

3R - 84

REPORTS

DATE:

1/7/2000



January 7, 2000

Conoco, Inc., Mid-Continent Region
Attn.: Ms. Shirley Ebert, Field SHEAR Specialist
3314 Bloomfield Hwy.
Farmington, NM 87401

RE: 1999 Annual Groundwater Monitoring Report
Conoco Location: Farmington B Com #1E
Unit 0, Sec. 15, T29N, R13W, NMPM, San Juan Co., NM

Project: 4-1374

Dear Ms. Ebert:

The following report summarizes the ground water remediation and monitoring activities conducted by On Site Technologies Limited Partnership and/or others on behalf of Conoco, Inc., at the referenced oil and gas location. This report covers the calendar year of 1999, and follows the format outlined in the *Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico*, submitted to the New Mexico Oil Conservation Division on October 15, 1997.

SUMMARY OF 1999 ACTIVITIES:

Ground water sampling events were conducted during March, June, September and December of 1999. Monitoring wells 2 through 6 continue to show water quality at or below New Mexico Water Quality Control Commission standards (NMWQCC). Free product is still present in monitoring well 1 (MW #1) and MW#1 has not been sampled during the past year.

In December of 1998, a passive skimmer was removed from MW#1 and seven (7) Oxygen Release Compound (ORC) socks from Regenesis™ were placed in the well bore. Since the installation of the ORC socks, the socks have become saturated with free product and seems to have rendered to socks ineffective.

Ground water elevations and flow are consistent with those previously reported.

SAMPLING:

In accordance with the monitoring plan, water levels were measured on the monitoring well prior to purging and sampling. Samples were collected, preserved and transported in accordance with Environmental Protection Agency (EPA) prescribed procedures, and proper chain-of-custody protocol followed. The laboratory analyses ordered, followed the Conoco Ground Water Plan.

Table 1, summarizes the monitoring well data and water levels measured during previous and current sampling event. Table 2, summarizes the laboratory results for BTEX compounds from all water sampling completed at the referenced site.

Copies of all laboratory reports for the calendar year 1999, along with all laboratory QA/QC documentation and chains-of-custody, are attached with this report.

PO Box 2606
Farmington, NM

505-325-5667

FAX: 505-327-1496

SUMMARY AND CONCLUSIONS:

The following conclusions are based on the 1999 ground water monitoring results and trends associated with Farmington B Com 1E well location:

1. Free product remains a problem in MW #1.
2. ORC socks appear to be ineffective, due to saturation by free product.
3. All other monitoring wells (MW#2 through MW#6) exhibit water quality levels below NMWQCC standards.
4. The ground water direction seems to be influenced by an unlined irrigation ditch south of the location, which is a seasonally variable recharge point.

RECOMMENDATIONS

1. Develop and implement a more aggressive method recovering the free product from MW #1.
2. When the free product recovery has been completed, begin ground water monitoring of MW#1 until four (4) quarters of water quality at or below NMWQCC standards.
3. Request that ground water monitoring of MW#2 through MW#6 be discontinued until MW#1 water quality is below NMWQCC standards.
4. Final sampling of all monitoring wells at the location to be done prior to closure.
5. When ground water monitoring has been complete, Final Pit Closure form to be submitted to NMOCD for approval.
6. Plug and abandoned all monitoring wells at this location in accordance with current regulations.

LIMITATIONS AND CLOSURE:

This 1999 groundwater report documents the results of ground water monitoring for the referenced Conoco well location. This report following the Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico, dated October 15, 1997, and approved by NMOCD on February 16, 1998.

The scope of On Site Technologies' services consisted of project management, periodic water sampling and measurement of water levels, laboratory testing for ground water quality, and preparation of this initial report. All work has been performed in accordance with generally accepted professional practices in petroleum and environmental engineering, and hydrogeology.

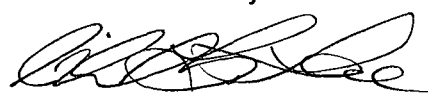
This document has been prepared by On Site Technologies for the exclusive use of Conoco Inc. as it pertains to the referenced well location operated by Conoco.

If there are any questions regarding this status report, please contact either Myke Lane or Larry Trujillo at On Site Technologies, (505) 325-5667. Thank you for your consideration.

Respectfully submitted,


Larry Trujillo, C.H.M.M.
Project Manager

Reviewed by:


Michael K. Lane, P.E.
Senior Engineer

On Site Technologies, Limited Partnership

Attachments: Table 1: Monitoring Well Details and Ground Water Levels Summary
Table 2: Ground Water BTEX Analytical Summary
Figure 1: Site Sketch
Figure 2, 3, 4, 5 Ground Water Potentiometric Map
Laboratory Result, Chain of Custody, QA/QC

Acknowledgment:
CONOCO, Inc.

Shirley R. Ebert, FSS
(Name/Title)

2/10/00
(Date)

LET/let: 41374-99.doc

REFERENCE:

On Site Technologies, Ltd., April 16, 1997, Letter to Mr. W. L. Brignon, Senior Council Conoco, Inc. Midland Division, regarding: Remediation Summary, Conoco Location, Farmington B Com #1E, Unit 0, Sec. 15, T29N, R13W, NMPM, San Juan Co., NM.

On Site Technologies, Ltd., February 1, 1998, Report to Ms. Shirley Ebert, Field SHEAR Specialist, Conoco, Inc. Mid-Continent Region, regarding: Annual Ground Water Report for 1997, Conoco Location, Farmington B Com #1E, Unit 0, Sec. 15, T29N, R13W, NMPM, San Juan Co., NM

On Site Technologies, Ltd., February 8, 1999, Report to Ms. Shirley Ebert, Field SHEAR Specialist, Conoco, Inc. Mid-Continent Region, regarding: Annual Ground Water Report for 1998, Conoco Location, Farmington B Com #1E, Unit 0, Sec. 15, T29N, R13W, NMPM, San Juan Co., NM

Table 1

Well Number	Top of Casing Elevation (ft)	Total Depth of Well (ft)	Well Type	Screen Interval (ft) (BGS)	Sample Date	Depth to Groundwater (ft) (BTOC)*	Relative Groundwater Elevation (ft)
MW #1	101.37	34.09	2" PVC	19.09 to 34.09	3/18/98	28.51	78.86
					6/12/98	27.07*	74.30
					7/13/98	25.75	75.62
					8/25/98	24.92	76.45
					9/15/98	25.06	76.32
					12/29/98	28.89	72.48
					3/3/99	28.38	72.99
					6/15/99	27.46	73.91
					9/15/9	27.95	73.42
					12/14/99	28.10	73.27
MW #2	101.57	33.72	2" PVC	18.72 to 33.72	3/18/98	27.81	72.76
					6/12/98	25.84	75.73
					7/13/98	24.49	77.08
					8/25/98	24.03	77.54
					9/15/98	24.18	77.39
					12/29/98	26.82	74.75
					3/3/99	28.57	73.00
					6/15/99	26.61	74.96
					9/15/99	26.27	75.30
					12/14/99	28.11	73.46

BGS - approximate measurements taken as Below Ground Surface
BTOC - Below Top of Casing
NM - Not Measured

Table 1
Ground Water Level Summary
Farmington B Com 1E
Unit O, Sec.15, T29N, R13W

Well Number	Top of Casing Elevation (ft)	Total Depth of Well (ft)	Well Type	Screen Interval (ft) (BGS)	Sample Date	Depth to Groundwater (BTOC)*	Relative Groundwater Elevation (ft)
MW #3	102.1	32.44	2" PVC	17.44 to 32.44	3/19/98	28.84	73.26
					6/12/98	26.27	75.83
					7/13/98	25.09	77.01
					8/25/98	24.56	77.54
					9/15/98	24.85	77.25
					12/29/98	28.02	74.08
					3/3/99	29.89	72.21
					6/15/99	27.28	74.82
					9/15/99	27.22	74.88
					12/14/99	28.21	73.89
MW #4	101.4	32.72	2" PVC	17.72 to 32.72	8/25/98	24.99	76.41
					9/15/98	25.28	76.12
					12/29/98	29.01	72.39
					3/3/99	29.97	71.43
					6/15/99	27.89	73.51
					9/15/99	27.54	73.86
					12/14/99	28.46	72.94
MW #5	100.52	34.09	2" PVC	19.09 to 34.09	8/25/98	24.49	76.03
					9/15/98	24.83	75.96
					12/29/98	28.27	72.25
					3/3/99	29.71	70.81
					6/15/99	27.58	72.94
					9/15/99	27.17	73.35
					12/14/99	28.15	72.37

BGS - approximate measurements taken as Below Ground Surface
BTOC - Below Top of Casing
NM - Not Measured

**Ground Water Level Summary
Farmington B Com 1E
Unit O, Sec.15, T29N, R13W**

Well Number	Top of Casing Elevation (ft)	Total Depth of Well (ft)	Well Type	Screen Interval (ft) (BGS)	Sample Date	Depth to Groundwater (ft) (BTOC)*	Relative Groundwater Elevation (ft)
MW #6	102.14	34.02	2" PVC	19.02 to 34.02	8/25/98	26.00	76.14
					9/15/98	26.19	75.95
					12/29/98	28.98	73.16
					3/3/99	30.71	71.43
					6/15/99	28.92	73.22
					9/15/99	28.36	73.78
					12/14/99	29.22	72.92

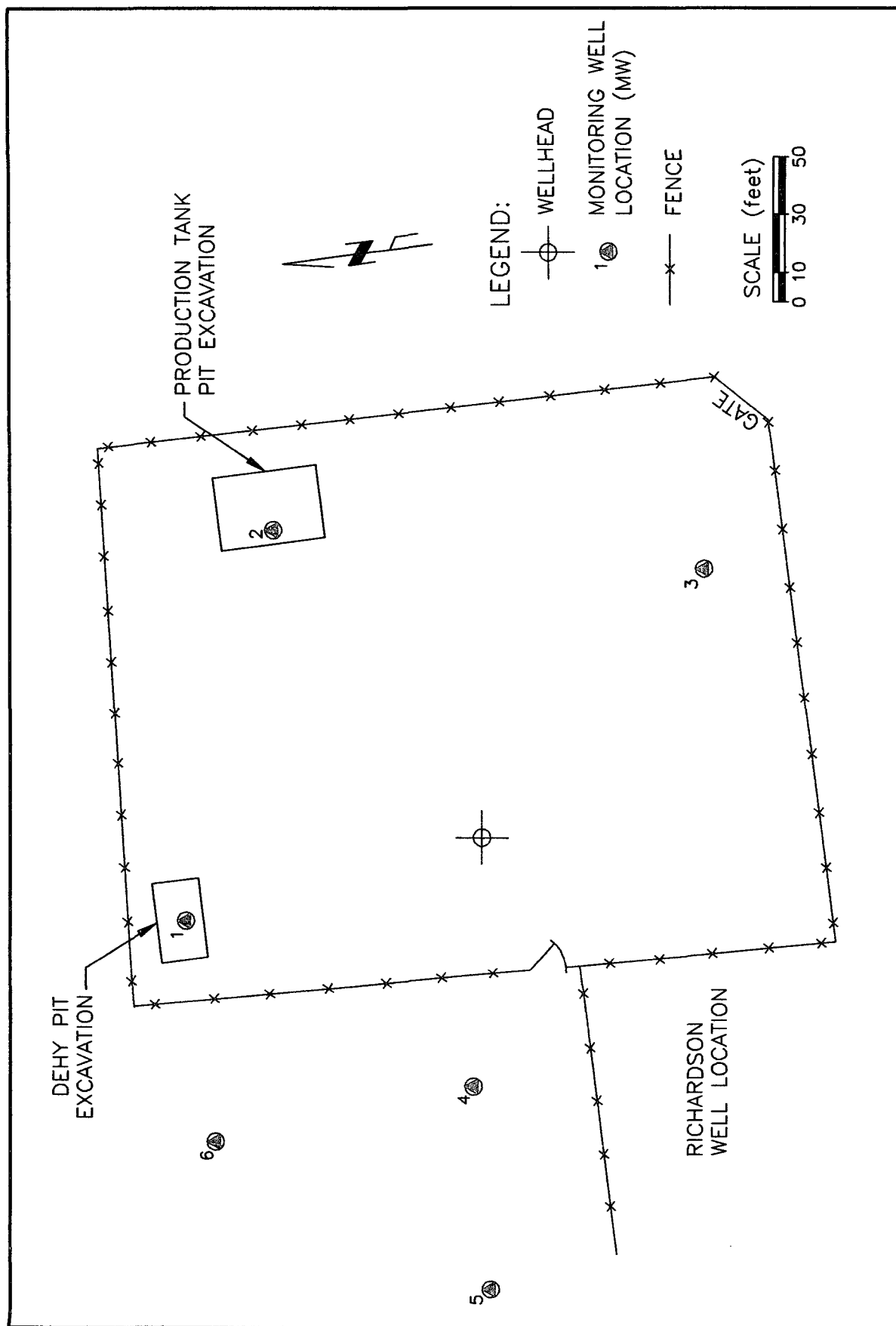
BGS - approximate measurements taken as Below Ground Surface
BTOC - Below Top of Casing
NM - Not Measured

Table 2
BTEX Ground Water Analytical Summary
Farmington B Com 1E
Unit O, Sec. 15 T29N, R13W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total-Xylene
2/19/98	9802020-01A	MW#1	On Site Lab.	210.0	34.0	370.0	2044.0
6/12/98	3" of free product	in the bailer					
9/15/98	Not Sampled	free product	in well				
12/29/98	9812053-04A			350.0	BDL	420	2800.0
No	Water	Samples	Taken	in	1999		
2/19/98	9802020-02A	MW#2	On Site Lab.	2.4	5.3	16.0	470.0
6/12/98	9806055-02A			0.8	2.7	32.0	171.0
9/15/98	9809035-01A			1.3	2.5	39.0	33.3
12/29/98	9812053-05A			BDL	0.6	2.1	35.0
3/3/99	9903012-05A			BDL	BDL	64	119.0
6/15/99	9906055-05A			BDL	BDL	BDL	BDL
9/15/99	9909054-05A			BDL	BDL	4.1	68.1
12/14/99	9912018-05A			BDL	BDL	1.8	36.4
2/19/98	9802020-03A	MW#3	On Site Lab.	0.9	1.2	1.6	5.3
06/12/98	9806055-01A			BDL	BDL	0.5	2.0
9/15/98	9809035-02A			BDL	BDL	BDL	BDL
12/29/98	9812053-06A			BDL	BDL	BDL	BDL
3/3/99	9903012-04A			BDL	BDL	BDL	BDL
6/15/99	9906055-04A			BDL	0.9	3.1	56.0
9/15/99	9909054-04A			BDL	0.6	BDL	BDL
12/14/99	9912018-04A			BDL	BDL	BDL	BDL
WQCC	Action	Levels		10.0	750.0	750.0	620.0

Table 2
BTEX Ground Water Analytical Summary
Farmington B Com 1E
Unit O, Sec. 15 T29N, R13W

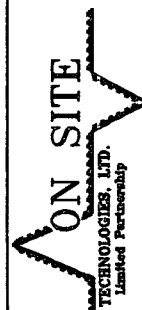
Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)				
9/15/98	9809035-03A	MW#4	On Site Lab.	BDL	BDL	BDL	BDL	BDL
12/29/98	9812053-03A			BDL	BDL	0.6		BDL
3/3/99	9903012-03A			BDL	BDL	BDL		BDL
6/15/99	9906055-03A			BDL	BDL	BDL		BDL
9/15/99	9909054-03A			BDL	BDL	BDL		BDL
12/14/99	9912018-03A			BDL	0.7	BDL		BDL
9/15/98	9809035-04A	MW#5	On Site Lab.	BDL	BDL	BDL		BDL
12/29/98	9812053-02A			BDL	BDL	BDL		BDL
3/3/99	9903012-02A			BDL	BDL	BDL		BDL
6/15/99	9906055-02A			BDL	BDL	BDL		BDL
9/15/99	9909054-02A			BDL	BDL	BDL		BDL
12/14/99	9912018-02A			BDL	0.8	BDL		BDL
9/15/98	9809035-05A	MW#6	On Site Lab.	BDL	BDL	BDL		BDL
12/29/98	9812053-01A			BDL	BDL	BDL		BDL
3/3/99	9903012-01A			BDL	BDL	BDL		BDL
6/15/99	9906055-01A			BDL	BDL	BDL		BDL
9/15/99	9909054-01A			BDL	0.7	1.1		BDL
12/14/99	9912018-01A			BDL	1.8	0.7		1.9
WQCC	Action	Levels		10.0	750.0	750.0		620.0



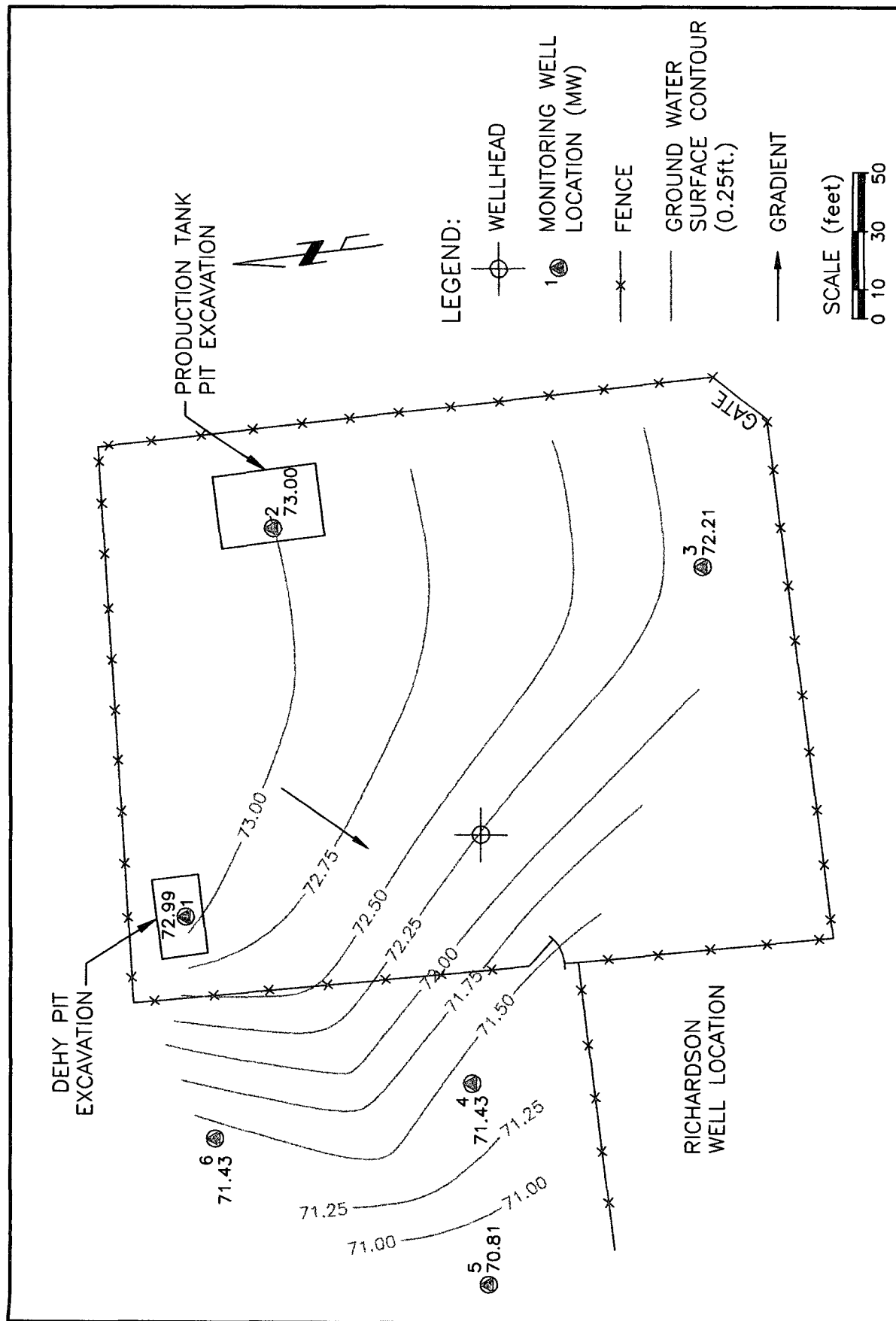
SITE PLAN
CONOCO B COM #1E

FARMINGTON, NM

APPROVED:	DATE:
DRWN BY: MED	DATE: 2/7/00
CHK'D BY:	DATE:
PROJECT NO: 4-1374	SHEET: 1 OF 5



618 E. MURRAY DR. PH. (505) 886-6607
FARMINGTON, NM 87401 FAX (505) 887-1496



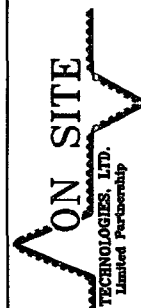
GROUND WATER POTENTIOMETER SURFACE MAP

MARCH 1999

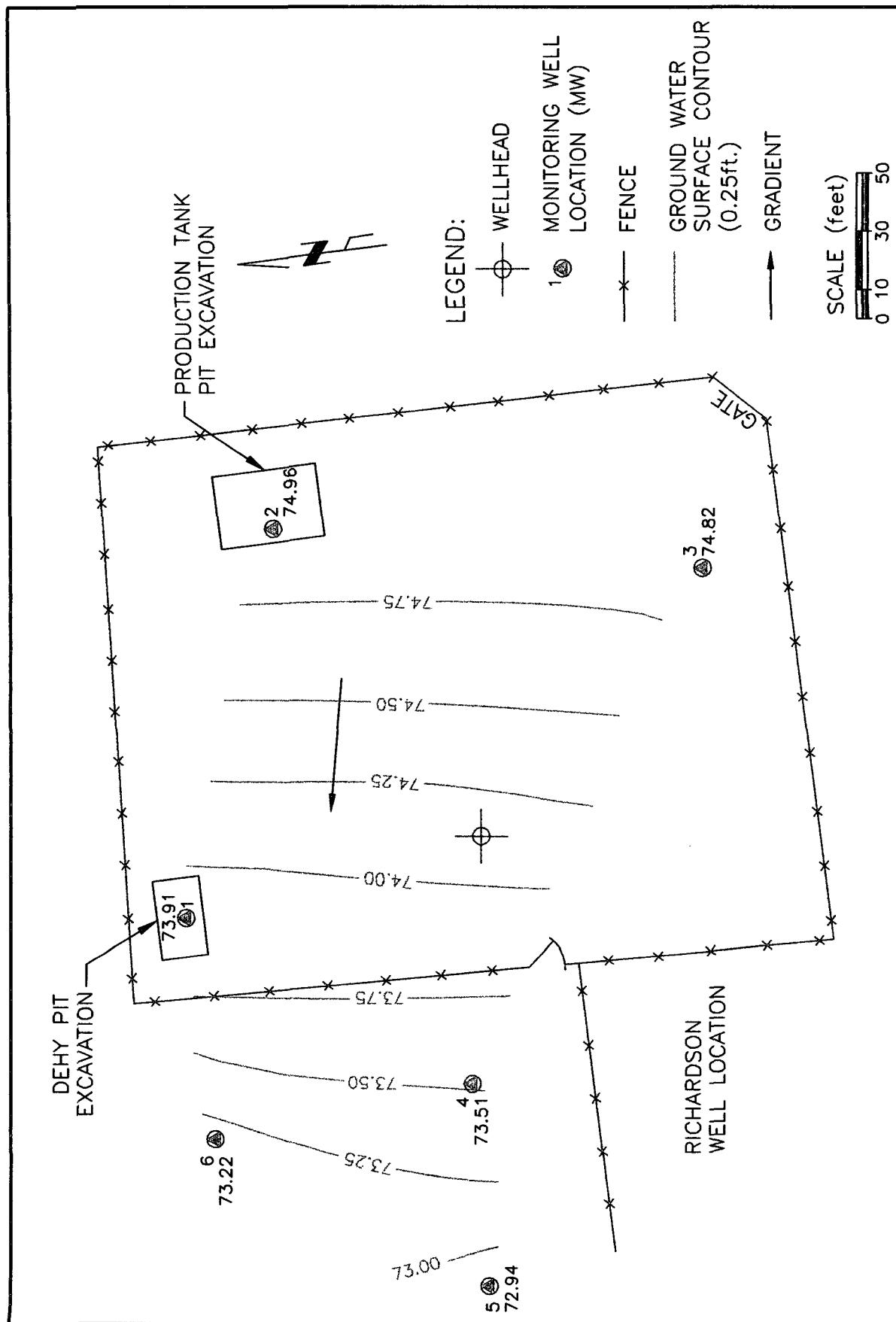
CONOCO B COM #1E

FARMINGTON, NM

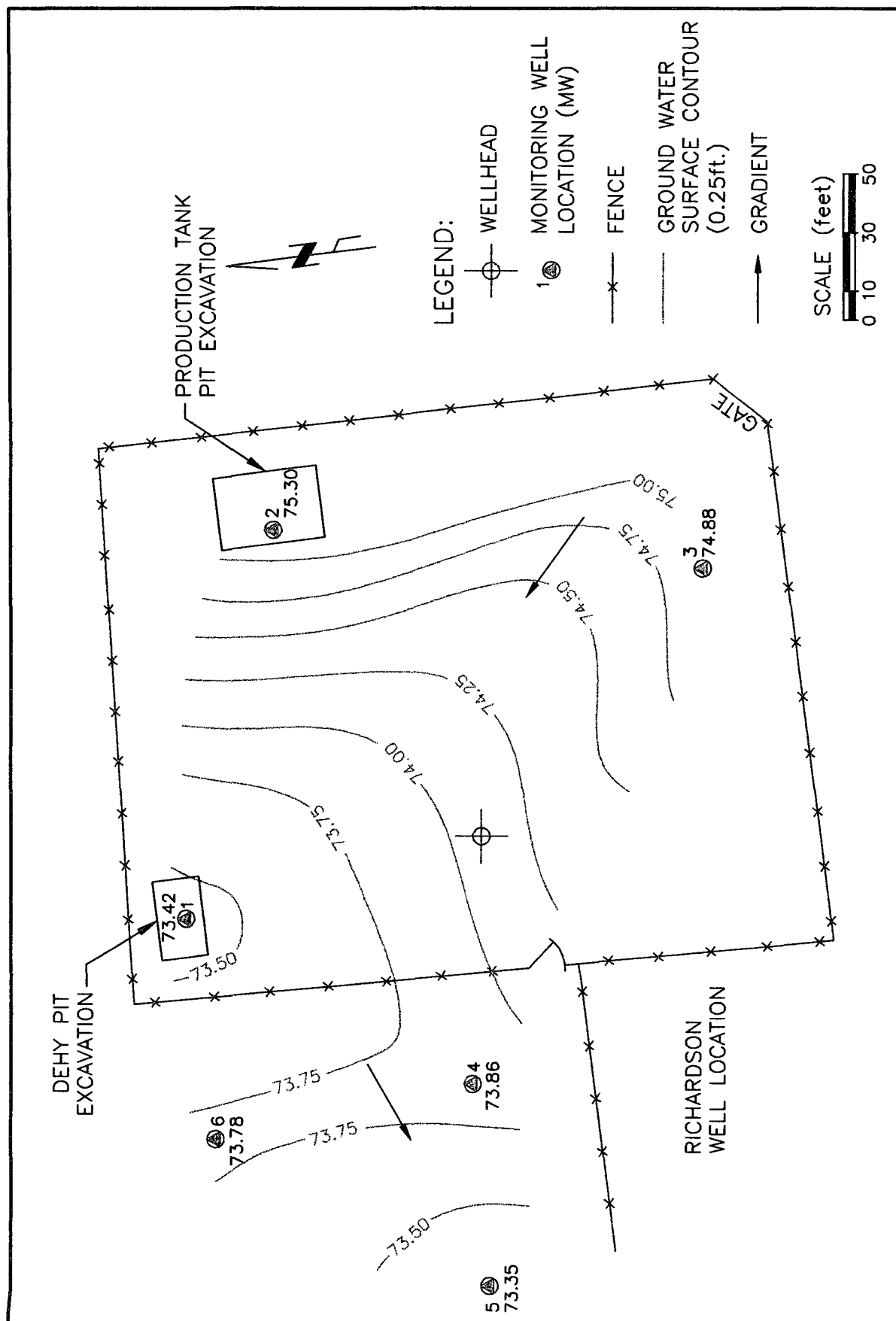
APPROVED:	DATE:
DRWN BY: MED	DATE: 2/7/00
CHK'D BY:	DATE:
PROJECT NO: 4-1374	SHEET: 2 OF 5



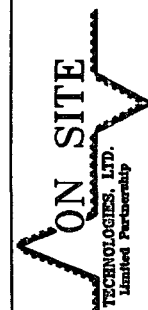
612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496



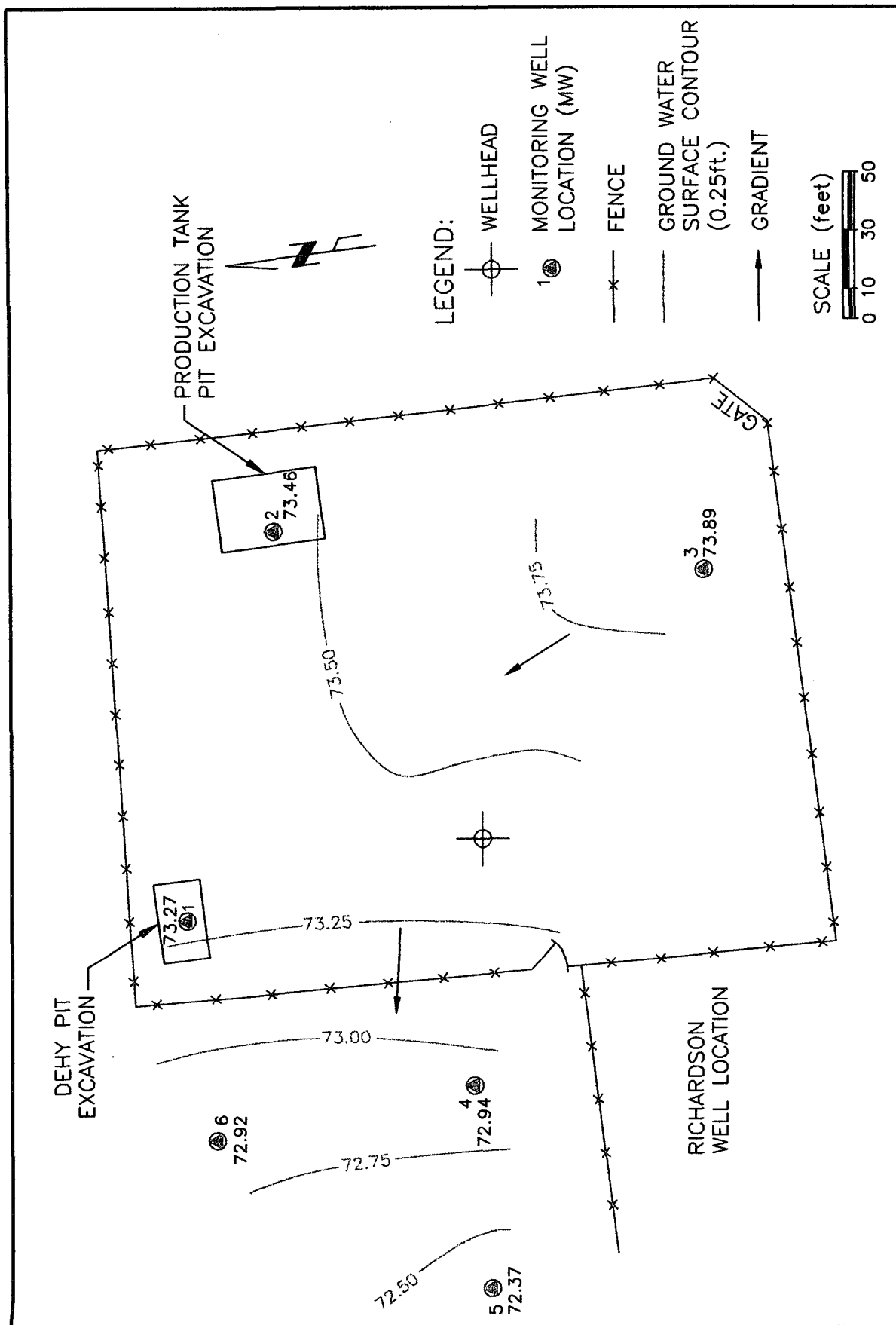
ON SITE TECHNOLOGIES, LTD. Limited Partnership		GROUND WATER POTENTIOMETER SURFACE MAP JUNE 1999 CONOCO B COM #1E FARMINGTON, NM	
APPROVED:	DATE:	DRWN BY: MED	DATE: 2/7/00
		CHK'D BY:	DATE:
PROJECT NO: 4-1374		SHEET: 3 OF 5	
618 E. MURRAY DR. FARMINGTON, NM 87401		PH. (505) 888-5667 FAX (505) 887-1496	



GROUND WATER POTENTIOMETER SURFACE MAP SEPTEMBER 1999 CONOCO B COM #1E FARMINGTON, NM		APPROVED: _____ DATE: _____	
DRWN BY: MED DATE: 2/7/00		CHK'D BY: _____ DATE: _____	
PROJECT NO: 4-1374		SHEET: 4 OF 5	



618 E. MURRAY DR. PH. (505) 825-6667
 FARMINGTON, NM 87401 FAX (505) 827-1496



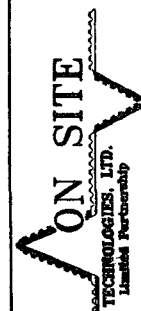
GROUND WATER POTENTIOMETER SURFACE MAP

DECEMBER 1999

CONOCO B COM #1E

FARMINGTON, NM

APPROVED:	DATE:
DRWN BY: MED	DATE: 2/7/00
CHK'D BY:	DATE:
PROJECT NO: 4-1374	SHEET: 5 OF 5



618 E. MURRAY DR. PH. (505) 825-5887
FARMINGTON, NM 87401 FAX (505) 827-1498

OFF: (505) 325-5667



LAB: (505) 325-1556

March 12, 1999

Larry Trujillo
Conoco, Inc.
3315 Bloomfield Hwy
Farmington, NM 87401
TEL: (505) 327-9557
FAX (505) 324-5825

RE: 4-1374; Farmington B-Com-1E

Order No.: 9903012

Dear Larry Trujillo,

On Site Technologies, LTD. received 5 samples on 3/3/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

BTEX (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox", is written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 12-Mar-99

CLIENT: Conoco, Inc.
Project: 4-1374; Farmington B-Com-1E
Lab Order: 9903012

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 12-Mar-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com-1E
Work Order:	9903012	Client Sample ID:	MW-6
Lab ID:	9903012-01A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com-1E	Collection Date:	3/3/99 11:15:00 AM
		COC Record:	10018

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/9/99
Toluene	ND	0.5		µg/L	1	3/9/99
Ethylbenzene	ND	0.5		µg/L	1	3/9/99
m,p-Xylene	ND	1		µg/L	1	3/9/99
o-Xylene	ND	0.5		µg/L	1	3/9/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 12-Mar-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com-1E
Work Order:	9903012	Client Sample ID:	MW-5
Lab ID:	9903012-02A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com-1E	Collection Date:	3/3/99 11:25:00 AM
		COC Record:	10018

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/9/99
Toluene	ND	0.5		µg/L	1	3/9/99
Ethylbenzene	ND	0.5		µg/L	1	3/9/99
m,p-Xylene	ND	1		µg/L	1	3/9/99
o-Xylene	ND	0.5		µg/L	1	3/9/99

Qualifiers:

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ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 12-Mar-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com-1E
Work Order:	9903012	Client Sample ID:	MW-4
Lab ID:	9903012-03A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com-1E	Collection Date:	3/3/99 11:35:00 AM
		COC Record:	10018

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/9/99
Toluene	ND	0.5		µg/L	1	3/9/99
Ethylbenzene	ND	0.5		µg/L	1	3/9/99
m,p-Xylene	ND	1		µg/L	1	3/9/99
o-Xylene	ND	0.5		µg/L	1	3/9/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 12-Mar-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com-1E
Work Order:	9903012	Client Sample ID:	MW-3
Lab ID:	9903012-04A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com-1E	Collection Date:	3/3/99 12:10:00 PM
		COC Record:	10018

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/9/99
Toluene	ND	0.5		µg/L	1	3/9/99
Ethylbenzene	ND	0.5		µg/L	1	3/9/99
m,p-Xylene	ND	1		µg/L	1	3/9/99
o-Xylene	ND	0.5		µg/L	1	3/9/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 12-Mar-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com-1E
Work Order:	9903012	Client Sample ID:	MW-2
Lab ID:	9903012-05A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com-1E	Collection Date:	3/3/99 12:40:00 PM
		COC Record:	10018

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	3/9/99
Toluene	ND	0.5		µg/L	1	3/9/99
Ethylbenzene	6.4	0.5		µg/L	1	3/9/99
m,p-Xylene	110	1		µg/L	1	3/9/99
o-Xylene	9	0.5		µg/L	1	3/9/99

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 12-Mar-99

CLIENT: Conoco, Inc.

Work Order: 9903012

Project: 4-1374; Farmington B-Com-1E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L	Analysis Date 3/9/99	Prep Date:						
Client ID:	9903012	Run ID: GC-1_990309A		SeqNo: 11935							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0322	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									J
Toluene	.0696	0.5									

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 12-Mar-99

CLIENT: Conoco, Inc.
 Work Order: 9903012
 Project: 4-1374; Farmington B-Com-1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902095-01AMS		Batch ID: GC-1_990309		Test Code: SW8021B		Units: µg/L		Analysis Date 3/9/99		Prep Date:	
Client ID: 9903012		Run ID: GC-1_990309A		PQL		SPK value		SeqNo: 11936			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2150	10	800	1400	93.8%	73	115				
Ethylbenzene	1203	10	800	440	95.4%	74	117				
m,p-Xylene	6651	20	1600	5100	97.0%	76	112				
Methyl tert-Butyl Ether	799.4	20	800	10	98.7%	62	122				
o-Xylene	1710	10	800	940	96.3%	83	112				
Toluene	1292	10	800	520	96.5%	71	120				

Sample ID: 9902095-01AMSD		Batch ID: GC-1_990309		Test Code: SW8021B		Units: µg/L		Analysis Date 3/9/99		Prep Date:	
Client ID: 9903012		Run ID: GC-1_990309A		PQL		SPK value		SeqNo: 11937			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2194	10	800	1400	99.2%	73	115	2150	2.0%	8	
Ethylbenzene	1226	10	800	440	98.3%	74	117	1203	1.9%	9	
m,p-Xylene	6782	20	1600	5100	105.2%	76	112	6651	2.0%	9	
Methyl tert-Butyl Ether	798.8	20	800	10	98.6%	62	122	799.4	0.1%	7	
o-Xylene	1737	10	800	940	99.7%	83	112	1710	1.6%	9	
Toluene	1317	10	800	520	99.6%	71	120	1292	1.9%	9	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 12-Mar-99

CLIENT: Conoco, Inc.

Work Order: 9903012

Project: 4-1374; Farmington B-Com-1E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L	Analysis Date 3/9/99		Prep Date:	
Client ID:		9903012	Run ID: GC-1_990309A		SeqNo: 11934			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val
Benzene	42.9	0.5	40	0.0322	107.2%	84	110	
Ethylbenzene	42.86	0.5	40	0	107.1%	86	113	
m,p-Xylene	83.6	1	80	0	104.5%	81	114	
Methyl tert-Butyl Ether	40.07	1	40	0	100.2%	69	129	
o-Xylene	42.74	0.5	40	0	106.8%	86	112	
Toluene	42.3	0.5	40	0.0696	105.6%	85	111	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 12-Mar-99

CLIENT: Conoco, Inc.

Work Order: 9903012

Project: 4-1374; Farmington B-Com-1E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L	Analysis Date 3/9/99		Prep Date:	
Client ID: 9903012		Run ID: GC-1_990309A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	22.02		0.5	20	0	110.1%	85	115
Ethylbenzene	22		0.5	20	0	110.0%	85	115
m,p-Xylene	42.87		1	40	0	107.2%	85	115
Methyl tert-Butyl Ether	20.45		1	20	0	102.2%	85	115
o-Xylene	21.92		0.5	20	0	109.6%	85	115
Toluene	21.63		0.5	20	0	108.2%	85	115
1,4-Difluorobenzene	93.81		0	100	0	93.8%	84	100
4-Bromochlorobenzene	97.39		0	100	0	97.4%	87	105
Fluorobenzene	95.24		0	100	0	95.2%	87	99

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L	Analysis Date 3/9/99		Prep Date:	
Client ID: 9903012		Run ID: GC-1_990309A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	21.61		0.5	20	0	108.1%	85	115
Ethylbenzene	21.46		0.5	20	0	107.3%	85	115
m,p-Xylene	41.72		1	40	0	104.3%	85	115
Methyl tert-Butyl Ether	20.46		1	20	0	102.3%	85	115
o-Xylene	21.54		0.5	20	0	107.7%	85	115
Toluene	21.25		0.5	20	0	106.2%	85	115
1,4-Difluorobenzene	93.76		0	100	0	93.8%	84	100
4-Bromochlorobenzene	95.93		0	100	0	95.9%	87	105
Fluorobenzene	95.2		0	100	0	95.2%	87	99

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Conoco, Inc.
Work Order: 9903012
Project: 4-1374; Farmington B-Com-1E

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_990309		Test Code: SW8021B		Units: µg/L		Analysis Date 3/9/99		Prep Date:	
Client ID: 9903012		Run ID: 990309A		GC-1_990309A				SeqNo: 11933			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.29	0.5	40	0	103.2%	85	115				
Ethylbenzene	41.08	0.5	40	0	102.7%	85	115				
m,p-Xylene	80.13	1	80	0	100.2%	85	115				
Methyl tert-Butyl Ether	40.9	1	40	0	102.3%	85	115				
o-Xylene	41.55	0.5	40	0	103.9%	85	115				
Toluene	40.78	0.5	40	0	101.9%	85	115				
1,4-Difluorobenzene	93.31	0	100	0	93.3%	84	100				
4-Bromochlorobenzene	95.03	0	100	0	95.0%	87	105				
Fluorobenzene	94.73	0	100	0	94.7%	87	99				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

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On Site Technologies, LTD.

Date: 12-Mar-99

CLIENT: Conoco, Inc.
Work Order: 9903012
Project: 4-1374; Farmington B-Com-1E
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9902089-02A	91.7	95.6	94.3					
9902095-01A	88.3	93.4	91					
9902095-01AMS	88.5	94.1	91.3					
9902095-01AMSD	88.1	93.4	91.3					
9902095-02A	93.9	97.4	96					
9903012-01A	94.5	97.5	96.2					
9903012-02A	94.3	98.1	96					
9903012-03A	94.1	98.2	96.1					
9903012-04A	94	98.2	96.1					
9903012-05A	92.8	96.6	95					
9903014-01A	94.2	96.9	96					
9903024-01A	92.5	96.5	93.1					
9903024-02A	93	96.6	95.7					
9903024-03A	93.8	96.9	96.2					
9903025-01A	94.1	95.8	95.5					
9903025-02A	94.1	96.4	95.6					
9903025-03A	93.9	97.2	95.8					
9903025-04A	94.3	96.8	95.6					
9903025-05A	94.1	97.2	95.6					
CCV1 QC0606/07	93.8	97.4	95.2					
CCV2 QC0606/07	93.8	95.9	95.2					
CCV3 QC0606/07	93.3	95	94.7					
LCS WATER	93.3	97.9	94.9					
MB1	93.9	96.5	96					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	84-100
4BCBZ	= 4-Bromochlorobenzene	87-105
FLBZ	= Fluorobenzene	87-99

* Surrogate recovery outside acceptance limits



Date: 5/3/90

Page: 1 of 1

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client



612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Page: 1 of 1

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

OFF: (505) 325-5667



LAB: (505) 325-1556

June 28, 1999

Larry Trujillo
Conoco, Inc.
3315 Bloomfield Hwy.
Farmington, NM 87401
TEL: (505) 327-9557
FAX (505) 324-5825

RE: 4-1374; Farmington B-Com 1E

Order No.: 9906055

Dear Larry Trujillo,

On Site Technologies, LTD. received 5 samples on 6/15/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Aromatic Volatiles by GC/PID (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox", is written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 28-Jun-99

CLIENT: Conoco, Inc.
Project: 4-1374; Farmington B-Com 1E
Lab Order: 9906055

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9906055	Client Sample ID:	MW-6
Lab ID:	9906055-01A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	6/15/99 10:15:00 AM
		COC Record:	10203

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/25/99
Toluene	ND	0.5		µg/L	1	6/25/99
Ethylbenzene	ND	0.5		µg/L	1	6/25/99
m,p-Xylene	ND	1		µg/L	1	6/25/99
o-Xylene	ND	0.5		µg/L	1	6/25/99

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9906055	Client Sample ID:	MW-5
Lab ID:	9906055-02A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	6/15/99 10:35:00 AM
		COC Record:	10203

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/25/99
Toluene	ND	0.5		µg/L	1	6/25/99
Ethylbenzene	ND	0.5		µg/L	1	6/25/99
m,p-Xylene	ND	1		µg/L	1	6/25/99
o-Xylene	ND	0.5		µg/L	1	6/25/99

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

1 of 1

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9906055	Client Sample ID:	MW-4
Lab ID:	9906055-03A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	6/15/99 11:05:00 AM
		COC Record:	10203

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/25/99
Toluene	ND	0.5		µg/L	1	6/25/99
Ethylbenzene	ND	0.5		µg/L	1	6/25/99
m,p-Xylene	ND	1		µg/L	1	6/25/99
o-Xylene	ND	0.5		µg/L	1	6/25/99

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9906055	Client Sample ID:	MW-3
Lab ID:	9906055-04A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	6/15/99 1:30:00 PM
		COC Record:	10203

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/25/99
Toluene	0.9	0.5		µg/L	1	6/25/99
Ethylbenzene	3.1	0.5		µg/L	1	6/25/99
m,p-Xylene	52	1		µg/L	1	6/25/99
o-Xylene	4	0.5		µg/L	1	6/25/99

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9906055	Client Sample ID:	MW-2
Lab ID:	9906055-05A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	6/15/99 1:35:00 PM
		COC Record:	10203

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/25/99
Toluene	ND	0.5		µg/L	1	6/25/99
Ethylbenzene	ND	0.5		µg/L	1	6/25/99
m,p-Xylene	ND	1		µg/L	1	6/25/99
o-Xylene	ND	0.5		µg/L	1	6/25/99

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

On Site Technologies, LTD.

Date: 28-Jun-99

CLIENT: Conoco, Inc.
Work Order: 9906055
Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990625	Test Code: SW8021B	Units: µg/L	Analysis Date: 6/25/99	Prep Date:						
Client ID:	9906055	Run ID: GC-1_990625A		SeqNo: 16492							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND		0.5								
Ethylbenzene	ND		0.5								
m,p-Xylene	.2351		1								J
Methyl tert-Butyl Ether	ND		1								
o-Xylene	ND		0.5								
Toluene	.1563		0.5								J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 28-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906055

Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9906055-05AMS		Batch ID: GC-1_990625		Test Code: SW8021B		Units: µg/L		Analysis Date: 6/25/99		Prep Date:	
Client ID: MW-2		9906055		Run ID: GC-1_990625A				SeqNo: 16493			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	407.6	5	400	1.205	101.6%	73	115				
Ethylbenzene	398.8	5	400	0	99.7%	74	117				
m,p-Xylene	762.4	10	800	2.901	94.9%	76	112				
Methyl tert-Butyl Ether	425.6	10	400	0	106.4%	62	122				
o-Xylene	396.3	5	400	0	99.1%	83	112				
Toluene	395.9	5	400	1.673	98.6%	71	120				

Sample ID: 9906055-05AMSD		Batch ID: GC-1_990625		Test Code: SW8021B		Units: µg/L		Analysis Date: 6/25/99		Prep Date:	
Client ID: MW-2		9906055		Run ID: GC-1_990625A				SeqNo: 16494			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	394.4	5	400	1.205	98.3%	73	115	407.6	3.3%	8	
Ethylbenzene	385.9	5	400	0	96.5%	74	117	398.8	3.3%	9	
m,p-Xylene	739.8	10	800	2.901	92.1%	76	112	762.4	3.0%	9	
Methyl tert-Butyl Ether	423.9	10	400	0	106.0%	62	122	425.6	0.4%	7	
o-Xylene	385.4	5	400	0	96.4%	83	112	396.3	2.8%	9	
Toluene	385.2	5	400	1.673	95.9%	71	120	395.9	2.7%	9	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 28-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906055

Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_990625		Test Code: SW8021B		Units: µg/L		Analysis Date: 6/25/99		Prep Date:	
Client ID:		9906055		Run ID:		GC-1_990625A		SeqNo: 16491			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.08	0.5	40	0	102.7%	84	110				
Ethylbenzene	40.78	0.5	40	0	101.9%	86	113				
m,p-Xylene	78.3	1	80	0.2351	97.6%	81	114				
Methyl tert-Butyl Ether	43.95	1	40	0	109.9%	69	129				
o-Xylene	40.35	0.5	40	0	100.9%	86	112				
Toluene	40.35	0.5	40	0.1563	100.5%	85	111				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 28-Jun-99

CLIENT: Conoco, Inc.
Work Order: 9906055
Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_9906		Batch ID: GC-1_990625	Test Code: SW8021B	Units: µg/L		Analysis Date: 6/25/99		Prep Date:				
Client ID: 9906055		Run ID: 990625A	PQL	SPK value	SPK Ref Val.	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	21.83		0.5	20	0	109.2%	85	115				
Ethylbenzene	21.69		0.5	20	0	108.4%	85	115				
m,p-Xylene	41.74		1	40	0	104.3%	85	115				
Methyl tert-Butyl Ether	22.79		1	20	0	114.0%	85	115				
o-Xylene	21.46		0.5	20	0	107.3%	85	115				
Toluene	21.33		0.5	20	0	106.7%	85	115				
1,4-Difluorobenzene	94.93		0	100	0	94.9%	86	100				
4-Bromochlorobenzene	94.48		0	100	0	94.5%	90	104				
Fluorobenzene	97.35		0	100	0	97.3%	89	101				

Sample ID: CCV2 BTEX_9906		Batch ID: GC-1_990625	Test Code: SW8021B		Units: µg/L		Analysis Date: 6/25/99			Prep Date:	
Client ID:		9906055	Run ID:	GC-1_990625A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 16489
Analyte		Result									
Benzene		21.38		0.5		20	0	106.9%	85	115	
Ethylbenzene		21.19		0.5		20	0	106.0%	85	115	
m,p-Xylene		40.6		1		40	0	101.5%	85	115	
Methyl tert-Butyl Ether		22.4		1		20	0	112.0%	85	115	
o-Xylene		21.08		0.5		20	0	105.4%	85	115	
Toluene		20.89		0.5		20	0	104.4%	85	115	
1,4-Difluorobenzene		94.9		0		100	0	94.9%	86	100	
4-Bromochlorobenzene		94.62		0		100	0	94.6%	90	104	
Fluorobenzene		97.27		0		100	0	97.3%	89	101	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Conoco, Inc.

Work Order: 9906055

Project: 4-1374; Farmington B-Com IE

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_9906		Batch ID: GC-1_990625	Test Code: SW8021B		Units: µg/L		Analysis Date: 6/25/99		Prep Date:			
Client ID: 9906055		Run ID: GC-1_990625A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	41.74		0.5	40	0	104.4%	85	115				
Ethylbenzene	41.17		0.5	40	0	102.9%	85	115				
m,p-Xylene	78.77		1	80	0	98.5%	85	115				
Methyl tert-Butyl Ether	44.54		1	40	0	111.3%	85	115				
o-Xylene	40.75		0.5	40	0	101.9%	85	115				
Toluene	40.95		0.5	40	0	102.4%	85	115				
1,4-Difluorobenzene	94.46		0	100	0	94.5%	86	100				
4-Bromochlorobenzene	94.12		0	100	0	94.1%	90	104				
Fluorobenzene	96.85		0	100	0	96.9%	89	101				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 28-Jun-99

CLIENT: Conoco, Inc.
Work Order: 9906055
Project: 4-1374; Farmington B-Com 1E
Test No: SW8021B

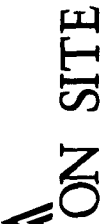
QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
9906055-01A	95	95	98					
9906055-02A	95.3	94.3	97.8					
9906055-03A	95	94.8	98.1					
9906055-04A	95.6	95.4	98.2					
9906055-05A	94.8	95	97.9					
9906055-05AMS	94.2	94.9	97					
9906055-05AMSD	94	95.1	97.2					
9906062-01A	95	94.1	98.1					
9906062-02A	95	94.3	97.8					
9906062-03A	95	94	97.8					
9906062-04A	95	94.2	98.1					
9906062-05A	94.7	94.6	98					
9906062-06A	95.8	91.4	99.8					
9906062-07A	94.6	94.8	97.7					
9906062-08A	94.5	95	97.8					
9906062-12A	94.6	94.5	97.9					
9906062-14A	95.1	94.3	97.6					
9906062-15A	94.3	94.6	97.7					
9906062-16A	94.7	94.1	97.9					
9906062-17A	95.3	94.5	97.9					
9906062-18A	95.1	94.5	97.8					
CCV1 BTEX_99061	94.9	94.5	97.3					
CCV2 BTEX_99061	94.9	94.6	97.3					
CCV3 BTEX_99061	94.5	94.1	96.8					
LCS WATER	94.7	94.6	97.1					
MBI	95.1	93.7	98.1					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	86-100
4BCBZ	= 4-Bromochlorobenzene	90-104
FLBZ	= Fluorobenzene	89-101

* Surrogate recovery outside acceptance limits



CHAIN OF CUSTODY RECORD

Date:

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Page: _____ of _____

[illegible]



612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Page: _____ of _____

Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
---------------	-----------------	--------------	----------------	--------------------

OFF: (505) 325-5667



LAB: (505) 325-1556

September 21, 1999

Larry Trujillo
Conoco, Inc.
3315 Bloomfield Hwy
Farmington, NM 87401
TEL: (505) 327-9557
FAX (505) 324-5825

RE: Farmington B-Com 1E; 4-1374

Order No.: 9909054

Dear Larry Trujillo,

On Site Technologies, LTD. received 5 samples on 9/15/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC/PID (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox", written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.
Project: Farmington B-Com 1E; 4-1374
Lab Order: 9909054

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Sep-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9909054	Client Sample ID:	MW 6
Lab ID:	9909054-01A	Matrix:	AQUEOUS
Project:	Farmington B-Com 1E; 4-1374	Collection Date:	9/15/99 9:10:00 AM
		COC Record:	10320

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/20/99
Toluene	0.7	0.5		µg/L	1	9/20/99
Ethylbenzene	1.1	0.5		µg/L	1	9/20/99
m,p-Xylene	ND	1		µg/L	1	9/20/99
o-Xylene	ND	0.5		µg/L	1	9/20/99

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Sep-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9909054	Client Sample ID:	MW 5
Lab ID:	9909054-02A	Matrix:	AQUEOUS
Project:	Farmington B-Com 1E; 4-1374	Collection Date:	9/15/99 9:35:00 AM
		COC Record:	10320

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/20/99
Toluene	ND	0.5		µg/L	1	9/20/99
Ethylbenzene	ND	0.5		µg/L	1	9/20/99
m,p-Xylene	ND	1		µg/L	1	9/20/99
o-Xylene	ND	0.5		µg/L	1	9/20/99

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Sep-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9909054	Client Sample ID:	MW 4
Lab ID:	9909054-03A	Matrix:	AQUEOUS
Project:	Farmington B-Com 1E; 4-1374	Collection Date:	9/15/99 10:05:00 AM
		COC Record:	10320

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/20/99
Toluene	ND	0.5		µg/L	1	9/20/99
Ethylbenzene	ND	0.5		µg/L	1	9/20/99
m,p-Xylene	ND	1		µg/L	1	9/20/99
o-Xylene	ND	0.5		µg/L	1	9/20/99

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Sep-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9909054	Client Sample ID:	MW 3
Lab ID:	9909054-04A	Matrix:	AQUEOUS
Project:	Farmington B-Com 1E; 4-1374	Collection Date:	9/15/99 10:40:00 AM
		COC Record:	10320

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/20/99
Toluene	0.6	0.5		µg/L	1	9/20/99
Ethylbenzene	ND	0.5		µg/L	1	9/20/99
m,p-Xylene	ND	1		µg/L	1	9/20/99
o-Xylene	ND	0.5		µg/L	1	9/20/99

Qualifiers:

- PQL - Practical Quantitation Limit
- ND - Not Detected at Practical Quantitation Limit
- J - Analyte detected below Practical Quantitation Limit
- B - Analyte detected in the associated Method Blank

- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Sep-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com 1E
Work Order:	9909054	Client Sample ID:	MW 2
Lab ID:	9909054-05A	Matrix:	AQUEOUS
Project:	Farmington B-Com 1E; 4-1374	Collection Date:	9/15/99 11:10:00 AM
		COC Record:	10320

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/20/99
Toluene	ND	0.5		µg/L	1	9/20/99
Ethylbenzene	4.1	0.5		µg/L	1	9/20/99
m,p-Xylene	64	1		µg/L	1	9/20/99
o-Xylene	4.1	0.5		µg/L	1	9/20/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.

Work Order: 9909054

Project: Farmington B-Com 1E; 4-1374

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990920	Test Code: SW8021B	Units: µg/L	Analysis Date: 9/20/99	Prep Date:
Client ID: 9909054	Run ID: GC-1_990920A	PQL	SPK value	SeqNo: 19776	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit
				%REC	RPD Ref Val
				%RPD	RPDLimit
					Qual
Benzene	.1348	0.5			J
Ethylbenzene	.1017	0.5			J
m,p-Xylene	.1836	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.0895	0.5			J
Toluene	.1756	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.

Work Order: 9909054

Project: Farmington B-Com 1E; 4-1374

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9909035-22AMS		Batch ID: GC-1_990920		Test Code: SW8021B		Units: µg/L		Analysis Date: 9/20/99		Prep Date:				
Client ID: 9909054		Run ID: GC-1_990920A		PQL		SPK value		SeqNo: 19777						
Analyte	Result					SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	945.4			5		400		600.5	86.2%	80	116			
Ethylbenzene	415.9			5		400		20.78	98.8%	80	118			
m,p-Xylene	749			10		800		5.711	92.9%	77	116			
Methyl tert-Butyl Ether	494.3			10		400		73.44	105.2%	62	122			
o-Xylene	397.6			5		400		1.036	99.1%	83	117			
Toluene	400			5		400		1.024	99.8%	80	116			

Sample ID: 9909035-22AMSD		Batch ID: GC-1_990920		Test Code: SW8021B		Units: µg/L		Analysis Date: 9/20/99		Prep Date:	
Client ID: 9909054		Run ID: GC-1_990920A		PQL		SPK value		SeqNo: 19778			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	928.3	5	400	600.5	81.9%	80	116	945.4	1.8%	7	
Ethylbenzene	408.6	5	400	20.78	97.0%	80	118	415.9	1.8%	7	
m,p-Xylene	736.8	10	800	5.711	91.4%	77	116	749	1.6%	7	
Methyl tert-Butyl Ether	498.1	10	400	73.44	106.2%	62	122	494.3	0.8%	7	
o-Xylene	393.2	5	400	1.036	98.1%	83	117	397.6	1.1%	6	
Toluene	393.8	5	400	1.024	98.2%	80	116	400	1.6%	6	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.

Work Order: 9909054

Project: Farmington B-Com 1E; 4-1374

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_990920	Test Code: SW8021B	Units: µg/L	Analysis Date: 9/20/99		Prep Date:	
Client ID: 9909054		Run ID: 9909054	PQL	SPK value	GC-1_990920A	SeqNo: 19775		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val
Benzene	40.58	0.5	40	0.1348	101.1%	87	119	
Ethylbenzene	40.67	0.5	40	0.1017	101.4%	89	117	
m,p-Xylene	75.85	1	80	0.1836	94.6%	88	114	
Methyl tert-Butyl Ether	40.49	1	40	0	101.2%	69	129	
o-Xylene	40.31	0.5	40	0.0895	100.5%	90	116	
Toluene	40.45	0.5	40	0.1756	100.7%	90	115	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.
Work Order: 9909054
Project: Farmington B-Com 1E; 4-1374

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_9906		Batch ID: GC-1_990920	Test Code: SW8021B	Units: µg/L	Analysis Date: 9/20/99				Prep Date:			
Client ID:		9909054	Run ID:	GC-1_990920A	SeqNo: 19772							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	21.41	0.5	20	0	107.1%	85	115					
Ethylbenzene	21.58	0.5	20	0	107.9%	85	115					
m,p-Xylene	40.41	1	40	0	101.0%	85	115					
Methyl tert-Butyl Ether	21.27	1	20	0	106.4%	85	115					
o-Xylene	21.38	0.5	20	0	106.9%	85	115					
Toluene	21.23	0.5	20	0	106.1%	85	115					
1,4-Difluorobenzene	93.75	0	100	0	93.8%	80	120					
4-Bromochlorobenzene	93.41	0	100	0	93.4%	80	120					
Fluorobenzene	92	0	100	0	92.0%	80	120					

Sample ID: CCV2 BTEX_9906		Batch ID: GC-1_990920	Test Code: SW8021B	Units: µg/L	Analysis Date: 9/20/99				Prep Date:			
Client ID:		9909054	Run ID:	GC-1_990920A	SeqNo: 19773							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.2	0.5	20	0	101.0%	85	115					
Ethylbenzene	20.39	0.5	20	0	101.9%	85	115					
m,p-Xylene	38.38	1	40	0	95.9%	85	115					
Methyl tert-Butyl Ether	21.36	1	20	0	106.8%	85	115					
o-Xylene	20.42	0.5	20	0	102.1%	85	115					
Toluene	20.2	0.5	20	0	101.0%	85	115					
1,4-Difluorobenzene	93.99	0	100	0	94.0%	80	120					
4-Bromochlorobenzene	88.76	0	100	0	88.8%	80	120					
Fluorobenzene	92.64	0	100	0	92.6%	80	120					

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Conoco, Inc.
Work Order: 9909054
Project: Farmington B-Com 1E; 4-1374

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_9906		Batch ID: GC-1_990920	Test Code: SW8021B	Units: µg/L		Analysis Date: 9/20/99		Prep Date:				
Client ID: 9909054		Run ID: GC-1_990920A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	20.04		0.5	20	0	100.2%	85	115				
Ethylbenzene	20.37		0.5	20	0	101.9%	85	115				
m,p-Xylene	38.48		1	40	0	96.2%	85	115				
Methyl tert-Butyl Ether	20.26		1	20	0	101.3%	85	115				
o-Xylene	21.01		0.5	20	0	105.0%	85	115				
Toluene	20.24		0.5	20	0	101.2%	85	115				
1,4-Difluorobenzene	94.52		0	100	0	94.5%	80	120				
4-Bromochlorobenzene	86.54		0	100	0	86.5%	80	120				
Fluorobenzene	92.63		0	100	0	92.6%	80	120				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.
Work Order: 9909054
Project: Farmington B-Com 1E; 4-1374
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
9909035-22A	91.9	91.7	90.4					
9909035-22AMS	92.4	90.6	90.8					
9909035-22AMSD	92.6	90.6	91.1					
9909035-24A	93.4	85.9	92.2					
9909041-02A	90.8	84.8	89.9					
9909042-01B	94.5	93.8	93.1					
9909042-02B	94	92.5	92.8					
9909042-03B	93.5	91.3	93.7					
9909042-04B	94.1	92.2	93.5					
9909042-05B	94.2	91.4	93.4					
9909046-01A	94.1	89.5	92.3					
9909047-01A	91.7	81.8	92.6					
9909048-01A	94.7	91.2	93.5					
9909048-02A	95.2	91.3	93.7					
9909048-03A	94.2	92.2	93.5					
9909049-01B	96.1	86.8	94.4					
9909054-01A	94.3	87.9	93					
9909054-02A	94.7	88.7	93.8					
9909054-03A	95.1	89.6	94					
9909054-04A	95.3	88.5	94.4					
9909054-05A	94.8	85.8	93.2					
CCV1 BTEX_99061	93.8	93.4	92					
CCV2 BTEX_99061	94	88.8	92.6					
CCV3 BTEX_99061	94.5	86.5	92.6					
LCS WATER	93	93.5	91.4					
MBI	94.2	93.1	93					

Acronym

Surrogate

QC Limits

14FBZ	=	1,4-Difluorobenzene	80-120
4BCBZ	=	4-Bromochlorobenzene	80-120
FLBZ	=	Fluorobenzene	80-120

* Surrogate recovery outside acceptance limits



Date:

Page:

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Disribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client



Date: _____

Page: _____ of _____

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

[illegible]

OFF: (505) 325-5667



LAB: (505) 325-1556

December 30, 1999

Larry Trujillo
On Site Technologies Limited
612 E. Murray Drive
P.O. Box 2606
Farmington, NM 87499
TEL: (505) 325-5667
FAX (505) 327-1496

RE: 4-1374; Farmington B-Com 1E

Order No.: 9912018

Dear Larry Trujillo,

On Site Technologies, LTD. received 5 samples on 12/14/1999 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC/PID (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "David Cox", is written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
Project: 4-1374; Farmington B-Com 1E
Lab Order: 9912018

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Dec-99

Client:	On Site Technologies Limited	Client Sample Info:	Farmington B-Com 1E
Work Order:	9912018	Client Sample ID:	MW-6
Lab ID:	9912018-01A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	12/14/1999 9:10:00 AM
		COC Record:	10443

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/17/1999
Toluene	1.8	0.5		µg/L	1	12/17/1999
Ethylbenzene	0.7	0.5		µg/L	1	12/17/1999
m,p-Xylene	1.4	1		µg/L	1	12/17/1999
o-Xylene	0.5	0.5		µg/L	1	12/17/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Dec-99

Client:	On Site Technologies Limited	Client Sample Info:	Farmington B-Com 1E
Work Order:	9912018	Client Sample ID:	MW-5
Lab ID:	9912018-02A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	12/14/1999 9:40:00 AM
		COC Record:	10443

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/17/1999
Toluene	0.8	0.5		µg/L	1	12/17/1999
Ethylbenzene	ND	0.5		µg/L	1	12/17/1999
m,p-Xylene	ND	1		µg/L	1	12/17/1999
o-Xylene	ND	0.5		µg/L	1	12/17/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Dec-99

Client:	On Site Technologies Limited	Client Sample Info:	Farmington B-Com 1E
Work Order:	9912018	Client Sample ID:	MW-4
Lab ID:	9912018-03A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	12/14/1999 10:10:00 AM
		COC Record:	10443

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/17/1999
Toluene	0.7	0.5		µg/L	1	12/17/1999
Ethylbenzene	ND	0.5		µg/L	1	12/17/1999
m,p-Xylene	ND	1		µg/L	1	12/17/1999
o-Xylene	ND	0.5		µg/L	1	12/17/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Dec-99

Client:	On Site Technologies Limited	Client Sample Info:	Farmington B-Com 1E
Work Order:	9912018	Client Sample ID:	MW-3
Lab ID:	9912018-04A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	12/14/1999 10:40:00 AM
		COC Record:	10443

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/17/1999
Toluene	ND	0.5		µg/L	1	12/17/1999
Ethylbenzene	ND	0.5		µg/L	1	12/17/1999
m,p-Xylene	ND	1		µg/L	1	12/17/1999
o-Xylene	ND	0.5		µg/L	1	12/17/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Dec-99

Client:	On Site Technologies Limited	Client Sample Info:	Farmington B-Com 1E
Work Order:	9912018	Client Sample ID:	MW-2
Lab ID:	9912018-05A	Matrix:	AQUEOUS
Project:	4-1374; Farmington B-Com 1E	Collection Date:	12/14/1999 11:00:00 AM
		COC Record:	10443

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/17/1999
Toluene	ND	0.5		µg/L	1	12/17/1999
Ethylbenzene	1.8	0.5		µg/L	1	12/17/1999
m,p-Xylene	34	1		µg/L	1	12/17/1999
o-Xylene	2.4	0.5		µg/L	1	12/17/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
 Work Order: 9912018
 Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_991217	Test Code: SW8021B	Units: µg/L	Analysis Date 12/17/1999	Prep Date:
Client ID:	9912018	Run ID:	GC-1_991217A	SeqNo: 22149	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.2023	0.5			J
Ethylbenzene	.2647	0.5			J
m,p-Xylene	.3793	1			J
Methyl tert-Butyl Ether	.2003	1			J
o-Xylene	.1475	0.5			J
Toluene	.2826	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
Work Order: 9912018
Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9912011-04AMS		Batch ID: GC-1_991217		Test Code: SW8021B		Units: µg/L		Analysis Date 12/17/1999		Prep Date:	
Client ID:		9912018		Run ID: GC-1_991217A				SeqNo: 22150			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2856	25	2000	902.8	97.7%	80	116				
Ethylbenzene	2379	25	2000	378.2	100.1%	80	118				
m,p-Xylene	6200	50	4000	2548	91.3%	77	116				
Methyl tert-Butyl Ether	2152	50	2000	25	106.4%	62	122				
o-Xylene	2604	25	2000	589.5	100.7%	83	117				
Toluene	5240	25	2000	3637	80.2%	80	116				

Sample ID: 9912011-04AMSD		Batch ID: GC-1_991217		Test Code: SW8021B		Units: µg/L		Analysis Date 12/17/1999		Prep Date:	
Client ID:		9912018		Run ID: GC-1_991217A				SeqNo: 22151			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2824	25	2000	902.8	96.1%	80	116	2856	1.1%	7	
Ethylbenzene	2358	25	2000	378.2	99.0%	80	118	2379	0.9%	7	
m,p-Xylene	6145	50	4000	2548	89.9%	77	116	6200	0.9%	7	
Methyl tert-Butyl Ether	2153	50	2000	25	106.4%	62	122	2152	0.0%	7	
o-Xylene	2573	25	2000	589.5	99.2%	83	117	2604	1.2%	6	
Toluene	5183	25	2000	3637	77.3%	80	116	5240	1.1%	6	S

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

CLIENT: On Site Technologies Limited
Work Order: 9912018
Project: 4-1374; Farmington B-Com 1E

Date: 30-Dec-99

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_991217		Test Code: SW8021B		Units: µg/L		Analysis Date 12/17/1999		Prep Date:	
Client ID:		9912018		Run ID:		GC-1_991217A		SeqNo: 22148			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.13	0.5	40	0.2023	102.3%	87	119				
Ethylbenzene	41.36	0.5	40	0.2647	102.7%	89	117				
m,p-Xylene	79.38	1	80	0.3793	98.7%	88	114				
Methyl tert-Butyl Ether	42.08	1	40	0.2003	104.7%	69	129				
o-Xylene	41.54	0.5	40	0.1475	103.5%	90	116				
Toluene	41.38	0.5	40	0.2826	102.7%	90	115				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
Work Order: 9912018
Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_9910		Batch ID: GC-1_991217	Test Code: SW8021B	Units: µg/L		Analysis Date 12/17/1999				Prep Date:	
Client ID:		9912018	Run ID:	GC-1_991217A		SeqNo:	22145				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.98	0.5	20	0	109.9%	85	115				
Ethylbenzene	22.56	0.5	20	0	112.8%	85	115				
m,p-Xylene	42.98	1	40	0	107.5%	85	115				
Methyl tert-Butyl Ether	22.2	1	20	0	111.0%	85	115				
o-Xylene	22.53	0.5	20	0	112.7%	85	115				
Toluene	22.32	0.5	20	0	111.6%	85	115				
1,4-Difluorobenzene	89.59	0	100	0	89.6%	80	120				
4-Bromochlorobenzene	89.23	0	100	0	89.2%	80	120				
Fluorobenzene	87.38	0	100	0	87.4%	80	120				

Sample ID: CCV2 BTEX_9910		Batch ID: GC-1_991217	Test Code: SW8021B	Units: µg/L		Analysis Date 12/17/1999		Prep Date:			
Client ID:		9912018	Run ID:	GC-1_991217A		SeqNo:	22146				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.24	0.5	20	0	101.2%	85	115				
Ethylbenzene	20.89	0.5	20	0	104.4%	85	115				
m,p-Xylene	39.68	1	40	0	99.2%	85	115				
Methyl tert-Butyl Ether	21.5	1	20	0	107.5%	85	115				
o-Xylene	21.16	0.5	20	0	105.8%	85	115				
Toluene	20.7	0.5	20	0	103.5%	85	115				
1,4-Difluorobenzene	89.13	0	100	0	89.1%	80	120				
4-Bromochlorobenzene	90.68	0	100	0	90.7%	80	120				
Fluorobenzene	87.23	0	100	0	87.2%	80	120				

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: On Site Technologies Limited
Work Order: 9912018
Project: 4-1374; Farmington B-Com 1E

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_9910		Batch ID: GC-1_991217	Test Code: SW8021B	Units: µg/L	Analysis Date 12/17/1999		Prep Date:	
Client ID: 9912018		Run ID: GC-1_991217A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Benzene	20.86	0.5	0	20	0	104.3%	85	115
Ethylbenzene	21.4	0.5	0	20	0	107.0%	85	115
m,p-Xylene	40.88	1	0	40	0	102.2%	85	115
Methyl tert-Butyl Ether	22.24	1	0	20	0	111.2%	85	115
o-Xylene	21.99	0.5	0	20	0	109.9%	85	115
Toluene	21.48	0.5	0	20	0	107.4%	85	115
1,4-Difluorobenzene	88.81	0	0	100	0	88.8%	80	120
4-Bromochlorobenzene	90.88	0	0	100	0	90.9%	80	120
Fluorobenzene	87.2	0	0	100	0	87.2%	80	120

On Site Technologies, LTD.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
Work Order: 9912018
Project: 4-1374; Farmington B-Com 1E
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
9912011-04A	88.1	89.7	86.5					
9912011-04AMS	87.4	89.8	85.9					
9912011-04AMSD	87.6	89.7	85.6					
9912012-10A	91.4	91.4	92.7					
9912012-13A	86.4	87.8	87					
9912012-15A	89.8	88.5	87.7					
9912012-17A	89.9	90	87.9					
9912012-18A	89.4	89.7	88					
9912013-01A	88.5	89.3	86.8					
9912014-01A	89.8	89.9	87.8					
9912016-01A	86.2	88.4	86.6					
9912017-01A	83.2	84.3	82.4					
9912018-01A	89.6	90	88.1					
9912018-02A	90	90	88					
9912018-03A	89.8	90.2	87.9					
9912018-04A	89.9	90.1	88					
9912018-05A	90.3	89.5	88					
9912019-01A	89.1	89.9	87.6					
9912022-01A	89.5	90.2	88					
9912023-01A	90.2	90.5	87.9					
CCV1 BTEX_99100	89.6	89.2	87.4					
CCV2 BTEX_99100	89.1	90.7	87.2					
CCV3 BTEX_99100	88.8	90.9	87.2					
LCS WATER	89.1	90.5	86.7					
MB1	89.8	90.2	88.1					

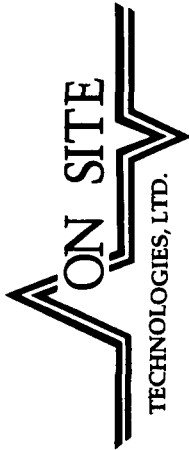
Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	80-120
4BCBZ	= 4-Bromochlorobenzene	80-120
FLBZ	= Fluorobenzene	80-120

* Surrogate recovery outside acceptance limits



Page: _____ of _____

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CHAIN OF CUSTODY RECORD

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Date: _____

Page: _____ of _____

Purchase Order No.:		Project No.		Name		Title			
SEND INVOICE TO		Name		Company					
Address		Company		Mailing Address					
City, State, Zip		Address		City, State, Zip					
PROJECT LOCATION:		City, State, Zip		Telephone No.		Telefax No.			
SAMPLER'S SIGNATURE:		REPORT RESULTS TO		ANALYSIS REQUESTED					
SAMPLE IDENTIFICATION		Number of Containers							
DATE		TIME						LAB ID	
DATE		TIME							
DATE		TIME							
DATE		TIME							
DATE		TIME							
DATE		TIME							
DATE		TIME							
DATE		TIME							
DATE		TIME							
Relinquished by:		Date/Time		Received by:		Date/Time			
Relinquished by:		Date/Time		Received by:		Date/Time			
Relinquished by:		Date/Time		Received by:		Date/Time			
Method of Shipment:		Rush		24-48 Hours		10 Working Days			
Authorized by:		Date		Special Instructions / Remarks:					
(Client Signature <u>Must</u> Accompany Request)									