

3R - 83

REPORTS

DATE:

1/5/2000



January 5, 2000

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

RE: 1999 Annual Ground Water Report
Conoco Location: Farmington, B COM #1
Unit H, Sec. 12, T29N R12W, NMPM, San Juan Co., NM

Project No.: 4-13125

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* (hereafter known as the monitoring plan), submitted to the New Mexico Oil Conservation Division on October 15, 1997.

SUMMARY OF 1999 ACTIVITIES:

Ground water sampling events were conducted in March, June, September and December of 1999. Water Sampling Point 1 (WSP1) continues to have BTEX contamination above New Mexico Water Quality Control Commission (NMWQCC) standards. The laboratory results for the last three sampling events show a slight decline in BTEX levels. Refer to BTEX concentration graph.

To aid in remediation of this location, two (2) ORC socks were placed in the recovery well upgradient of WSP1.

SAMPLING:

In accordance with the monitoring plan, water levels were measured in all monitoring wells 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 events. 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.

SUMMARY AND CONCLUSIONS:

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

1. BTEX constituents, appears above the NMWQCC standards.
2. WSP #1 continues to show concentrations of BTEX contamination above NMWQCC standards.

PO Box 2606
Farmington, NM

505-325-5667

FAX: 505-327-1496

3. The 1999 ground water elevations and flow gradient fluctuated seasonally with changes in irrigation and flow in the Animas River.

RECOMMENDATION:

1. Continue to monitor WSP-1 until four (4) clean sampling events.
2. All other WSPs to be sampled during final round for closure.
3. When sampling requirements have been completed. Prepare a Final Pit Closure Form to be submitted to NMOCD for approval.
4. Following NMOCD's approval of closure, plug and abandoned all monitoring wells in accordance with NMOCD regulations.

LIMITATIONS AND CLOSURE:

This annual ground water report documents the results of ground water monitoring for the referenced Conoco well location during the calendar year 1999. This report follows the Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico, dated October 15, 1997.

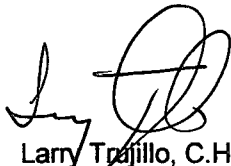
The scope of On Site Technologies' services consisted of project management, periodic water sampling and measurement of water levels, laboratory testing for ground water quality, and preparation of the annual report. All work has been performed in accordance with generally accepted professional practices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

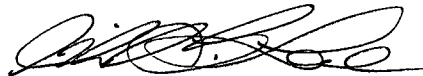
If there are any questions regarding this status report, please contact either Myke Lane or Larry Trujillo at On Site Technologies, (505) 325-5667. Thank you for your consideration.

Respectfully submitted,

Reviewed by:



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



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: Ground Water Potentiometric Map
Figure 3: Ground Water Potentiometric Map
Figure 4: Ground Water Potentiometric Map
BTEX Concentration Graph
Laboratory Results, QA/QC, Chain-of Custody

Acknowledgment:
CONOCO, Inc.

Shirley S. Ebert FSS
(Name/Title)

2/10/00
(Date)

LET/let: 41325-98.doc

REFERENCES:

On Site Technologies, Ltd., April 16, 1997, letter to Mr. W.L. Brignon, Senior Council Conoco, Inc. Midland Division, regarding: Investigation and Remediation Summary, Conoco Location, Farmington B Com #1, Unit H, Sec. 12, T29N, R12W, NMPM, San Juan Co., NM.

On Site Technologies, Ltd., November 6, 1996, letter to Mr. C. John Coy, Field SHEAR Specialist Conoco, Inc. Midland Division, regarding: Suspected Hydrocarbon Release Interim Report, Conoco Location, Farmington B Com #1, Unit H, Sec 12, T29N, R12W, NMPM, San Juan Co., NM.

On Site Technologies, Ltd., February 1, 1998, letter to Ms. Shirley Ebert, Field SHEAR Specialist Conoco, Inc. Midland Division, regarding: 1997 Annual Ground Water Report, Conoco Location, Farmington B Com #1, Unit H, Sec 12, T29N, R12W, NMPM, San Juan Co., NM.

On Site Technologies, Ltd., January 4, 1999, letter to Ms. Shirley Ebert, Field SHEAR Specialist Conoco, Inc. Midland Division, regarding: 1998 Annual Ground Water Report, Conoco Location, Farmington B Com #1, Unit H, Sec 12, T29N, R12W, NMPM, San Juan Co., NM

Table 1
Groundwater Level Summary
Farmington B Com 1
Unit H, Sec. 12, T29N, R12W

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)
WSP-0	100.83	9.41	1" PVC	9.41	06/01/97	7.30	93.53
					09/16/97	7.21	93.62
					12/05/97	6.71	94.12
					3/12/98	6.97	93.86
					6/15/98	7.01	93.82
					9/15/98	6.82	94.01
					12/21/98	6.80	94.03
					3/2/99	7.21	93.62
					6/7/99	6.78	94.05
					9/14/99	6.98	93.85
					12/13/99	6.99	93.84
					06/01/97	5.43	92.58
					09/16/97	6.52	91.49
WSP-1	98.01	9.73	2" PVC	4.73-9.73	12/05/97	4.07	93.94
					3/12/98	4.26	93.75
					6/15/98	4.32	93.69
					9/15/98	4.12	93.89
					12/21/98	4.18	93.83
					3/2/99	4.61	93.40
					6/7/99	4.17	93.84
					9/14/99	4.36	93.65
					12/13/99	4.34	93.67

* Temporary Bench Mark (TBM); Flange of the wellhead, Relative Elevation 100'
BGS - approximate measurements taken as Below Ground Surface
BTOC - Below Top of Casing
NM - Not Measured

Table 1
Groundwater Level Summary
Farmington B Com 1
Unit H, Sec. 12, T29N, R12W

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)
WSP-2	99.31	10.16	2" PVC	5.16-10.16	06/01/97	5.57	93.74
					09/16/97	6.37	92.94
					12/05/97	6.22	93.09
					3/12/98	6.35	92.96
					6/15/98	6.41	92.90
					9/15/98	6.31	93.00
					12/21/98	6.17	93.14
					3/2/99	6.52	92.79
					6/7/99	6.24	93.07
					9/14/99	6.51	92.80
WSP-3	99.17	10.15	2" PVC	5.15-10.15	12/13/99	6.57	92.74
					06/01/97	6.05	93.12
					09/16/97	6.17	93.00
					12/05/97	5.75	93.42
					3/12/98	5.90	93.27
					6/15/98	5.88	93.29
					9/15/98	6.02	93.15
					12/21/98	5.65	93.52
					3/2/99	6.14	93.03
					6/7/99	5.57	93.60
					9/14/99	5.99	93.18
					12/13/99	6.06	93.11

Temporary Bench Mark (TBM); Flange of the wellhead, Relative Elevation 100'

BGS - approximate measurements taken as Below Ground Surface

BTOC - Below Top of Casing

NM - Not Measured

1: Resurveyed elevation as of 12/31/98

Water Elevation for WSP-4 correct for March, June September and December sampling events

Table 1
Groundwater Level Summary
Farmington B Com 1
Unit H, Sec. 12, T29N, R12W

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)	
WSP-4	98.85	7.41	2" PVC	2.41-7.41	06/01/97	3.91	94.94	
					09/16/97	3.98	94.87	
					12/05/97	4.01	94.84	
					3/12/98	4.10	92.75	
					6/15/98	4.12	92.73	
					9/15/98	4.20	92.65	
					12/21/98	3.87	92.98	
					3/2/99	4.31	94.54	
					6/7/99	3.82	93.03	
					9/14/99	4.12	94.73	
Piezometer	99.16	9.55	2" PVC	9.55-4.55	12/13/99	4.31	94.54	
					12/21/98	5.31	93.85	
					3/2/99	5.67	93.49	
					6/7/99	5.24	93.92	
					9/14/99	5.48	93.68	
						12/13/99	5.52	93.64

Temporary Bench Mark (TBM); Flange of the wellhead, Relative Elevation 100'

BGS - approximate measurements taken as Below Ground Surface

BTOC - Below Top of Casing

NIM - Not Measured

1: Resurveyed elevation as of 12/31/98

Water Elevation for WSP-4 correct for March, June September and December sampling events

Temporary Bench Mark (TBM): Flange of the wellhead, Relative Elevation 100'
 BGS - approximate measurements taken as Below Ground Surface
 BTOC - Below Top of Casing
 NM - Not Measured
 1: Resurveyed elevation as of 12/31/98
 Water Elevation for WSP-4 correct for March, June, September and December sampling events

Table 2
BTEX Analytical Summary
Farmington B Com 1
Unit H, Sec. 12, T29N, R12W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)				
				Benzene	Toluene	Ethylbenzene	Total Xylene	
03/18/97	13939	WSP-0	On Site Lab.	<0.3	<0.2	<0.2	0.5	
06/11/97	14902			BDL	0.2	BDL	BDL	
09/16/97	16205			BDL	BDL	BDL	BDL	
12/5/97	17048			BDL	BDL	BDL	0.2	
3/12/98	9803040-01A			BDL	BDL	BDL	BDL	
6/15/98	9806057-01A			BDL	BDL	BDL	BDL	
9/15/98	9809034-01A			BDL	BDL	BDL	BDL	
03/18/97	13935	WSP-1	On Site Lab	557.1	146.3	555.1	3572.1	
06/11/97	14903			155.0	22.0	184.0	1457.0	
09/17/97	16206			175.0	23.0	179.0	1236.0	
12/05/97	17049			202.0	22.0	164.0	1196.0	
3/12/98	9803040-02A			110.0	25.0	150.0	1290.0	
6/15/98	9806057-02A			110.0	12.0	170.0	1160.0	
9/15/98	9809034-02A			69.0	13.0	150.0	1100.0	
12/21/98	9812048-02A			86.0	55.0	170.0	1040.0	
3/2/99	9903008-01A			45.0	BDL	130.0	720.0	
6/7/99	9906022-01A			78.0	8.5	260.0	1670.0	
9/14/99	9909047-01A			56.0	36.0	190.0	1170.0	
12/13/99	9912016-01A			31.0	3.1	110.0	840.0	
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0	

BDL Below Detection Levels

Table 2
 BTEX Analytical Summary
 Farmington B Com 1
 Unit H, Sec. 12, T29N, R12W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total Xylene
01/30/97	13563	WSP-2	On Site Lab.	22.5	23.0	23.7	108.0
03/18/97	13936			25.8	13.4	11.8	53.8
06/11/97	14904			10.1	5.3	9.2	22.7
09/16/97	16208			3.9	1.0	4.5	14.8
12/05/97	17050			1.6	1.0	1.4	3.6
3/12/98	9803040-03A			0.9	BDL	1.0	3.2
6/15/98	9806057-03A			BDL	BDL	BDL	1.1
9/15/98	9809034-03A			BDL	BDL	BDL	BDL
01/30/97	13562	WSP-3	On Site Lab.	506.8	22.0	67.8	607.1
03/18/97	13937			35.8	1.9	1.1	7.2
06/12/97	14906			8.5	0.5	1.5	1.4
09/17/97	16211			ND	0.7	0.4	0.9
12/05/97	17051			1.6	BDL	BDL	BDL
3/12/98	9803040-04A			BDL	BDL	BDL	0.5
6/15/98	9806057-04A			BDL	BDL	BDL	BDL
9/15/98	9809034-04A			BDL	BDL	BDL	BDL
03/18/97	13938	WSP-4	On Site Lab.	<0.2	27.1	<0.2	1.0
06/11/97	14905			BDL	0.2	BDL	0.4
09/16/97	16207			0.9	BDL	BDL	BDL
12/05/97	17052			BDL	BDL	BDL	BDL
3/12/98	9803040-05A			BDL	BDL	BDL	BDL
6/15/98	9806057-05A			BDL	BDL	BDL	BDL
9/15/98	9809034-05A			BDL	BDL	BDL	BDL
12/21/98	9812048-01A	Piezometer	On Site Lab.	BDL	BDL	BDL	BDL
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0

CONOCO, INC. FARMINGTON B COM. #1 SAN JUAN CO., NM	SITE SKETCH		 ON SITE TECHNOLOGIES, LTD. P.O. BOX 1606, FARMINGTON, NM 87499 (505) 725-5657
PROJECT: 1997 Groundwater Summary	DRWN: NOV. 6, 1996		
PROJECT NO: 4-1325	DRWN BY: MKL		
SHEET: 1	REVISED: Feb. 6, 98		



APPROXIMATE SCALE
1" = 40'

■ Injection point for ORC application.

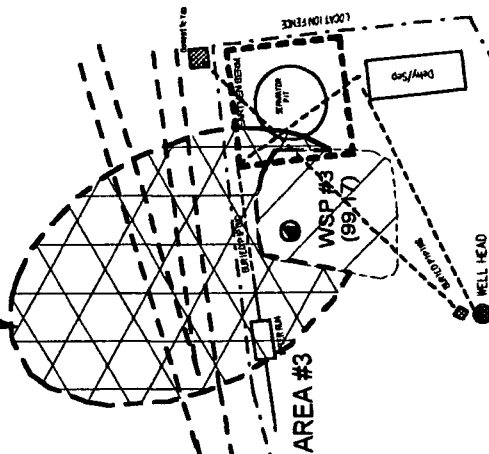
WSP #
(0.00) ● Approximate location of Water Sampling Points and Piezometer. (Relative elevations based on 12/31/98 level survey).



Areas of contaminated soil removal 11/6/96.

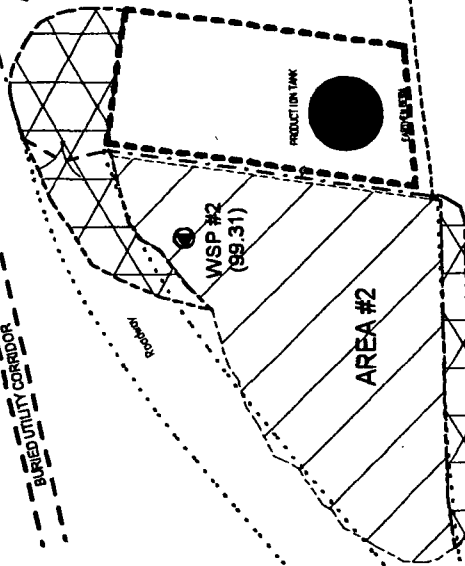
Estimated extent of remaining
TPH and BTEX soil contamination.

WSP #4
(96.85)

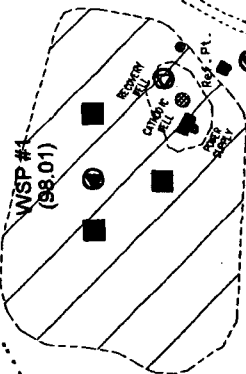


AREA #3

WSP #2
(99.31)



AREA #2



AREA #1

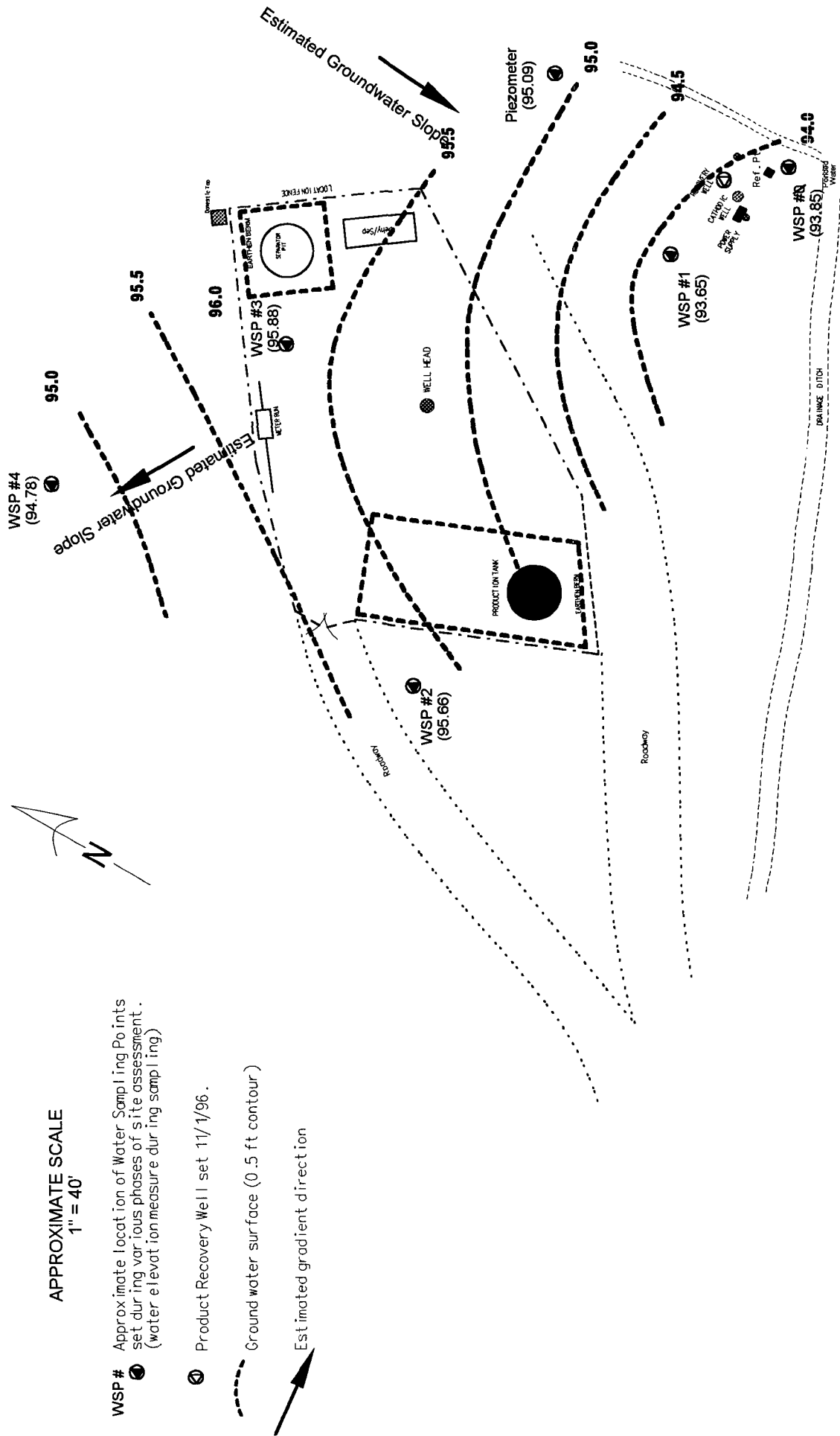
Piezometer
(99.16)
Installed 12/3/96

WSP #0
(100.83)

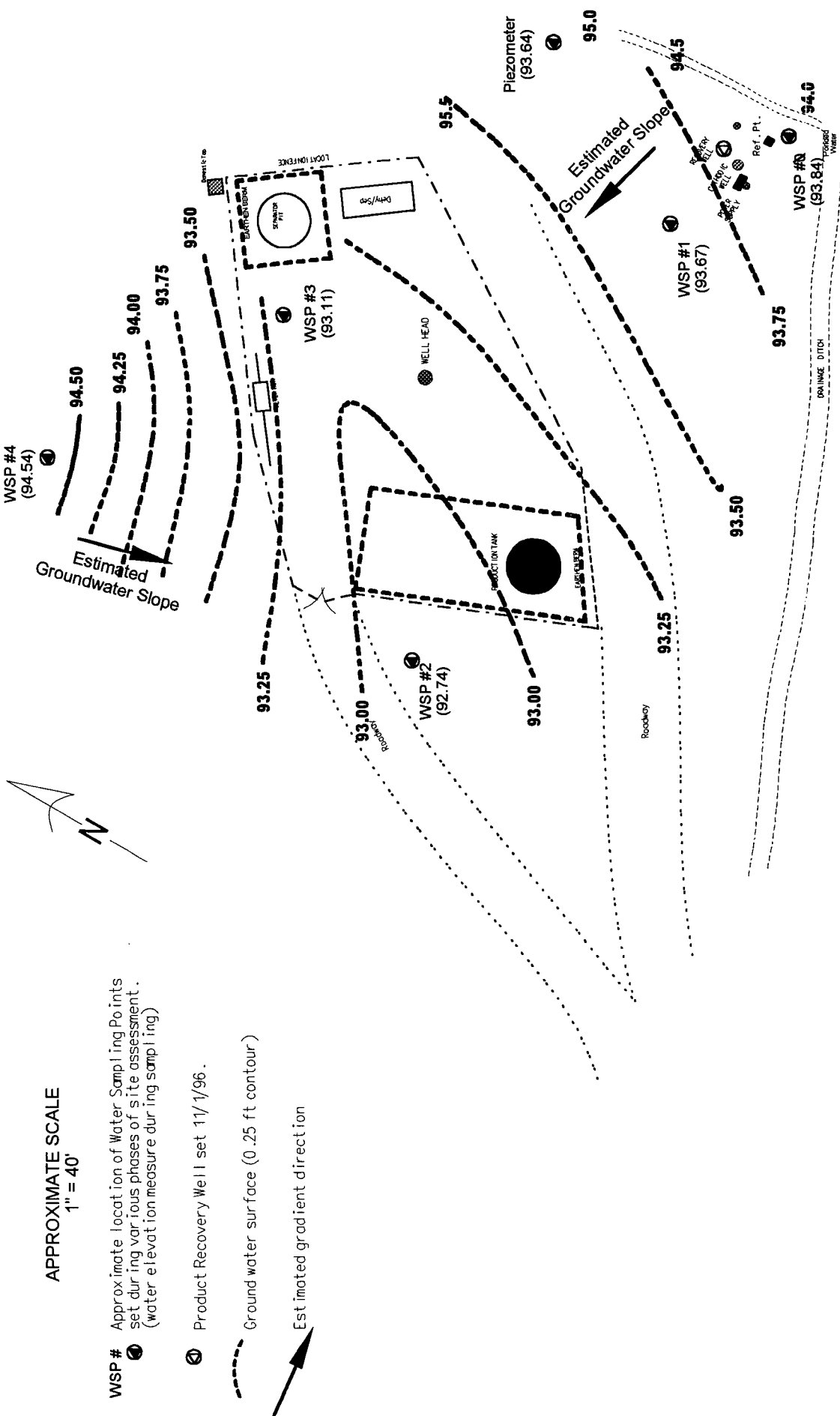
DRAINAGE DITCH

Roadway

CONOCO, INC. FARMINGTON B COM. #1 SAN JUAN CO., NM	Ground Water Potentiometric Map Sept., 1999	 ON SITE TECHNOLOGIES, LTD. P.O. BOX 2606, FARMINGTON, NM 87499 (505) 325-5667
PROJECT: 1999 Groundwater Summary	DRWN: NOV. 6, 1996	
PROJECT NO: 4-1325	DRWN BY: MKL	
SHEET: 3	REVISED: Feb. 3, 00	

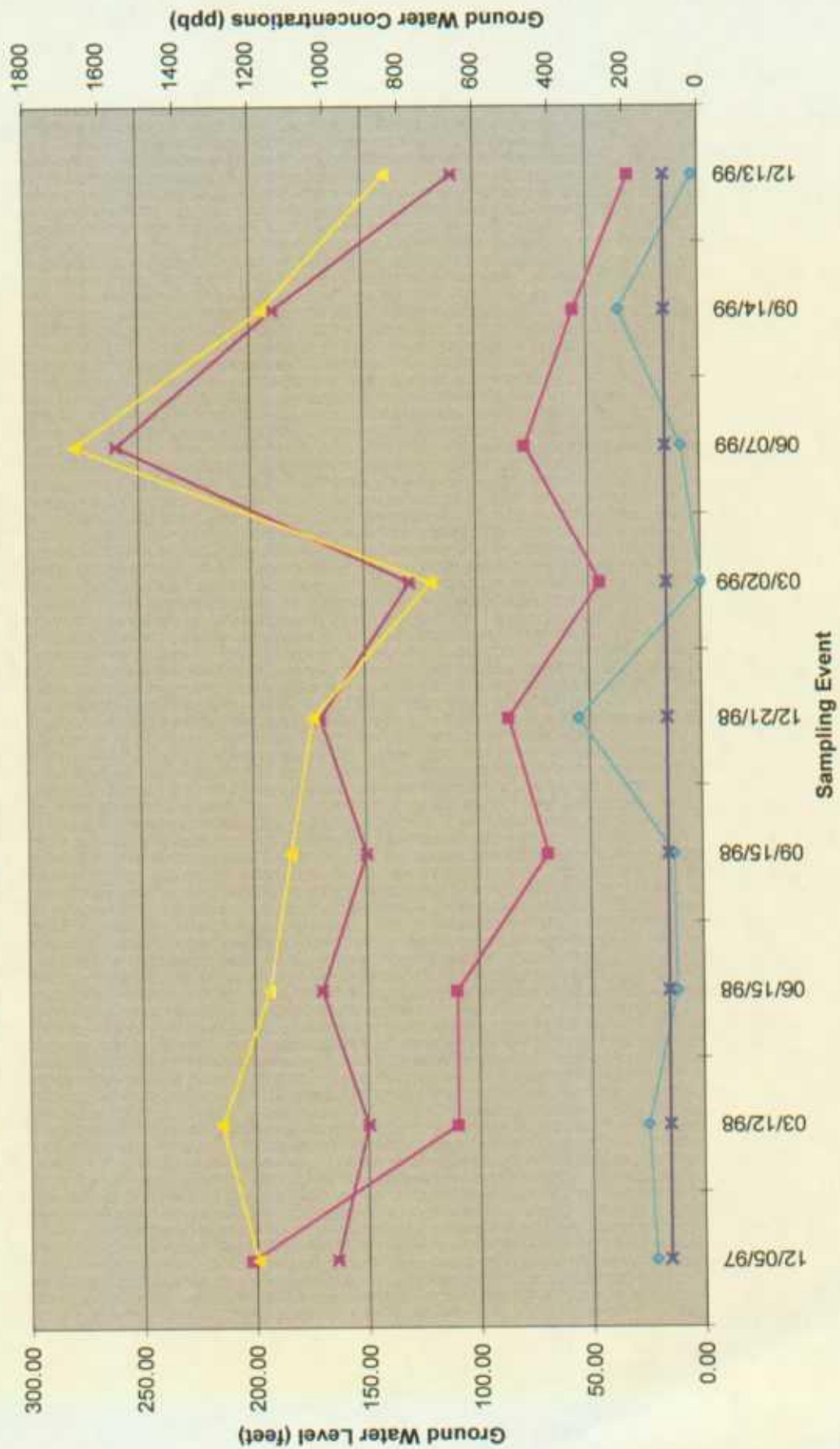


CONOCO, INC. FARMINGTON B.COM. #1 SAN JUAN CO., NM	Ground Water Potentiometric Map Dec., 1999	 ON SITE TECHNOLOGIES, LTD. P.O. BOX 3606, FARMINGTON, NM 87499 (505) 335-5667
PROJECT: 1999 Groundwater Summary	DRWN: NOV. 6, 1996	
PROJECT NO: 4-1325	DRWN BY: MKL	
SHEET: 4	REVISED: Feb. 3, 00	



B Com 1 WSP1

Benzene —◆— Toulene —◆— Ethylbenzene —◆— Total Xylene —◆— Groundwater Levels



OFF: (505) 325-5667



LAB: (505) 325-1556

March 10, 1999

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

RE: 4-1325; Farmington B-Com #1

Order No.: 9903008

Dear Larry Trujillo,

On Site Technologies, LTD. received 1 sample on 3/2/99 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: 10-Mar-99

CLIENT: Conoco, Inc.
Project: 4-1325; Farmington B-Com #1
Lab Order: 9903008

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: 10-Mar-99

Client:	Conoco, Inc.	Client Sample Info:	Farmington B-Com #1
Work Order:	9903008	Client Sample ID:	WSP-1
Lab ID:	9903008-01A	Matrix:	AQUEOUS
Project:	4-1325; Farmington B-Com #1	Collection Date:	3/2/99 10:15:00 AM
		COC Record:	10016

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	45	2.5		µg/L	5	3/8/99
Toluene	ND	2.5		µg/L	5	3/8/99
Ethylbenzene	130	2.5		µg/L	5	3/8/99
m,p-Xylene	590	5		µg/L	5	3/8/99
o-Xylene	130	2.5		µg/L	5	3/8/99

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 -

On Site Technologies, LTD.

Date: 10-Mar-99

CLIENT: Conoco, Inc.
Work Order: 9903008
Project: 4-1325; Farmington B-Com #1

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_9903008	Test Code: SW8021B	Units: µg/L	Analysis Date 3/8/99	Prep Date:						
Client ID:	9903008	Run ID: GC-1_990308A		SeqNo: 11839							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND										
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	0.5									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0298	1									J
Toluene	.0703	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: 10-Mar-99

CLIENT: Conoco, Inc.

Work Order: 9903008

Project: 4-1325; Farmington B-Com #1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902089-02AMS		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9903008		Run ID: GC-1_990308A		PQL		SPK value		SeqNo: 11840			
Analyte	Result					SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	201.2	2.5				0.399	100.4%	73	115		
Ethylbenzene	205.8	2.5				7.29	99.3%	74	117		
m,p-Xylene	422	5				37.21	96.2%	76	112		
Methyl tert-Butyl Ether	201.9	5				0	101.0%	62	122		
o-Xylene	206.4	2.5				6.91	99.7%	83	112		
Toluene	361.2	2.5				168.1	96.5%	71	120		

Sample ID: 9902089-02AMSD		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9903008		Run ID: GC-1_990308A		PQL		SPK value		SeqNo: 11841			
Analyte	Result					SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	206.4	2.5				0.399	103.0%	73	115	201.2	8
Ethylbenzene	211.1	2.5				7.29	101.9%	74	117	205.8	9
m,p-Xylene	432	5				37.21	98.7%	76	112	422	9
Methyl tert-Butyl Ether	203.1	5				0	101.5%	62	122	201.9	7
o-Xylene	210.8	2.5				6.91	101.9%	83	112	206.4	9
Toluene	370	2.5				168.1	100.9%	71	120	361.2	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: 10-Mar-99

CLIENT: Conoco, Inc.
Work Order: 9903008
Project: 4-1325; Farmington B-Com #1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_990308	Test Code: SW8021B	Units: µg/L	Analysis Date 3/8/99		Prep Date:				
Client ID:		9903008	Run ID: GC-1_990308A		SeqNo: 11838						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.31	0.5	40	0	105.8%	84	110				
Ethylbenzene	42.1	0.5	40	0	105.3%	86	113				
m,p-Xylene	82.11	1	80	0	102.6%	81	114				
Methyl tert-Butyl Ether	40.3	1	40	0	100.7%	69	129				
o-Xylene	42.03	0.5	40	0.0298	105.0%	86	112				
Toluene	41.6	0.5	40	0.0703	103.8%	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: 10-Mar-99

CLIENT: Conoco, Inc.
Work Order: 9903008
Project: 4-1325; Farmington B-Com #1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9903008		Run ID: GC-1_990308A		PQL		SPK value		SeqNo: 11835			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Limit	RPD Ref Val	%RPD	Qual
Benzene	20.99	0.5	20	0	105.0%	85	115				
Ethylbenzene	20.95	0.5	20	0	104.8%	85	115				
m,p-Xylene	40.81	1	40	0	102.0%	85	115				
Methyl tert-Butyl Ether	20.4	1	20	0	102.0%	85	115				
o-Xylene	20.95	0.5	20	0	104.8%	85	115				
Toluene	20.6	0.5	20	0	103.0%	85	115				
1,4-Difluorobenzene	93.85	0	100	0	93.8%	84	100				
4-Bromochlorobenzene	96.37	0	100	0	96.4%	87	105				
Fluorobenzene	96.13	0	100	0	96.1%	87	99				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9903008		Run ID: GC-1_990308A		PQL		SPK value		SeqNo: 11836			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Limit	RPD Ref Val	%RPD	Qual
Benzene	21.28	0.5	20	0	106.4%	85	115				
Ethylbenzene	21.1	0.5	20	0	105.5%	85	115				
m,p-Xylene	40.9	1	40	0	102.3%	85	115				
Methyl tert-Butyl Ether	20.43	1	20	0	102.2%	85	115				
o-Xylene	21.06	0.5	20	0	105.3%	85	115				
Toluene	20.86	0.5	20	0	104.3%	85	115				
1,4-Difluorobenzene	93.79	0	100	0	93.8%	84	100				
4-Bromochlorobenzene	96.38	0	100	0	96.4%	87	105				
Fluorobenzene	95.75	0	100	0	95.8%	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: 9903008
Project: 4-1325; Farmington B-Com #1

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID:		Run ID:		GC-1_990308A				SeqNo: 11837			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.6	0.5	40	0	101.5%	85	115				
Ethylbenzene	40.11	0.5	40	0	100.3%	85	115				
m,p-Xylene	78.34	1	80	0	97.9%	85	115				
Methyl tert-Butyl Ether	40.67	1	40	0	101.7%	85	115				
o-Xylene	40.58	0.5	40	0	101.4%	85	115				
Toluene	39.95	0.5	40	0	99.9%	85	115				
1,4-Difluorobenzene	93.52	0	100	0	93.5%	84	100				
4-Bromochlorobenzene	94.65	0	100	0	94.7%	87	105				
Fluorobenzene	95.46	0	100	0	95.5%	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

2 of 2

On Site Technologies, LTD.

Date: 10-Mar-99

CLIENT: Conoco, Inc.
Work Order: 9903008
Project: 4-1325; Farmington B-Com #1
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9902089-01A	94.3	96.5	96.4					
9902089-02AMS	93.2	96.5	95.2					
9902089-02AMSD	92.7	96.4	95.4					
9902096-01A	94.4	96	96.4					
9902096-02A	94.2	96.4	96.5					
9902096-03A	94	96.4	96.6					
9902096-05A	94.5	95.8	96.3					
9903001-02A	94	95.5	96.7					
9903002-01A	89.9	93.1	93.5					
9903003-01A	93.7	96.1	96					
9903004-01A	89.8	94.5	92.1					
9903006-01A	92.5	95.9	94					
9903006-02A	92.6	93.9	95.1					
9903006-03A	94.4	95.7	96.4					
9903008-01A	89.3	90.7	96.6					
9903009-01A	94.4	95.9	96.9					
9903009-02A	94.2	96.3	96.4					
9903010-01A	92.5	97.3	94.5					
9903013-01A	93.6	94.8	95.6					
CCV1 QC0606/07	93.8	96.4	96.1					
CCV2 QC0606/07	93.8	96.4	95.8					
CCV3 QC0606/07	93.5	94.6	95.4					
LCS WATER	93.4	96.4	95.4					
MB1	94.2	96.3	96.6					

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

* Surrogate recovery outside acceptance limits



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LAB: (505) 325-5667 • FAX: (505) 327-1496

Page: _____ of _____

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

Page: _____ of _____

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LAB: (505) 325-5667 • FAX: (505) 327-1496

[illegible]

OFF: (505) 325-5667



LAB: (505) 325-1556

June 17, 1999

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

RE: 4-1325; B Com 1

Order No.: 9906022

Dear Larry Trujillo,

On Site Technologies, LTD. received 1 sample on 6/7/99 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 dark 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: 17-Jun-99

CLIENT: Conoco, Inc.
Project: 4-1325; B Com 1
Lab Order: 9906022

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: 17-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	B Com 1
Work Order:	9906022	Client Sample ID:	WSP-1
Lab ID:	9906022-01A	Matrix:	AQUEOUS
Project:	4-1325; B Com 1	Collection Date:	6/7/99 2:20:00 PM
		COC Record:	10186

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	78	5		µg/L	10	6/16/99
Toluene	8.5	5		µg/L	10	6/16/99
Ethylbenzene	260	5		µg/L	10	6/16/99
m,p-Xylene	1400	10		µg/L	10	6/16/99
o-Xylene	270	5		µg/L	10	6/16/99

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

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 17-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906022

Project: 4-1325; B Com 1

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990616	Test Code: SW8021B	Units: µg/L	Analysis Date 6/16/99	Prep Date:						
Client ID:	9906022	Run ID: GC-1_990616A		SeqNo: 16005							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									J
Ethylbenzene	ND	0.5									J
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0555	0.5									
Toluene	.1036	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: 17-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906022

Project: 4-1325; B Com 1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9906015-24AMS		Batch ID: GC-1_990616		Test Code: SW8021B		Units: µg/L		Analysis Date 6/16/99		Prep Date:	
Client ID:		9906022		Run ID: GC-1_990616A				SeqNo: 16006			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6491	50	4000	2480	100.3%	73	115				
Ethylbenzene	4512	50	4000	189.1	108.1%	74	117				
m,p-Xylene	9582	100	8000	1256	104.1%	76	112				
Methyl tert-Butyl Ether	4626	100	4000	522.1	102.6%	62	122				
o-Xylene	4506	50	4000	147.5	109.0%	83	112				
Toluene	4681	50	4000	473	105.2%	71	120				

Sample ID: 9906015-24AMSD		Batch ID: GC-1_990616		Test Code: SW8021B		Units: µg/L		Analysis Date 6/16/99		Prep Date:	
Client ID:		9906022		Run ID: GC-1_990616A				SeqNo: 16007			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6302	50	4000	2480	95.6%	73	115	6491	2.9%	8	
Ethylbenzene	4388	50	4000	189.1	105.0%	74	117	4512	2.8%	9	
m,p-Xylene	9316	100	8000	1256	100.8%	76	112	9582	2.8%	9	
Methyl tert-Butyl Ether	4536	100	4000	522.1	100.4%	62	122	4626	2.0%	7	
o-Xylene	4389	50	4000	147.5	106.0%	83	112	4506	2.6%	9	
Toluene	4542	50	4000	473	101.7%	71	120	4681	3.0%	9	

Qualifiers:

NID - 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: 17-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906022

Project: 4-1325; B Com 1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_990616		Test Code: SW8021B		Units: µg/L		Analysis Date 6/16/99		Prep Date:	
Client ID:		9906022		Run ID:		GC-1_990616A		SeqNo: 16004			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.35	0.5	40	0	98.4%	84	110				
Ethylbenzene	42.58	0.5	40	0	106.5%	86	113				
m,p-Xylene	82.73	1	80	0	103.4%	81	114				
Methyl tert-Butyl Ether	39.42	1	40	0	98.5%	69	129				
o-Xylene	42.84	0.5	40	0.0555	107.0%	86	112				
Toluene	41.4	0.5	40	0.1036	103.2%	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: 17-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906022

Project: 4-1325; B Com 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_9902		Batch ID: GC-1_990616	Test Code: SW8021B	Units: µg/L	Analysis Date 6/16/99				Prep Date:		
Client ID:		9906022	Run ID:	GC-1_990616A		SeqNo:	16001				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.67	0.5	20	0	103.3%	85	115				
Ethylbenzene	22.1	0.5	20	0	110.5%	85	115				
m,p-Xylene	43.18	1	40	0	107.9%	85	115				
Methyl tert-Butyl Ether	20.92	1	20	0	104.6%	85	115				
o-Xylene	22.22	0.5	20	0	111.1%	85	115				
Toluene	21.55	0.5	20	0	107.7%	85	115				
1,4-Difluorobenzene	93.71	0	100	0	93.7%	86	100				
4-Bromochlorobenzene	94.73	0	100	0	94.7%	90	104				
Fluorobenzene	95.93	0	100	0	95.9%	89	101				

Sample ID: CCV2 BTEX_9902		Batch ID: GC-1_990616	Test Code: SW8021B	Units: µg/L	Analysis Date 6/16/99		Prep Date:				
Client ID:		9906022	Run ID: GC-1_990616A		SeqNo: 16002						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.87	0.5	20	0	104.4%	85	115				
Ethylbenzene	22.19	0.5	20	0	110.9%	85	115				
m,p-Xylene	43.09	1	40	0	107.7%	85	115				
Methyl tert-Butyl Ether	21.5	1	20	0	107.5%	85	115				
o-Xylene	22.33	0.5	20	0	111.7%	85	115				
Toluene	21.68	0.5	20	0	108.4%	85	115				
1,4-Difluorobenzene	94.8	0	100	0	94.8%	86	100				
4-Bromochlorobenzene	94.21	0	100	0	94.2%	90	104				
Fluorobenzene	97.65	0	100	0	97.7%	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: 9906022

Project: 4-1325; B Com 1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_9902 Batch ID: GC-1_990616 Test Code: SW8021B Units: µg/L Analysis Date 6/16/99 Prep Date:
Client ID: 9906022 Run ID: GC-1_990616A SeqNo: 16003

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.95	0.5	40	0	102.4%	85	115				
Ethylbenzene	43.87	0.5	40	0	109.7%	85	115				
m,p-Xylene	84.87	1	80	0	106.1%	85	115				
Methyl tert-Butyl Ether	42.23	1	40	0	105.6%	85	115				
o-Xylene	44.17	0.5	40	0	110.4%	85	115				
Toluene	42.89	0.5	40	0	107.2%	85	115				
1,4-Difluorobenzene	93.9	0	100	0	93.9%	86	100				
4-Bromochlorobenzene	94.74	0	100	0	94.7%	90	104				
Fluorobenzene	96.97	0	100	0	97.0%	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: 17-Jun-99

CLIENT: Conoco, Inc.
Work Order: 9906022
Project: 4-1325; B Com 1
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
9906015-17A	94.9	94.1	98.6					
9906015-18A	94.9	94.6	98.6					
9906015-19A	95.2	94.3	98.9					
9906015-20A	95.1	96.4	98.2					
9906015-21A	95.1	95.7	98.6					
9906015-22A	94.5	93.9	98					
9906015-23A	93.7	95.6	96.6					
9906015-24A	94.6	93.8	97.4					
9906015-24AMS	93.6	95.3	96.5					
9906015-24AMSD	93.6	95.6	96.5					
9906015-25A	91	94.9	94.2					
9906015-26A	95.1	94.8	98.8					
9906015-27A	95.3	94.3	96.5					
9906018-01A	94.6	95.1	98.7					
9906019-01A	95.5	95.2	98.2					
9906021-01A	94.9	95.4	98.5					
9906021-02A	95.8	94.9	98.6					
9906021-03A	95.4	95.3	98.6					
9906022-01A	89.9	91.7	95.6					
9906023-01A	89	87.1 *	91.5					
9906049-01A	95.5	94.9	98.8					
CCV1 BTEX_99020	93.7	94.7	95.9					
CCV2 BTEX_99020	94.8	94.2	97.6					
CCV3 BTEX_99020	93.9	94.7	97					
LCS WATER	93.8	95	96.8					
MB1	94.9	94.4	96.8					

Acronym

Surrogate

QC Limits

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

* Surrogate recovery outside acceptance limits



Page: _____ of _____

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Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
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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 1; 4-1325

Order No.: 9909047

Dear Larry Trujillo,

On Site Technologies, LTD. received 1 sample on 9/14/99 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", with a stylized flourish at the end.

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 1; 4-1325
Lab Order: 9909047

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 1
Work Order:	9909047	Client Sample ID:	WSP-1
Lab ID:	9909047-01A	Matrix:	AQUEOUS
		Collection Date:	9/14/99 9:50:00 AM
Project:	Farmington B-Com 1; 4-1325	COC Record:	10316

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	56	5		µg/L	10	9/20/99
Toluene	36	5		µg/L	10	9/20/99
Ethylbenzene	190	5		µg/L	10	9/20/99
m,p-Xylene	980	10		µg/L	10	9/20/99
o-Xylene	190	5		µg/L	10	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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 21-Sep-99

CLIENT: Conoco, Inc.

Work Order: 9909047

Project: Farmington B-Com 1; 4-1325

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: 9909047	Run ID: GC-1_990920A	PQL	SPK value	SeqNo: 19776	
Analyte	Result	PQL	SPK Ref Val	LowLimit	HighLimit
Benzene	.1348	0.5		%REC	RPD Ref Val
Ethylbenzene	.1017	0.5		%RPD	RPDLimit
m,p-Xylene	.1836	1			Qual
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.0895	0.5			
Toluene	.1756	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: 21-Sep-99

CLIENT: Conoco, Inc.
Work Order: 9909047
Project: Farmington B-Com I; 4-1325

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: 9909047		Run ID: GC-1_990920A		PQL		SPK value		SeqNo: 19777			
Analyte	Result	PQL	SPK value	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: 9909047		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: 9909047

Project: Farmington B-Com 1; 4-1325

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:		9909047	Run ID: GC-1_990920A		SeqNo: 19775						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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

QC SUMMARY REPORT

Continuing Calibration Verification Standard

CLIENT: Conoco, Inc.
 Work Order: 9909047
 Project: Farmington B-Com 1; 4-1325

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: 9909047		Run ID: GC-1_990920A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 19772	
Analyte	Result									
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: 9909047		Run ID: GC-1_990920A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 19773	
Analyte	Result									
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: 9909047
Project: Farmington B-Com 1; 4-1325

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:		9909047	Run ID: GC-1_990920A		SeqNo: 19774						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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: 9909047
 Project: Farmington B-Com 1; 4-1325
 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					
MB1	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



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Date: _____

Page: _____ of _____

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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: 4-1325; B-Com-1

Order No.: 9912016

Dear Larry Trujillo,

On Site Technologies, LTD. received 1 sample on 12/13/1999 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 "D Cox", is written over the signature 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: 4-1325; B-Com-1

Lab Order: 9912016

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:	B-Com-1
Work Order:	9912016	Client Sample ID:	WSD-1
Lab ID:	9912016-01A	Matrix:	AQUEOUS
Project:	4-1325; B-Com-1	Collection Date:	12/13/1999 1:20:00 PM
		COC Record:	10441

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	31	2.5		µg/L	5	12/17/1999
Toluene	3.1	2.5		µg/L	5	12/17/1999
Ethylbenzene	110	2.5		µg/L	5	12/17/1999
m,p-Xylene	720	5		µg/L	5	12/17/1999
o-Xylene	120	2.5		µg/L	5	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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
Work Order: 9912016
Project: 4-1325; B-Com-1

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:	9912016	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: 9912016
Project: 4-1325; B-Com-1

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:		9912016		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:		9912016		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.

Date: 30-Dec-99

CLIENT: On Site Technologies Limited
Work Order: 9912016
Project: 4-1325; B-Com-1

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:		9912016		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: 9912016
Project: 4-1325; B-Com-1

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: 9912016		Run ID: GC-1_991217A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 22145
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
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: 9912016		Run ID: GC-1_991217A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 22146
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
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: 9912016
Project: 4-1325; B-Com-1

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: 9912016	Run ID: GC-1_991217A	PQL	SPK value	SPK Ref Val	%REC
Analyte	Result	QOL	SPK value	SPK Ref Val	%REC
Benzene	20.86	0.5	20	0	104.3%
Ethylbenzene	21.4	0.5	20	0	107.0%
m,p-Xylene	40.88	1	40	0	102.2%
Methyl tert-Butyl Ether	22.24	1	20	0	111.2%
o-Xylene	21.99	0.5	20	0	109.9%
Toluene	21.48	0.5	20	0	107.4%
1,4-Difluorobenzene	88.81	0	100	0	88.8%
4-Bromochlorobenzene	90.88	0	100	0	90.9%
Fluorobenzene	87.2	0	100	0	87.2%

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: 9912016

Project: 4-1325; B-Com-1

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



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(Client Signature Must Accompany Request)



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