

3R - 84

REPORTS

DATE:

1996



ANNUAL SUMMARY

PIT CLOSURES
AND
GROUND WATER IMPACT UPDATES

STATE OF NEW MEXICO
1996

RECEIVED

MAY 20 1997

Environmental Bureau
Oil Conservation Division

*Each site
filed under
case files separate*



Midland Division
Exploration Production

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

Certified Mail
P 895 104 872

April 25, 1997

Mr. Denny Fouts
New Mexico Oil Conservation Commission
1000 Rio Brazos Rd.
Aztec, NM 87410

Dear Mr. Fouts:

Re: NMOCD letters P-471-215-177, P-471-215-178
and P-471-215-179

Reference NMOCD letters of February 18, 1997 (P-471-215-177 and P-471-215-178) directed to Conoco Inc. and NMOCD letter of February 18, 1997 (P-471-215-179) directed to Merrion Oil and Gas Corporation.

This letter is intended to update NMOCD on the progress made to date to evaluate the alleged environmental contamination identified in the subject NMOCD letters. Evaluation work was timely commenced at all sites under Conoco's supervision. Initial results are being documented and evaluated. Where appropriate, possible remediation plans are being considered. As you are aware, ownership of the sites have changed hands several times, and we are in the process of developing proposed plans consistent with the contractual obligations of the successive owners. As soon as reasonably possible, NMOCD will be advised of proposed remediation plans where appropriate, to resolve the environmental matters addressed in the subject NMOCD letters.

Regards,

A handwritten signature in cursive script, reading "Carl J. Coy".

Carl J. Coy
Field SHEAR Specialist

cc: Merrion
Mesa
Bill Olson - NMOCD Santa Fe

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TABLE 1: CONCLUSO SUMMARY
Transmittal of Information for 1996 Annual NMOCD Reporting

On Site Technologies Limited Partnership
 May 15, 1997

Project: 4-1303

Well	Date	Documents	Comments
Farmington Com #1	Apr. 18, 97	Site Assessment Brief w/ lab and QA/QC	Corrective Action to address soil and/or ground water contamination pending negotiations with former lease operator.
Farmington C Com #1	Apr. 22, 97	Site Assessment Brief w/ lab and QA/QC	Corrective Action to address soil and/or ground water contamination pending negotiations with former lease operator.
Farmington B Com #1E	Apr. 22, 97	Site Assessment Brief w/ lab and QA/QC	Corrective Action to address soil and/or ground water contamination pending negotiations with former lease operator.
Smith #1 & Drip Pit	Apr. 22, 97	Site Assessment Brief w/ lab and QA/QC	Corrective Action to address soil and/or ground water contamination pending negotiations with former lease operator.
Shepherd & Kelsey #1	Mar. 21, 97 July 18, 96 Mar. 20, 97	Summary of Monitor Well Install & Map Sample Results w/ QA/QC (IML) Sample Results w/ QA/QC (On Site)	Continue ground water monitoring for 3 additional quarters to verify RBCA.
Shepherd & Kelsey #1E (Dehy/Sep Pit)	Apr. 16, 97	Pit Assessment & Remediation Summary w/ lab and QA/QC	No further reclamation efforts recommended, and propose continued ground water monitoring until four consecutive sample events are "clean".
Shepherd & Kelsey #1E (Production Tank Spill)	Apr. 28, 97	Spill Assessment & Remediation Summary w/ lab and QA/QC	No further corrective action, with plug and abandonment of monitor well proposed.
Farmington B Com #1	Apr. 16, 97	Investigation & Remediation Summary w/ lab and QA/QC	No further reclamation efforts recommended, and propose continued ground water monitoring until four consecutive sample events are "clean".
Federal Com #15	Apr. 28, 97	Site Assessment Summary	No further action.
Salmon #1	May 12, 97 July 17, 96 Mar. 18, 96 Mar. 26, 97	Corrective Action Proposal (On Site) Lab Reports & QA/QC (IML) Lab Reports & QA/QC (On Site) Lab Reports & QA/QC (On Site)	Additional excavation and treatment of contaminated soil down-gradient of original pit proposed.

TABLE 1: CONOCO SUMMARY
Transmittal of Information for 1996 Annual NMOCD Reporting

On Site Technologies Limited Partnership
 May 15, 1997

Project: 4-1303

Well	Date	Documents	Comments
Neil Hall #1	June 14, 97	Lab Reports & QA/QC (IML)	Due to seasonal low water table, propose annual sampling to be scheduled in June to Aug. with closure once two consecutive sample events show "clean".
	June 28, 96	Lab Reports & QA/QC (IML)	
	July 12, 96	Lab Reports & QA/QC (IML)	
	Apr. 1, 97	Letter regarding no water (On Site)	
SJ 28-7 #19	Mar. 12, 96	Lab Reports & QA/QC (IML)	Continue ground water monitoring for four additional quarters.
	July 17, 96	Lab Reports & QA/QC (IML)	
	Mar. 19, 97	Lab Reports & QA/QC (On Site)	
	Apr. 21, 97	Lab Reports & QA/QC (On Site)	
SJ 28-7 #47	Mar. 12, 96	Lab Reports & QA/QC (IML)	Continue ground water monitoring for four additional quarters.
	Apr. 15, 96	Lab Reports & QA/QC (IML)	
	July 17, 96	Lab Reports & QA/QC (IML)	
	Mar. 19, 97	Lab Reports & QA/QC (On Site)	
SJ 28-7 #126	Apr. 21, 97	Lab Reports & QA/QC (On Site)	Continue ground water monitoring for an additional quarter.
	Mar. 12, 96	Lab Reports & QA/QC (IML)	
	July 17, 96	Lab Reports & QA/QC (IML)	
	Mar. 26, 97	Lab Reports & QA/QC (On Site)	
SJ 28-7 #219	Mar. 12, 96	Lab Reports & QA/QC (IML)	Continue ground water monitoring for two additional quarters.
	July 17, 96	Lab Reports & QA/QC (IML)	
	Mar. 26, 97	Lab Reports & QA/QC (On Site)	

TYPES OF PITS

SEP: Separator Pit BDP: Blowdown Pit
DHP: Dehydrator Pit FGP: Fiberglass Tank Pit
CSP: Compressor Scrubber Pit LDHP: Lined Dehy Pit
TDP: Tank Drip Pit DRP: Drilling Reserve Pit
LDP: Line Drip Pit NONE: No Pits

#	WELL NAME AND NUMBER	FEDERAL, STATE INDIAN CONTRACT NO. OR FEE	LOCATION	TYPES OF PITS	PIT SIZE	VULN. AREA	EXPANDED VULN. AREA	NON- VULN. AREA	OTHER PARTY PIT	DATE STOPPED FLOW TO PIT	DATE PIT REMED- IATION STARTED	DATE PIT CLOSED
SENSITIVE AREA PITS - JICARILLA												
1	Apache No. 1	Contract #98	Unit D, Sec. 18-26N-3W	SEP	30' x 24' x 4'		X			Unknown		05/06/96
2	Apache No. 3E	Contract #98	Unit H, Sec. 19-26N-3W	TDP	18' x 17' x 3'		X			Unknown		04/25/96
3	Apache No. 7	Contract #98	Unit D, Sec. 20-26N-3W	SEP	44' x 30' x 6'		X			Unknown		04/25/96
4	AXI Apache J No. 22	Contract #147	Unit L, Sec. 6-25N-5W	SEP	37' x 36' x 3'		X			03/27/96		09/30/96
5	AXI Apache N No. 14	Contract #121	Unit C, Sec. 1-25N-4W	SEP	19' x 19' x 4'		X			03/27/96		04/15/96
6	AXI Apache N No. 16A	Contract #121	Unit C, Sec. 12-25N-4W	DHP	18' x 18' x 3'		X			03/18/96		03/26/96
7	Jicarilla No. 3	Contract #12	Unit D, Sec. 31-26N-4W	SEP	28' x 22' x 4'		X			Unknown		08/05/96
8	Jicarilla No. 4	Contract #12	Unit L, Sec. 31-26N-4W	TDP	10' x 8' x 3'		X			Unknown		08/05/96
9	Jicarilla No. 8	Contract #12	Unit L, Sec. 32-26N-4W	SEP	35' x 27' x 4'		X			Unknown		08/15/96
10	Jicarilla No. 11	Contract #12	Unit G, Sec. 30-26N-4W	SEP	21' x 20' x 4'		X			Unknown		08/15/96
11	Jicarilla No. 11	Contract #12	Unit G, Sec. 30-26N-4W	TDP	22' x 22' x 4'		X			Unknown		08/15/96
12	Jicarilla No. 13	Contract #12	Unit G, Sec. 31-26N-4W	TDP	18' x 16' x 4'		X			Unknown		08/05/96
13	Jicarilla No. 14	Contract #12	Unit P, Sec. 31-26N-4W	SEP	19' x 18' x 3'		X			Unknown		08/07/96
14	Jicarilla No. 14	Contract #12	Unit P, Sec. 31-26N-4W	TDP	18' x 17' x 4'		X			Unknown		08/15/96
15	Jicarilla No. 17	Contract #12	Unit B, Sec. 32-26N-4W	SEP	17' x 16' x 4'		X			Unknown		08/15/96
16	Jicarilla No. 17	Contract #12	Unit B, Sec. 32-26N-4W	TDP	19' x 17' x 4'		X			Unknown		08/15/96
17	Jicarilla No. 18	Contract #12	Unit I, Sec. 32-26N-4W	SEP	28' x 22' x 4'		X			Unknown		08/15/96
18	Jicarilla No. 18	Contract #12	Unit I, Sec. 32-26N-4W	TDP	25' x 25' x 4'		X			Unknown		08/15/96
19	Jicarilla A No. 8	Contract #105	Unit E, Sec. 23-26N-4W	SEP	20' x 20' x 3'		X			06/26/96		07/25/96
20	Jicarilla A No. 9	Contract #105	Unit C, Sec. 14-26N-4W	TDP	10' x 10' x 5'		X			05/15/96		05/22/96
21	Jicarilla A No. 10	Contract #105	Unit D, Sec. 23-26N-4W	SEP	16' x 16' x 4'		X			06/11/96		06/26/96
22	Jicarilla A No. 13	Contract #105	Unit E, Sec. 13-26N-4W	TDP	16' x 16' x 4'		X			05/08/96		05/15/96
23	Jicarilla B No. 2	Contract #106	Unit K, Sec. 25-26N-4W	BDP	15' x 25' x 3'		X			Unknown		07/25/96
24	Jicarilla B No. 8	Contract #106	Unit K, Sec. 25-26N-4W	SEP	10' x 15' x 3'		X			06/06/96		06/26/96
25	Jicarilla B No. 9	Contract #106	Unit K, Sec. 26-26N-4W	SEP	15' x 15' x 2'		X			05/22/96		05/31/96
26	Jicarilla B No. 9A	Contract #106	Unit D, Sec. 26-26N-4W	SEP	18' x 18' x 3'		X			06/10/96		08/15/96
27	Jicarilla B No. 13	Contract #106	Unit M, Sec. 36-26N-4W	SEP	16' x 16' x 4'		X			03/27/96		03/29/96
28	Jicarilla B No. 15	Contract #106	Unit J, Sec. 36-26N-4W	SEP	12' x 12' x 2'		X			03/29/96		03/29/96
29	Jicarilla D No. 11	Contract #100	Unit A, Sec. 29-26N-3W	TDP	12' x 14' x 4'		X			04/04/96		04/15/96
30	Jicarilla D No. 17	Contract #100	Unit D, Sec. 29-26N-3W	TDP	16' x 18' x 3'		X			04/09/96		04/15/96
31	Jicarilla D No. 18	Contract #100	Unit A, Sec. 30-26N-3W	SEP	15' x 15' x 2'		X			04/12/96		04/15/96
32	Jicarilla E No. 6	Contract #104	Unit B, Sec. 21-26N-4W	TDP	18' x 18' x 3'		X			07/29/96		08/15/96
33	Jicarilla E No. 8	Contract #104	Unit C, Sec. 15-26N-4W	TDP	10' x 10' x 3'		X			06/05/96		06/21/96
34	Jicarilla E No. 14	Contract #104	Unit D, Sec. 15-26N-4W	CSP	10' x 12' x 3'		X			03/25/96		06/05/96
35	Jicarilla K No. 12E	Contract No. 145	Unit M, Sec. 02-25N-5W	SEP	12' x 14' x 3'		X			Unknown		09/24/96
36	Jicarilla K No. 15	Contract No. 145	Unit I, Sec. 01-25N-5W	SEP	14' x 16' x 2'		X			08/26/96		09/03/96
37	Jicarilla K No. 22	Contract No. 145	Unit M, Sec. 02-25N-5W	SEP	12' x 14' x 4'		X			Unknown		10/02/96
38	Jicarilla K No. 22A	Contract No. 145	Unit O, Sec. 02-25N-5W	SEP	10' x 10' x 0'1		X			Unknown		09/24/96

39	Tribal No. 2	Fed. 6090001150	Unit L, Sec. 9-26N-3W	SEP	30' x 24' x 6'						Unknown	05/06/96
40	Tribal No. 2	Fed. 6090001150	Unit L, Sec. 9-26N-3W	TDP	24' x 17' x 4'				X		Unknown	05/06/96

NON - SENSITIVE AREA PITTS - JICARILLA

1	AXI Apache N No. 11A	Contract #121	Unit B, Sec. 12-25N-4W	SEP	22' x 19' x 3'					X	Unknown	03/22/96
2	AXI Apache N No. 12A	Contract #121	Unit L, Sec. 11-25N-4W	SEP	21' x 21' x 4'					X	03/22/96	03/29/96
3	AXI Apache N No. 14A	Contract #121	Unit K, Sec. 1-25N-4W	SEP	19' x 19' x 3'					X	Unknown	03/22/96
4	AXI Apache N No. 12	Contract #121	Unit C, Sec. 11-25N-4W	SEP	20' x 18' x 3'					X	03/25/96	03/26/96
5	AXI Apache N No. 13	Contract #121	Unit G, Sec. 2-25N-4W	SEP	22' x 21' x 3'					X	03/25/96	03/29/96
6	AXI Apache O No. 10	Contract #122	Unit J, Sec. 3-25N-4W	SEP	23' x 21' x 3'					X	03/20/96	03/25/96
7	Jicarilla D No. 11A	Contract # 100	Unit P, Sec. 29-26N-3W	TDP	16' x 16' x 3'					X	04/19/96	04/22/96
8	Jicarilla D No. 13	Contract # 100	Unit A, Sec. 32-26N-3W	TDP	15' x 15' x 2'					X	04/16/96	04/22/96
9	Jicarilla D No. 13A	Contract # 100	Unit P, Sec. 32-26N-3W	SEP	20' x 20' x 2'					X	04/15/96	04/22/96
10	Jicarilla D No. 19	Contract # 100	Unit I, Sec. 31-26N-3W	TDP	25' x 28' x 2'					X	04/25/96	05/03/96
11	Jicarilla D No. 20	Contract # 100	Unit N, Sec. 31-26N-3W	TDP	20' x 30' x 4'					X	04/25/96	05/03/96

OFFICE: (505) 327-8786
FAX: (505) 327-1496



LAB: (505) 325-5667
FAX: (505) 325-6256

April 22, 1997

Conoco, Inc., Midland Division
Exploration and Production, North America
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500

Attn.: Mr. Neal Goates, Senior Environmental Specialist

RE: Brief of Site Assessment
Farmington "B" COM #1E
Unit O, Sec. 15, T29N, R13W, NMPM
San Juan County, NM

Project No: 4-1374

The following summary has been prepared by On Site Technologies Limited Partnership for Conoco. The summary describes the findings of Phase II Assessment of soil at the referenced oil/gas well location, for hydrocarbon contamination identified during the transfer of operating interest. Due to the depth of ground water > 19 feet and difficult subsurface soil conditions (i.e. cobbles from surface to depth), no assessment of ground water conditions has been established at this time.

ASSESSMENT BRIEF:

On March 12, 1997, three test holes were attempted using a pick-up mounted hydraulic punch and auger unit equipped with 2 and 3 inch flight augers. Due to refusal, the test holes were limited to the first seven feet and no representative samples could be collected due to large gravels and cobbles. On March 14, 1997, a small John Deere D490 Trackhoe was used to advance four test holes. Test holes ranged in depth from 14 to 19 feet in depth. The soils were noncohesive consisting of well rounded gravel and cobble with sand and Classified as Type C Soil per the OSHA Trenching and Excavation Standards. Due to these soil types and existing surface improvements, deeper excavation was deemed unsafe. Refer to Sheet 1 for approximate test hole locations.

Two to three grab soil samples were collected from each test hole from the trackhoe bucket and field tested for volatile hydrocarbons per the NMOCD Field Heated Headspace Method. Selected split samples were also collected in 4 oz. glass containers with Teflon® closures, labeled, and placed on ice for delivery to the laboratory. Lab samples were tested for Total Petroleum Hydrocarbons (TPH) per EPA Method 8015M and select samples were tested for BTEX per EPA Method 8020 to verify the Headspace results. Table 1 summarizes the soil test results.

RESULTS:

Subsurface soils were typical floodplain alluvium consisting of sands, gravel and cobble to depth. Discussions with the earth contractor which built a well location immediately southwest of the Farmington B Com. #1E location this winter, indicated that ground water was encountered at approximately 25 feet below the ground surface. This assessment effort did not encounter ground water.

TPH and BTEX soil contamination was found from approximately 3 to 18+ feet below the surface north of the storage tank. Soil contamination appears to be limited to a former unlined pit traveling straight down with little lateral migration, due to the porous and permeable subsurface soils. Aerial extent is estimated to involve approximately 625 square feet (i.e. 25 ft. by 25 ft.). Assuming a vertical extent on the order of 25 feet, approximately 580 cubic yards of soil have been contaminated.

Similarly, TPH and BTEX soil contamination was found from approximately 3 to 16 feet below the surface west of the separator tank. Soil contamination appears to be limited to a former unlined pit traveling straight down with little lateral migration due to the porous and permeable subsurface soils. Aerial extent is estimated to

involve approximately 400 sq. feet (i.e. 20 ft. by 20 ft.). Assuming the vertical extent on the order of 25 feet, approximately 370 cubic yards of soil have been contaminated with hydrocarbons.

No other areas of soil or ground water contamination were found during this assessment effort or earlier efforts by Merion Oil (January, 1997), the current operator.

CLOSURE:

This summary documents visual observations of the site, subsurface conditions encountered during this Phase. Due to ongoing negotiations with former and current lease operators, no recommendations or corrective measures were proposed with this document.

This document has been prepared by On Site Technologies Limited Partnership for the exclusive use of Conoco Inc. as it pertains to the referenced well location formerly operated by Conoco. If there are any questions regarding this status report, please contact either Cindy Gray or Myke Lane at On Site Technologies, (505) 325-5667. Thank you for considering On Site to assist you with this matter.

Respectfully submitted,
On Site Technologies Limited Partnership



Michael K. Lane, P.E.
Senior Engineer

Attachments: Table 1: Soil Test Results
Sheet 1: Site Sketch and Estimated Soil Contamination

CC: C. John Coy, Farmington Office
File: 4-1374

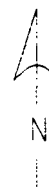
MKL/mkl: 41374brf

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TABLE 1: SUMMARY OF SOIL SAMPLES
FARMINGTON B COM #1E
Unit O, Sec. 15, T29N, R13W, NMPM
SAN JUAN COUNTY, NM

SAMPLE LOCATION	DATE	DEPTH ⁽¹⁾ (ft)	PID ⁽²⁾ (units)	Benzene (ppm)	Total BTEX ⁽³⁾ (ppm)	TPH ⁽⁴⁾ (ppm)
TH-1*	3/12/97	4-11	164			267.0
TH-2*	3/12/97			<i>No</i>	<i>Recovery</i>	
TH-3*	3/12/97	5-7	336	8.0	128.5	10,553
TH-1	3/14/97	16	1106			
TH-1	3/14/97	18-19	1282	0.2	7.4	323.2
TH-2	3/14/97	11-12	ND			
TH-2	3/14/97	16-17	ND			
TH-3	3/14/97	3-8	>2500			
TH-3	3/14/97	14-16	>2500	11.6	195.8	10,984
TH-4	3/14/97	10-12	ND			
NMOCD Action Levels	Feb. 1993		100	10	50	100

- Notes:
- (*) Soil borings drilled by flight auger 3/12/97.
 - (1) Depth below ground surface.
 - (2) PID: Results of field headspace samples measured with an organic vapor meter equipped with a photoionization detector, and Benzene Response Factor of 0.56.
 - (3) BTEX: Benzene, Toluene, Ethyl-benzene, and total Xylenes measured by EPA Method 8020.
 - (4) TPH: Total Petroleum Hydrocarbons as measured by EPA Method 8015 (mod.).
 - (5) ND: Not detected.



Scale: 1" = 40'

LEGEND

TH# Approximate location of test holes excavated by trackhoe on 3/14/97.

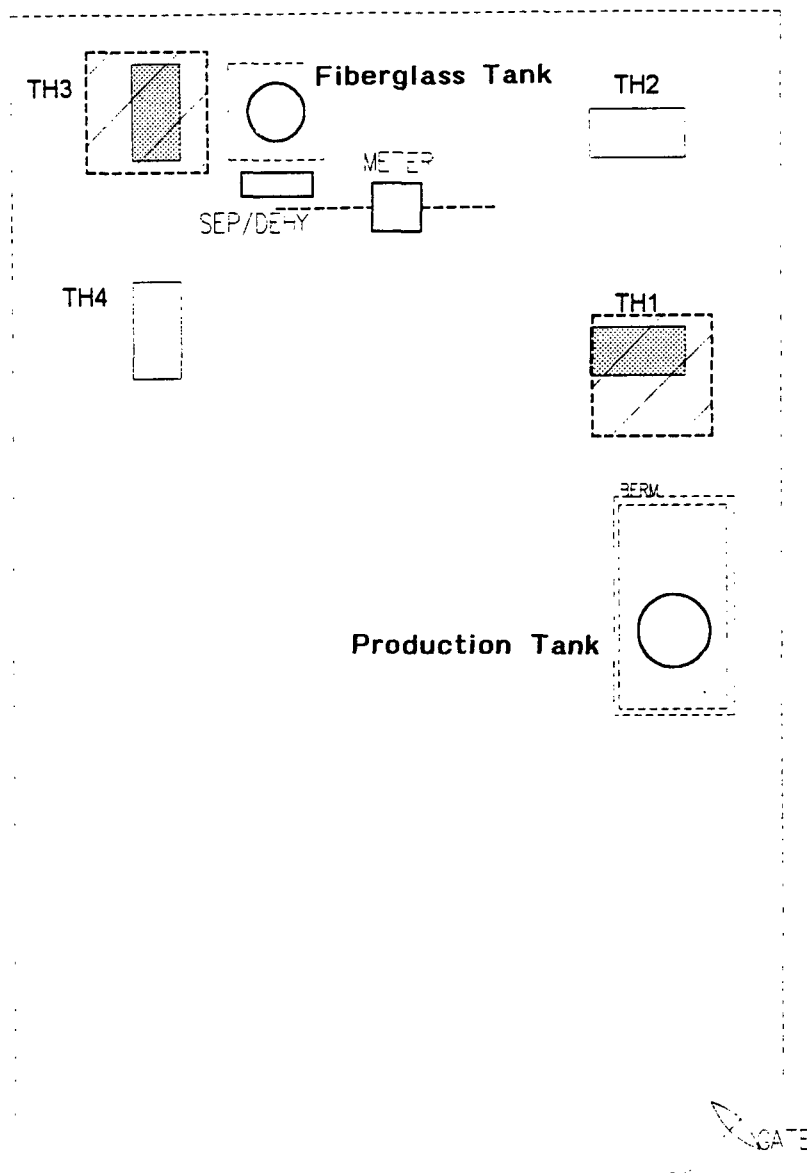
— Test holes with no TPH or BTEX soil contamination.

▨ Test holes with TPH &/or BTEX soil contamination.



Estimated Extent of Soil Contamination.

All dimensions estimated by pacing and sighting from existing surface features.



FARMINGTON B COM #1E
SW/SE, Sec. 15, T29W, R13W
SAN JUAN BASIN, NM

SITE SKETCH

DRWN: 03-18-97

PROJECT NO: 4-1374

DRWN BY: MKL

SHEET: 1

FILE: 41374S1.CAD

PROJECT: SITE ASSESSMENT

ON SITE TECHNOLOGIES, LTD.

P.O. BOX 3464, FARMINGTON, NM 87401
(505) 325-5867



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: Michael Lane
 Company: On Site Technologies, Ltd. c/o Conoco
 Address: 612 E. Murray Drive
 City, State: Farmington, NM 87401

Date: 20-Mar-97
 COC No.: 5041
 Sample No.: 13884
 Job No.: 4-1374

Project Name: Conoco - Farmington B Com 1E
 Project Location: Test Hole #1 @ 4'-11' (SOIL BORING NORTH OF PRODUCTION TANK BERM)
 Sampled by: MKL Date: 12-Mar-97 Time: 9:10
 Analyzed by: DC/HR Date: 20-Mar-97
 Sample Matrix: Soil

Laboratory Analysis

Parameter	Result	Unit of Measure	Method Detection Limit	Unit of Measure
Gasoline Range Organics (C5 - C9)	9.6	mg/kg	1.0	mg/kg
Diesel Range Organics (C10 - C28)	257.4	mg/kg	5.0	mg/kg

Quality Assurance Report

GRO QC No.: 0535-STD
 DRO QC No.: 0512-STD

Continuing Calibration Verification

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	RPD	RPD Limit
Gasoline Range (C5 - C9)	< 50	ppb	1,351	1,361	0.7	15%
Diesel Range (C10 - C28)	< 5.0	ppm	100	115	13.7	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	RPD Limit
Gasoline Range (C5-C9)	81	83	(70-130)	2	20%
Diesel Range (C10-C28)	101	101	(70-130)	0	20%

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *DC*
 Date: 3/25/97

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd. c/o Conoco*
Address: *612 E. Murray Drive*
City, State: *Farmington, NM 87401*

Date: *19-Mar-97*
COC No.: *5041*
Sample No.: *13885*
Job No.: *4-1374*

Project Name: *Conoco - Farmington B Com 1E*
Project Location: *Test Hole #3 @ 5'-7' (600 Boring West of Fiberglass Tank)*
Sampled by: *MKL* Date: *12-Mar-97* Time: *10:10*
Analyzed by: *DC/HR* Date: *19-Mar-97*
Sample Matrix: *Soil*

Laboratory Analysis

Parameter	Result	Unit of Measure	Method Detection Limit	Unit of Measure
<i>Gasoline Range Organics (C5 - C9)</i>	<i>754</i>	<i>mg/kg</i>	<i>1.0</i>	<i>mg/kg</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i>9799</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

GRO QC No.: *0535-STD*

DRO QC No.: *0512-STD*

Continuing Calibration Verification

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	RPD	RPD Limit
<i>Gasoline Range (C5 - C9)</i>	<i><50</i>	<i>ppb</i>	<i>1,351</i>	<i>1,379</i>	<i>2.0</i>	<i>15%</i>
<i>Diesel Range (C10 - C28)</i>	<i><5.0</i>	<i>ppm</i>	<i>100</i>	<i>102</i>	<i>2.0</i>	<i>15%</i>

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	RPD Limit
<i>Gasoline Range (C5-C9)</i>	<i>116</i>	<i>126</i>	<i>(70-130)</i>	<i>8</i>	<i>20%</i>
<i>Diesel Range (C10-C28)</i>	<i>101</i>	<i>101</i>	<i>(70-130)</i>	<i>0</i>	<i>20%</i>

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *[Signature]*

Date: *3/25/97*

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: Michael Lane
Company: On Site Technologies, Ltd. c/o Conoco
Address: 612 E. Murray Drive
City, State: Farmington, NM 87401

Date: 25-Mar-97
COC No.: 5041
Sample No.: 13885
Job No.: 4-1374

Project Name: Conoco - Farmington B Com 1E
Project Location: Test Hole #3 @ 5'-7' (Soil Boring West of Fiberglass Tank)
Sampled by: MKL Date: 12-Mar-97 Time: 10:10
Analyzed by: DC Date: 21-Mar-97
Sample Matrix: Soil

Laboratory Analysis

Parameter	Result	Units of Measure	Detection Limit	Units of Measure
Benzene	8010	ug/kg	0.2	ug/kg
Toluene	29683	ug/kg	0.2	ug/kg
Ethylbenzene	10327	ug/kg	0.2	ug/kg
m,p-Xylene	56869	ug/kg	0.2	ug/kg
o-Xylene	23578	ug/kg	0.2	ug/kg
	TOTAL	128469		ug/kg

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: 
Date: 3/25/97

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd. c/o Conoco*
Address: *612 E. Murray Drive*
City, State: *Farmington, NM 87401*

Date: *1-Apr-97*
COC No.: *5053*
Sample No.: *13904*
Job No.: *4-1374*

Project Name: *Conoco - Farmington B Com #1E Tank Pit*
Project Location: *T1 @ 18'-19'*
Sampled by: *MKL*
Analyzed by: *DC/HR*
Sample Matrix: *Soil*

Date: *14-Mar-97* Time: *11:20*
Date: *26-Mar-97*

Laboratory Analysis

Parameter	Result	Unit of Measure	Method Detection Limit	Unit of Measure
<i>Gasoline Range Organics (C5 - C9)</i>	<i>62.8</i>	<i>mg/kg</i>	<i>1.0</i>	<i>mg/kg</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i>260.4</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

GRO QC No.: *0535-STD*
DRO QC No.: *0512-STD*

Continuing Calibration Verification

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	RPD	RPD Limit
<i>Gasoline Range (C5 - C9)</i>	<i>< 50</i>	<i>ppb</i>	<i>1,351</i>	<i>1,359</i>	<i>0.6</i>	<i>15%</i>
<i>Diesel Range (C10 - C28)</i>	<i>< 5.0</i>	<i>ppm</i>	<i>100</i>	<i>110</i>	<i>9.5</i>	<i>15%</i>

Matrix Spike

Parameter	1 - Percent Recovered	2 - Percent Recovered	Limit	RPD	RPD Limit
<i>Gasoline Range (C5-C9)</i>	<i>107</i>	<i>100</i>	<i>(70-130)</i>	<i>3</i>	<i>20%</i>
<i>Diesel Range (C10-C28)</i>	<i>96</i>	<i>92</i>	<i>(70-130)</i>	<i>3</i>	<i>20%</i>

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *[Signature]*
Date: *4/1/97*

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd. c/o Conoco*
Address: *612 E. Murray Drive*
City, State: *Farmington, NM 87401*

Date: *25-Mar-97*
COC No.: *5053*
Sample No.: *13904*
Job No.: *4-1374*

Project Name: *Conoco - Farmington B Com #1E Tank Pit*

Project Location: *T1 @ 18'-19'*

Sampled by: *MKL*

Date: *14-Mar-97* Time: *11:20*

Analyzed by: *DC*

Date: *21-Mar-97*

Sample Matrix: *Soil*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Units of Measure</i>	<i>Detection Limit</i>	<i>Units of Measure</i>
<i>Benzene</i>	<i>210</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>1711</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>227</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>3782</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>1500</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>TOTAL</i>	<i>7431</i>	<i>ug/kg</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*

Date: *3/26/97*

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Michael Lane*
 Company: *On Site Technologies, Ltd. c/o Conoco*
 Address: *612 E. Murray Drive*
 City, State: *Farmington, NM 87401*

Date: *25-Mar-97*
 COC No.: *5053*
 Sample No.: *13905*
 Job No.: *4-1374*

Project Name: *Conoco - Farmington B Com #1E Sep/Dehy Pit*
 Project Location: *T3 @ 14'-16'*
 Sampled by: *MKL*
 Analyzed by: *DC/HR*
 Sample Matrix: *Soil*

Date: *14-Mar-97* Time: *12:45*
 Date: *24-Mar-97*

Laboratory Analysis

Parameter	Result	Unit of Measure	Method Detection Limit	Unit of Measure
<i>Gasoline Range Organics (C5 - C9)</i>	<i>1385</i>	<i>mg/kg</i>	<i>1.0</i>	<i>mg/kg</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i>9599</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

GRO QC No.: *0535-STD*
 DRO QC No.: *0512-STD*

Continuing Calibration Verification

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	RPD	RPD Limit
<i>Gasoline Range (C5 - C9)</i>	<i><50</i>	<i>ppb</i>	<i>1,351</i>	<i>1,361</i>	<i>0.7</i>	<i>15%</i>
<i>Diesel Range (C10 - C28)</i>	<i><5.0</i>	<i>ppm</i>	<i>100</i>	<i>112</i>	<i>11.4</i>	<i>15%</i>

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	RPD Limit
<i>Gasoline Range (C5-C9)</i>	<i>81</i>	<i>83</i>	<i>(70-130)</i>	<i>2</i>	<i>20%</i>
<i>Diesel Range (C10-C28)</i>	<i>101</i>	<i>101</i>	<i>(70-130)</i>	<i>0</i>	<i>20%</i>

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *[Signature]*
 Date: *3/25/97*

OFF: (505) 325-5667

ON SITE
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ANALYTICAL REPORT

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd. c/o Conoco*
Address: *612 E. Murray Drive*
City, State: *Farmington, NM 87401*

Date: *25-Mar-97*
COC No.: *5053*
Sample No.: *13905*
Job No.: *4-1374*

Project Name: *Conoco - Farmington B Com #1E Sep/Dehy Pit*

Project Location: *T3 @ 14'-16'*

Sampled by: *MKL*

Date: *14-Mar-97*

Time: *12:45*

Analyzed by: *DC*

Date: *21-Mar-97*

Sample Matrix: *Soil*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Units of Measure</i>	<i>Detection Limit</i>	<i>Units of Measure</i>
<i>Benzene</i>	<i>11609</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>59935</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>14485</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>83393</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>26391</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>TOTAL</i>	<i>195813</i>	<i>ug/kg</i>		

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*
Date: *3/26/97*

OFF: (505) 325-5667



LAB: (505) 325-1556

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 21-Mar-97

Internal QC No.: 0527-STD

Surrogate QC No.: 0528-STD

Reference Standard QC No.: 0529/30-QC

Method Blank

Analyte	Result	Units of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Analyte	Units of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	19.6	2	15%
Toluene	ppb	20.0	20.4	2	15%
Ethylbenzene	ppb	20.0	20.9	4	15%
m,p-Xylene	ppb	40.0	40.0	0	15%
o-Xylene	ppb	20.0	20.9	4	15%

Matrix Spike

Analyte	1 - Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	107	126	(39-150)	12	20%
Toluene	110	130	(46-148)	11	20%
Ethylbenzene	114	134	(32-160)	11	20%
m,p-Xylene	108	127	(35-145)	11	20%
o-Xylene	103	123	(35-145)	12	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovery	(70-130)	
13885-5041	95	

S1: Fluorobenzene

(R)



ON SITE
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QUALITY ASSURANCE REPORT *for EPA Method 8020*

Internal QC No.: 0527-STD
Surrogate QC No.: 0528-STD
Reference Standard QC No.: 0529/30-QC

Analyte	Result	Units of Measure
Average Amount of All Analytes in Blank	<0.2	ppb

<i>Analyte</i>	<i>Units of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
<i>Benzene</i>	ppb	20.0	19.6	2	15%
<i>Toluene</i>	ppb	20.0	20.4	2	15%
<i>Ethylbenzene</i>	ppb	20.0	20.9	4	15%
<i>m,p-Xylene</i>	ppb	40.0	40.0	0	15%
<i>o-Xylene</i>	ppb	20.0	20.9	4	15%

<i>Analyte</i>	<i>1- Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
<i>Benzene</i>	107	126	(39-150)	12	20%
<i>Toluene</i>	110	130	(46-148)	11	20%
<i>Ethylbenzene</i>	114	134	(32-160)	11	20%
<i>m,p-Xylene</i>	108	127	(35-145)	11	20%
<i>o-Xylene</i>	103	123	(35-145)	12	20%

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P.O. BOX 2606 • FARMINGTON, NM 87499

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

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Distribution;	White - On Site	Yellow - LAB	Pink - Sampler	Goldonrod - Client
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