

Jun 29 09 10:13a

p.2

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Range Resources Corporation	Contact: Steve Almager
Address: 100 Throckmorton Ste 1200	Telephone No. (575)394-1485
Facility Name: Greenwood	Facility Type: Battery

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

## LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	09	22S	37E					Lea

Latitude: 32.4029934 Longitude: 103.1673759

## NATURE OF RELEASE

Type of Release Produced Water	Volume of Release Unknown	Volume Recovered 200 bbls
Source of Release Flowline Split	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 6/26/09 8:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson, NMOCD	
By Whom? Susana Rodriguez, SESI	Date and Hour 6/26/09 1:00 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

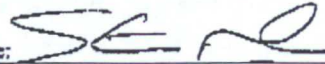
Describe Cause of Problem and Remedial Action Taken.\*

Overpressured pipe causing flowline to spill. Produced fluid mixed with rain water on lease road. Flowline repaired and a vacuum truck retrieved spilled fluid and rainwater.

Describe Area Affected and Cleanup Action Taken.\*

SESI was contacted for assessment. Area will be delineated and an appropriate work plan submitted upon results.

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

Signature:   
Printed Name: Steve Almager  
Title: Production Supervisor II  
E-mail Address: salmager@rangeresources.com  
Date: 6/26/09 Phone: (575) 394-1485

Approval

APPROVED

Approval Date: 07/11/09

Expiration Date: —

Conditions of Approval:

Attached ☐

128-4324

\* Attach Additional Sheets If Necessary

30025 37872

**Range Operating New Mexico, Inc.  
Greenwood Battery  
Section 9, Township 22S, Range 37E  
Lea County, New Mexico**

**Closure Report**

**July 27, 2009**



**Prepared for:**

**Range Operating New Mexico, Inc.  
281 North New Mexico Highway 248  
PO Box 1570  
Eunice, New Mexico 88231**

**By:**

**Safety & Environmental Solutions, Inc.  
703 East Clinton Street  
Hobbs, New Mexico 88240  
(575) 397-0510**

## TABLE OF CONTENTS

I. COMPANY CONTACTS .....	1
II. BACKGROUND .....	1
III. SURFACE AND GROUND WATER .....	1
IV. WORK PERFORMED .....	1
V. CONCLUSION .....	3
VI. FIGURES & APPENDICES .....	3
Figure 1 - Vicinity Map .....	4
Figure 2 - Site Plan .....	5
Appendix A- Analytical Results .....	6
Appendix B- Site Photos .....	7
Appendix C- C-141 .....	8



## I. Company Contacts

NAME	Company	Telephone	E-mail
Steve Almager	Range Operating NM, Inc.	575-394-1485	<a href="mailto:salmager@rangeresources.com">salmager@rangeresources.com</a>
Sergio Contreras	SESI	575-397-0510	<a href="mailto:scontreras@sesi-nm.com">scontreras@sesi-nm.com</a>

## II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged by Range Operating NM, Inc. to perform a site assessment at the Greenwood Battery. This is an active battery located in Section 9, Township 22 South, Range 37 East. On June 26, 2009 an over pressured flowline split releasing an unknown amount of produced fluids.

## III. Surface and Ground Water

According the database provided by the Office of State Engineer (OSE) online database, the average depth of water in this area is 94'.

## IV. Work Performed

On June 26, 2009, SESI was onsite to map the affected area. The area was mapped using a Trimble Geo XM GPS. SESI observed overspray to the North of the battery with minor staining to vegetation and soil. Produced fluid ran off location and mixed with rain water on lease road. Two (2) vacuum trucks were utilized to recover 200 barrels of produced fluid, which included the standing rain water on the lease road.

SESI utilized a hand auger to attempt to delineate the spill area at the release point. Auger refusal was encountered at a depth of 3'7" below ground level (bgl) due to the hard caliche layer. Grab samples were collected and transported under chain of custody to Cardinal Laboratories of Hobbs New Mexico, for analysis. In compliance to the New Mexico Oil Conservation Division (NMOCD) set of required sampling conditions, the samples were analyzed for Chlorides (EPA Method 4500-Cl<sup>-</sup>B), Total Petroleum Hydrocarbons (EPA Method 418.1), and Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) (EPA Method SWA-846 8021 B).

The results are as follows:

Sample ID	Chlorides (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Xylenes (mg/kg)
AH#1 1' BGL	272	<100	<0.050	0.063	<0.050	<0.300
AH#1 2' BGL	432	949	<0.050	<0.050	0.117	0.309
AH#1 3' BGL	384	<100	<0.050	<0.050	<0.050	<0.300
AH#1 3'7" BGL	448	-	-	-	-	-

On July 1, 2009, SESI was onsite with Environmental Plus Inc (EPI). A test trench was installed in the center of the pooling area, the release point (See Figure 2). Grab samples were collected at 1' intervals from within the trench and transported under chain of custody to Cardinal Laboratories of Hobbs, New Mexico for analysis. The samples were analyzed for Chlorides (EPA Method 4500-Cl<sup>-</sup>B).



The results of the lab analysis are as follows:

Sample ID	Chlorides (mg/kg)
TT#1 4' BGL	624
TT#1 5' BGL	352
TT#1 6' BGL	336
TT#1 7' BGL	48

Based upon the analytical results, the vertical extent of TPH contamination was determined at a depth of 7'. Therefore, the entire pooling area was excavated to a depth of 7' bgl.

The overspray area surrounding the pooling area was excavated from a depth of 6" to 12" bgl. Grab samples were collected from the excavated areas and transported under chain of custody to Cardinal Laboratories for analysis. The samples were analyzed for Chlorides (EPA Method 300.0), Total Petroleum Hydrocarbons (EPA Method 418.1), and BTEX (EPA Method SWA-846 8021B).

The results of the lab analysis are as follows:

Sample ID	Chlorides (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Xylenes (mg/kg)
SP#2 1' BGL	64	<100	<0.050	<0.050	<0.050	<0.300
SP#3 1' BGL	48	155	<0.050	<0.050	<0.050	<0.300
SP#4 Surface	64	422	<0.050	<0.050	<0.050	<0.300
SP#4 6" BGL	-	<100	-	-	-	-
SP#5 Surface	<16	<100	<0.050	<0.050	<0.050	<0.300
SP#6 1' BGL	32	<100	<0.050	<0.050	<0.050	<0.300

On July 2, 2009 SESI was onsite. Composite samples were collected from each of the walls and from the bottom of the test trench. Field analysis indicated the chloride levels to be below 250 ppm. Comparative samples were collected and transported under chain of custody to Cardinal Laboratories, of Hobbs New Mexico for analysis. The samples were analyzed for Chlorides (EPA Method 4500-Cl<sup>-</sup>B).

The results of the lab analysis are as follows:

Sample ID	Chlorides (mg/kg)
West Wall	16
North Floor	32
Floor 7' BGL	32
South Wall	16
East Wall	192

On July 6-7, 2009, SESI was onsite with EPI. A total of 378 yards of contaminated soil was transported to Sundance Services, a New Mexico Oil Conservation Division (NMOCD) approved facility for disposal. The pooling area was then backfilled to 3' bgl with a total of 112 yards of caliche, then from 3' bgl to surface with 238 yards of topsoil. The excavated overspray areas were also backfilled with topsoil and contoured to grade.

**V. Conclusion**

It is requested that no further action be required.

**VI. Figures & Appendices**

Figure 1 – Vicinity Map

Figure 2 – Site Plan

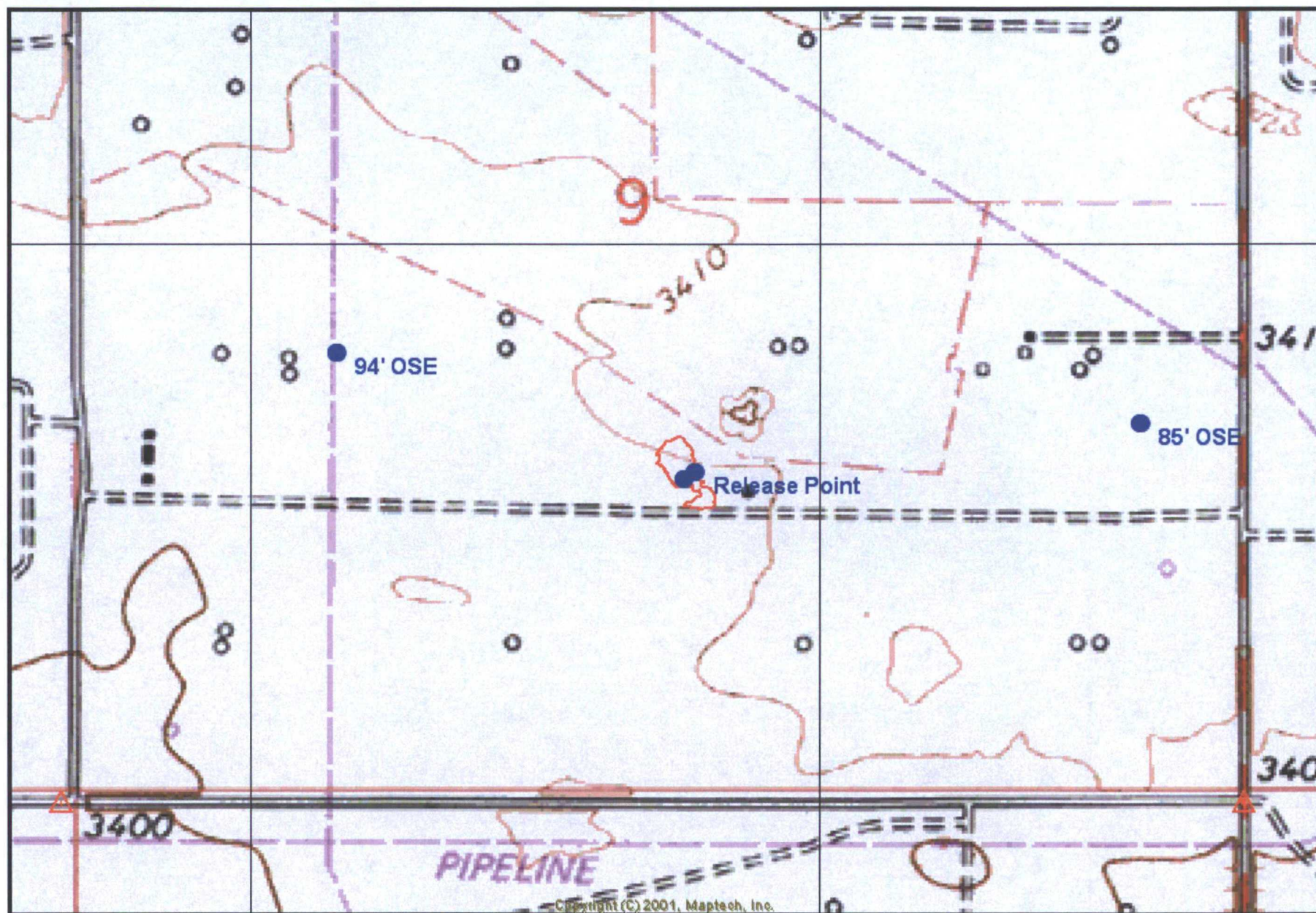
Appendix A – Analytical Results

Appendix B – Site Photos

Appendix C – C-141



**Figure 1**  
**Vicinity Map**

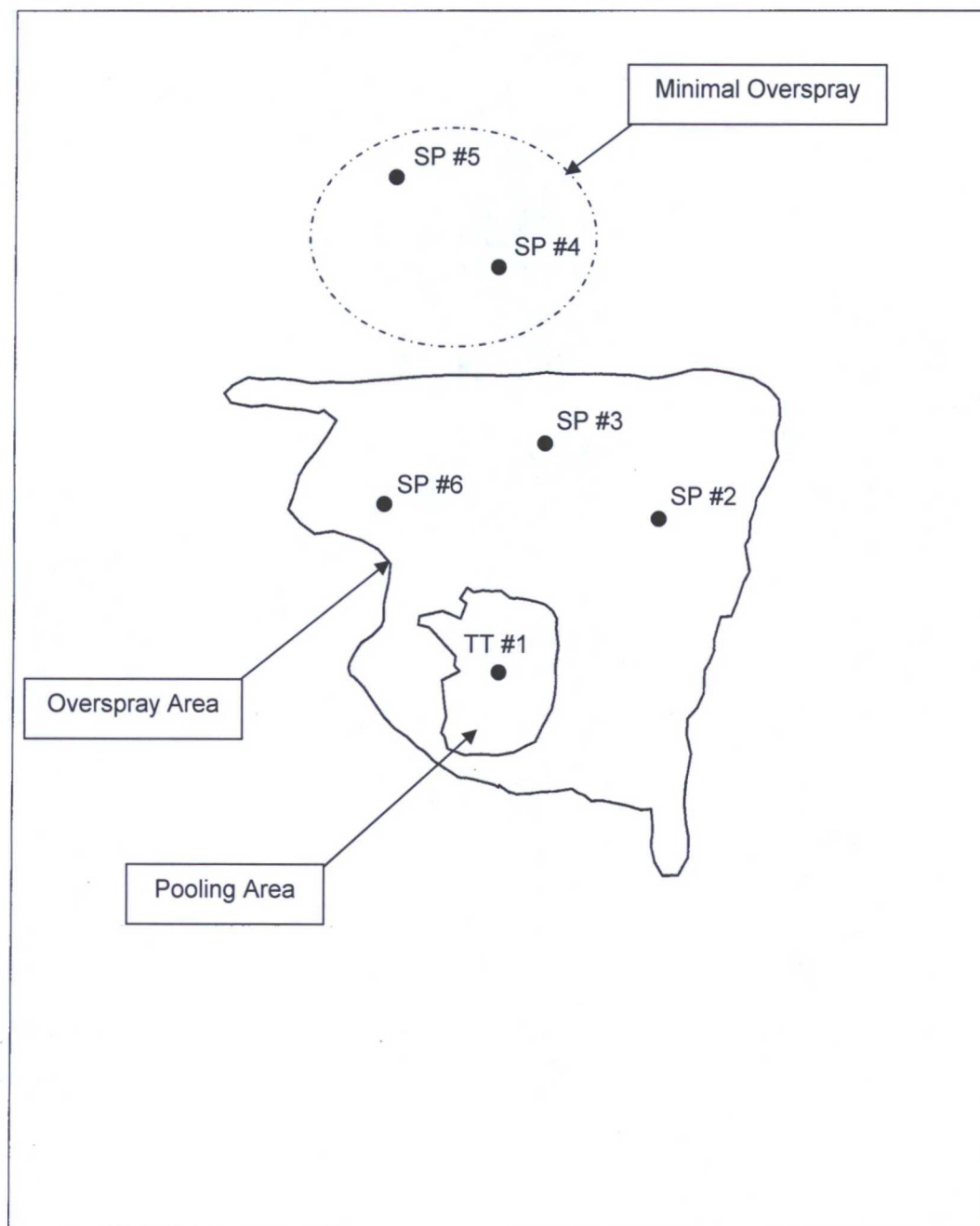




**Figure 2**  
**Site Plan**







## Greenwood Battery

Lat/Long  
WGS 1984



Scale 1:500  
0 0.010  
Miles

RAN-09-001 s2.cor  
8/7/2009

GPS Pathfinder<sup>®</sup> Office  
 **Trimble**

## **Appendix A**

### **Analytical Results**





# ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #102  
HOBBS, NM 88241  
FAX TO: (575) 393-4388

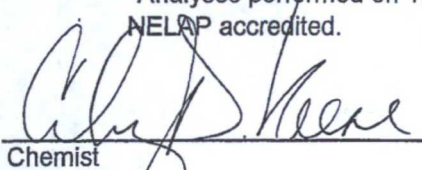
Receiving Date: 07/02/09  
Reporting Date: 07/03/09  
Project Number: RAN-09-001  
Project Name: GREENWOOD BATTERY  
Project Location: EUNICE, NM

Sampling Date: 06/26/09, 07/01/09 & 07/02/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 5°C  
Sample Received By: AB  
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl* (mg/kg)
ANALYSIS DATE:		07/02/09
H17747-1	AH#1. 1' BGL	272
H17747-2	AH#1. 2' BGL	432
H17747-3	AH#1. 3' BGL	384
H17747-4	AH#1. 3' 7" BGL	448
H17747-5	TT#1. 4' BGL	624
H17747-6	TT#1. 5' BGL	352
H17747-7	TT#1. 6' BGL	336
H17747-8	TT#1. 7' BGL	48
H17747-9	SP#2. 1' BGL	64
H17747-10	SP#3. 1' BGL	48
H17747-11	SP#4. SURFACE	64
H17747-12	SP#5. SURFACE	<16
H17747-13	SP#6. 1' BGL	32
H17747-14	WEST WALL	16
H17747-15	NORTH WALL	32
H17747-16	FLOOR 7' BGL	32
H17747-17	SOUTH WALL	16
H17747-18	EAST WALL	192
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		<0.1

METHODS: Cl-Std. Methods 4500-Cl'B

\*Analyses performed on 1:4 w:v aqueous extracts. Chloride is not  
NELAP accredited.

  
Chemist

07/03/09  
Date

H17747 CL SESI

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results pertain only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



# ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #102  
HOBBS, NM 88240  
FAX TO: (575) 393-4388

Receiving Date: 07/02/09  
Reporting Date: 07/06/09  
Project Number: RAN-09-001  
Project Name: GREENWOOD BATTERY  
Project Location: EUNICE, NM

Sampling Date: 06/26/09, 07/01/09 & 07/02/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 5 °C  
Sample Received By: AB  
Analyzed By: ZL

LAB NO.	SAMPLE ID	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		07/03/09	07/03/09	07/03/09	07/03/09
H17747-1	AH#1. 1' BGL	<0.050	0.063	<0.050	<0.300
H17747-2	AH#1. 2' BGL	<0.050	<0.050	0.117	0.309
H17747-9	SP#2. 1' BGL	<0.050	<0.050	<0.050	<0.300
H17747-10	SP#3. 1' BGL	<0.050	<0.050	<0.050	<0.300
H17747-11	SP#4. SURFACE	<0.050	<0.050	<0.050	<0.300
H17747-12	SP#5. SURFACE	<0.050	<0.050	<0.050	<0.300
H17747-13	SP#6. 1' BGL	<0.050	<0.050	<0.050	<0.300
Quality Control		0.054	0.054	0.057	0.163
True Value QC		0.050	0.050	0.050	0.150
% Recovery		108	108	114	109
Relative Percent Difference		3.6	3.7	1.7	3.7

METHODS: BTEX - SW-846 8021B

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE,  
AND TOTAL XYLENES. Reported on wet weight.

Chemist

Date

H17747 BTEX SESI

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.





# ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #102  
HOBBS, NM 88240  
FAX TO: (575) 393-4388

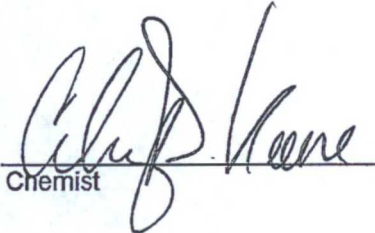
Receiving Date: 07/02/09  
Reporting Date: 07/06/09  
Project Number: RAN-09-001  
Project Name: GREENWOOD BATTERY  
Project Location: EUNICE, NM

Analysis Date: 07/06/09  
Sampling Date: 06/26/09, 07/01/09, & 07/02/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 5°C  
Sample Received By: AB  
Analyzed By: AB

LAB NUMBER      SAMPLE ID      418.1  
TPH  
(mg/kg)

H17747-1	AH#1. 1' BGL	<100
H17747-2	AH#1. 2' BGL	949
H17747-9	SP#2. 1' BGL	<100
H17747-10	SP#3. 1' BGL	155
H17747-11	SP#4. SURFACE	422
H17747-12	SP#5. SURFACE	<100
H17747-13	SP#6. 1' BGL	<100
Quality Control		326
True Value QC		300
% Recovery		109
Relative Percent Difference		3.7

METHOD: EPA 418.1. Reported on wet weight. Not accredited through NELAP for TPH 418.1

  
Chemist

  
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



# ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #102  
HOBBS, NM 88240  
FAX TO: (575) 393-4388

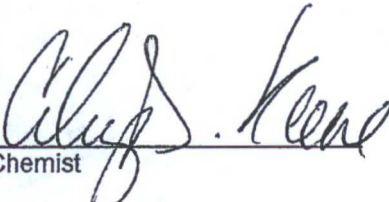
Receiving Date: 07/02/09  
Reporting Date: 07/10/09  
Project Number: RAN-09-001  
Project Name: GREENWOOD BATTERY  
Project Location: EUNICE, NM

Analysis Date: 07/09/09  
Sampling Date: 06/26/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 5°C  
Sample Received By: ML  
Analyzed By: AB

LAB NUMBER      SAMPLE ID      418.1  
TPH  
(mg/kg)

H17747-3	AH#1. 3' BGL	<100
Quality Control		320
True Value QC		300
% Recovery		107
Relative Percent Difference		6.5

METHOD: EPA 418.1. Reported on wet weight. Not NELAP accredited for 418.1 TPH.

  
Chemist

  
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those arising out of negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #102  
HOBBS, NM 88240  
FAX TO: (575) 393-4388

Receiving Date: 07/02/09  
Reporting Date: 07/06/09  
Project Number: RAN-09-001  
Project Name: GREENWOOD BATTERY  
Project Location: EUNICE, NM

Sampling Date: 06/26/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 5 °C  
Sample Received By: AB  
Analyzed By: ZL

LAB NO.	SAMPLE ID	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		07/03/09	07/03/09	07/03/09	07/03/09
H17747-3	AH#1. 3' BGL	<0.050	<0.050	<0.050	<0.300
Quality Control		0.057	0.052	0.05	0.156
True Value QC		0.050	0.050	0.050	0.150
% Recovery		114	104	100	104
Relative Percent Difference		<0.1	2.0	2.0	0.7

METHODS: BTEX - SW-846 8021B

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE, AND TOTAL XYLENES. Reported on wet weight.

Chemist

Date \_\_\_\_\_

H17747-3 BTEX SESI

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.





2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2328 Fax (505) 393-2476

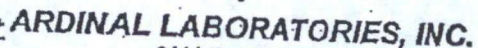
### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: SAFETY & ENVIRONMENTAL SOLUTIONS		(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2347		Page 1 of 1	
Project Manager:		BILL TO		ANALYSIS REQUEST	
Address: 703 E. CLINTON, #102		P.O. #:			
City: HOBBS State: NM Zip: 88240		Company: SAME			
Phone #: (505) 397-0510 Fax #: (505) 393-4388		Attn:			
Project #: RAN-09-001 Project Owner: Range Oper.		Address:			
Project Name: Greenwood Battery		City:			
Project Location: Eunice, NM		State: Zip:			
Sampler Name: Brian Cuellar		Phone #:			
Fax #:					
FOR LAB USE ONLY					
Lab I.D.		Sample I.D.			
		MATRIX		PRESERV.	
		GROUNDWATER		WASTEWATER	
		SOIL		OIL	
		SLUDGE		OTHER:	
		ACID/BASE:		ICE/COOL	
		OTHER:			
		DATE		TIME	
H17747-1		AH#1. 1'bg		6-26-09 1248	
-2		AH#1. 2'bg		6-26-09 1300	
-3		AH#1. 3'bg		6-26-09 1305	
-4		AH#1. 3'7"bg		6-26-09 1315	
-5		IT#1. 4'bg		7-1-09 0810	
-6		IT#1. 5'bg		7-1-09 0822	
-7		IT#1. 6'bg		7-1-09 0844	
-8		IT#1. 7'bg		7-1-09 0856	
-9		Sp#2. 1'bg		7-1-09 0930	
-10		Sp#3. 1'bg		7-1-09 0947	
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.		Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.			
Sampler Relinquished:		Date: 7/2/09		Received By: [Signature]	
Relinquished By:		Time: 4:20p		Received By: (Lab Staff)	
Delivered By: (Circle One)		Sample Condition		Checked By:	
Sampler - UPS - Bus - Other:		Temp, °C Intact?		By: (Initials)	
#26		50 [X] Yes [ ] No		[Signature]	
* Added BTEX 418.1 to #3. 7/9/09 c					

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.





2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: SAFETY & ENVIRONMENTAL SOLUTIONS		Page 1 of 1															
Project Manager:		<b>BILL TO</b>															
Address: 703 E. CLINTON, #102		P.O.#:															
City: HOBBS State: NM Zip: 88240		Company: SAME															
Phone #: (505) 397-0510 Fax #: (505) 393-4388		Attn:															
Project #: RAN-09-001 Project Owner: Range Oper.		Address:															
Project Name: Greenwood Battery		City:															
Project Location: Eunice, NM		State: Zip:															
Sampler Name: Brian Cuellar		Phone #:															
		Fax #:															
FOR LAB USE ONLY	Lab I.D.	Sample I.D.	MATRIX	PRESERV.	SAMPLING	ANALYSIS REQUEST											
			GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	DATE	TIME	Chloride	TPH	418	BTEX							
H17747-11	Sp#4, Surface	G-1			7-1-09	1015	X	X	X								
-12	Sp#5, Surface	G-1			7-1-09	1017	X	X	X								
-13	Sp#6, 1' bgl	G-1			7-2-09	0719	X	X	X								
-14	Sp# West Wall	C-1			7-2-09	0729	X										
-15	North Wall	C-1			7-2-09	1010	X										
-16	Floor 7' bgl	C-1			7-2-09	1340	X										
-17	South Wall	C-1			7-2-09	1355	X										
-18	East Wall	C-1			7-2-09	1417	X										
<p><small>PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. At claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</small></p>																	
Sampler Relinquished By: B-Cuellar Date: 7/2/09 Time: 9:20p Delivered By: (Circle One) Sampler - UPS - Bus - Other:						Received By: C.B.J. Date: _____ Time: _____ Received By: (Lab Staff)						Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No REMARKS: Rush CI					
Sample Condition Temp. °C Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Checked By: (Initials) CB						Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.											

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #102  
HOBBS, NM 88240  
FAX TO: (575) 393-4388

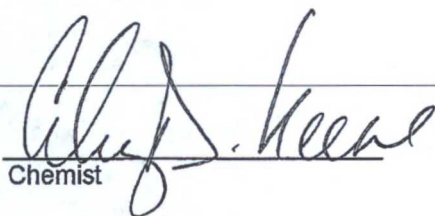
Receiving Date: 07/13/09  
Reporting Date: 07/13/09  
Project Owner: RANGE OPERATING (RAN-09-001)  
Project Name: GREENWOOD BATTERY  
Project Location: EUNICE, NM

Analysis Date: 07/13/09  
Sampling Date: 07/13/09  
Sample Type: SOIL  
Sample Condition: COOL & INTACT @ 5.5°C  
Sample Received By: ML  
Analyzed By: AB

LAB NUMBER      SAMPLE ID      418.1  
TPH  
(mg/kg)

H17794-1	SP#4. 6" BGL	<100
H17794-2	SP#5. 1' BGL	<100
Quality Control		326
True Value QC		300
% Recovery		109
Relative Percent Difference		3.6

METHOD: EPA 418.1. Reported on wet weight.

  
Chemist

  
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.





**ARDINAL LABORATORIES, INC.**

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2328 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

[illegible]

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.

## **Appendix B**

### **Site Photos**





Auger Hole #1 Facing West



Impacted Area Facing NW





Impacted Area Facing North



Impacted Area Facing North



Excavating Test Trench Facing West



Impacted Area Facing West





Impacted Area Facing NW



Run Off Area on Location Pad





Run Off Area on Location Pad and Edge of Road



Test Trench #1





Sample Point #2



Sample Point #3





Sample Point #4



Sample Point #5





Excavating "Pooling Area" Facing West

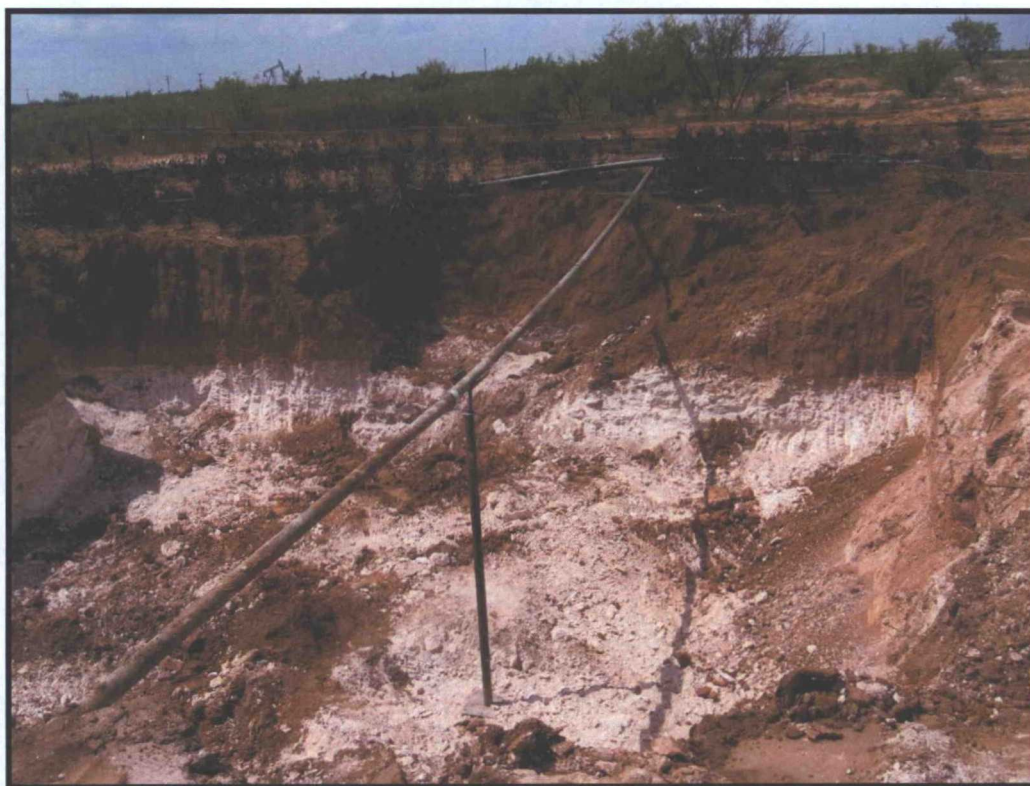


Excavating "Pooling Area" Facing East





"Pooling Area" Excavated to 7' bgl Facing North

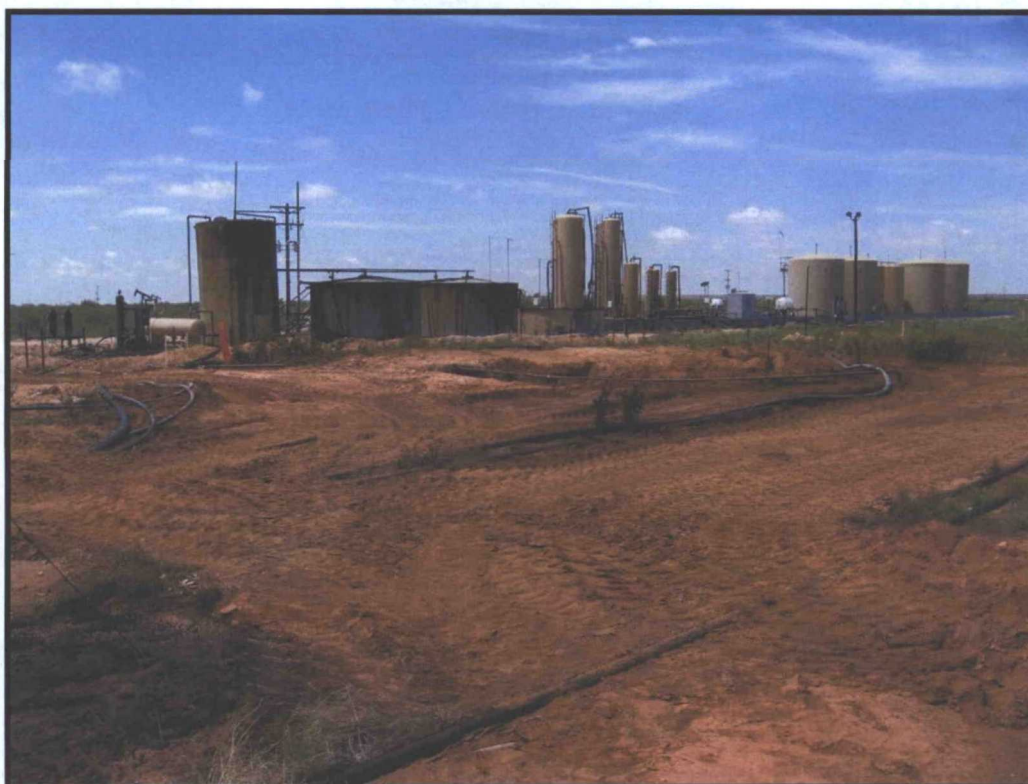


"Pooling Area" Excavated to 7' bgl Facing North





Excavated Area Facing West



Excavated Area Facing SW





Excavated Area Facing South



Backfilled Excavation Facing SW





Backfilled Excavation Facing West



Backfilled Excavation Facing NW

**Appendix C**  
**C-141**