



# CONOCOPHILLIPS

**GLORIETTA EAST WELL # 01-02 12-23-04**

## 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)

**MAY 3, 2005**

PREPARED FOR:

**MR. STEPHEN R. WILSON**  
**CONOCOPHILLIPS**  
**29 VACUUM COMPLEX RD.**  
**LOVINGTON, NEW MEXICO 88260-9613**

*ConocoPhillips 217817  
incident - NPAC 0605528100  
application - NPAC 0605528322*

# ConocoPhillips

## Glorietta East Well # 01-02

### 12-23-04

#### 1.0 INTRODUCTION

The subject site is located east of Buckeye, New Mexico in ~~Unit Letter K, of Section 28, Township 17 South, and Range 35 East, Lea County, N.M.~~ The site consists of undeveloped rangeland and petroleum production facilities. On ~~December 23, 2004,~~ a hole in a 1 inch nipple on the wellhead of ~~well # 01-02~~ leaked approximately ~~3 bbls of oil and 3 bbls of water~~ with approximately ~~2 bbls of oil and 2 bbls of water~~ being recovered.

#### 2.0 SITE CHARACTERIZATION

The leak area runs north to south from the wellhead across the well location into the pasture on the south end. The impacted area measures approximately ~~182 feet in length and 68 feet wide.~~ A sketch of the leak area including the sample points can be reviewed in Appendix II of this report. Photographs of the site can be reviewed in Appendix III of this report. The surface soil is mostly caliche with some brown topsoil. There is no water source within 1,000 feet of the site. There is no surface water within 1,000 feet of the site. Based on data from the New Mexico Office of the State Engineer, there are three recorded water wells located in Section 28, Township 17 South, and Range 35 East and the average depth to water is ~~70 feet.~~ The bedrock in the Buckeye area is very shallow and at this site is approximately one foot below the surface of the topsoil.

#### 3.0 SITE INVESTIGATION ACTIVITIES

On January 25, 2005, BBC personnel conducted an inspection of the site. Four samples were taken, utilizing hand sampling equipment, at a depth of approximately 1 foot. The samples were taken to Cardinal Laboratories and analyzed for BTEX, TPH (GRO and DRO), and Chlorides. Laboratory analysis for SP1-1' is: GRO – non detect, DRO – non detect, Chlorides – 1940 ppm, Benzene – non detect, Toluene – non-detect, Ethyl Benzene – non detect, and Total Xylenes – non detect. Laboratory analysis for SP2-1' is: GRO – non detect, DRO – non detect, Chlorides – 5440 ppm, Benzene – non detect, Toluene – non-detect, Ethyl Benzene – 0.014 ppm, and Total Xylenes - 0.030 ppm. Laboratory analysis for SP3-1" is: GRO – non detect, DRO – non detect, Chlorides – 14000 ppm, Benzene – non detect, Toluene – non detect, Ethyl Benzene – non detect, Total Xylenes – non detect. Laboratory analysis for Background-1' is: GRO – non detect, DRO – non detect, Chlorides – 96 ppm, Benzene – non detect, Toluene –

non detect, Ethyl Benzene – non detect, Total Xylenes – non detect. Laboratory analytical results for this sampling event can be reviewed in Appendix I of this report and the sample point locations can be seen in the site diagram located in Appendix II of this report. On March 22, 2005 BBC personnel conducted a second sampling event at the site. Previous sample points were relocated using GPS coordinates, and one additional sample point was added. Five samples were taken using a backhoe. Three samples were taken from previous sample points SP1, SP2, and SP3. Two samples were taken from the new sample point SP4. Due to the extremely hard rock layer the deepest sample point was SP2 – 2'. The samples were taken to Cardinal Laboratories and SP4 – 1' was analyzed for BTEX, TPH (GRO and DRO), and Chlorides all other samples were analyzed for Chlorides only. Laboratory analysis for SP1@2' is: Chlorides – 720 ppm. Laboratory analysis for SP2@2.5' is: Chlorides – 1200 ppm. Laboratory analysis for SP3@1.5" is: Chlorides – 1760 ppm. Laboratory analysis for SP4@1' is: GRO – non detect, DRO – non detect, Chlorides – 14400 ppm, Benzene – non detect, Toluene – 0.008 ppm, Ethyl Benzene – non detect, Total Xylenes – non detect. Laboratory analysis for SP4@1.5' is: Chlorides – 3439 ppm. Laboratory analytical results for this sampling event can be reviewed in Appendix I of this report and the sample point locations can be seen in the site diagram located in Appendix II of this report.

#### **4.0 CONCLUSION AND RECOMMENDATION**

The laboratory data for this site indicates that TPH and BTEX concentrations are well below OCD guidelines for areas where depth to groundwater is greater than 50 feet, and the area of greatest chloride contamination is in the near surface portion of the leak area. Taking into consideration that the depth to groundwater in the area is greater than 50 feet, the majority of the leak area is on a compacted caliche well pad, and the existence of the rock layer at a depth of approximately one foot below ground surface, the evidence indicates that the migration of contamination to groundwater is unlikely. Therefore it is recommended that no further action be taken on the well pad. The impacted soil south of the well pad will be excavated to the rock layer at approximately 1 foot below ground surface and disposed of. This soil would be transported to an OCD approved landfarm or disposal site and the site 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

Form C-141  
Revised October 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 <b>ConocoPhillips</b>	Contact <b>Stephen Wilson</b>
Address <b>HC60 Box 66, Lovington, NM</b>	Telephone No. <b>505-396-7962</b>
Facility Name <b>Glorietta East 01-02</b>	Facility Type <b>Oil and Gas</b>

Surface Owner <b>State of NM</b>	Mineral Owner	Lease No <b>30-025-20719</b>
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**LOCATION OF RELEASE**

Unit Letter <b>K</b>	Section <b>28</b>	Township <b>17S</b>	Range <b>35E</b>	Feet from the	North/South Line	Feet from the	East/West Line	County <b>Lea, NM</b>
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Latitude N 32° 48.288' Longitude W 103° 27.898'

**NATURE OF RELEASE**

Type of Release <b>Crude oil and Produced water</b>	Volume of Release <b>6bbl (3oil, 3water)</b>	Volume Recovered <b>(2oil, 2water)</b>
Source of Release <b>Well Head</b>	Date and Hour of Occurrence <b>12-23-04 12:10pm</b>	Date and Hour of Discovery <b>12-23-04 12:00 noon</b>
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.\*  
**Hole in 1" nipple on well head**

Describe Area Affected and Cleanup Action Taken.\*  
**30' x 40' Pad. Vacuum truck out pick free fluid, backhoe out to secure site. A determination will be made as to the need for any further action. If further action is deemed necessary a follow up report will be filed. No cattle in the area.**

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: <b>Stephen R. Wilson</b>		Approved by District Supervisor:	
Title: <b>Sr. SHEAR Specialist</b>		Approval Date:	Expiration Date:
E-mail Address: <b>Stephen.R.Wilson@ConocoPhillips.com</b>		Conditions of Approval:	
Date: <b>01-07-05</b>	Phone: <b>505-396-7962</b>	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

# Spill Report

Facility	Glorieta east 01-02	Wellhead / Header	01-02
Always identify the Facility (single well / battery) that a spill would be associated with. If release occurred from a pipeline, in addition to identifying the facility, also identify the Wellhead or Header to which it is connected.		Lease	Glorieta East 01-02
County	Lea	Date and Time Discovered	12-23-04
Person Generating Report	John Rolan	Discharge Discovered By:	John Rolan
Date and Time Discharge Began (if known)	12-23-04	Date and Time Discharge Ended (if known)	12-23-04

Substance and Volume						
This spill involved <input checked="" type="checkbox"/> Liquid (check both if needed) <input type="checkbox"/> Gas						
Gas Volume Released		MCF from leak		MCF from blowdown		
Substance Spilled	Amount Spilled	Units mark one		Amount Recovered	Units mark one	
Oil (cond. or crude)	3	<input checked="" type="checkbox"/> bbls	<input type="checkbox"/> gal	2	<input checked="" type="checkbox"/> bbls	<input type="checkbox"/> gal
Produced Water	3	<input checked="" type="checkbox"/> bbls	<input type="checkbox"/> gal	2	<input checked="" type="checkbox"/> bbls	<input type="checkbox"/> gal
Oil-based Mud		<input type="checkbox"/> bbls	<input type="checkbox"/> gal		<input type="checkbox"/> bbls	<input type="checkbox"/> gal
Water-based Mud		<input type="checkbox"/> bbls	<input type="checkbox"/> gal		<input type="checkbox"/> bbls	<input type="checkbox"/> gal
Chemical		<input type="checkbox"/> bbls	<input type="checkbox"/> gal		<input type="checkbox"/> bbls	<input type="checkbox"/> gal
Chemical Name:						
Other		<input type="checkbox"/> bbls	<input type="checkbox"/> gal		<input type="checkbox"/> bbls	<input type="checkbox"/> gal
Specify:						

Risk Factors		
Did the spill cause a sheen on Navigable Waters?	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
Was spill contained within diked area? (liquid spills only)	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
Is there a public area (town, road, house, etc.) within 1/4 mile?	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
Did spill impact Groundwater?	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
Surface Area Affected (ft <sup>2</sup> )	30X40	
Est. Spill Cost (supervisor to fill in)		
Vegetation / Land Affected	<input checked="" type="checkbox"/> Caliche/Prepared Surface <input type="checkbox"/> Limited Vegetation <input type="checkbox"/> Cropland	
Wildlife/Livestock Affected	<input checked="" type="checkbox"/> No impact <input type="checkbox"/> Affected (no animals killed) <input type="checkbox"/> Significant impact (animals killed)	

Failure Source - PIPELINE					
1"	inch Flowline	feet	<input type="checkbox"/> N <input checked="" type="checkbox"/> S <input type="checkbox"/> W <input type="checkbox"/> E	of	Well / Header <input checked="" type="checkbox"/> Facility <input type="checkbox"/>
<input type="checkbox"/> Buried	<input checked="" type="checkbox"/> Steel	<input type="checkbox"/> Externally coated			
<input checked="" type="checkbox"/> Surface	<input type="checkbox"/> Fiberglass				
	<input type="checkbox"/> Transite				
	<input type="checkbox"/> Plastic				
Was the Line Chemically Treated? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no					

Possible Reasons for Failure - (choose all that apply)	
<input checked="" type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Instrumentation
<input type="checkbox"/> External Corrosion	<input type="checkbox"/> Weather
<input type="checkbox"/> Pressure	<input type="checkbox"/> Age
<input type="checkbox"/> Mechanical	<input type="checkbox"/> Vandalism
<input type="checkbox"/> Fatigue	<input type="checkbox"/> Inadequate Training

Failure Source - OTHER			
<input type="checkbox"/> Tank	<input checked="" type="checkbox"/> Wellhead/Stuffing Box	<input type="checkbox"/> Vessel Piping	<input type="checkbox"/> Line Connection Failure
<input type="checkbox"/> Tank Piping	<input type="checkbox"/> Chemical Storage Containers	<input type="checkbox"/> Vessel (dehy, stack pack, line heater, etc.)	<input type="checkbox"/> Breach of Reserve Pit/Cellar
<input type="checkbox"/> Other - explain			

Immediate Action Being Taken:	replaced one inch nipple with new one
Root Cause(s):	
Corrective	replaced with plastic coated nipple

# Appendix I



# 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

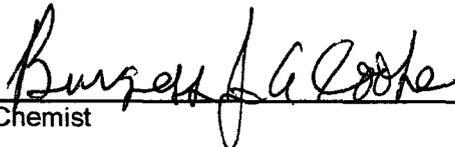
Receiving Date: 01/26/05  
Reporting Date: 01/27/05  
Project Owner: CONOCO PHILLIPS  
Project Name: GLORIETTA EAST 01-02  
Project Location: BUCKEYE, NEW MEXICO

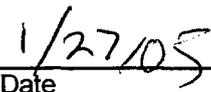
Sampling Date: 01/25/05  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: BC/AH

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	01/26/04	01/26/04	01/27/04
H9502-1 SP1-1'	<10.0	<10.0	1940
H9502-2 SP2-1'	<10.0	<10.0	5440
H9502-3 SP3-1'	<10.0	<10.0	14000
H9502-4 SP4-BACKGROUND	<10.0	<10.0	96
Quality Control	741	803	930
True Value QC	800	800	1000
% Recovery	92.6	100	93.0
Relative Percent Difference	0.6	0.3	4.0

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

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

  
Chemist

  
Date

H9502A.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.





**ARDINAL  
LABORATORIES**

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BBC INTERNATIONAL, INC  
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P.O. BOX 805  
HOBBS, NM 88241  
FAX TO: (505) 397-0397

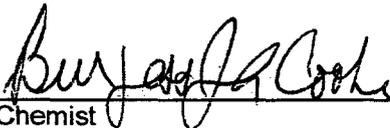
Receiving Date: 03/22/05  
Reporting Date: 03/23/05  
Project Owner: CONOCO PHILLIPS  
Project Name: GLORIETTA EAST 01-002  
Project Location: BUCKEYE, NM

Sampling Date: 03/22/05  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: BC/JD

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	03/22/05	03/22/05	03/23/05
H9647-1 SP4 @ 1'	<10.0	<10.0	14400
Quality Control	779	793	1000
True Value QC	800	800	1000
% Recovery	97.4	99.2	100
Relative Percent Difference	9.5	2.4	5.0

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

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

  
Chemist

3/23/05  
Date

H9647A.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.





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HOBBS, NM 88241  
FAX TO: (505) 397-0397

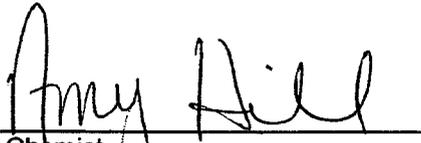
Receiving Date: 03/22/05  
Reporting Date: 03/25/05  
Project Owner: CONOCO PHILLIPS  
Project Name: GLORIETTA EAST 01-02  
Project Location: BUCKEYE, NM

Analysis Date: 03/23/05  
Sampling Date: 03/22/05  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: JD

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H9648-1	SP1 @ 2'	720
H9648-2	SP2 @ 2 1/2'	1200
H9648-3	SP3 @ 1 1/2'	1760
H9648-4	SP4 @ 1 1/2'	3439
Quality Control		1000
True Value QC		1000
% Recovery		100
Relative Percent Difference		5.0

METHOD: Std. Methods	4500-Cl <sup>-</sup> B
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NOTE: Analyses performed on 1:4 w:v aqueous extracts.

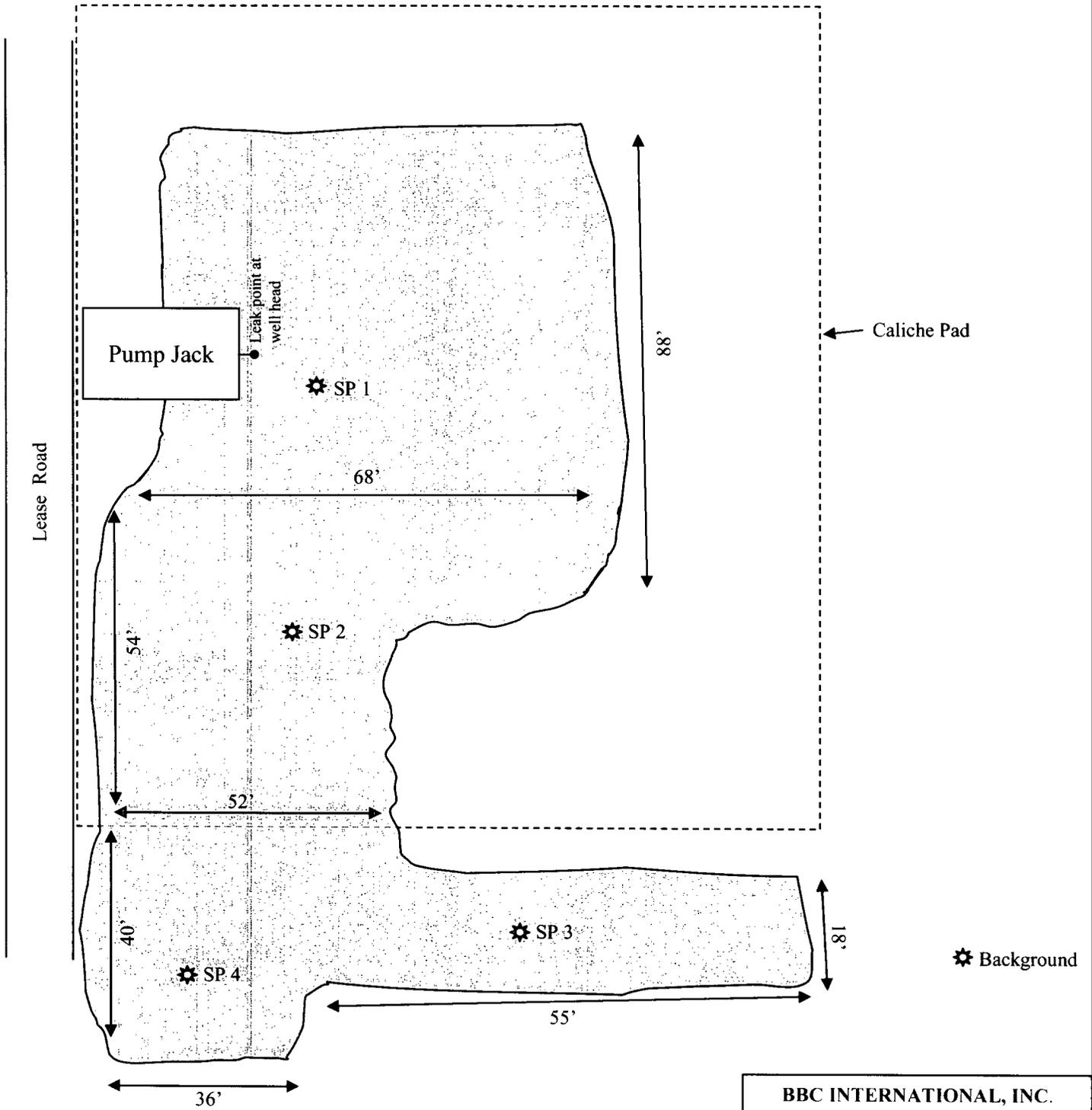
  
Chemist

  
Date



# Appendix II

# CONOCOPHILLIPS GLORIETTA EAST 01-02



★ Background

LEGEND	
★	Sample Point (SP)

BBC INTERNATIONAL, INC.	
CONOCOPHILLIPS GLORIETTA EAST 01-02	
Date: 1-27-05	Drawn By: JG
Disk:	Sheet 1 of 1 Sheets
Scale: Not to Scale	File Name

**CONOCOPHILLIPS  
GLORIETTA EAST  
01-02**

**GPS Coordinates**

**SP-1** N. 32° 48.296'  
W. 103° 27.888'

**SP-2** N. 32° 48.289'  
W. 103° 27.892'

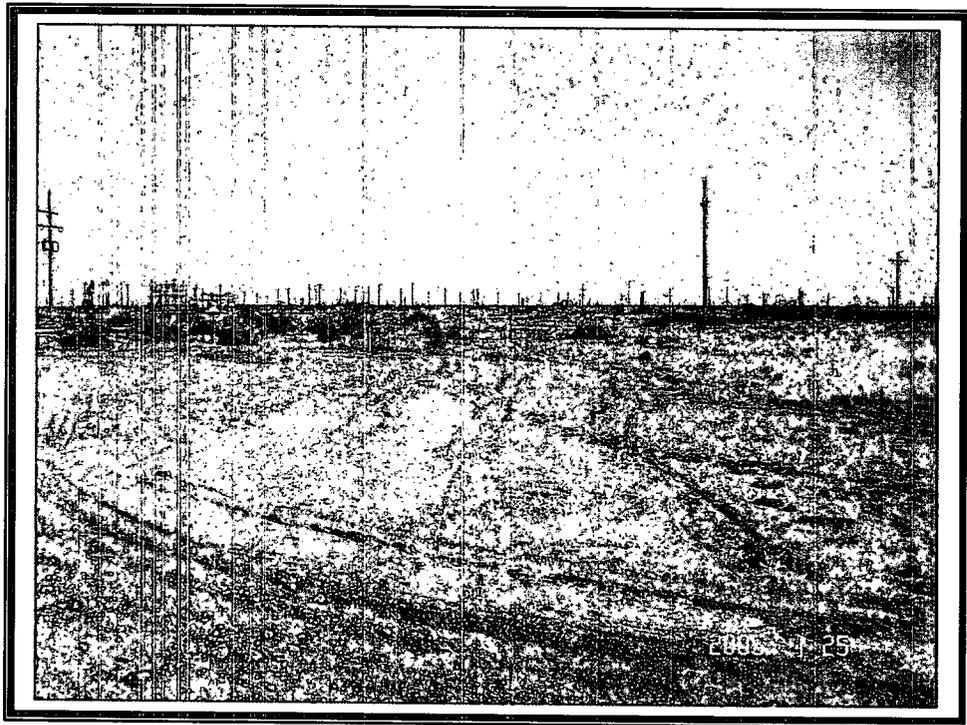
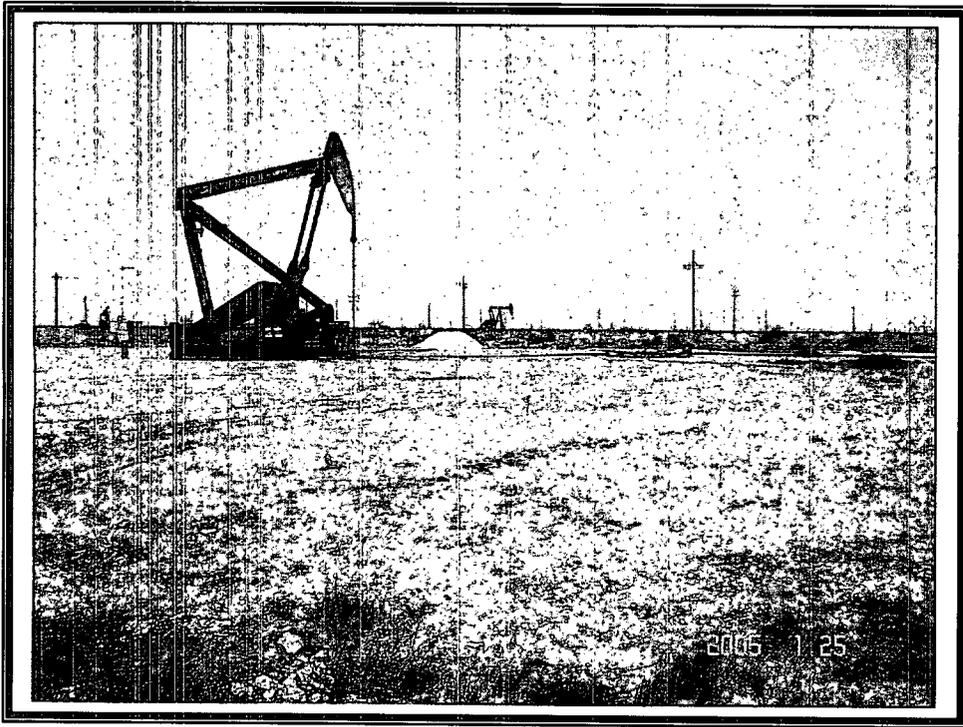
**SP-3** N. 32° 48.281'  
W. 103° 27.888'

**SP-4** N. 32° 48.279'  
W. 103° 27.897'

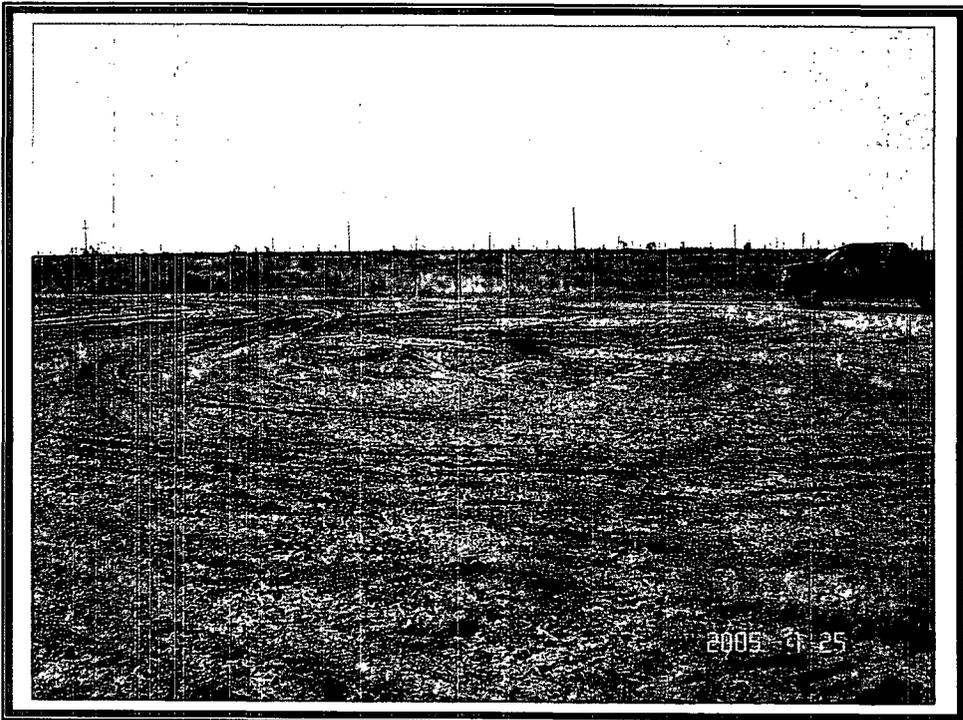
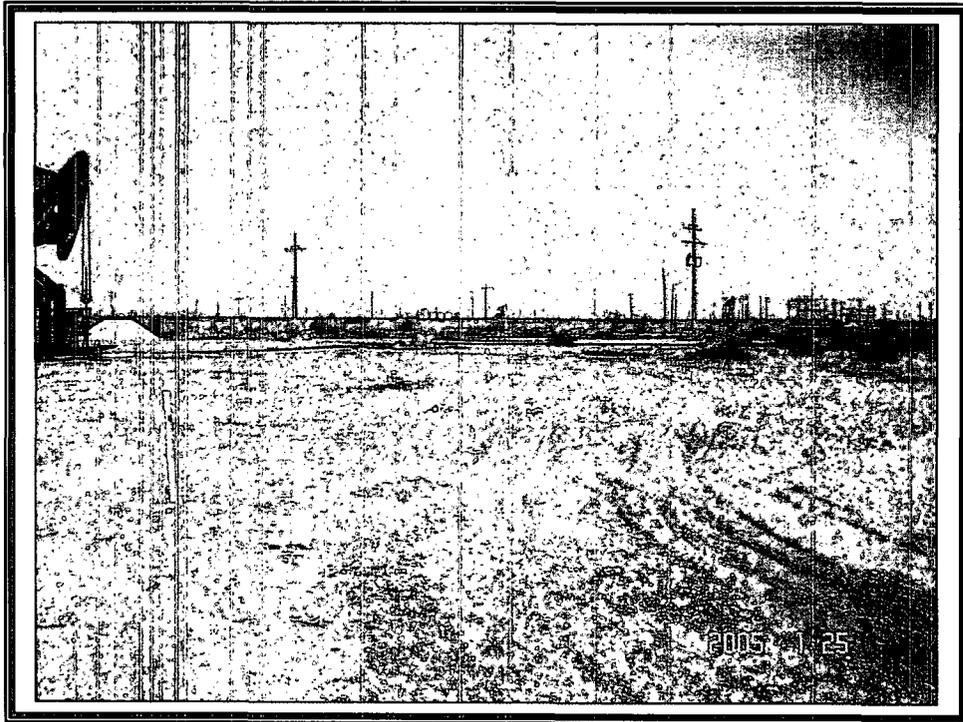
**BG** N. 32° 48.279'  
W. 103° 27.870'

# Appendix III

January 25, 2005



January 25, 2005



January 25, 2005

