



# HESS CORPORATION

## GREAT WESTERN CRUTCHFIELD BATTERY #99 LEA COUNTY, NEW MEXICO

### SITE CLOSURE REPORT

PREPARED BY:

**BBC INTERNATIONAL, INC.**  
WORLD-WIDE ENVIRONMENTAL SPECIALISTS  
1324 W. MARLAND BLVD.  
P. O. BOX 805  
HOBBS, NEW MEXICO 88240  
(505)397-6388 • FAX (505)397-0397  
EMAIL: [bbc@bbcinternational.com](mailto:bbc@bbcinternational.com)  
WEBSITE: [www.bbcinternational.com](http://www.bbcinternational.com)

July 3, 2006

PREPARED FOR:

**MR. RANDY BARNES**  
**HESS CORPORATION**  
P.O. BOX 840  
SEMINOLE, TX 79360

*1 RP# 985*  
*facility - f PAC0621433039*  
*incident - n PAC0621433166*  
*application - p PAC0621433281*

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	Amerada Hess Corporation	Contact	Randy Barnes
Address	P.O. Box 840, Seminole, TX 79360	Telephone No.	(432) 758-6778
Facility Name	Great Western Crutchfield Battery #99	Facility Type	Abandoned Tank 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
H	32	19S	37E					

12'

Latitude 32° 37.133' Longitude 103° 16.052'

**NATURE OF RELEASE**

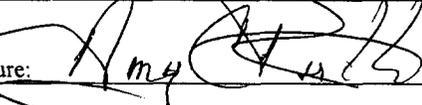
Type of Release	Historical	Volume of Release	Unknown	Volume Recovered	Unknown
Source of Release	Unknown	Date and Hour of Occurrence		Date and Hour of Discovery	
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

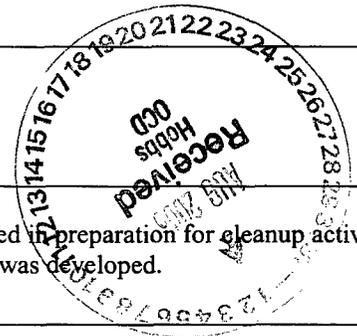
If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
Hydrocarbon contamination of soil by oil production activities. Site investigation was conducted in preparation for cleanup activities. Multiple soil samples were collected and sent to a laboratory for analyses. A remediation plan was developed.

Describe Area Affected and Cleanup Action Taken.\*  
Contaminated soil was removed from the site and taken to a NMOCD approved landfarm. Before backfilling, closing samples were collected to confirm compliance to guidelines. The site was backfilled with clean soil, contoured, and reseeded.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Amy C. Ruth	Approved by District Supervisor:	
Title: Environmental Scientist	Approval Date:	Expiration Date:
E-mail Address: amy@bbcinternational.com	Conditions of Approval:	
Date: 7/29/06	Phone: (505) 397-6388	Attached <input type="checkbox"/>



\* Attach Additional Sheets If Necessary

# Hess Corporation

## Great Western Crutchfield

### Battery #99

#### 1.0 INTRODUCTION

The subject site is north of Monument, New Mexico in Lea County in Unit Letter H, of Section 32, Township 19 South, and Range 37 East. The site is an abandoned tank battery. Hess Corporation (Hess) sent a remediation plan to the New Mexico Oil Conservation Division (NMOCD), and the plan was approved on December 5, 2005.

#### 2.0 SITE CHARACTERIZATION

The area of the site measures approximately 6,150 square feet. There is one water source within 1,000 horizontal feet west of the site. There is no surface water within 1,000 horizontal feet of the site. Based on data from the Office of the State Engineer, average depth to groundwater is less than 50 feet. Bedrock in the Monument area is very shallow and it is approximately one foot below the surface of the topsoil.

#### 3.0 SITE ACTIVITIES

Hess retained E.D. Walton Construction (E.D. Walton) to excavate the site and haul contaminated soil to a landfarm approved by NMOCD. BBC International, Inc. (BBC) was also retained by Hess to collect soil samples for laboratory analysis.

On April 10, 2006, BBC personnel collected 4 samples from the east section of the site at depths of two (2) to three (3) feet below ground surface (bgs). The samples were tested for total petroleum hydrocarbons (TPH) – gasoline range organics (GRO)/diesel range organics (DRO), chloride, and benzene, toluene, ethylbenzene, xylene (BTEX). GRO was non-detect, DRO ranged from non-detect to 13.3 parts per million (ppm), chlorides were 32 ppm or less except in the southwest corner where chloride was 496 ppm, and BTEX was non-detect. All site diagrams including sample points can be found in Appendix I, laboratory analyticals can be found in Appendix II, site photographs can be viewed in Appendix III, and email correspondences can be found in Appendix IV.

On April 18, 2006, excavation began and BBC collected a total of three (3) samples from the west and east sections of the site. Two of these samples were

taken from the west pit at six (6) inches bgs. GRO was non-detect, DRO was non-detect in the north sample and 25.1 ppm in the south sample, and chlorides were non-detect. BTEX was non-detect in the north sample. In the south sample benzene was non-detect, toluene was 0.018 ppm, ethylbenzene was 0.012 ppm, and total xylenes were 0.025 ppm. The sample from the east pit was taken from the former location of the tank at two (2) feet bgs. The sample was non-detect for GRO and DRO, chlorides were 32 ppm, and BTEX was also non-detect.

NMOCD was notified on May 1, 2006 of final sampling to occur on May 3, 2006. Closing samples were all non-detect for GRO and DRO, chlorides were 32 ppm or less in all samples except the northeast corner of the east pit at three (3) feet bgs which was 736 ppm, and BTEX was non-detect in all samples.

BBC notified NMOCD of sample results on May 8, 2006, and scheduled resampling of the northeast corner of the east pit to take place on May 10, 2006. A sample taken at six (6) feet bgs showed GRO, DRO, and BTEX to be non-detect however chlorides were 480 ppm. A sample taken at eight (8) feet bgs was non-detect for GRO, DRO, and BTEX, however chlorides remained 384 ppm. On May 18, 2006 NMOCD was notified of chloride levels and further excavation and sampling was scheduled to take place on May 22, 2006. The northeast corner of the east pit was sampled at nine (9) feet bgs and revealed chloride levels to be 32 ppm.

Site excavation was completed on May 22, 2006, and 912 yards of contaminated material was hauled to a landfarm. Backfilling and contouring was completed with a total of 904 yards of clean soil on June 5, 2006. The site was reseeded on June 9, 2006.

#### **4.0 CONCLUSION**

According to the Office of the State Engineer, depth to groundwater is less than 50 feet. There is one water source and no surface water bodies within 1,000 horizontal feet. Therefore, the laboratory data for this site indicates that BTEX, TPH (GRO/DRO), and chloride levels are within NMOCD guidelines.

# **APPENDIX I**

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## **Site Diagrams**

### **Great Western Crutchfield Battery #99 Monument, New Mexico**

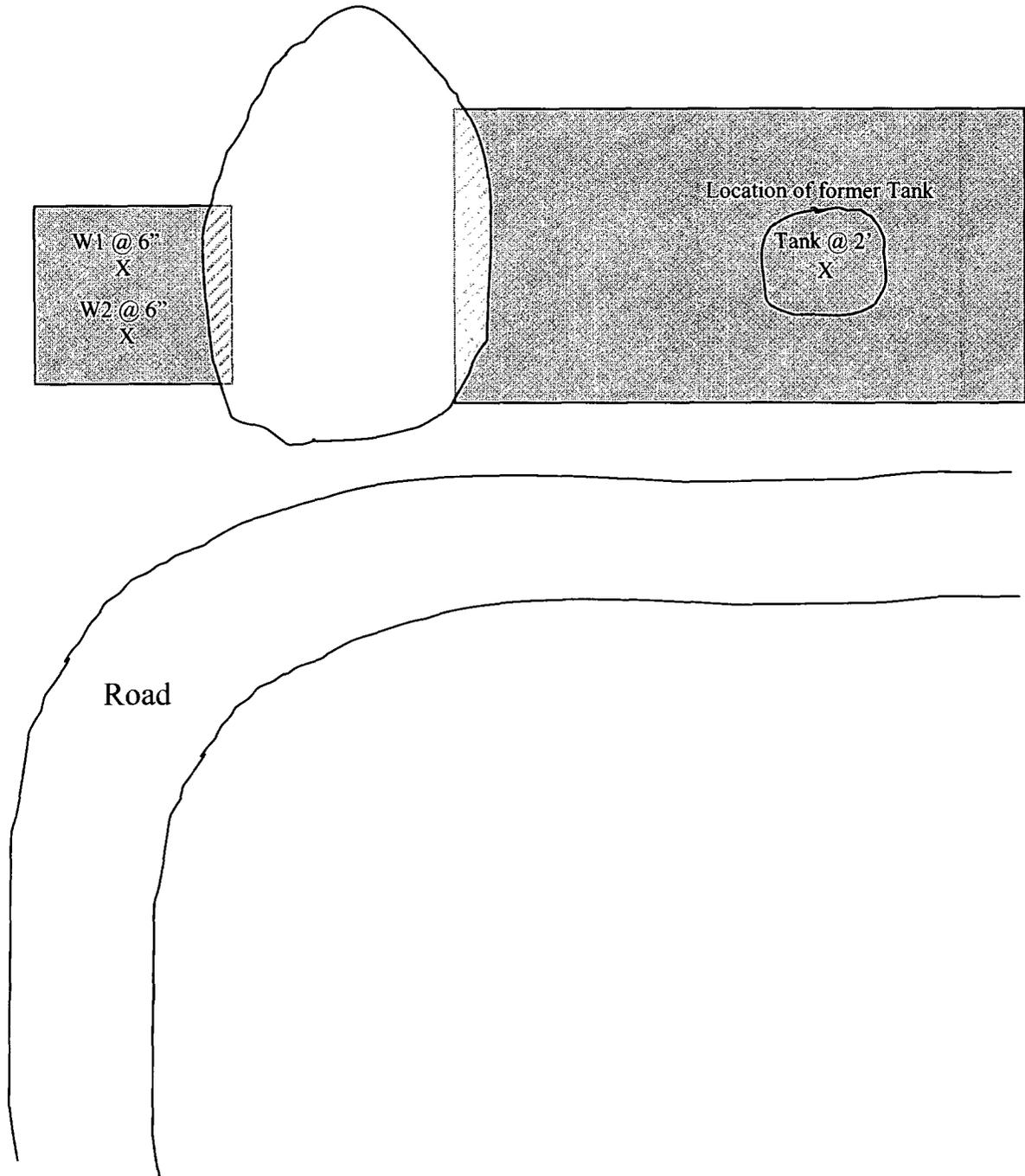
Prepared for:  
Hess Corporation  
Seminole, Texas

**july, 2006**

Prepared by:  
BBC International, Inc.

# HESS CORPORATION GREAT WESTERN CRUTCHFIELD

April 18, 2006



## LEGEND

-  Excavated Material
-  Sample Points
-  Excavated Area

BBC INTERNATIONAL, INC.

**HESS CORPORATION  
GREAT WESTERN CRUTCHFIELD**

Date: 7-25-06

Drawn By: JG

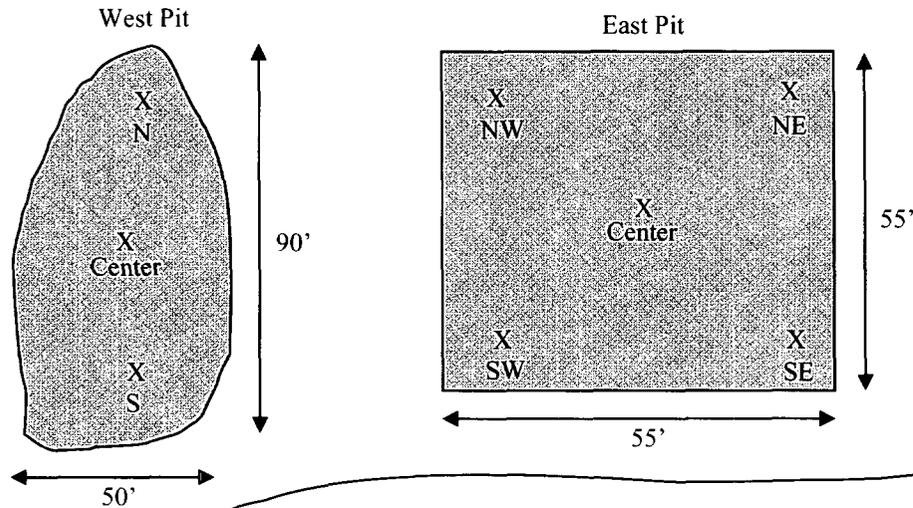
Disk:

Sheet 1 of 1 Sheets

Scale: Not to Scale

File Name

# HESS CORPORATION GREAT WESTERN CRUTCHFIELD



Road

May 3, 2006

West Pit

East Pit

**Sample  
Names & Depths**

West Pit - N @ 1'  
West Pit - Center @ 1'  
West Pit - S @ 1'

**Sample  
Names & Depths**

East Pit - NW @ 3'  
East Pit - NE @ 3'  
East Pit - Center @ 3'  
East Pit - SW @ 3'  
East Pit - SE @ 3'

May 10, 2006

**Sample**

**Names & Depths**  
East Pit - NE @ 8'

May 22, 2006

**Sample**

**Names & Depths**  
East Pit - NE @ 9'

**LEGEND**

X Sample Points

 Excavated Area

BBC INTERNATIONAL, INC.

**HESS CORPORATION  
GREAT WESTERN CRUTCHFIELD**

Date: 7-25-06

Drawn By: JG

Disk:

Sheet 1 of 1 Sheets

Scale: Not to Scale

File Name

# **APPENDIX II**

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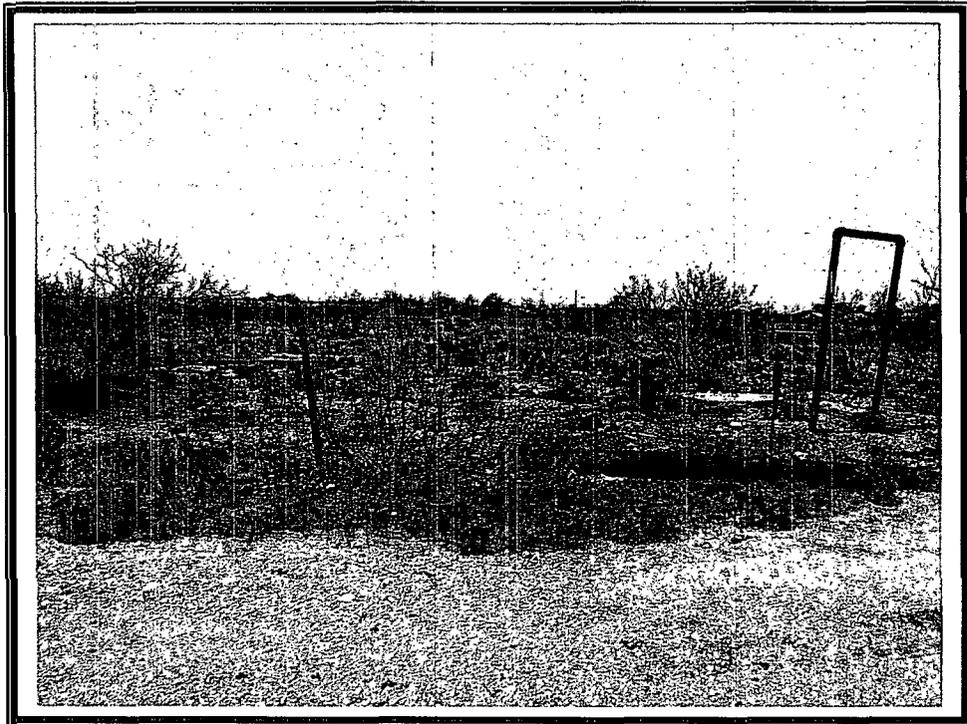
## **Laboratory Analytical Results**

**Great Western Crutchfield Battery #99**  
Monument, New Mexico

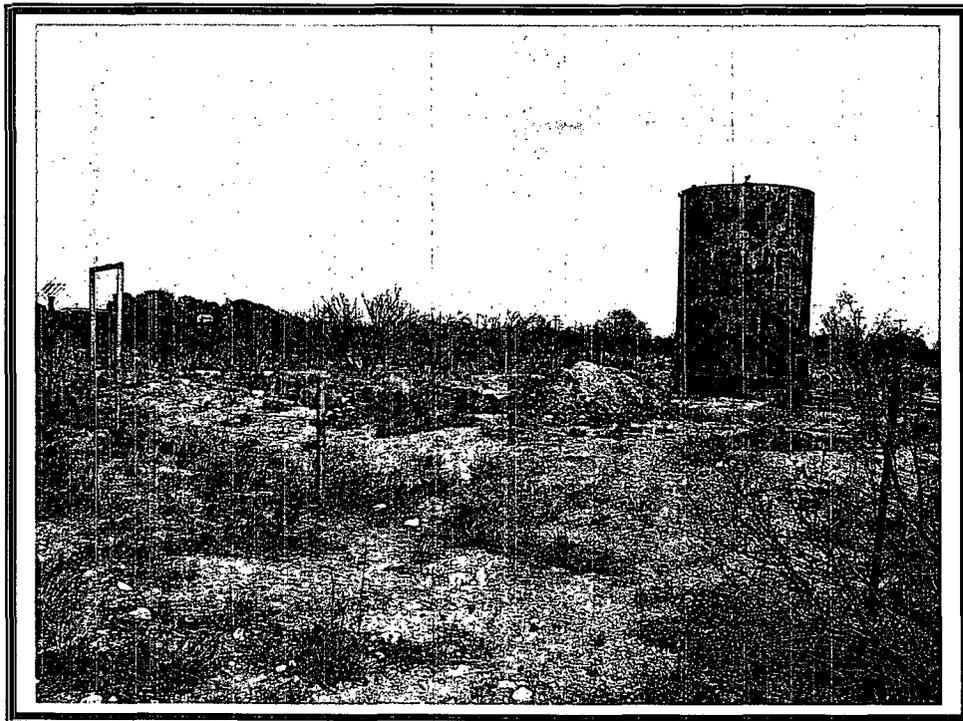
Prepared for:  
Hess Corporation  
Seminole, Texas

**July, 2006**

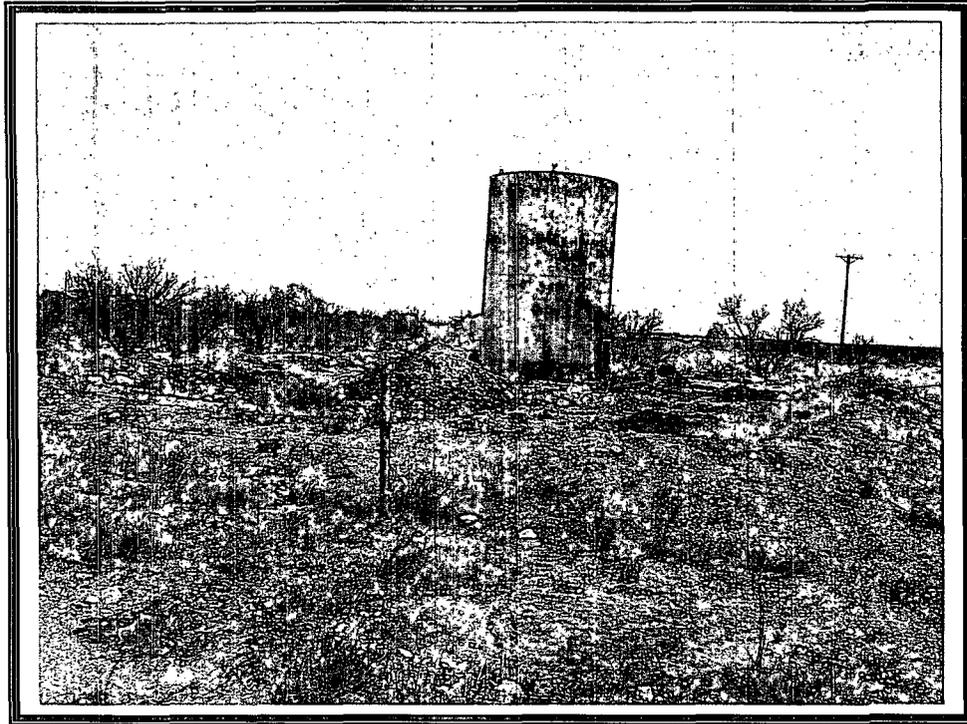
Prepared by:  
BBC International, Inc.



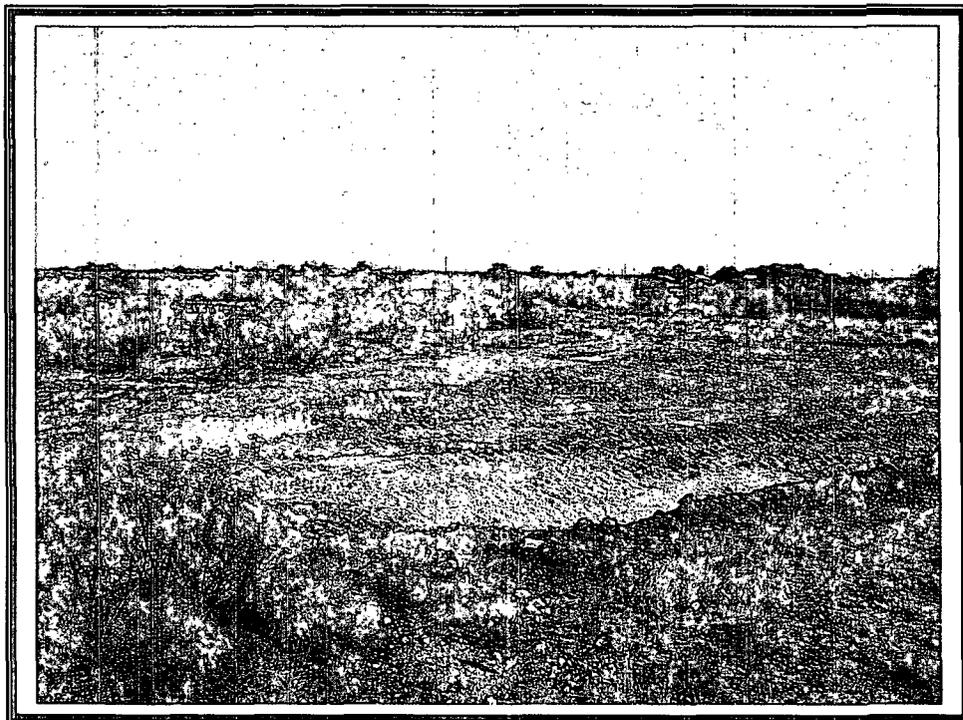
West section of Great Western Crutchfield Battery #99



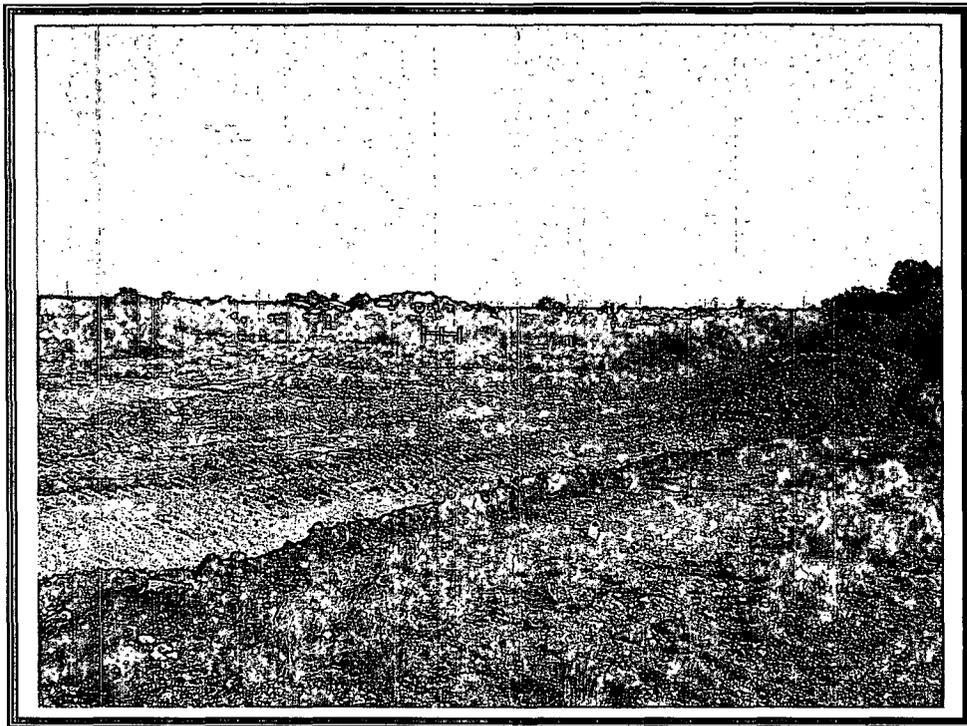
East section of Great Western Crutchfield Battery #99



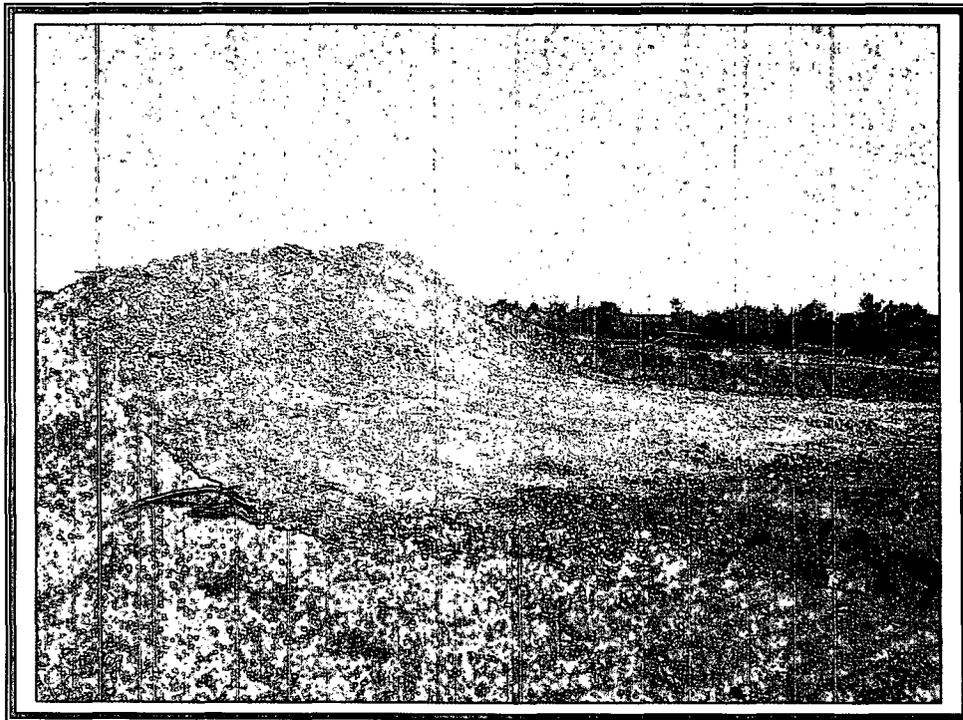
East section of Great Western Crutchfield Battery #99



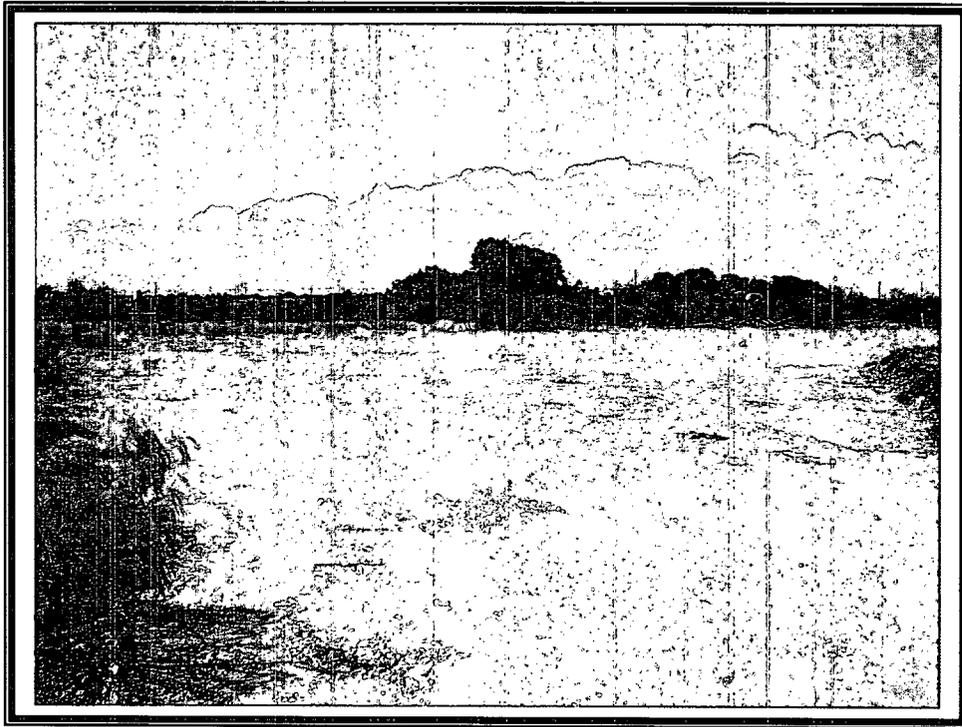
East section of Great Western Crutchfield Battery #99



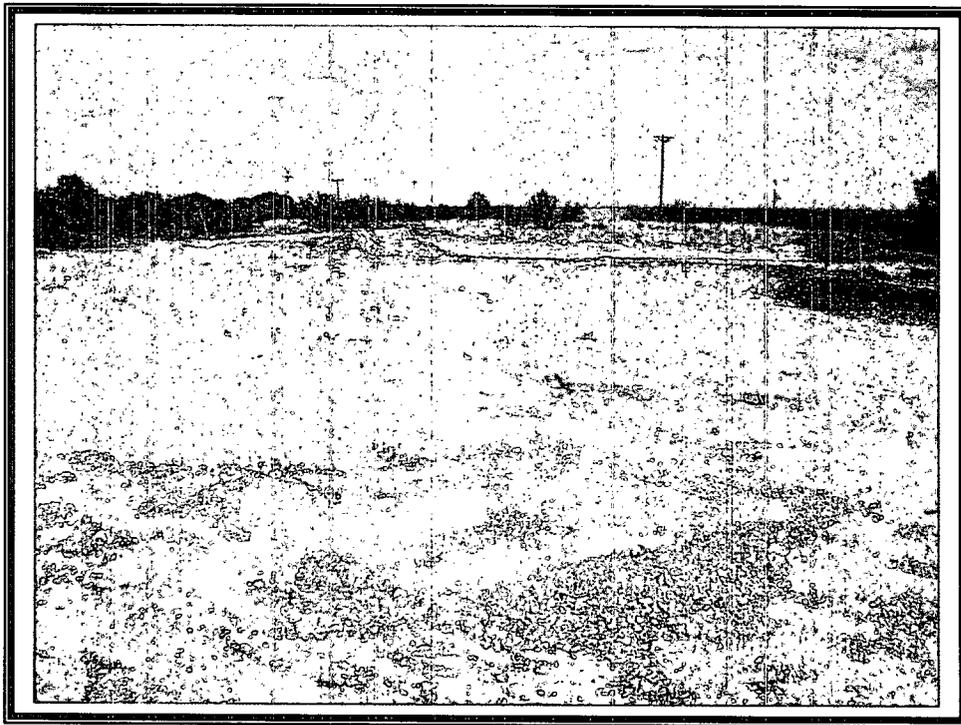
East section of Great Western Crutchfield Battery #99



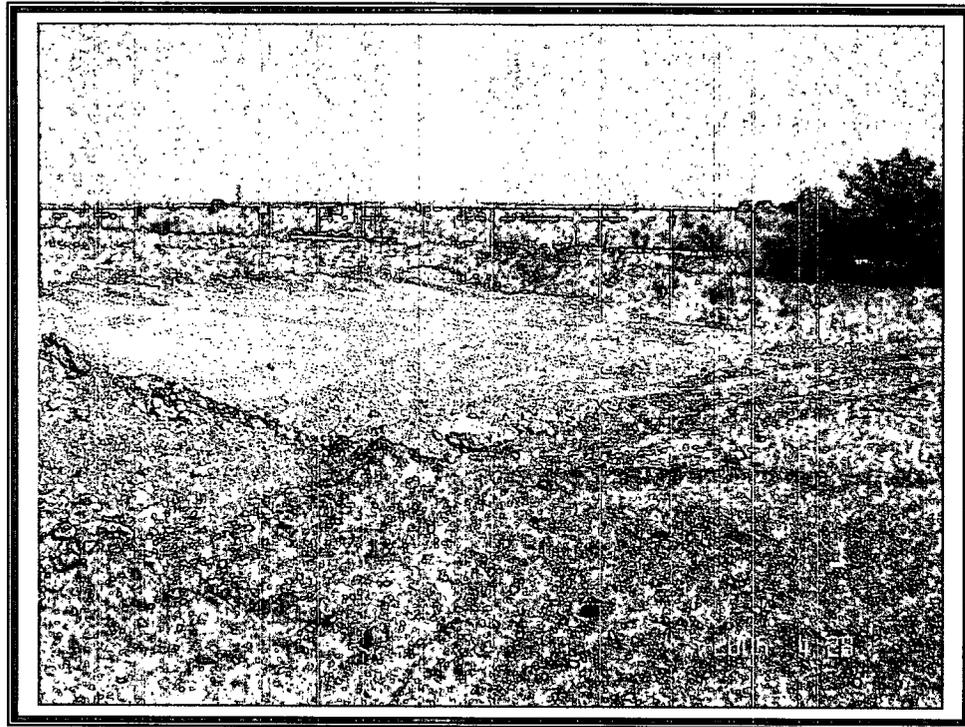
East section of Great Western Crutchfield Battery #99



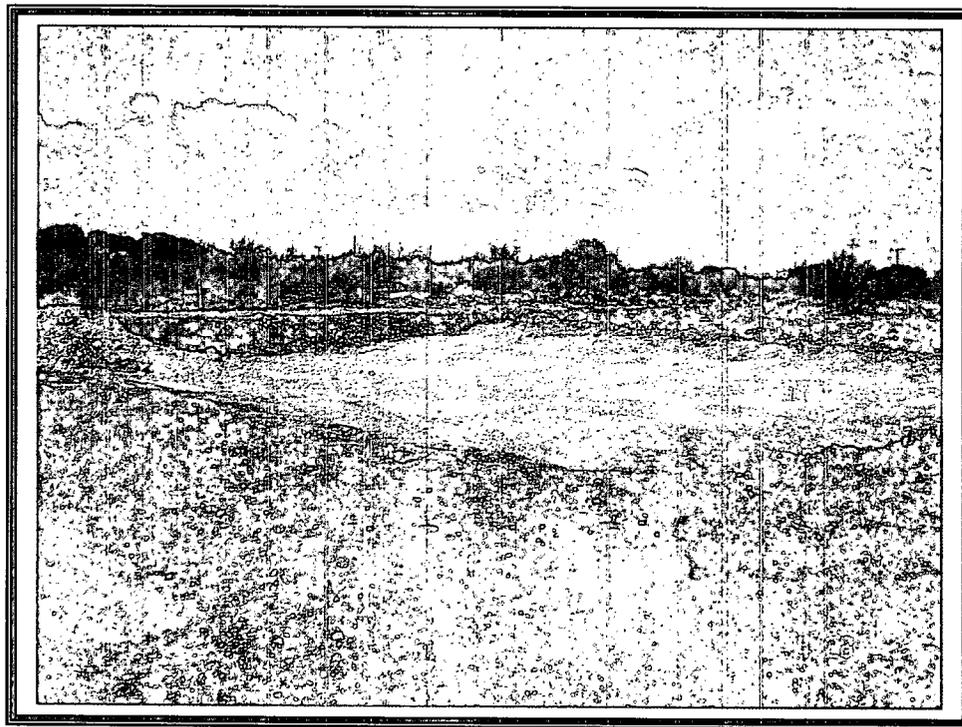
West section of Great Western Crutchfield Battery #99



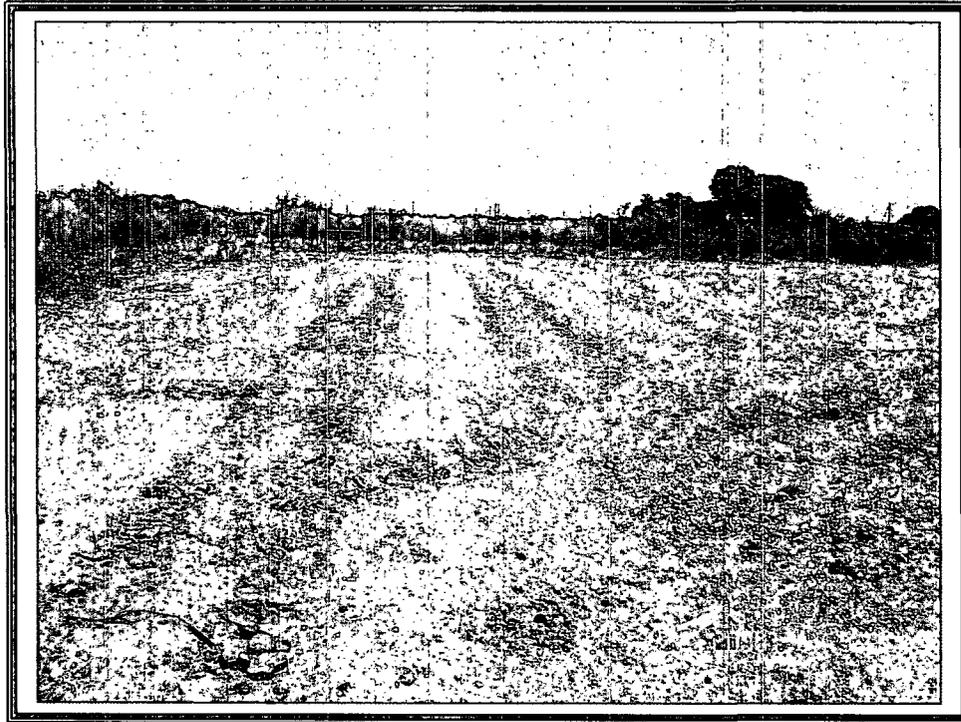
Great Western Crutchfield Battery #99



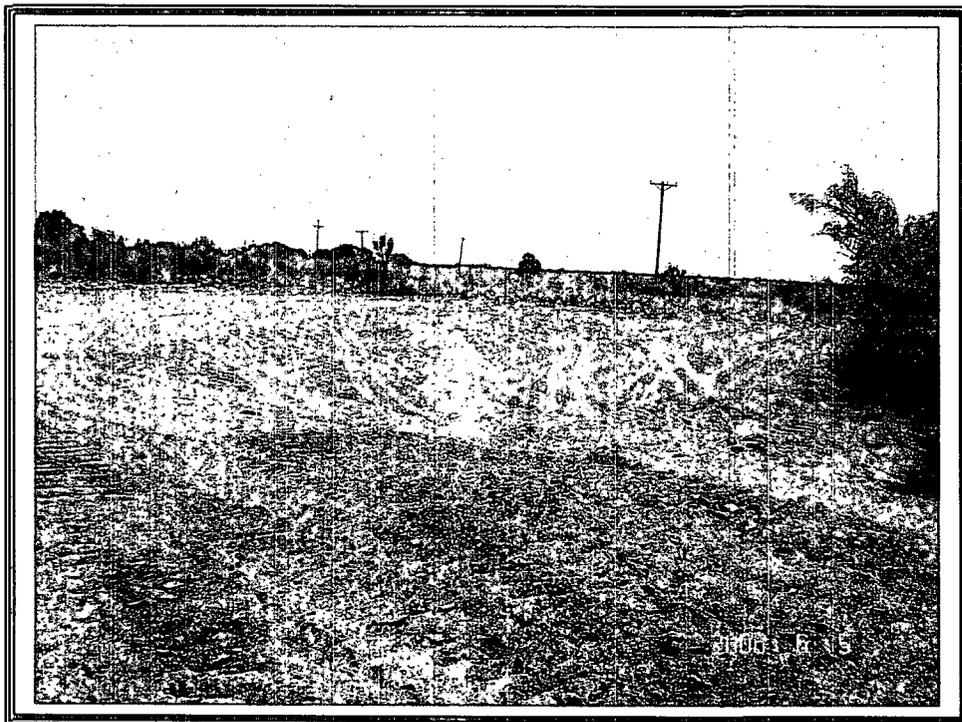
East section of Great Western Crutchfield Battery #99



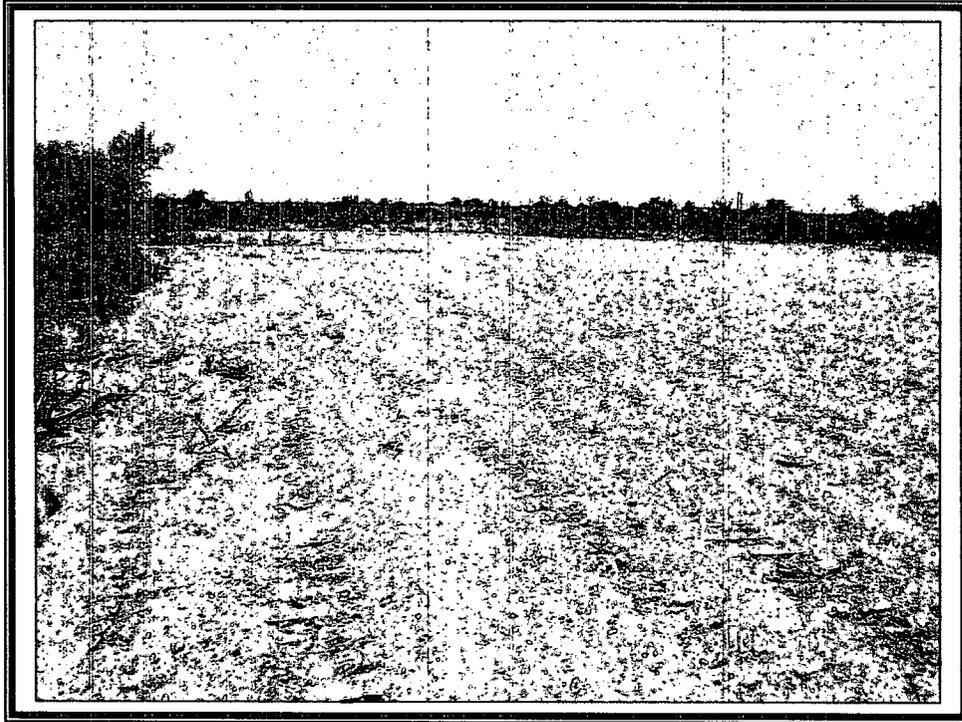
East section of Great Western Crutchfield Battery #99



Backfilled Great Western Crutchfield Battery #99



Backfilled Great Western Crutchfield Battery #99



Backfilled Great Western Crutchfield Battery #99

# **APPENDIX III**

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## **Site Photographs**

### **Great Western Crutchfield Battery #99 Monument, New Mexico**

Prepared for:  
Hess Corporation  
Seminole, Texas

**July, 2006**

Prepared by:  
BBC International, Inc.



**ARDINAL  
LABORATORIES**

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

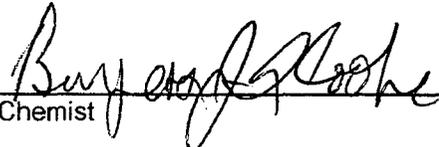
Receiving Date: 04/18/06  
Reporting Date: 04/21/06  
Project Number: MONUM 06ES001  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 04/18/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: BC/AB

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)	Cl* (mg/Kg)
ANALYSIS DATE		04/19/06	04/19/06	04/19/06
H11039-1	WEST 1 @ 6"	<10.0	<10.0	<16
H11039-2	WEST 2 @ 6"	<10.0	25.1	<16
H11039-3	TANK	<10.0	<10.0	32
Quality Control		757	731	500
True Value QC		800	800	500
% Recovery		94.7	91.4	100
Relative Percent Difference		2.1	0.7	0.0

METHODS: TPH GRO & DRO: EPA SW-846.8015 M; Cl: Std. Methods 4500-Cl'B

\*Analyses performed on 1:4 w:v aqueous extracts.

  
Chemist

4/21/06  
Date

H11039A



# ARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

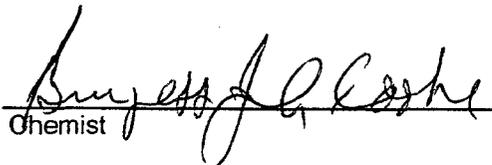
ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

Receiving Date: 04/18/06  
Reporting Date: 04/21/06  
Project Number: MONUM 06ES001  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 04/18/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		04/20/06	04/20/06	04/20/06	04/20/06
H11039-1	WEST 1 @ 6"	<0.005	<0.005	<0.005	<0.015
H11039-2	WEST 2 @ 6"	<0.005	0.018	0.012	0.025
H11039-3	TANK	<0.005	<0.005	<0.005	<0.015
Quality Control		0.090	0.092	0.091	0.278
True Value QC		0.100	0.100	0.100	0.300
% Recovery		90.3	92.4	90.5	92.7
Relative Percent Difference		1.0	0.4	1.4	5.0

METHOD: EPA SW-846 8260

  
Chemist

4/21/06  
Date

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

**CARDINAL LABORATORIES, INC.**  
 2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
 (915) 673-7001 Fax (915) 873-7020 (505) 393-2326 Fax (505) 393-2478

Company Name: BBC International, Inc. P.O. # 45-157156  
 Project Manager: Cliff Brunson Company: Amerada Hess  
 Address: 1324 W. Marland Attn: Randy Barnes  
 City: Hobbs State: NM Zip: 88240  
 Phone #: 505-397-6388 Fax #: 505-397-0397  
 Project #: MONUM 06ES001 Project Owner: Amerada Hess City: Seminole  
 Project Name: Great Western Crutchfield State: TX Zip: \_\_\_\_\_  
 Project Location: Monument Phone #: \_\_\_\_\_  
 Sampler Name: Amy Ruth Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	Matrix	PRESERV.			DATE	TIME
			ICE/COOL	ACID/BASE	OTHER		
H11039-1	West 1 @ 6"	SOIL	✓			4/18/06	142pm
-2	West 2 @ 6"	WASTEWATER	✓			4/18/06	145pm
-3	Tank	GROUNDWATER	✓			4/18/06	150pm
		# CONTAINERS					
		(G)RAB DR (COMP.					
		SLUDGE					
		CRUDE OIL					
		OTHER:					
		OTHER:					

Chloride  
 TPH 8815 MOD  
 BTEX

Terms and Conditions: I'll not be charged an amount more than 30 days past due at the rate of 2 1/2% per month from the original date of invoice, and at cost of collection, including attorney's fee.

PLEASE NOTE: Liability and Damages: Cardinal's liability for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the sample. No other liability shall be assumed unless stated in writing and received by Cardinal within 30 days after completion of the applicable service. In the event you Cardiac be liable for trademark or consequential damages, including various tortious, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors, such as or made in the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received By: (Lab Staff) \_\_\_\_\_ Date: 4/18/06 Time: 3:55 pm  
 Checked By: (Initials) \_\_\_\_\_  
 Sample Condition: Cool Intact  Yes  No

Sampler Relinquished: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Delivered By: (Circle One) Amy Ruth  
 Sampler - UPS - Bus - Other: \_\_\_\_\_

Phone Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 Fax Result:  Yes  No Add'l Fax #: \_\_\_\_\_

REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2478.



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ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

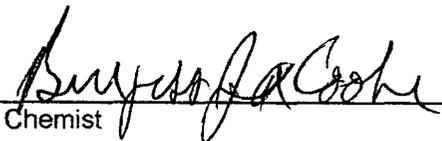
Receiving Date: 05/04/06  
Reporting Date: 05/08/06  
Project Number: MONUM 06ES001  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 05/03/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: BC/AB

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)	Cl* (mg/Kg)
ANALYSIS DATE		05/05/06	05/05/06	05/04/06
H11084-1	EAST PIT SW @ 3'	<10.0	<10.0	16
H11084-2	EAST PIT SE @ 3'	<10.0	<10.0	16
H11084-3	EAST PIT CENTER @ 3'	<10.0	<10.0	16
H11084-4	EAST PIT NE @ 3'	<10.0	<10.0	736
H11084-5	EAST PIT NW @ 3'	<10.0	<10.0	32
H11084-6	WEST PIT N @ 1'	<10.0	<10.0	<8
H11084-7	WEST PIT CENTER @ 1'	<10.0	<10.0	32
H11084-8	WEST PIT S @ 1'	<10.0	<10.0	<8
Quality Control		553	517	990
True Value QC		500	500	1000
% Recovery		111	103	99.0
Relative Percent Difference		5.8	9.0	2.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl'B

\*Analyses performed on 1:4 w:v aqueous extracts.

  
Chemist

  
Date

H11084A

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.



# ARDINAL LABORATORIES

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ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

Receiving Date: 05/04/06  
Reporting Date: 05/08/06  
Project Number: MONUM 06ES001  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 05/03/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: HM  
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		05/05/06	05/05/06	05/05/06	05/05/06
H11084-1	EAST PIT SW @ 3'	<0.005	<0.005	<0.005	<0.015
H11084-2	EAST PIT SE @ 3'	<0.005	<0.005	<0.005	<0.015
H11084-3	EAST PIT CENTER @ 3'	<0.005	<0.005	<0.005	<0.015
H11084-4	EAST PIT NE @ 3'	<0.005	<0.005	<0.005	<0.015
H11084-5	EAST PIT NW @ 3'	<0.005	<0.005	<0.005	<0.015
H11084-6	WEST PIT N @ 1'	<0.005	<0.005	<0.005	<0.015
H11084-7	WEST PIT CENTER @ 1'	<0.005	<0.005	<0.005	<0.015
H11084-8	WEST PIT S @ 1'	<0.005	<0.005	<0.005	<0.015
Quality Control		0.094	0.092	0.093	0.294
True Value QC		0.100	0.100	0.100	0.300
% Recovery		94.4	92.0	93.4	97.9
Relative Percent Difference		1.3	0.4	1.9	3.0

METHOD: EPA SW-846 8260

  
Chemist

5/8/06  
Date

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
 (915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2478

Company Name: BBC International, Inc. P.O. #: 45-157156  
 Project Manager: Cliff Brunson Company: Amerad Hess  
 Address: 1324 W. Marland Attn: Randy Barnes  
 City: Hobbs State: NM Zip: 88240  
 Phone #: 505-397-6388 Fax #: 505-397-0397  
 Project #: MONUM 06ES 001 Project Owner: Amerad Hess  
 Project Name: Great Western Crutchfield City: Seminole  
 Project Location: Monument State: TX Zip: \_\_\_\_\_  
 Sampler Name: Amy Ruth Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(C) RAB OR (C) OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL:	OTHER:	DATE	TIME	Chloride	TPH (ARD/DRO) 8015 M	BTEX
H11084-1	East Pit SW @ 3'	G	1										5/3/06	836 am	✓	✓	✓
-2	East Pit SE @ 3'	G	1										5/3/06	838 am	✓	✓	✓
-3	East Pit Center @ 3'	G	1										5/3/06	841 am	✓	✓	✓
-4	East Pit NE @ 3'	G	1										5/3/06	844 am	✓	✓	✓
-5	East Pit NW @ 3'	G	1										5/3/06	847 am	✓	✓	✓
-6	West Pit N @ 1'	G	1										5/3/06	850 am	✓	✓	✓
-7	West Pit Center @ 1'	G	1										5/3/06	853 am	✓	✓	✓
-8	West Pit S @ 1'	G	1										5/3/06	855 am	✓	✓	✓

PLEASE NOTE: Liberty and Deming. Cardinal's liability and other limitations (except for any claim which is based on tort, fraud or willful and wanton conduct) shall be limited to the amount paid by the client for the service. No other remedies shall be available. Cardinal is not responsible for any other cause whatsoever that is claimed which is based on negligence or other cause whatsoever. In no event shall Cardinal be liable for consequential or consequential damages, including without limitation, business interruptions, loss of data, or loss of profits incurred by client, its subsidiaries, affiliates or subcontractors arising out of or resulting from the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated tortious or other causes.

Sampler Relinquished: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date: 5/4/06 Time: 11:00 am  
 Relinquished By: \_\_\_\_\_  
 Delivered By: (Circle One) Amy Ruth  
 Sampler - UPS - Bus - Other: \_\_\_\_\_  
 Checked By: \_\_\_\_\_ (Initials)  
 Sample Condition: Cool Intact  Yes  No  No  
 Remarks: \_\_\_\_\_  
 Phone Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 Fax Result:  Yes  No Add'l Fax #: \_\_\_\_\_

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2478.



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LABORATORIES**

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88240  
FAX TO: (505) 397-0397

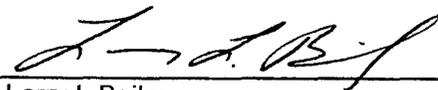
Receiving Date: 05/11/06  
Reporting Date: 05/16/06  
Project Owner: AMERADA HESS  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 05/10/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: NF  
Analyzed By: BC/HM

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)	Cl* (mg/Kg)
ANALYSIS DATE		05/12/06	05/12/06	05/11/06
H11106-1	CRUTCHFIELD NE 8'	<10.0	<10.0	384
Quality Control		784	773	500
True Value QC		800	800	500
% Recovery		98.0	96.6	100
Relative Percent Difference		3.1	0.4	0.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-ClB

\*Analysis performed on a 1:4 w:v aqueous extract.

  
Larry L. Bailey

5/16/06  
Date

H11106A



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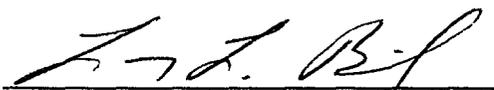
ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88240  
FAX TO: (505) 397-0397

Receiving Date: 05/11/06  
Reporting Date: 05/16/06  
Project Owner: AMERADA HESS  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 05/10/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: NF  
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		05/12/06	05/12/06	05/12/06	05/12/06
H11106-1	CRUTCHFIELD NE 8'	<0.005	<0.005	<0.005	<0.015
Quality Control		0.094	0.101	0.098	0.307
True Value QC		0.100	0.100	0.100	0.300
% Recovery		93.4	101	97.9	102.0
Relative Percent Difference		0.2	7.9	7.2	7.8

METHOD: EPA SW-846 8260

  
Larry L. Bailey

5/16/06  
Date

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

Receiving Date: 05/23/06  
Reporting Date: 05/24/06  
Project Owner: AMERADA HESS  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 05/22/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: LB  
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)	Cl* (mg/Kg)
ANALYSIS DATE		05/23/06	05/23/06	05/24/06
H11148-1	CRUTCHFIELD NE	<10.0	13.5	32
Quality Control		778	763	480
True Value QC		800	800	500
% Recovery		97.3	95.4	96.0
Relative Percent Difference		3.5	7.5	3.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-ClB

\*Analysis performed on a 1:4 w:v aqueous extract.

*Burgess A. Cooke*  
Chemist

5/24/06  
Date

H11148A



**ARDINAL  
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PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
BBC INTERNATIONAL, INC.  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

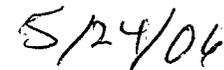
Receiving Date: 05/23/06  
Reporting Date: 05/24/06  
Project Owner: AMERADA HESS  
Project Name: GREAT WESTERN CRUTCHFIELD  
Project Location: MONUMENT, NM

Sampling Date: 05/22/06  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: LB  
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		05/24/06	05/24/06	05/24/06	05/24/06
H11148-1	CRUTCHFIELD NE	<0.005	<0.005	<0.005	<0.015
Quality Control		0.092	0.101	0.090	0.273
True Value QC		0.100	0.100	0.100	0.300
% Recovery		92.1	101	90.3	91.1
Relative Percent Difference		2.3	7.6	1.0	1.2

METHOD: EPA SW-846 8260

  
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. The firm and 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.



# **APPENDIX IV**

---

## **Correspondences**

### **Great Western Crutchfield Battery #99 Monument, New Mexico**

Prepared for:  
Hess Corporation  
Seminole, Texas

**July, 2006**

Prepared by:  
BBC International, Inc.

**Amy C. Ruth**

---

**From:** Sheeley, Paul, EMNRD [paul.sheeley@state.nm.us]  
**Sent:** Tuesday, May 09, 2006 9:27 AM  
**To:** Amy C. Ruth  
**Subject:** RE: Amerada Hess Monument Batteries--Sampling Event

Thank you. Maybe I can make it.  
Paul Sheeley

---

**From:** Amy C. Ruth [mailto:Amy@bbcinternational.com]  
**Sent:** Mon 5/8/2006 4:02 PM  
**To:** Sheeley, Paul, EMNRD  
**Cc:** 'Barnes, Randy'; jbaker@hess.com; Jennifer  
**Subject:** Amerada Hess Monument Batteries--Sampling Event

Paul,

Last week BBC collected final samples at the Great Western Crutchfield and the Chevron Graham batteries. Lab results show that TPH's are all within guidelines, however, chlorides show 736 ppm in the northeast corner of the east pit at the Crutchfield and 480 ppm in the southwest corner of the pit at the Chevron Graham. These areas will be further excavated and closing samples will be collected from the sample points in question at both sites on Wednesday, May 10, 2006 at 2:00 pm.

The Great Western Crutchfield will be sampled first, and is located southwest of the intersection at the Monument Café (at the first cattle guard south of the main intersection). The Chevron Graham is located immediately west of the Cooper water station on Maddox Road. Following are legals and GPS coordinates for your convenience.

**Great Western Crutchfield**

Unit Letter H, Sec 32, T-19S, R-37E

N 32° 37.134'  
W 103° 16.035'

**Chevron Graham**

Unit Letter J, Sec 24, T-19S, R-36E

N 32° 38.536'  
W 103° 18.346'

***If you have questions, please give me a call.***

Thank you,

***Amy C. Ruth***  
Environmental Scientist

7/28/2006

BBC International, Inc.  
Phone: 505-397-6388  
Cell: 505-441-5252

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**Amy C. Ruth**


---

**From:** Amy C. Ruth [Amy@bbcinternational.com]  
**Sent:** Thursday, May 18, 2006 7:13 AM  
**To:** 'Sheeley, Paul, EMNRD'  
**Cc:** 'Barnes, Randy'; 'jbaker@hess.com'; Jennifer (jgilkey@bbcinternational.com)  
**Subject:** Amerada Hess Monument Batteries--Sampling Event

Paul,

The sites mentioned below in the email that was sent to you on Monday May 8, 2006 were resampled as described. Lab results for the sample points at both sites are still above the 250 ppm chloride requirement. The sample at the Crutchfield was about 384 ppm at 8' and the Chevron Graham was 320 ppm at 4.5'. These sample points will be further excavated and field screened. Closing samples will be collected for each of the sites at 9:00 am Monday May 22, 2006, beginning with the Crutchfield site. Find legals and GPS coordinates below for your convenience.

Thank you,

Amy

---

**From:** Amy C. Ruth [mailto:Amy@bbcinternational.com]  
**Sent:** Monday, May 08, 2006 4:03 PM  
**To:** 'Sheeley, Paul, EMNRD'  
**Cc:** 'Barnes, Randy'; 'jbaker@hess.com'; Jennifer (jgilkey@bbcinternational.com)  
**Subject:** Amerada Hess Monument Batteries--Sampling Event

Paul,

Last week BBC collected final samples at the Great Western Crutchfield and the Chevron Graham batteries. Lab results show that TPH's are all within guidelines, however, chlorides show 736 ppm in the northeast corner of the east pit at the Crutchfield and 480 ppm in the southwest corner of the pit at the Chevron Graham. These areas will be further excavated and closing samples will be collected from the sample points in question at both sites on Wednesday, May 10, 2006 at 2:00 pm.

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**Great Western Crutchfield**

Unit Letter H, Sec 32, T-19S, R-37E

N 32° 37.134'  
W 103° 16.035'

**Chevron Graham**

Unit Letter J, Sec 24, T-19S, R-36E

N 32° 38.536'  
W 103° 18.346'

7/28/2006

*If you have questions, please give me a call.*

Thank you,

*Amy C. Ruth*  
Environmental Scientist  
BBC International, Inc.  
Phone: 505-397-6388  
Cell: 505-441-5252

**Amy C. Ruth**

---

**From:** Amy C. Ruth [Amy@bbcinternational.com]  
**Sent:** Tuesday, May 30, 2006 8:52 AM  
**To:** 'Sheeley, Paul, EMNRD'  
**Cc:** 'Barnes, Randy'; 'jbaker@hess.com'; Jennifer (jgilkey@bbcinternational.com)  
**Subject:** Hess Corporation Abandoned Battery Sites in Monument

Paul,

Final samples from the Great Western Crutchfield and the Chevron Graham locations were within guidelines. Hess Corporation will begin backfilling those sites tomorrow morning. Please call me if you have any questions. Thank you.

*Amy C. Ruth*  
Environmental Scientist  
BBC International, Inc.  
Phone: 505-397-6388  
Cell: 505-441-5252