b>									
Surrogate: 1-Chlorooctane		80.2 %	67.6-140		EC51715	03/17/05	03/18/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		99.6 %	70-130		"	"	"	"	
<b>Spread Zone Backfill at -5' (5C17010-19) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	0.0604	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.138	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.314	0.0250	"	"	"	"	"	"	
Xylene (o)	0.205	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.4 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.5 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	258	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	1330	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1590	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		83.4 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		98.6 %	70-130		"	"	"	"	
<b>Pit Backfill at -10' (5C17010-20) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0294	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0468	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0385	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		90.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	J [9.72]	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	J
Diesel Range Organics >C12-C35	214	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	214	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		78.4 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.0 %	70-130		"	"	"	"	

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Background, East of Activity (5C17010-21) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.4 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		92.6 %	67.6-140		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		111 %	70-130		"	"	"	"	
<b>Batt'y Backfill at -5' (5C17010-22) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	0.134	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.187	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.303	0.0250	"	"	"	"	"	"	
Xylene (o)	0.175	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		101 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	281	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	2120	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	2400	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		81.2 %	67.6-140		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		98.0 %	70-130		"	"	"	"	
<b>Batt'y Backfill at Surface (5C17010-23) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/20/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		84.9 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	10.5	10.0	mg/kg dry	1	EC51715	03/17/05	03/21/05	EPA 8015M	
Diesel Range Organics >C12-C35	950	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	960	10.0	"	"	"	"	"	"	

**Organics by GC**  
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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Batt'y Backfill at Surface (5C17010-23) Soil</b>									
Surrogate: 1-Chlorooctane		95.4 %	67.6-140		EC51715	03/17/05	03/21/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	
<b>Pit Backfill at Surface (5C17010-24) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/21/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0472	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.118	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0561	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.7 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.4 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	423	50.0	mg/kg dry	5	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	5750	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	6170	50.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		10.8 %	67.6-140		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		19.7 %	70-130		"	"	"	"	S-06
<b>Spread Zone at Surface (5C17010-25) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EC52108	03/17/05	03/21/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	J {0.0244}	0.0250	"	"	"	"	"	"	J
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		89.5 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	36.4	10.0	mg/kg dry	1	EC51715	03/17/05	03/18/05	EPA 8015M	
Diesel Range Organics >C12-C35	1070	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	1110	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		80.4 %	67.6-140		"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.8 %	70-130		"	"	"	"	

WHOLE EARTH ENVIRONMENTAL  
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Katy TX, 77494

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Reported:  
03/23/05 12:15

**General Chemistry Parameters by EPA / Standard Methods  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Batt'y, North Wall (5C17010-01) Soil</b>									
Chloride	27.8	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	18.2	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, South Wall (5C17010-02) Soil</b>									
Chloride	56.0	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	11.3	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, East Wall (5C17010-03) Soil</b>									
Chloride	47.1	10.0	mg/kg	20	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	17.8	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, West Wall (5C17010-04) Soil</b>									
Chloride	35.7	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	16.1	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, Bottom (5C17010-05) Soil</b>									
Chloride	71.4	10.0	mg/kg	20	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	19.7	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, Backfill at -20' (5C17010-06) Soil</b>									
Chloride	107	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	9.5	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, Backfill at -15' (5C17010-07) Soil</b>									
Chloride	119	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	10.2	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Spread Zone, North Wall (5C17010-08) Soil</b>									
Chloride	22.5	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	2.1	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Spread Zone, South Wall (5C17010-09) Soil</b>									
Chloride	30.2	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	11.8	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Spread Zone, East Wall (5C17010-10) Soil</b>									
Chloride	20.4	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	7.4	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Spread Zone, Bottom (5C17010-11) Soil</b>									
Chloride	28.9	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	2.8	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Spread Zone, West Wall (5C17010-12) Soil</b>									
Chloride	28.1	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	5.4	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Pit, Backfill at -25' (5C17010-13) Soil</b>									
Chloride	25.4	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	23.7	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Pit, Backfill at -20' (5C17010-14) Soil</b>									
Chloride	38.2	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	7.3	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y, Backfill at -10' (5C17010-15) Soil</b>									
Chloride	174	10.0	mg/kg	20	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	7.4	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Spread Zone, Backfill at -10' (5C17010-16) Soil</b>									
Chloride	129	10.0	mg/kg	20	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	8.9	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	

**General Chemistry Parameters by EPA / Standard Methods  
 Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Pit Backfill at -15' (5C17010-17) Soil</b>									
Chloride	62.8	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	8.2	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Pit Backfill at -5' (5C17010-18) Soil</b>									
Chloride	58.6	10.0	mg/kg	20	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	10.7	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Spread Zone Backfill at -5' (5C17010-19) Soil</b>									
Chloride	40.2	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	4.3	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Pit Backfill at -10' (5C17010-20) Soil</b>									
Chloride	57.0	5.00	mg/kg	10	EC52218	03/19/05	03/19/05	EPA 300.0	
% Moisture	13.2	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Background, East of Activity (5C17010-21) Soil</b>									
Chloride	23.1	5.00	mg/kg	10	EC52217	03/19/05	03/19/05	EPA 300.0	
% Moisture	3.6	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y Backfill at -5' (5C17010-22) Soil</b>									
Chloride	102	5.00	mg/kg	10	EC52217	03/19/05	03/19/05	EPA 300.0	
% Moisture	11.1	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Batt'y Backfill at Surface (5C17010-23) Soil</b>									
Chloride	22.5	5.00	mg/kg	10	EC52217	03/19/05	03/19/05	EPA 300.0	
% Moisture	3.2	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	
<b>Pit Backfill at Surface (5C17010-24) Soil</b>									
Chloride	22.2	5.00	mg/kg	10	EC52217	03/19/05	03/19/05	EPA 300.0	
% Moisture	9.6	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	

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Project: Devon  
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Reported:  
03/23/05 12:15

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Spread Zone at Surface (5C17010-25) Soil</b>									
Chloride	38.2	5.00	mg/kg	10	EC52217	03/19/05	03/19/05	EPA 300.0	
% Moisture	7.9	0.1	%	1	EC51803	03/17/05	03/18/05	% calculation	

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC51711 - EPA 5030C (GC)**

**Blank (EC51711-BLK1)**

Prepared & Analyzed: 03/17/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: <i>a,a,a</i> -Trifluorotoluene	93.6		ug/kg	100		93.6	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	91.4		"	100		91.4	80-120			

**LCS (EC51711-BS1)**

Prepared & Analyzed: 03/17/05

Benzene	111		ug/kg	100		111	80-120			
Toluene	119		"	100		119	80-120			
Ethylbenzene	111		"	100		111	80-120			
Xylene (p/m)	239		"	200		120	80-120			
Xylene (o)	115		"	100		115	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	114		"	100		114	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	110		"	100		110	80-120			

**Calibration Check (EC51711-CCV1)**

Prepared & Analyzed: 03/17/05

Benzene	107		ug/kg	100		107	80-120			
Toluene	110		"	100		110	80-120			
Ethylbenzene	97.9		"	100		97.9	80-120			
Xylene (p/m)	209		"	200		104	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	109		"	100		109	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	95.7		"	100		95.7	80-120			

**Matrix Spike (EC51711-MS1)**

Source: 5C16007-01

Prepared & Analyzed: 03/17/05

Benzene	108		ug/kg	100	ND	108	80-120			
Toluene	114		"	100	15.2	98.8	80-120			
Ethylbenzene	108		"	100	ND	108	80-120			
Xylene (p/m)	239		"	200	ND	120	80-120			
Xylene (o)	113		"	100	ND	113	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	107		"	100		107	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	110		"	100		110	80-120			

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC51711 - EPA 5030C (GC)**

**Matrix Spike Dup (EC51711-MSD1)**

Source: 5C16007-01

Prepared & Analyzed: 03/17/05

Benzene	111		ug/kg	100	ND	111	80-120	2.74	20	
Toluene	118		"	100	15.2	103	80-120	4.16	20	
Ethylbenzene	114		"	100	ND	114	80-120	5.41	20	
Xylene (p/m)	235		"	200	ND	118	80-120	1.68	20	
Xylene (o)	117		"	100	ND	117	80-120	3.48	20	
Surrogate: a,a,a-Trifluorotoluene	112		"	100		112	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

**Batch EC51714 - Solvent Extraction (GC)**

**Blank (EC51714-BLK1)**

Prepared: 03/17/05 Analyzed: 03/18/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	36.7		mg/kg	50.0		73.4	67.6-140			
Surrogate: 1-Chlorooctadecane	39.6		"	50.0		79.2	70-130			

**LCS (EC51714-BS1)**

Prepared: 03/17/05 Analyzed: 03/18/05

Gasoline Range Organics C6-C12	467	10.0	mg/kg wet	500		93.4	76.3-104			
Diesel Range Organics >C12-C35	512	10.0	"	500		102	76.1-118			
Total Hydrocarbon C6-C35	979	10.0	"	1000		97.9	81.8-105			
Surrogate: 1-Chlorooctane	45.0		mg/kg	50.0		90.0	67.6-140			
Surrogate: 1-Chlorooctadecane	47.4		"	50.0		94.8	70-130			

**Calibration Check (EC51714-CCV1)**

Prepared: 03/17/05 Analyzed: 03/18/05

Gasoline Range Organics C6-C12	488		mg/kg	500		97.6	80-120			
Diesel Range Organics >C12-C35	547		"	500		109	80-120			
Total Hydrocarbon C6-C35	1040		"	1000		104	80-120			
Surrogate: 1-Chlorooctane	50.8		"	50.0		102	67.6-140			
Surrogate: 1-Chlorooctadecane	55.1		"	50.0		110	70-130			

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC51714 - Solvent Extraction (GC)**

<b>Matrix Spike (EC51714-MS1)</b>		<b>Source: 5C17006-06</b>		<b>Prepared: 03/17/05</b>		<b>Analyzed: 03/18/05</b>	
Gasoline Range Organics C6-C12	554	10.0	mg/kg dry	543	ND	102	75.9-114
Diesel Range Organics >C12-C35	583	10.0	"	543	ND	107	85.3-122
Total Hydrocarbon C6-C35	1140	10.0	"	1090	ND	105	84.4-115
Surrogate: 1-Chlorooctane	52.6		mg/kg	50.0		105	67.6-140
Surrogate: 1-Chlorooctadecane	52.6		"	50.0		105	70-130

<b>Matrix Spike Dup (EC51714-MSD1)</b>		<b>Source: 5C17006-06</b>		<b>Prepared: 03/17/05</b>		<b>Analyzed: 03/18/05</b>			
Gasoline Range Organics C6-C12	534	10.0	mg/kg dry	543	ND	98.3	75.9-114	3.68	10.4
Diesel Range Organics >C12-C35	577	10.0	"	543	ND	106	85.3-122	1.03	10.4
Total Hydrocarbon C6-C35	1110	10.0	"	1090	ND	102	84.4-115	2.67	7.6
Surrogate: 1-Chlorooctane	51.1		mg/kg	50.0		102	67.6-140		
Surrogate: 1-Chlorooctadecane	51.4		"	50.0		103	70-130		

**Batch EC51715 - Solvent Extraction (GC)**

<b>Blank (EC51715-BLK1)</b>				<b>Prepared: 03/17/05</b>		<b>Analyzed: 03/18/05</b>	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet				
Diesel Range Organics >C12-C35	ND	10.0	"				
Total Hydrocarbon C6-C35	ND	10.0	"				
Surrogate: 1-Chlorooctane	38.9		mg/kg	50.0		77.8	67.6-140
Surrogate: 1-Chlorooctadecane	43.6		"	50.0		87.2	70-130

<b>LCS (EC51715-BS1)</b>				<b>Prepared: 03/17/05</b>		<b>Analyzed: 03/18/05</b>	
Gasoline Range Organics C6-C12	473	10.0	mg/kg wet	500		94.6	76.3-104
Diesel Range Organics >C12-C35	513	10.0	"	500		103	76.1-118
Total Hydrocarbon C6-C35	986	10.0	"	1000		98.6	81.8-105
Surrogate: 1-Chlorooctane	48.5		mg/kg	50.0		97.0	67.6-140
Surrogate: 1-Chlorooctadecane	46.9		"	50.0		93.8	70-130

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC51715 - Solvent Extraction (GC)**

**Calibration Check (EC51715-CCV1)**

Prepared: 03/17/05 Analyzed: 03/18/05

Gasoline Range Organics C6-C12	486		mg/kg	500		97.2	80-120			
Diesel Range Organics >C12-C35	518		"	500		104	80-120			
Total Hydrocarbon C6-C35	1000		"	1000		100	80-120			
Surrogate: 1-Chlorooctane	51.9		"	50.0		104	67.6-140			
Surrogate: 1-Chlorooctadecane	51.6		"	50.0		103	70-130			

**Matrix Spike (EC51715-MS1)**

Source: 5C17010-08

Prepared: 03/17/05 Analyzed: 03/18/05

Gasoline Range Organics C6-C12	516	10.0	mg/kg dry	511	ND	101	75.9-114			
Diesel Range Organics >C12-C35	579	10.0	"	511	ND	113	85.3-122			
Total Hydrocarbon C6-C35	1100	10.0	"	1020	ND	108	84.4-115			
Surrogate: 1-Chlorooctane	55.1		mg/kg	50.0		110	67.6-140			
Surrogate: 1-Chlorooctadecane	54.7		"	50.0		109	70-130			

**Matrix Spike Dup (EC51715-MSD1)**

Source: 5C17010-08

Prepared: 03/17/05 Analyzed: 03/18/05

Gasoline Range Organics C6-C12	517	10.0	mg/kg dry	511	ND	101	75.9-114	0.194	10.4	
Diesel Range Organics >C12-C35	544	10.0	"	511	ND	106	85.3-122	6.23	10.4	
Total Hydrocarbon C6-C35	1060	10.0	"	1020	ND	104	84.4-115	3.70	7.6	
Surrogate: 1-Chlorooctane	49.7		mg/kg	50.0		99.4	67.6-140			
Surrogate: 1-Chlorooctadecane	48.1		"	50.0		96.2	70-130			

**Batch EC52108 - EPA 5030C (GC)**

**Blank (EC52108-BLK1)**

Prepared: 03/17/05 Analyzed: 03/21/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	94.3		ug/kg	100		94.3	80-120			
Surrogate: 4-Bromofluorobenzene	80.9		"	100		80.9	80-120			

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EC52108 - EPA 5030C (GC)**

**LCS (EC52108-BS1)**

Prepared: 03/17/05 Analyzed: 03/21/05

Benzene	2540		ug/kg	2500		102	80-120			
Toluene	2320		"	2500		92.8	80-120			
Ethylbenzene	2020		"	2500		80.8	80-120			
Xylene (p/m)	4290		"	5000		85.8	80-120			
Xylene (o)	2040		"	2500		81.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	102		"	100		102	80-120			
Surrogate: 4-Bromofluorobenzene	88.7		"	100		88.7	80-120			

**Calibration Check (EC52108-CCV1)**

Prepared: 03/17/05 Analyzed: 03/20/05

Benzene	113		ug/kg	100		113	80-120			
Toluene	109		"	100		109	80-120			
Ethylbenzene	105		"	100		105	80-120			
Xylene (p/m)	229		"	200		114	80-120			
Xylene (o)	115		"	100		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	110		"	100		110	80-120			
Surrogate: 4-Bromofluorobenzene	88.1		"	100		88.1	80-120			

**Matrix Spike (EC52108-MS1)**

Source: 5C17010-21

Prepared: 03/17/05 Analyzed: 03/21/05

Benzene	2730		ug/kg	2500	ND	109	80-120			
Toluene	2620		"	2500	ND	105	80-120			
Ethylbenzene	2330		"	2500	ND	93.2	80-120			
Xylene (p/m)	5280		"	5000	ND	106	80-120			
Xylene (o)	2400		"	2500	ND	96.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	98.3		"	100		98.3	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

**Matrix Spike Dup (EC52108-MSD1)**

Source: 5C17010-21

Prepared: 03/17/05 Analyzed: 03/21/05

Benzene	2720		ug/kg	2500	ND	109	80-120	0.00	20	
Toluene	2660		"	2500	ND	106	80-120	0.948	20	
Ethylbenzene	2230		"	2500	ND	89.2	80-120	4.39	20	
Xylene (p/m)	5020		"	5000	ND	100	80-120	5.83	20	
Xylene (o)	2190		"	2500	ND	87.6	80-120	9.15	20	
Surrogate: a,a,a-Trifluorotoluene	108		"	100		108	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

WHOLE EARTH ENVIRONMENTAL  
 2103 Arbor Cove  
 Katy TX, 77494

Project: Devon  
 Project Number: Patsy Lease  
 Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
 03/23/05 12:15

**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
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**Batch EC51803 - General Preparation (Prep)**

<b>Blank (EC51803-BLK1)</b>				Prepared: 03/17/05 Analyzed: 03/18/05						
% Moisture	ND	0.1	%							
<b>Duplicate (EC51803-DUP1)</b>				Source: 5C17002-01		Prepared: 03/17/05 Analyzed: 03/18/05				
% Moisture	3.6	0.1	%		4.6			24.4	20	

**Batch EC52217 - Water Extraction**

<b>Blank (EC52217-BLK1)</b>				Prepared & Analyzed: 03/19/05						
Chloride	ND	0.500	mg/kg							
<b>LCS (EC52217-BS1)</b>				Prepared & Analyzed: 03/19/05						
Chloride	10.6		mg/L	10.0		106	80-120			
<b>Calibration Check (EC52217-CCV1)</b>				Prepared & Analyzed: 03/19/05						
Chloride	10.0		mg/L	10.0		100	80-120			
<b>Duplicate (EC52217-DUP1)</b>				Source: 5C17010-21		Prepared & Analyzed: 03/19/05				
Chloride	21.0	5.00	mg/kg		23.1			9.52	20	

**Batch EC52218 - Water Extraction**

<b>Blank (EC52218-BLK1)</b>				Prepared & Analyzed: 03/19/05						
Chloride	ND	0.500	mg/kg							
<b>LCS (EC52218-BS1)</b>				Prepared & Analyzed: 03/19/05						
Chloride	10.5		mg/L	10.0		105	80-120			

WHOLE EARTH ENVIRONMENTAL  
 2103 Arbor Cove  
 Katy TX, 77494

Project: Devon  
 Project Number: Patsy Lease  
 Project Manager: Mike Griffin

Fax: (281) 394-2051  
 Reported:  
 03/23/05 12:15

**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
<b>Batch EC52218 - Water Extraction</b>										
<b>Calibration Check (EC52218-CCV1)</b>					Prepared & Analyzed: 03/19/05					
Chloride	10.6		mg/L	10.0		106	80-120			
<b>Duplicate (EC52218-DUP1)</b>		<b>Source: 5C17010-01</b>			Prepared & Analyzed: 03/19/05					
Chloride	27.9	5.00	mg/kg		27.8			0.359	20	

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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: \_\_\_\_\_

3/23/2005

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

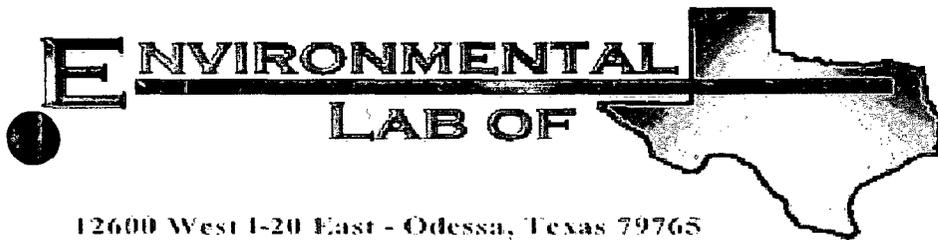
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Mike Griffin

WHOLE EARTH ENVIRONMENTAL

2103 Arbor Cove

Katy, TX 77494

Project: Devon

Project Number: Patsy Battery

Location: None Given

Lab Order Number: 5C28002

Report Date: 04/05/05

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Battery  
Project Manager: Mike Griffin

Fax: (281) 394-2051

**Reported:**  
04/05/05 09:36

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5C28002-01	Water	03/27/05 12:20	03/28/05 10:55
MW-3	5C28002-02	Water	03/27/05 13:00	03/28/05 10:55
MW-4	5C28002-03	Water	03/27/05 13:50	03/28/05 10:55
MW-5	5C28002-04	Water	03/27/05 14:30	03/28/05 10:55
MW-6	5C28002-05	Water	03/27/05 15:10	03/28/05 10:55
MW-7	5C28002-06	Water	03/27/05 15:45	03/28/05 10:55

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (5C28002-01) Water</b>									
Benzene	0.00202	0.00100	mg/L	1	ED50105	03/31/05	04/01/05	EPA 8021B	
Toluene	0.00269	0.00100	"	"	"	"	"	"	
Ethylbenzene	0.00419	0.00100	"	"	"	"	"	"	
Xylene (p/m)	0.00258	0.00100	"	"	"	"	"	"	
Xylene (o)	0.00242	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		134 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		87.0 %	80-120		"	"	"	"	
<b>MW-3 (5C28002-02) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED50105	03/31/05	03/31/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		114 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.0 %	80-120		"	"	"	"	
<b>MW-4 (5C28002-03) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED50105	03/31/05	03/31/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		114 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.5 %	80-120		"	"	"	"	
<b>MW-5 (5C28002-04) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED50105	03/31/05	04/01/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		111 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.5 %	80-120		"	"	"	"	

WHOLE EARTH ENVIRONMENTAL  
 2103 Arbor Cove  
 Katy TX, 77494

Project: Devon  
 Project Number: Patsy Battery  
 Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
 04/05/05 09:36

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-6 (5C28002-05) Water</b>									
<b>Benzene</b>	<b>1 [0.000724]</b>	0.00100	mg/L	1	ED50105	03/31/05	04/01/05	EPA 8021B	J
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		<i>110 %</i>	<i>80-120</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>85.5 %</i>	<i>80-120</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<b>MW-7 (5C28002-06) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED50105	03/31/05	04/01/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		<i>110 %</i>	<i>80-120</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>88.5 %</i>	<i>80-120</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

WHOLE EARTH ENVIRONMENTAL  
2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
Project Number: Patsy Battery  
Project Manager: Mike Griffin

Fax: (281) 394-2051

Reported:  
04/05/05 09:36

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (5C28002-01) Water</b>									
Chloride	560	10.0	mg/L	20	EC53105	03/31/05	03/31/05	EPA 300.0	
<b>MW-3 (5C28002-02) Water</b>									
Chloride	664	10.0	mg/L	20	EC53105	03/31/05	03/31/05	EPA 300.0	
<b>MW-4 (5C28002-03) Water</b>									
Chloride	472	10.0	mg/L	20	EC53105	03/31/05	03/31/05	EPA 300.0	
<b>MW-5 (5C28002-04) Water</b>									
Chloride	572	10.0	mg/L	20	EC53105	03/31/05	03/31/05	EPA 300.0	
<b>MW-6 (5C28002-05) Water</b>									
Chloride	1190	12.5	mg/L	25	EC53105	03/31/05	03/31/05	EPA 300.0	
<b>MW-7 (5C28002-06) Water</b>									
Chloride	538	10.0	mg/L	20	EC53105	03/31/05	03/31/05	EPA 300.0	

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Reported:  
04/05/05 09:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch ED50105 - EPA 5030C (GC)</b>										
<b>Blank (ED50105-BLK1)</b>					Prepared & Analyzed: 03/31/05					
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	22.3		ug/l	20.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	16.2		"	20.0		81.0	80-120			
<b>LCS (ED50105-BS1)</b>					Prepared & Analyzed: 03/31/05					
Benzene	106		ug/l	100		106	80-120			
Toluene	105		"	100		105	80-120			
Ethylbenzene	107		"	100		107	80-120			
Xylene (p/m)	223		"	200		112	80-120			
Xylene (o)	108		"	100		108	80-120			
Surrogate: a,a,a-Trifluorotoluene	23.5		"	20.0		118	80-120			
Surrogate: 4-Bromofluorobenzene	19.5		"	20.0		97.5	80-120			
<b>Calibration Check (ED50105-CCV1)</b>					Prepared: 03/31/05 Analyzed: 04/01/05					
Benzene	95.6		ug/l	100		95.6	80-120			
Toluene	95.4		"	100		95.4	80-120			
Ethylbenzene	95.5		"	100		95.5	80-120			
Xylene (p/m)	191		"	200		95.5	80-120			
Xylene (o)	91.6		"	100		91.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	22.6		"	20.0		113	80-120			
Surrogate: 4-Bromofluorobenzene	17.7		"	20.0		88.5	80-120			
<b>Matrix Spike (ED50105-MS1)</b>					Source: 5C28003-03 Prepared: 03/31/05 Analyzed: 04/01/05					
Benzene	103		ug/l	100	ND	103	80-120			
Toluene	103		"	100	ND	103	80-120			
Ethylbenzene	105		"	100	ND	105	80-120			
Xylene (p/m)	218		"	200	ND	109	80-120			
Xylene (o)	108		"	100	ND	108	80-120			
Surrogate: a,a,a-Trifluorotoluene	23.1		"	20.0		116	80-120			
Surrogate: 4-Bromofluorobenzene	21.3		"	20.0		106	80-120			

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 Katy TX, 77494

Project: Devon  
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Reported:  
 04/05/05 09:36

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED50105 - EPA 5030C (GC)**

**Matrix Spike Dup (ED50105-MSD1)**

**Source: 5C28003-03**

Prepared: 03/31/05 Analyzed: 04/01/05

Benzene	106		ug/l	100	ND	106	80-120	2.87	20	
Toluene	106		"	100	ND	106	80-120	2.87	20	
Ethylbenzene	103		"	100	ND	103	80-120	1.92	20	
Xylene (p/m)	218		"	200	ND	109	80-120	0.00	20	
Xylene (o)	107		"	100	ND	107	80-120	0.930	20	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	22.8		"	20.0		114	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	18.2		"	20.0		91.0	80-120			

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2103 Arbor Cove  
Katy TX, 77494

Project: Devon  
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Reported:  
04/05/05 09:36

**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
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**Batch EC53105 - General Preparation (WetChem)**

**Blank (EC53105-BLK1)**

Prepared & Analyzed: 03/31/05

Chloride ND 0.500 mg/L

**LCS (EC53105-BS1)**

Prepared & Analyzed: 03/31/05

Chloride 10.5 mg/L 10.0 105 80-120

**Calibration Check (EC53105-CCV1)**

Prepared & Analyzed: 03/31/05

Chloride 10.7 mg/L 10.0 107 80-120

**Duplicate (EC53105-DUP1)**

Source: 5C28002-01

Prepared & Analyzed: 03/31/05

Chloride 560 10.0 mg/L 560 0.00 20

### Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

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:

4/5/2005

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.



**Environmental Lab of Texas**  
**Variance / Corrective Action Report – Sample Log-In**

Client: Whole Earth  
 Date/Time: 3/28/05 11:00  
 Order #: 5028002  
 Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	<u>1.5</u>	<u>C</u>
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<u>Not present</u>	
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/>	No	<u>Not present</u>	
Chain of custody present?	<input checked="" type="checkbox"/>	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No		
Container labels legible and intact?	<input checked="" type="checkbox"/>	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No		
Samples properly preserved?	<input checked="" type="checkbox"/>	No		
Sample bottles intact?	<input checked="" type="checkbox"/>	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/>	No	<u>Not Applicable</u>	

Other observations:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Corrective Action Taken:**

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