



# CONOCOPHILLIPS

## MCA BATTERY 1 TRUNKLINE LEAK

### ENVIRONMENTAL SITE INVESTIGATION

PERFORMED 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)

**AUGUST 23, 2005**

PREPARED FOR:

**MR. KEN ANDERSEN**  
**CONOCOPHILLIPS**  
**P.O. BOX 180**  
**MALJAMAR, NM 88264-0180**





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**  
Governor  
**Joanna Prukop**  
Cabinet Secretary

**Mark E. Fesmire, P.E.**  
Director  
Oil Conservation Division

September 15, 2005

Ken Anderson  
Conoco Phillips  
POB 180  
Maljamar, NM 88264-0180

Re: Work Plan Approval  
MCA Unit Battery #1  
Dated: 08/23/05  
UL-E, Sec 29-T17S-R32E

The remediation closure referenced above and submitted to the New Mexico Oil Conservation Division (OCD) for ConocoPhillips by BBC is hereby approved according to the information provided.

Please be advised that OCD approval of this plan does not relieve ConocoPhillips of liability should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. In addition, OCD approval does not relieve ConocoPhillips of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance please write or call: (505) 393-6161, ext. 113, or e-mail: [psheeley@state.nm.us](mailto:psheeley@state.nm.us)

Sincerely,

Paul Sheeley-Environmental Engineer

Cc: Roger Anderson - Environmental Bureau Chief  
Chris Williams - District I Supervisor  
Larry Johnson - Environmental Engineer  
Ken Swinny - BBC

# **ConocoPhillips**

## **MCA Battery 1 Trunkline Leak**

### **(10-19-04)**

#### **1.0 INTRODUCTION**

On July 18, 2005 Ken Swinney and Cliff Brunson of BBC International, Inc. (BBC) met with Paul Sheeley of the New Mexico Oil Conservation Division (NMOCD) to discuss a surface remediation closure plan for the ConocoPhillips MCA Battery 1 Trunkline site in lieu of the excavation/liner plan approved by the NMOCD on January 6, 2005.

The purpose of the meeting was to discuss the potential of exploring for a sub-surface naturally-occurring impermeable barrier at the site that would serve as a protection barrier to groundwater instead of the use of a geosynthetic liner that had been previously approved. In addition, if a barrier was found or no groundwater was encountered within 100 feet of the surface, then a surface remediation plan would be proposed instead of excavation, disposal, and installation of a geosynthetic liner that had been previously proposed and approved.

Mr. Sheeley stated that a naturally occurring impermeable barrier could be used if it were above groundwater, and of sufficient area and thickness. Mr. Sheeley also stated that a barrier may not be required if there were no groundwater to protect. The requirement for "no groundwater to protect" would be a soil boring drilled to at least 100 feet below ground surface (bgs) that does not encounter groundwater. Vertical delineation of the site to 250 ppm of chloride would also be required.

#### **2.0 SITE INVESTIGATION ACTIVITIES**

On August 3, 2005, BBC personnel mobilized to the site with an air rotary drilling rig and equipment to drill and sample the site. The objectives of the investigation were to determine the existence of a naturally occurring impermeable barrier of sufficient area and thickness, to vertically delineate the site to 250 ppm chlorides, and to determine if groundwater is present at the site. A soil boring was advanced to 138 feet bgs and samples were taken at 5' intervals. The samples were screened using field chloride titration analysis. All samples from 5' to 70' and the bottom sample at 138' were taken to Cardinal Laboratories for chloride analysis.

Mr. Steven Bond, BBC's geologist, was on location for the entire drilling operation to determine if a natural impermeable barrier exists at the location and

if groundwater is present. No evidence of an impermeable barrier was encountered in the soil boring and Mr. Bond stated in his "Summary of Test Boring MCA Battery1 injection line leak" that: It is unlikely that a saturated zone (groundwater) will be encountered in the Dockum Group. The geologist summary and soil boring log can be reviewed in Appendix I. The laboratory analysis reports can be reviewed in Appendix II.

### **3.0 CONCLUSION AND RECOMMENDATION**

Although no evidence of a naturally occurring impermeable barrier was found, groundwater also was not found, and laboratory analysis shows that the chloride impact drops to 768 ppm at 35' bgs and to 176 ppm at 50' bgs. Therefore, BBC concludes that an excavation and liner installation is not warranted at this site.

Due to the sensitivity of this site as a dune lizard habitat, BBC recommends surface remediation to restore vegetation and cause minimal disturbance to the habitat. This remediation would consist of plowing and discing the site and the addition of gypsum and fertilizer or humate. The site would then be reseeded with appropriate BLM seed mix, watered, and closed.

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 <b>ConocoPhillips Company</b>	Contact <b>Kenneth N. Andersen</b>
Address <b>4001 Penbrook, Odessa, TX 79762</b>	Telephone No. <b>505.676.2371.5569</b>
Facility Name <b>MCA Unit Btry # 1</b>	Facility Type <b>Oil and Gas</b>

Surface Owner <b>BLM</b>	Mineral Owner <b>BLM</b>	Lease No <b>LC - 029410A</b>
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**LOCATION OF RELEASE**

Unit Letter <b>E</b>	Section <b>29</b>	Township <b>17S</b>	Range <b>32E</b>	Feet from the <b>1395</b>	North/South Line <b>North</b>	Feet from the <b>1295</b>	East/West Line <b>West</b>	County <b>Lea Co., NM</b>
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Latitude **32.81186N** Longitude **103.79115W**

**NATURE OF RELEASE**

Type of Release <b>Produced Water</b>	Volume of Release <b>90 bbl (0 oil, 90 water)</b>	Volume Recovered <b>(0 oil, 80 water)</b>
Source of Release <b>MCA Btry # 1 4" fiberglass produced water transfere trunk line ~ 400 yrds NNE of MCA # 369.</b>	Date and Hour of Occurrence <b>10/19/04 @ 1330hrs</b>	Date and Hour of Discovery <b>10/19/04 @ 1400hrs</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Silvia Dickey</b>	
By Whom? <b>Ken Andersen</b>	Date and Hour <b>10/20/04 @ 1100hrs</b>	
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.\*  
**The spill was caused by the dresser sleeve bolts corroding allowing the sleeve to come apart and start leaking. The sleeve was removed and a collar and flange where installed.**

Describe Area Affected and Cleanup Action Taken.\*  
**30 ftX55ft of dry sandy grass pasture with no cows present. The site will be sampled and a clean up action will be submitted for approval at a later date.**

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.

<b>OIL CONSERVATION DIVISION</b>	
Signature:	Approved by District Supervisor:
Printed Name: <b>Kenneth N Andersen</b>	Approval Date:
Title: <b>SHEaR Specialist</b>	Expiration Date:
E-mail Address: <b>ken.n.andersen@conocophillips.com</b>	Conditions of Approval:
Date: <b>10/20/04</b> Phone: <b>505.676.2371.5569</b>	Attached <input type="checkbox"/>

- Attach Additional Sheets If Necessary

# Appendix I



PHONE (505) 397-6388 • FAX (505) 397-0397 • 1321 W. MARLAND • P.O. BOX 305 • HOBBS NM 88241-0305  
E-MAIL: [bbc@bbcinternational.com](mailto:bbc@bbcinternational.com)

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### Summary of Test Boring MCA Battery 1 Injection Line Leak

The test boring at the injection line leak site at MCA Battery No. 1 was advanced to a total of 138 feet below ground surface. The boring encountered about 4 feet of Quaternary age aeolian (windblown) sand at the surface resting on a thin layer of caliche. The remainder of the boring encountered sand of the upper part of the Triassic Dockum Group.

The upper 40 feet of the Dockum Group at this location is characterized by dark red, fine grain sand. Very thin poorly cemented sand layers were also encountered in the upper portion of the boring. A slightly moist zone was encountered from about 55 feet to about 75 feet below ground surface. This zone was not saturated and soils below this zone were dry. Grain size in the Dockum Group decreased with depth in the boring. Very thin silty clay layers are common in the lower portion of the boring. Several very thin gravel layers were also encountered from about 80 feet to 138 feet.

It is unlikely that a saturated zone (groundwater) will be encountered in the Dockum Group.







File Number: \_\_\_\_\_

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

1. OWNER OF WELL

Name: ConocoPhillips Work Phone: \_\_\_\_\_  
Contact: \_\_\_\_\_ Home Phone: \_\_\_\_\_  
Address: 1000 Conoco Rd.  
City: Maljamar State: NM Zip: 88264

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. 1/4 1/4 1/4 Section: 29 Township: 17S Range: 32E N.M.P.M.  
in Unit Letter E, Lea Co. County.

B. X = \_\_\_\_\_ feet, Y = \_\_\_\_\_ feet, N.M. Coordinate System  
Zone in the \_\_\_\_\_ Grant.  
U.S.G.S. Quad Map \_\_\_\_\_

C. Latitude: 32 d 48 m 40.2 s Longitude: 103 d 47 m 29.2 s

D. East \_\_\_\_\_ (m), North \_\_\_\_\_ (m), UTM Zone 13, NAD \_\_\_\_\_ (27 or 83)

E. Tract No. \_\_\_\_\_, Map No. \_\_\_\_\_ of the \_\_\_\_\_ Hydrographic Survey

F. Lot No. \_\_\_\_\_, Block No. \_\_\_\_\_ of Unit/Tract \_\_\_\_\_ of the  
\_\_\_\_\_ Subdivision recorded in \_\_\_\_\_ County.

G. Other: \_\_\_\_\_

H. Give State Engineer File Number if existing well: \_\_\_\_\_

I. On land owned by (required): ConocoPhillips

3. DRILLING CONTRACTOR

License Number: WD-1456  
Name: White Drilling Company, Inc. Work Phone: 325-893-2950  
Agent: John W. White Home Phone: 325-893-2950  
Mailing Address: P.O. Box 906  
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD: SB-2

Drilling began: 8/03/05; Completed: 8/03/05; Type tools: Air Rotary;  
Size of hole: 4 3/4 in.; Total depth of well: 138.0 ft.;  
Completed well is: shallow (shallow, artesian);  
Depth to water upon completion of well: DRY ft.

File Number: \_\_\_\_\_ Trn Number: \_\_\_\_\_

Form: wr-20 page 1 of 4

File Number: \_\_\_\_\_

NEW MEXICO OFFICE OF THE STATE ENGINEER  
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA: SB-2

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
138.0	5.0	4 3/4	19		Pour/bentonite pellets
5.0	0.0	4 3/4	2	0.99	Hand mix/cement
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

8. PLUGGING RECORD

Plugging Contractor: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Plugging Method: \_\_\_\_\_  
 Date Well Plugged: \_\_\_\_\_

Plugging approved by: \_\_\_\_\_  
 State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feet of Cement
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____

File Number: \_\_\_\_\_ Trn Number: \_\_\_\_\_





# **Appendix II**



# 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  
ATTN: CLIFF BRUNSON  
P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

Receiving Date: 08/05/05  
Reporting Date: 08/08/05  
Project Number: NONE GIVEN  
Project Name: MCA BATTERY 1 4" TRUNKLINE  
Project Location: MALJAMAR, NM

Analysis Date: 08/06/05  
Sampling Date: 08/03/05  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/L)
H10048-1	SB2@ 5'	3119
H10048-2	SB2@ 10'	6638
H10048-3	SB2@ 15'	4399
H10048-4	SB2@ 20'	3039
H10048-5	SB2@ 25'	3119
H10048-6	SB2@ 30'	3039
H10048-7	SB2@ 35'	768
H10048-8	SB2@ 40'	640
H10048-9	SB2@ 45'	320
H10048-10	SB2@ 50'	176
H10048-11	SB2@ 55'	176
H10048-12	SB2@ 60'	96
H10048-13	SB2@ 65'	144
H10048-14	SB2@ 70'	80
H10048-15	SB2@ 138'	128
Quality Control		1000
True Value QC		1000
% Recovery		100.0
Relative Percent Difference		2

METHOD: Standard Methods 4500-Cl-B

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

*Nick Fullerton*  
Chemist

8/8/05  
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) 393-2476

Company Name: <u>BBC International Inc</u>		P.O. #:		
Project Manager: <u>Clyde Benson</u>		Company:		
Address: <u>1324 W. Marland</u>		Attn: <u>SAME</u>		
City: <u>Hobbs</u>		Address: <u>SAME</u>		
State: <u>NM</u> Zip: <u>88240</u>		City: <u></u>		
Phone #: <u>(505) 397-2388</u> Fax #: <u>(505) 397-0397</u>		State: <u></u> Zip: <u></u>		
Project #: <u></u>		Phone #: <u></u>		
Project Name: <u>MCA Battery / 4" Trunk line</u>		Fax #: <u></u>		
Project Location: <u>Meloyne Dam</u>		Matrix:		
Sampler Name: <u>Ken Skelton</u>		PRESERV.		
FOR LAB USE ONLY		SAMPLING		
Lab I.D.	Sample I.D.	OTHER:	DATE	TIME
H0018-1	SB2 @ 5'	ACID/BASE:	8-3-05	8:53
-2	SB2 @ 10'	ICE / COOL:	8-3-05	8:55
-3	SB2 @ 15'	OTHER:	8-3-05	8:57
-4	SB2 @ 20'	SLUDGE:	8-3-05	8:59
-5	SB2 @ 25'	CRUDE OIL:	8-3-05	9:00
-6	SB2 @ 30'	SOIL:	8-3-05	9:02
-7	SB2 @ 35'	WASTEWATER:	8-3-05	9:03
-8	SB2 @ 40'	GROUNWATER:	8-3-05	9:08
-9	SB2 @ 45'	# CONTAINERS:	8-3-05	9:31
-10	SB2 @ 50'	KG RAB DR (COMP):	8-3-05	9:36

PLEASE NOTE: Samples will be analyzed for any contaminants listed on the attached list. The amount paid by the client for the analysis is based on the number of samples analyzed. Samples not analyzed will be returned to the client. Samples analyzed for contaminants not listed on the attached list will be analyzed at the client's expense. Samples analyzed for contaminants not listed on the attached list will be analyzed at the client's expense. Samples analyzed for contaminants not listed on the attached list will be analyzed at the client's expense.

Received By: Ken Skelton Date: 8-5-05 Time: 14:28

Relinquished By: Annex Hill Date:  Time:

Checked By: Annex Hill (Initials)

Sample Condition:  Intact  Y68  No

Sampler - UPS - Bus - Other:

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL 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) 393-2476

**Company Name:** BAC International, Inc  
**Project Manager:** Cindy Beason  
**Address:** 1324 W. Marland  
**City:** Hobbs  
**State:** N.M. **Zip:** 88240  
**Phone #:** (505) 397-6388 **Fax #:** (505) 397-0397  
**Project #:** \_\_\_\_\_ **Project Owner:** ConocoPhillips  
**Project Name:** MCA Battery 1 4" Trackline  
**Project Location:** Anthony, N.M.  
**Sampler Name:** Ken Sullivan  
**FOR LAB USE ONLY**

Lab I.D.	Sample I.D.	# CONTAINERS	MATRIX				PRESERV.			SAMPLING			
			GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL	OTHER:		
H10018-11	S82 @ 55'	6	✓					✓			8-3-05	9:37	✓
-12	S82 @ 60'	6	✓					✓			8-3-05	9:39	✓
-13	S82 @ 65'	6	✓					✓			8-3-05	9:41	✓
-14	S82 @ 70'	6	✓					✓			8-3-05	9:43	✓
-15	S82 @ 78'	6	✓					✓			8-3-05	10:26	✓

Chloride

**PLEASE NOTE:** Lab's and Client's liability for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All other 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 work. In no event shall Cardinal be liable for professional or consequential damages, including without limitation, business interruption, loss of data, or loss of profits incurred by client, its subsidiaries, affiliates, or successors, agents, or assigns, in connection with the performance of services provided by Cardinal. (Signatures of sampler and client based upon any of the above stated reasons or otherwise.)

**Company Name:** BAC International, Inc  
**Project Manager:** Cindy Beason  
**Address:** 1324 W. Marland  
**City:** Hobbs  
**State:** N.M. **Zip:** 88240  
**Phone #:** (505) 397-6388 **Fax #:** (505) 397-0397  
**Project #:** \_\_\_\_\_ **Project Owner:** ConocoPhillips  
**Project Name:** MCA Battery 1 4" Trackline  
**Project Location:** Anthony, N.M.  
**Sampler Name:** Ken Sullivan  
**FOR LAB USE ONLY**

**Lab I.D.** Sample I.D.

**Received By:** Ken Sullivan  
 Date: 8-5-05  
 Time: 10:38

**Received By: (Lab Staff)** Amy Hill  
 Date: 8-5-05  
 Time: 10:38

**Delivered By: (Circle One)** Sampler - UPS - Bus - Other: \_\_\_\_\_

**Sample Condition** Checked By: (Initials)  
 Code Intact:  Yes  No

**Sampler Relinquished:**  Yes  No  
**Phone Result:**  Yes  No  
**Fax Result:**  Yes  No  
**Additional Phone #:** \_\_\_\_\_  
**Additional Fax #:** \_\_\_\_\_

**REMARKS:**