

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised June 10, 2003

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

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

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name of Company	Merit Energy Corporation	Contact	Gene Brookshire
Address	P.O. Box 69 Loco Hills, NM 88255	Telephone No.	505-420-5497
Facility Name	Hudson Federal Battery	Facility Type	Tank Battery

Surface Owner	BLM	Mineral Owner	BLM	Lease No.	LC-054908
---------------	-----	---------------	-----	-----------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude-W	Latitude-N	County
A	18	17S	31E			103deg 54' 8.8"	32deg 50' 19.4"	Eddy

NATURE OF RELEASE

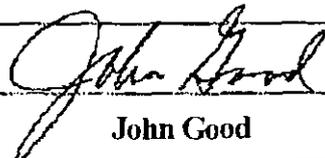
Type of Release	Crude Oil	Volume of Release	300 bbl	Volume Recovered	285 bbl
Source of Release	Water meter plugged, stock tank overflow	Date and Hour of Occurrence	10/3/04 8:00 AM	Date and Hour of Discovery	10/3/04 4:00 PM
Was Immediate Notice Given?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher, NMOCD; Paul Evans, BLM		
By Whom?	Gene Brookshire	Date and Hour	8/11/04 4:00 PM		
Was a Watercourse Reached?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If YES, Volume Impacting the Watercourse	NA		

If a Watercourse was Impacted, Describe Fully\*

Describe Cause of Problem and Remedial Action Taken. \*  
Water meter plugged off causing stock tank overflow within tank battery containment area. Meter was repaired; vacuum truck recovered 285-bbl of 300-bbl release.

Describe Area Affected and Cleanup Action Taken. \*  
Area within battery (58' X 72') excavated to 5-6-ft level. Soil was stockpiled and blended to below CoC concentration action levels (5000, 50, 10) for this site. Blended soil returned to excavation as backfill, and utilized for rebuilding firewall around battery.

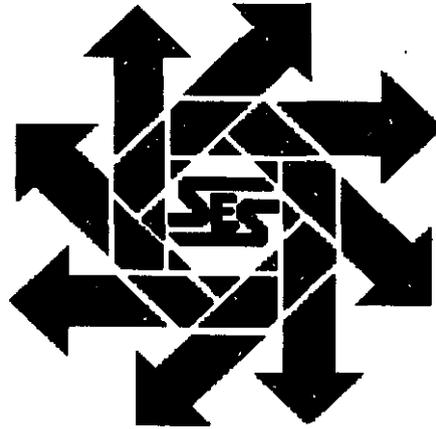
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger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

Signature:		OIL CONSERVATION DIVISION	
Printed Name:	John Good	T. Green by Mike Bratcher	
Title:	Consultant - SESI	Approved by District Supervisor:	
E-Mail Address:	ballen@sesi-nm.com	Approval Date: 2/9/05	Expiration Date: N/A
Date:	12/11/2004 Phone: 505-397-0510	Conditions of Approval:	<input type="checkbox"/> Attached
		N/A	

@c: operator

**Merit Energy  
Hudson Federal Battery  
Final C-141 Closure Documentation  
UL-A, Section 18, Township 17S, Range 31E  
Eddy County, New Mexico**

**December 9, 2004**



RECEIVED  
JAN 04 2005  
OCD/ARTESIA

***Prepared for:***

**Merit Energy  
P.O. Box 69  
Loco Hills, N.M. 88255**

***By:***

***Safety & Environmental Solutions, Inc.  
703 E. Clinton Suite 102  
Hobbs, New Mexico 88240  
(505) 397-0510***

## TABLE OF CONTENTS

I.	Company Contacts .....	1
II.	Background .....	1
III.	Contaminant and Size of Area .....	1
IV.	Surface and Ground Water .....	1
V.	Soils .....	1
VI.	Vertical and Horizontal Contaminant Extents .....	1
VII.	Remediation Activities .....	1
VIII.	Closure Justification .....	2
IX.	Appendices .....	3-12
	A. Plate 1 – Vicinity Map	
	B. Plate 2 – Site Plan	
	C. Final C-141 Form & Site Metrics	
	D. Analytical Results	
	E. Site Photos	

## I Company Contacts

Gene Brookshire	Merit Energy	505-677-2327	Gene.brookshire@meritenergy.com
Bob Allen	SESI	505-397-0510	<a href="mailto:ballen@sesi-nm.com">ballen@sesi-nm.com</a>

## II Background

The active Hudson Federal tank battery site is associated with the Merit Energy Hudson gathering system. The Hudson Federal Tank Battery is located in UL-A, Section 18, Township 17S, Range 31E. The releases within the tank battery area are historical in nature. The most recent release (8-11-04) resulted in a crude oil release of approximately 300-bbl, of which 285-bbl were recovered.

## III Contaminant and Size of Area

The contaminants were unprocessed crude oil and produced water. The tank battery release was contained within the firewall structure of the tank battery (~58' X 72'). The crude oil and produced water associated with this release is considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

## IV Surface and Ground Water

There is no groundwater of record in this area of Eddy County according to information obtained from the New Mexico State Engineer online database. There are no water wells or surface waters within a 1000-ft radius of the site.

## V Soils

The soil in the area is predominantly red sand underlain by a caliche base approximately 20-ft below average surface grade.

## VI Vertical and Horizontal Contaminant Extents

The vertical extent of contamination beneath the battery location was not determined by a drilling/sampling protocol. Due to the safety concerns, it was pre-determined that the maximum excavated depth would be 5-ft., and no more than 2-ft when in close proximity to the tank perimeters. A composite analysis of the excavated spoils (for blending ratio determination) was performed on 11/29/04. This analysis yielded an average TPH<sup>8015</sup> concentration of 2600-ppm. To achieve this level of contamination in the excavated spoils, the 3-ft to 5-ft level of the excavated areas of the battery were essentially free of hydrocarbon contamination. The horizontal extents of the contaminated soil were visually discernable along the line of the battery firewall.

## VII Remediation Activities

The remediation level achieved by the application of the "**Guidelines for Remediation of Leaks, Spill and Releases**" *New Mexico Oil Conservation Division* – August 13, 1993 to this site is 5000-ppm Total Petroleum Hydrocarbon (TPH<sup>8015</sup>), 10-ppm Benzene and 50-ppm BTEX. Although not applicable to areas lacking ground water, the New

Mexico Water Quality Control Commission limit of 250-ppm chlorides (above background level) was achieved in the remediation of this site.

The construction phase for this remediation project commenced on 11-17-04 and continued through to completion on 12-1-04.

The Hudson Federal Battery excavation began with hand-excavation to determine the location of various sub-surface pipes and conduits. After all pipelines were located, backhoe excavation of the battery area commenced. Areas that could not be reached, or were unsafe for backhoe excavation, were hand excavated to a 2-ft depth. The north, east, south and a majority of the west areas of the tank battery were excavated to approximately 5-feet.

All contaminated soil excavated from the tank battery area (approximately 500-yd<sup>3</sup>) was removed and stockpiled on top of a large area of asphaltine material south of the battery location. Blending of the contaminated material was accomplished by blending in the historical asphaltine soil and the low TPH soil below this top layer (3 to 4-ft). By blending in this fashion, a final blend well below the remedial action level was achieved. The composite analysis of the final blend yielded the following results:

- TPH<sup>8015</sup> - <800 ppm
- BTEX<sup>8260</sup> - <0.055 ppm
- Benzene<sup>8260</sup> - <0.005 ppm
- Chlorides<sup>4500Cl-B</sup> - 208 ppm

The tank battery excavation was backfilled with the blended material, the battery firewall was rebuilt with the blended material and the blending area was smoothed and contoured.

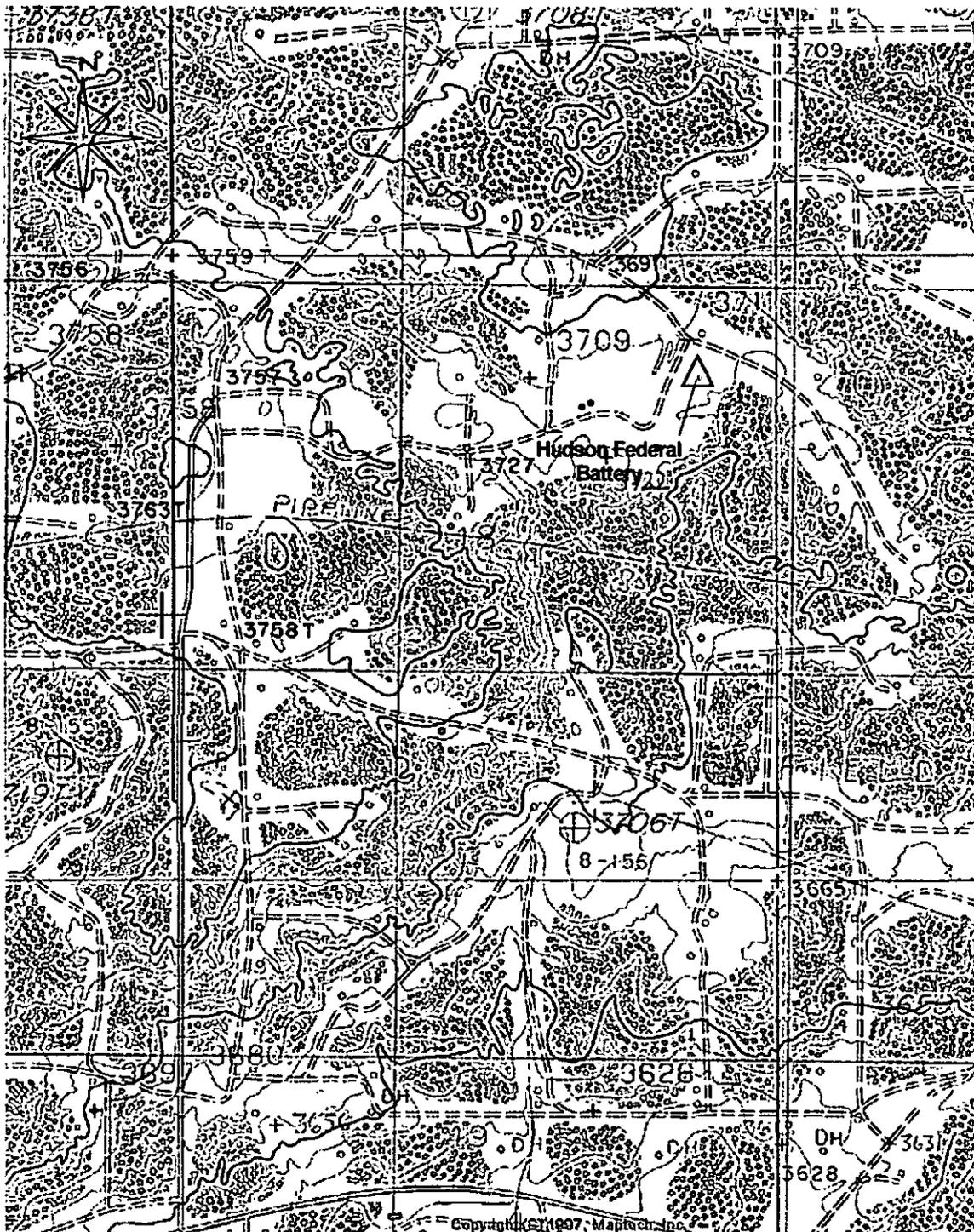
## VIII Closure Justification

This report documents successful implementation of the Remediation Work Plan (8-13-04) approved by NMOCD for this release site. Soil contaminated above acceptable remedial concentrations was excavated, stockpiled and blended to acceptable remedial concentration levels. The excavation was backfilled with the blended material and properly contoured back to grade. Based on the data presented in this report, Safety and Environmental Solutions, Inc., on behalf of Merit Energy Corporation, requests that the NMOCD require "no further action" at the Hudson Federal Battery site.

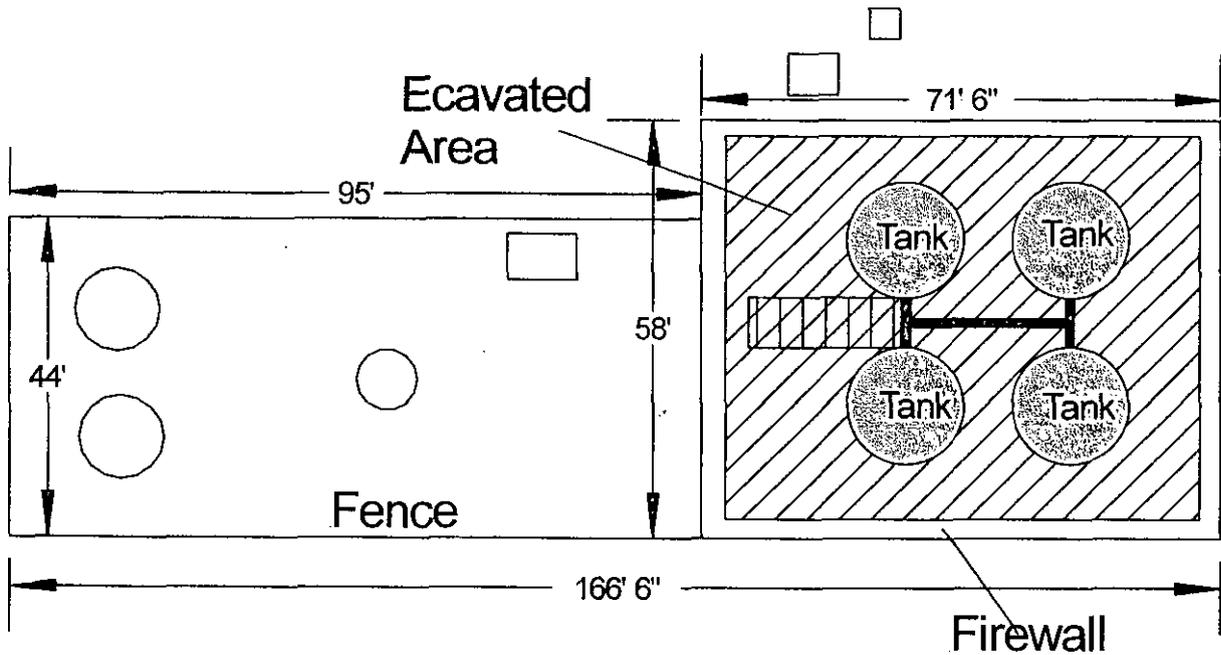
## IX. Figures and Appendices

- Plate 1 - Vicinity Map
- Plate 2 - Site Plan
- Appendix A -- Final C-141 Form & Site Metrics
- Appendix B - Analytical Results
- Appendix C - Site Photos

**APPENDIX A: PLATE 1**  
**Vicinity Map**



**APPENDIX B: PLATE 2**  
**Site Plan**



	<b>Plate 2</b> <b>Merit Energy Corporation</b> <b>Hudson Federal Battery Site</b>		
	UL-A, Section 18, Township 17S, Range 31E Eddy County, New Mexico		
Safety & Environmental Solutions, Inc. Hobbs, New Mexico	Date	12/09/2004	Rev 1
	Dwg by:	John Good	
		0 <span style="margin-left: 100px;">Feet</span> <span style="float: right;">100</span>	
		Scale: 1" = 25'	

**Appendix C**  
**Final C-141 Form;**  
**Site Metrics Form**  
**Hudson Federal Battery**

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

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

State of New Mexico

Energy Minerals and Natural Resources

Form C-141

Revised June 10, 2003

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

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

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name of Company	Merit Energy Corporation	Contact	Gene Brookshire
Address	P.O. Box 69 Loco Hills, NM 88255	Telephone No.	505-420-5497
Facility Name	Hudson Federal Battery	Facility Type	Tank Battery

Surface Owner	BLM	Mineral Owner	BLM	Lease No.	LC-054908
---------------	-----	---------------	-----	-----------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude-W	Latitude-N	County
A	18	17S	31E			103deg 54' 8.8"	32deg 50' 19.4"	Eddy

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Crude Oil	300 bbl	285 bbl
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Water meter plugged, stock tank overflow	10/3/04 8:00 AM	10/3/04 4:00 PM
Was Immediate Notice Given?	If YES, To Whom?	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Not Required	Mike Bratcher, NMOCD; Paul Evans, BLM	
By Whom? Gene Brookshire	Date and Hour	8/11/04 4:00 PM
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse	
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	NA	

If a Watercourse was Impacted, Describe Fully\*

Describe Cause of Problem and Remedial Action Taken. \*  
Water meter plugged off causing stock tank overflow within tank battery containment area. Meter was repaired; vacuum truck recovered 285-bbl of 300-bbl release.

Describe Area Affected and Cleanup Action Taken. \*  
Area within battery (58' X 72') excavated to 5-6-ft level. Soil was stockpiled and blended to below CoC concentration action levels (5000, 50, 10) for this site. Blended soil returned to excavation as backfill, and utilized for rebuilding firewall around battery.

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

Signature:		OIL CONSERVATION DIVISION	
Printed Name:	John Good	T. Gunn by Mike Bratcher	
Title:	Consultant - SESI	Approved by District Supervisor:	
E-Mail Address:	ballen@sesi-nm.com	Approval Date: 2/9/05	Expiration Date: N/A
Date:	12/11/2004	Phone:	505-397-0510
		Conditions of Approval:	<input type="checkbox"/> Attached
		N/A	

cc: operator

# Merit Energy Corporation

Incident Date: 8/11/04 NMOCD Notified: 8/11/04

SITE: Hudson Federal Battery		Assigned Site Reference: MER-04-016	
Company: Merit Energy Corporation			
Street Address:			
Mailing Address: P.O. Box 69			
City, State, Zip: Loco Hills, NM 88255			
Representative: Gene Brookshire			
Representative Telephone: 505-420-5497			
Telephone:			
Fluid Volume Released (bbl): > 300		Volume Recovered (bbl): 285	
Net Release: > 15			
<i>&gt;25 bbl: Notify NMOCD verbally within 24 hours and submit C-141 within 15 days.          5-25 bbl: Submit Form C-141 within 15 days. (Also applies to unauthorized release of &gt;50 mcf Natural Gas).</i>			
Leak, Spill, or Pit (LSP) Name:		Hudson Federal Battery	
Source of Contamination:		Water meter plugged, stock tank overflow	
Land Owner, i.e. BLM, ST, Fee, Other:		BLM	
LSP Dimensions:		58' X 72' (less area beneath battery tanks)	
LSP Area		~3000 -ft <sup>2</sup>	
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: North		32deg 50' 19.4"	
Longitude: West		103deg 54' 8.8"	
Elevation above mean sea level (amsl):		3635 feet 1108 meters	
Distance from South Section Line (feet):			
Distance from West Section Line (feet):			
Location - Unit Letter and 1/4 1/4:		UL- A NE 1/4 of NE 1/4	
Location - Section		18	
Location - Township		17S	
Location - Range		31E	
Surface water body within 1000' radius of site:		0	
Surface water body within 1000' radius of site:		0	
Domestic water wells within 1000' radius of site:		0	
Domestic water wells within 1000' radius of site:		0	
Agricultural water wells within 1000' radius of site:		0	
Agricultural water wells within 1000' radius of site:		0	
Public water supply wells within 1000' radius of site:		0	
Public water supply wells within 1000' radius of site:		0	
Depth (feet) from land surface to Ground Water (DG):		250	
Depth (feet) of lowest contamination (DC):		5	
Depth (feet) to Ground Water (DG - DC = D1GW):		245	
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	
If Depth to GW <50-feet: 20 points		If <1000' from water source, or, <200' from private domestic water source: 20 points	
If Depth to GW 50 to 100-feet: 10 points		If >1000' from water source, or, >200' from private domestic water source: 0 points	
If Depth to GW >100-feet: 0 points		Wellhead Protection Score: 0	
Ground Water Score: 0		Surface Water Score: 0	
Site Ranking (1 + 2 + 3): 0			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10-ppm	10-ppm	10-ppm
BTEX <sup>1</sup>	50-ppm	50-ppm	50-ppm
TPH	100-ppm	1000-ppm	5000-ppm

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

**Appendix D**  
**Analytical Results**



ANALYTICAL RESULTS FOR  
 SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
 ATTN: JOHN GOOD  
 703 E. CLINTON  
 HOBBS, NM 88240  
 FAX TO:

Receiving Date: 11/30/04  
 Reporting Date: 12/04/04  
 Project Number: MER-04-016  
 Project Name: HUDSON FEDERAL BATTERY  
 Project Location: NOT GIVEN

Sampling Date: 11/30/04  
 Sample Type: SOIL  
 Sample Condition: COOL & INTACT  
 Sample Received By: BC  
 Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	CI* (mg/Kg)
ANALYSIS DATE		12/02/04	12/04/02	12/02/04
H9368-1	SMHFB1130-BCD	32.6	747	208
Quality Control		803	778	1020
True Value QC		800	800	1000
% Recovery		100	97.3	102
Relative Percent Difference		<0.1	8.1	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CI'B  
 \*Analysis performed on a 1:4 w:v aqueous extract.

Burgess J. Cook  
 Chemist

12/4/04  
 Date

H9368A.XLS

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.



ANALYTICAL RESULTS FOR  
 SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
 ATTN: JOHN GOOD  
 703 E. CLINTON  
 HOBBS, NM 88240  
 FAX TO:

Receiving Date: 11/30/04  
 Reporting Date: 12/04/04  
 Project Number: MER-04-016  
 Project Name: HUDSON FEDERAL BATTERY  
 Project Location: NOT GIVEN

Sampling Date: 11/30/04  
 Sample Type: SOIL  
 Sample Condition: COOL & INTACT  
 Sample Received By: BC  
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		12/01/04	12/01/04	12/01/04	12/01/04
H9368-1	SMHFB1130-BCD	<0.005	<0.005	<0.005	0.040
Quality Control		0.101	0.094	0.102	0.325
True Value QC		0.100	0.100	0.100	0.300
% Recovery		101	93.7	102	108
Relative Percent Difference		3.0	0.6	0.2	1.0

METHOD: EPA SW-846 8260

*James J. Cook*  
 Chemist

12/4/04  
 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 employees 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.



**Appendix E**  
**Site Photos**



Hudson Federal Battery – day after overflow

08.12.2004



Hudson Federal Battery – day after

08.12.2004

Hudson Federal Battery – hand excavation



Hudson Federal Battery - - north side excavation



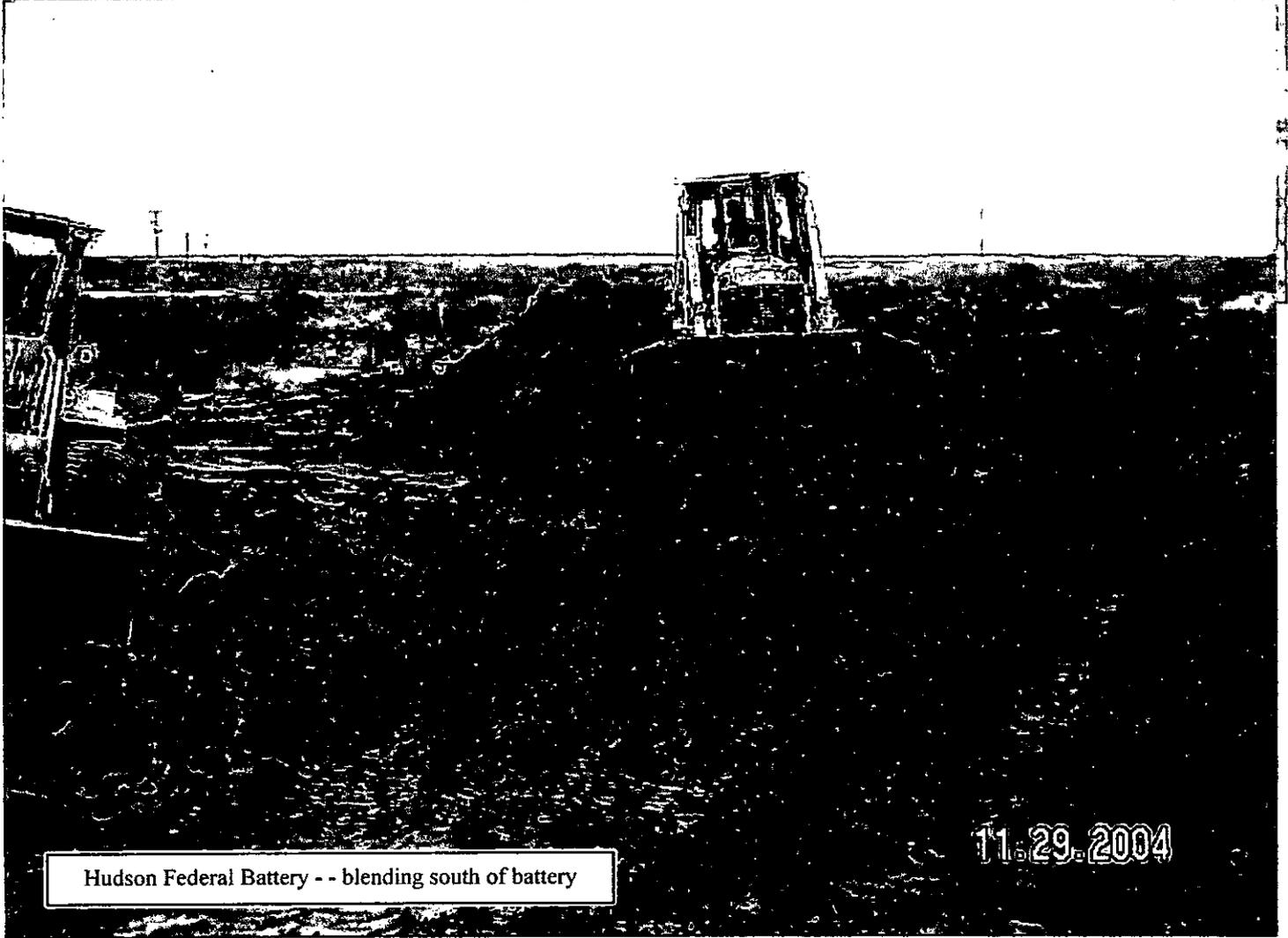
11.24.2004

Hudson Federal Battery -- west side excavation



Hudson Federal Battery -- east side excavation

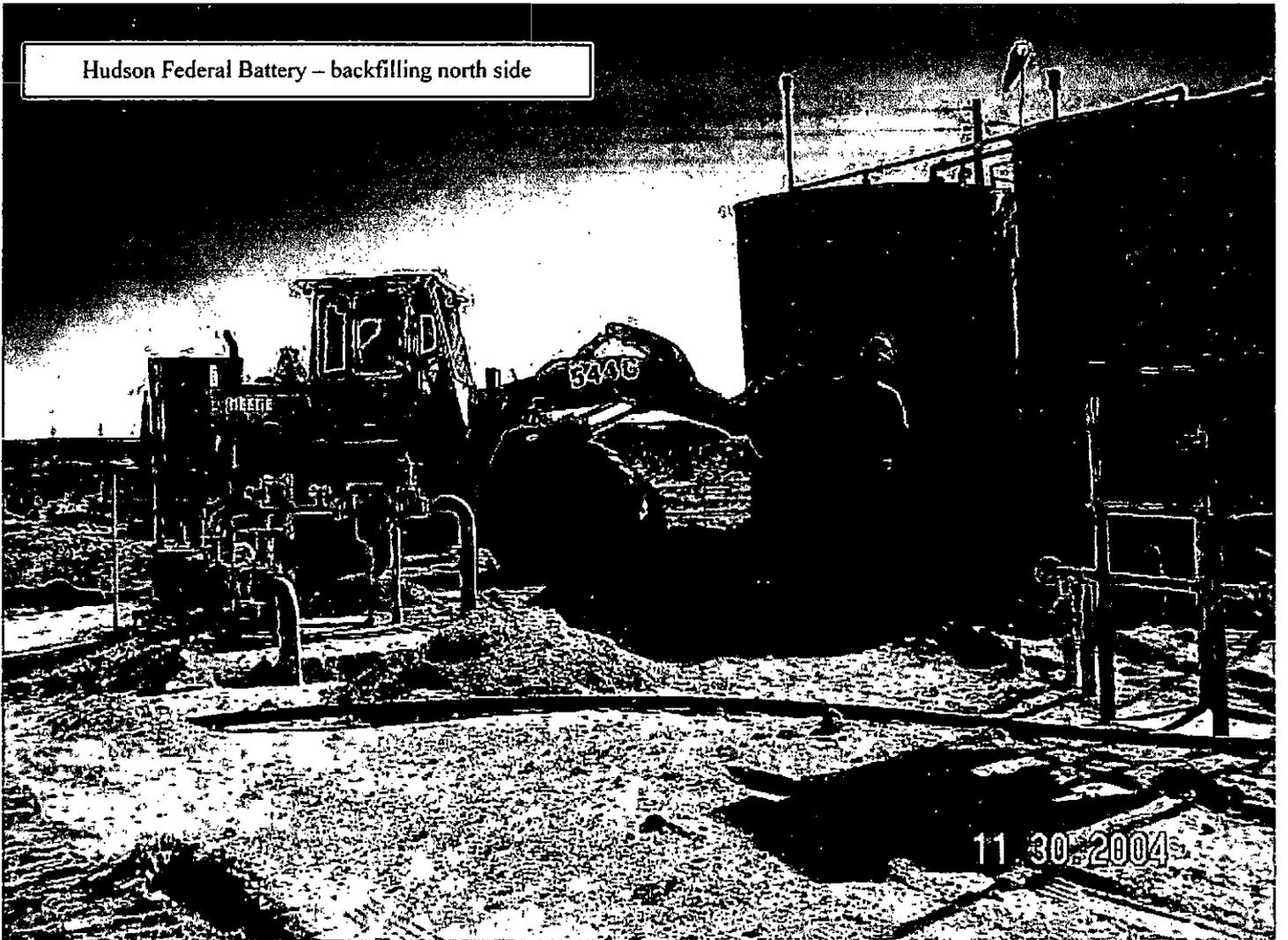
Hudson Federal Battery - - blending south of battery



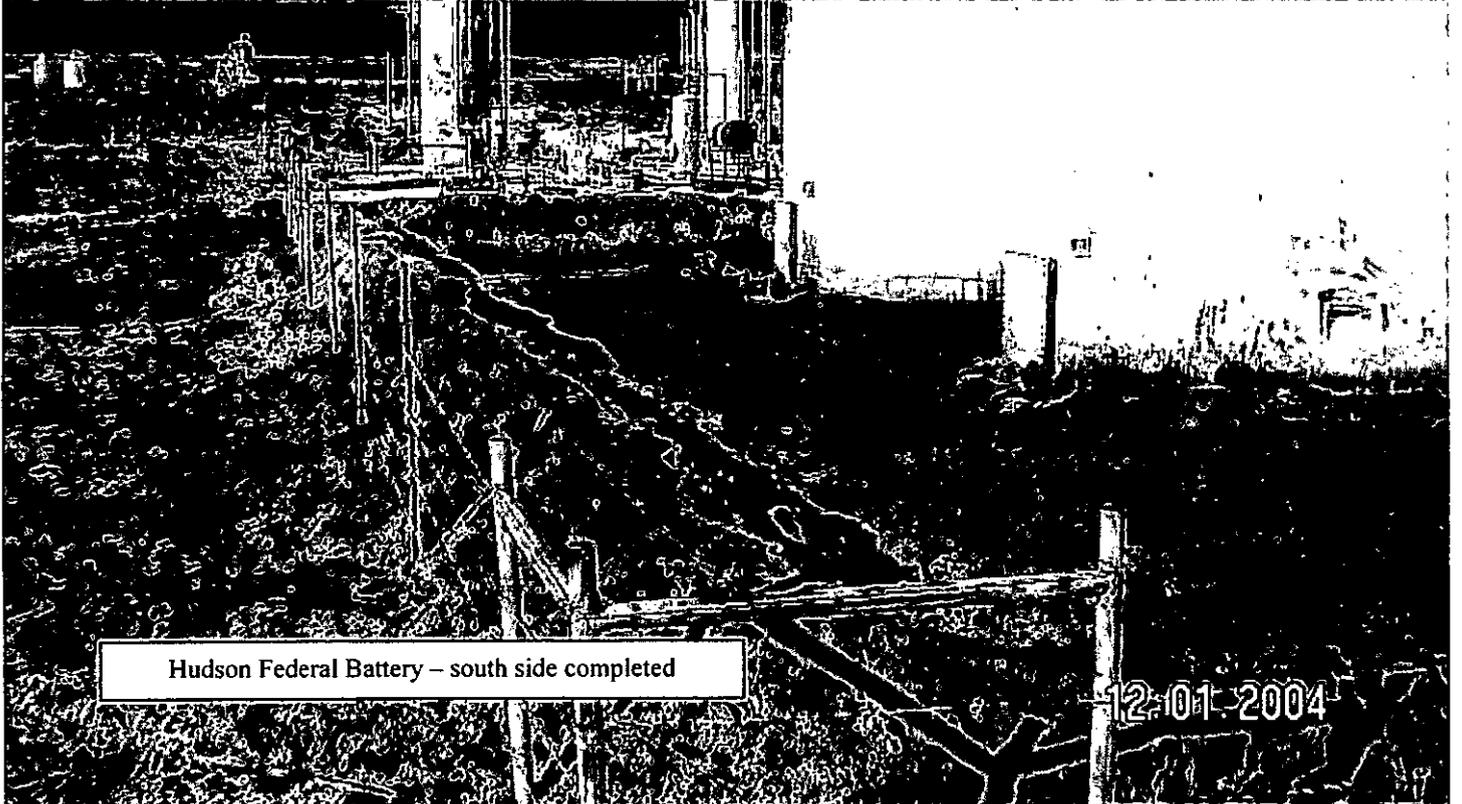
Hudson Federal Battery - - blending south of battery

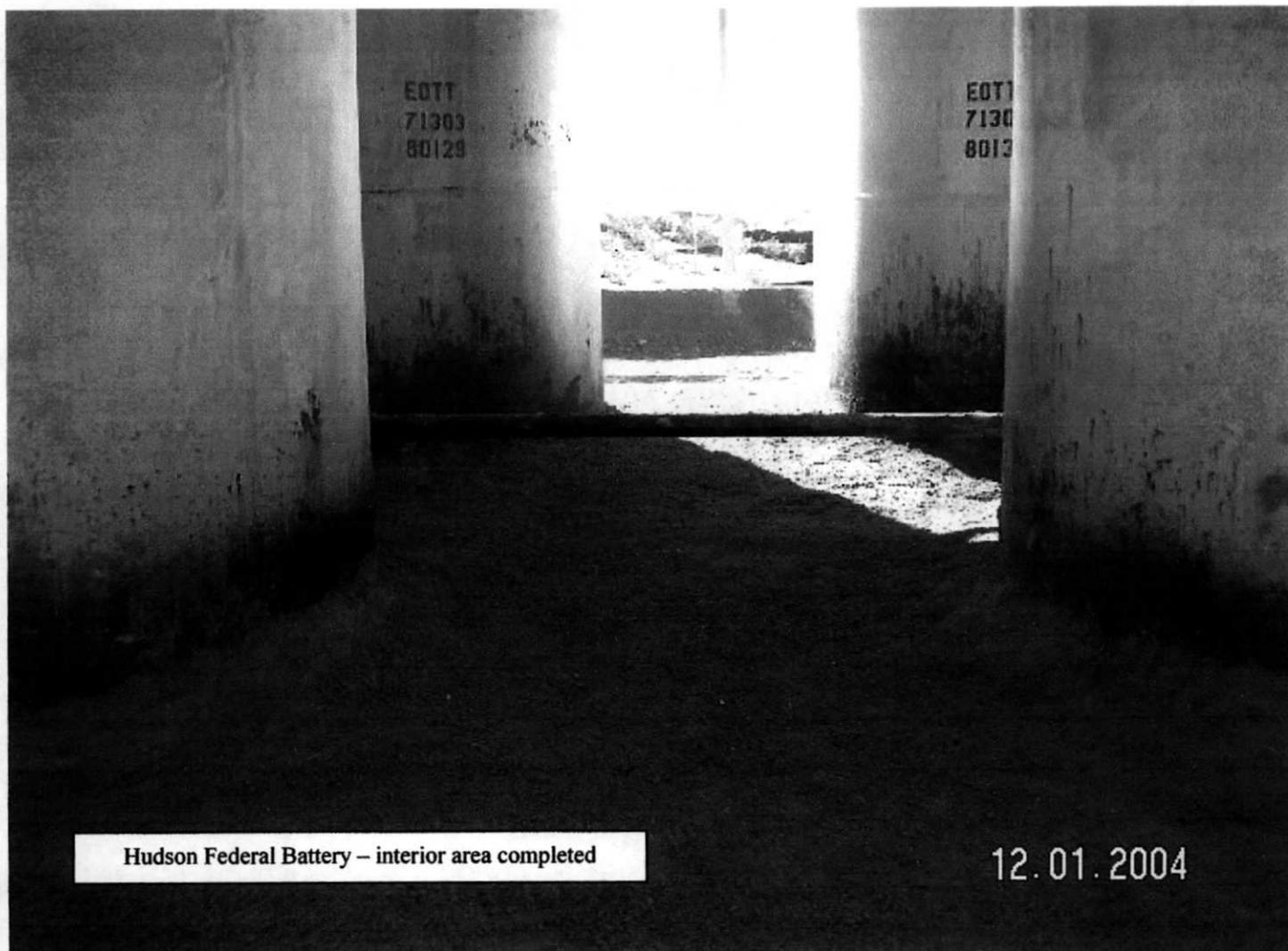
11.29.2004

Hudson Federal Battery – backfilling north side



Hudson Federal Battery – south side completed





E011  
71303  
80129

E011  
71303  
80129

Hudson Federal Battery – interior area completed

12.01.2004



Hudson Federal Battery - - blending area contoured

12.01.2004