

3R - 90

REPORTS

DATE:

1998



February 9, 1999

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

RECEIVED

FEB 19 1999

RE: 1998 Annual Ground Water Report
Conoco Location: NELL-HALL #1,
Unit M, Sec. 07, T30N, R11W, NMPM, San Juan Co., NM

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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 1998, 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 1998 ACTIVITIES:

Ground water sampling events were conducted in March, June, September and December of 1998.

September 1998, NMOCD modified the sampling requirements as follows:

- Three (3) of eight (8) air sparging points were to be used as additional sampling points.
- The other air sparging points will have water levels measured to aid in determining groundwater gradient, movement of contamination.
- Discontinue sampling of MW#3.
- If MW#2 shows ground water quality below NMWQCC standard, sampling of MW#2 can be discontinued.
- All sampling points will be sampled during the final round for closure.
- four consecutive clean sampling events vice four consecutive clean quarters must be obtain for closure.

December 1998, insufficient water present in the sampling points, no samples were taken.

Results of the ground water sampling efforts were previously documented in the following correspondence:

On Site Technologies, Ltd., February 1, 1998, letter to Ms. Shirley Ebert, SHEAR Specialist, Conoco, Inc., Midland Division, regarding 1997 Annual Ground Water Report, *Conoco Location, Nell-Hall #1, Unit M, Sec. 07, T30N, R11W, NMPM, San Juan Co., NM.*

SAMPLING:

In accordance with the monitoring plan, water levels were measured on 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.

PO Box 2606
Farmington, NM

505-325-5667

FAX: 505-327-1496

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 1998, 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 1998 ground water monitoring results and trends associated with a former production pit at the Nell-Hall #1 well location:

1. Sparge Point 7 shows BTEX contamination levels above the New Mexico Water Quality Control Commission (NMWQCC) standards.
2. Monitoring well #1 still shows contamination levels, as of the September sampling event below NMWQCC standards.
3. BTEX contamination of ground water seems to fluctuate with the fluctuation of the ground water elevation.
4. The ground water during 1998 fluctuated seasonally with changes in irrigation and flow in the Animas River.

RECOMMENDATION:

1. Continue sampling of monitoring wells and sparge point until four consecutive sampling events demonstrates that contamination levels are below NMWCC standards.

LIMITATIONS AND CLOSURE:

This annual groundwater report documents the results of ground water monitoring for the referenced Conoco well location during the calendar year 1998. This report follows the Conoco Ground Water Plan, 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 geotechnical, petroleum and environmental engineering, and hydrogeology.

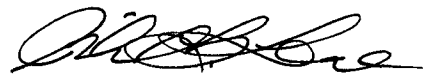
This document has been prepared by On Site Technologies for the exclusive use of Conoco Inc., as it pertains to the referenced well location operated by Conoco.

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 (June 12, 1998)
Figure 3: Ground Water Potentiometric Map (June 16, 1998)
Figure 4: Ground Water Potentiometric Map (September 1998)
Figure 5: Ground Water Potentiometric Map (December 1998)
Boring Logs and Monitoring Well Diagrams
Laboratory Results, QA/QC, Chain of Custody

Acknowledgment:
CONOCO, Inc.

Shirley Ebert SHATEL SPECIALIST
(Name/Title)

FEB 17, 1999
(Date)

MKL/mkl: 41363-97.doc

Table1
Groundwater Level SUMMARY
Well-Hall #1
Unit M, Sec. 07, T30N, R11W

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	97.63	28.61	2" PVC	18.61 to 28.61	03/27/97	NMW	
RESURVEY 6/16/98	97.88				08/07/97	19.11	78.52
					09/16/97	21.09	76.54
					12/30/97	NMW	
					06/12/98	23.56	74.07
					6/16/98	23.56	74.32
					9/28/98	14.86	83.02
					12/30/98	29.23	68.65
MW#2	96.96	27.31	2" PVC	17.31 to 27.31	03/27/97	NMW	
RESURVEY 6/16/98	97.12				08/07/97	19.17	77.79
					09/16/97	20.79	76.17
					12/30/97	NMW	
					06/12/98	22.31	73.21
					6/16/98	23.66	73.46
					9/28/98	14.97	82.15
					12/30/98	NMW	
MW#3	97.48	27.03	2" PVC	17.03 to 27.03	03/27/97	NMW	
RESURVEY 6/16/98	97.88				08/07/97	20.02	77.46
					09/16/97	21.40	76.08
					12/30/97	NMW	
					06/12/98	24.51	72.97
					6/16/98	24.51	73.37
					9/28/98	15.40	82.48
					12/30/98	NMW	

BGS - approximate measurements taken as Below Ground Surface

BTOC - Below Top of Casing

NM - Not Measured

NMW - No Measurable Water

Table1
Groundwater Level SUMMARY
Nell-Hall #1
Unit M, Sec. 07, T30N, R11W

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)
SP 1	94.91	26.99	2" PVC	16.99 to 26.99	6/16/98	25.92	73.52
	Well broken off		12 inches		9/28/98	12.73	82.18
					12/30/98	NMW	
SP 2	95.92	27.52	2" PVC	17.52 to 27.52	6/16/98	22.76	73.16
					9/28/98	14.19	81.73
					12/30/98	NMW	
SP 3	95.82	25.29		15.29 to 25.29	6/16/98	22.86	72.96
					9/28/98	13.08	82.74
					12/30/98	25.11	70.71
SP 4	96.03	25.36	2" PVC	15.36 to 25.36	6/16/98	22.09	73.94
					9/28/98	13.33	82.70
					12/30/98	NMW	
SP 6	95.90	28.12	2" PVC	18.12 to 28.12	6/16/98	22.77	73.13
					9/28/98	14.00	81.90
					12/30/98	28.22	67.68
SP 7	96.06	26.92	2" PVC	16.92 to 26.92	6/16/98	22.67	73.39
					9/28/98	13.27	82.46
					12/30/98	NMW	

BGS - approximate measurements taken as Below Ground Surface

BTOC - Below Top of Casing

NM - Not Measured

NMW - No Measurable Water

On Site Technologies, Ltd.:

February 9, 1999

Table1
Groundwater Level SUMMARY
Well-Hall #1
Unit M, Sec. 07, T30N, R11W

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)
SP 8	96.12	25.92	2" PVC	15.92 to 25.92	6/16/98	22.73	73.39
					9/28/98	13.60	82.52
					12/30/98	NMW	

BGS - approximate measurements taken as Below Ground Surface
BTOC - Below Top of Casing
NM - Not Measured
NMW - No Measurable Water

Table 2
BTEX Analytical Summary
Nell-Hall #1
Unit M, Sec.07, T30N, R11W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total Xylene
06/14/96	0396G01016	MW#1	IML	26.6	27.7	757.0	9310.0
06/28/96	0369G01208		IML	BDL	42.0	720.0	14404.0
07/12/96	0369G01336		IML	BDL	15.2	168.0	BDL
04/01/97			On Site Lab.	No	Sample	Taken	
08/07/97	15686			19.0	17.0	49.0	1197.0
09/16/97	16200			77.0	15.0	195.0	2140.0
12/30/97				No	Sample	Taken	
06/12/98	980653-01A			39.0	18.0	320.0	2902.8
09/28/98	9809078-01A			3.3	38.0	8.2	111.2
06/14/97	0396G01017	MW#2	IML	9.0	1.6	26.1	1.1
06/28/96	0396G01209		IML	BDL	0.4	1.6	0.4
07/12/96	0396G01337		IML	0.5	BDL	1.7	0.8
04/01/97			On Site Lab.	No	Sample	Taken	
08/07/97	15687			BDL	BDL	0.8	0.9
09/16/97	16201			35.0	0.2	33.8	2704
12/30/97				No	Sample	Taken	
06/12/98	9806053-02A			BDL	BDL	BDL	BDL
9/28/98	9809078-02A			BDL	BDL	BDL	BDL
06/14/96	0396G01017	MW#3	IML	31.3	BDL	BDL	BDL
06/28/96	0396G1210		IML	BDL	BDL	BDL	BDL
07/12/96	0396G01338		IML	BDL	BDL	BDL	BDL
04/01/97			On Site Lab.	No	Sample	Taken	
08/07/97	15688			BDL	BDL	BDL	BDL
09/16/97	16202			BDL	BDL	BDL	BDL
12/30/97				No	Sample	Taken	
06/12/98	9806053-03A			BDL	BDL	BDL	BDL
9/28/98	9809078-03A			BDL	BDL	BDL	BDL
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0

BDL: Below Detection Limits

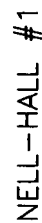
Note: No samples taken during the December 30, 1998 sampling event

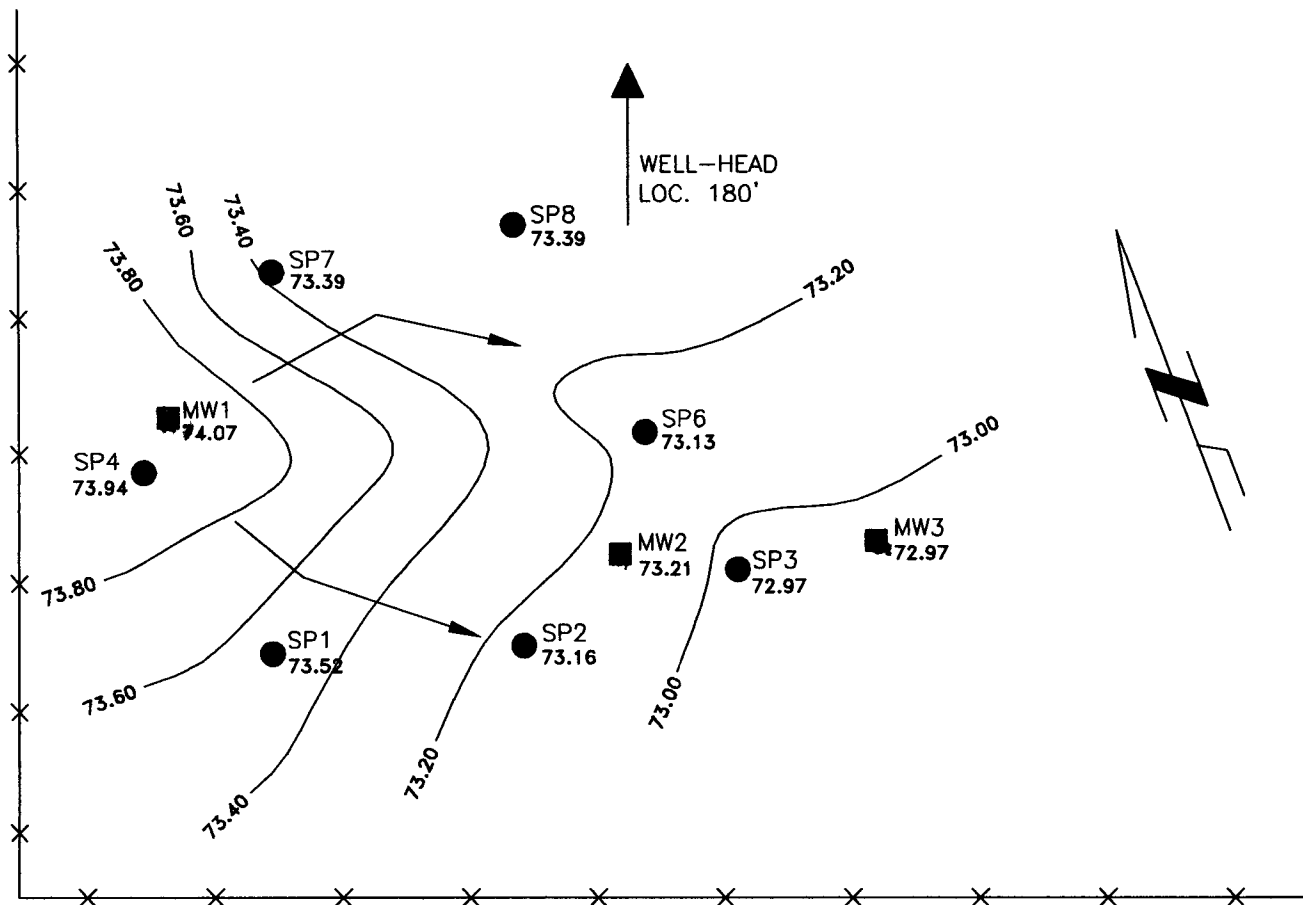
Table 2
BTEX Analytical Summary
Well-Hall #1
Unit M, Sec.07, T30N, R11W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total Xylene
9/28/98	9809078-04A	SP#2	On Site Lab.	BDL	BDL	2.2	BDL
99/28/98	9809078-05A	SP#1	On Site Lab.	BDL	4.2	4.0	BDL
9/28/998	9809078-06A	SP#7	On Site Lab.	120.0	19.0	15.0	3300.0
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0

BDL: Below Detection Limits

Note: No samples taken during the December 30, 1998 sampling event





LEGEND

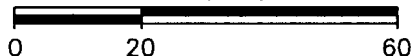
■ MW3 MONITOR WELL LOCATION

● SP3 SPARGE POINT

—X—X— FENCE (APPROX. LOCATION)

→ DIRECTION OF GROUND WATER SLOPE

SCALE (feet)



CONTOURS AT 0.20' INTERVALS.

REVISED:	DATE:
REVISED:	DATE:
REVISED: MED	DATE: 2/9/99
APPROVED:	DATE:
DRWN BY: MED	DATE: 6/23/98
CHK'D BY:	DATE:

ON SITE
TECHNOLOGIES, LTD.
Limited Partnership

612 E. MURRAY DR.
FARMINGTON, NM 87401
PH. (505) 327-1072
FAX (505) 327-1496

GROUND WATER POTENTIOMETRIC MAP
6/12/98

NELL-HALL #1

PROJECT NO: 2-1363

SHEET: 1 OF 4

21363NHA1a

LEGEND

MW3 MONITOR WELL
LOCATION

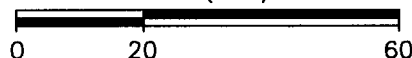

 FENCE (APPROX. LOCATION)

SP3
● SPARGE POINT

→ DIRECTION OF GROUND WATER SLOPE

CONTOURS AT 0.25' INTERVALS.

SCALE (feet)



REVISED:	DATE:
REVISED:	DATE:
REVISED:	DATE:
APPROVED:	DATE:
DRWN BY: MED	DATE: 2/9/99
CHK'D BY:	DATE:



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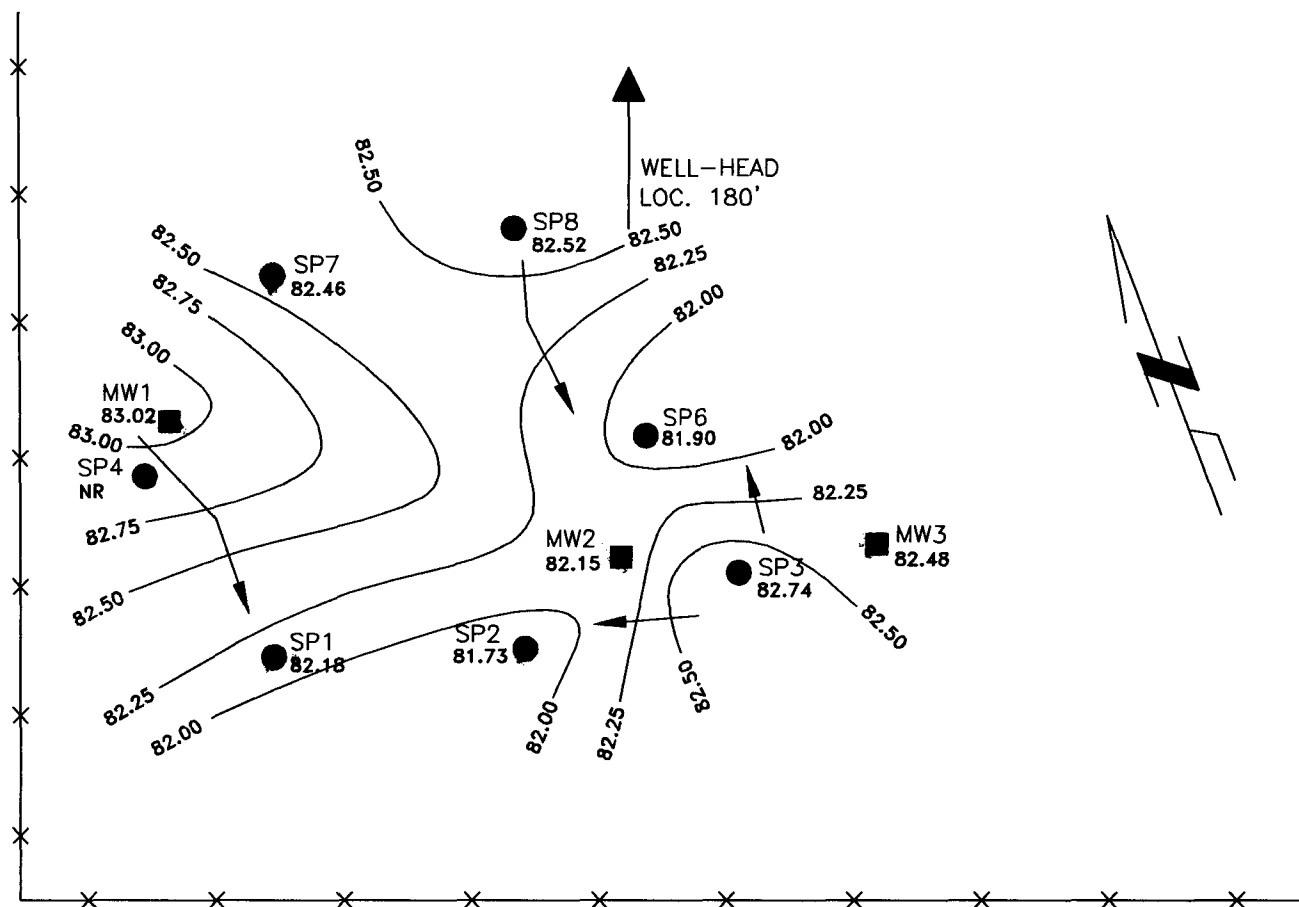
GROUND WATER POTENTIOMETRIC MAP
6/16/98

NELL-HALL #1

PROJECT NO: 2-1363

SHEET: 2 OF 4

21363NHA2a



LEGEND

■ MW3 MONITOR WELL LOCATION

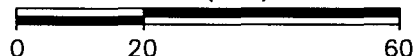
—x—x— FENCE (APPROX. LOCATION)

● SP3 SPARGE POINT

→ DIRECTION OF GROUND WATER SLOPE

NR ELEV. NOT RECORDED

SCALE (feet)



CONTOURS AT 0.25' INTERVALS.

REVISED:	DATE:
REVISED:	DATE:
REVISED:	DATE:
APPROVED:	DATE:
DRWN BY: MED	DATE: 2/9/99
CHK'D BY:	DATE:

ON SITE
TECHNOLOGIES, LTD.
Limited Partnership
612 E. MURRAY DR.
FARMINGTON, NM 87401
PH. (505) 327-1072
FAX (505) 327-1496

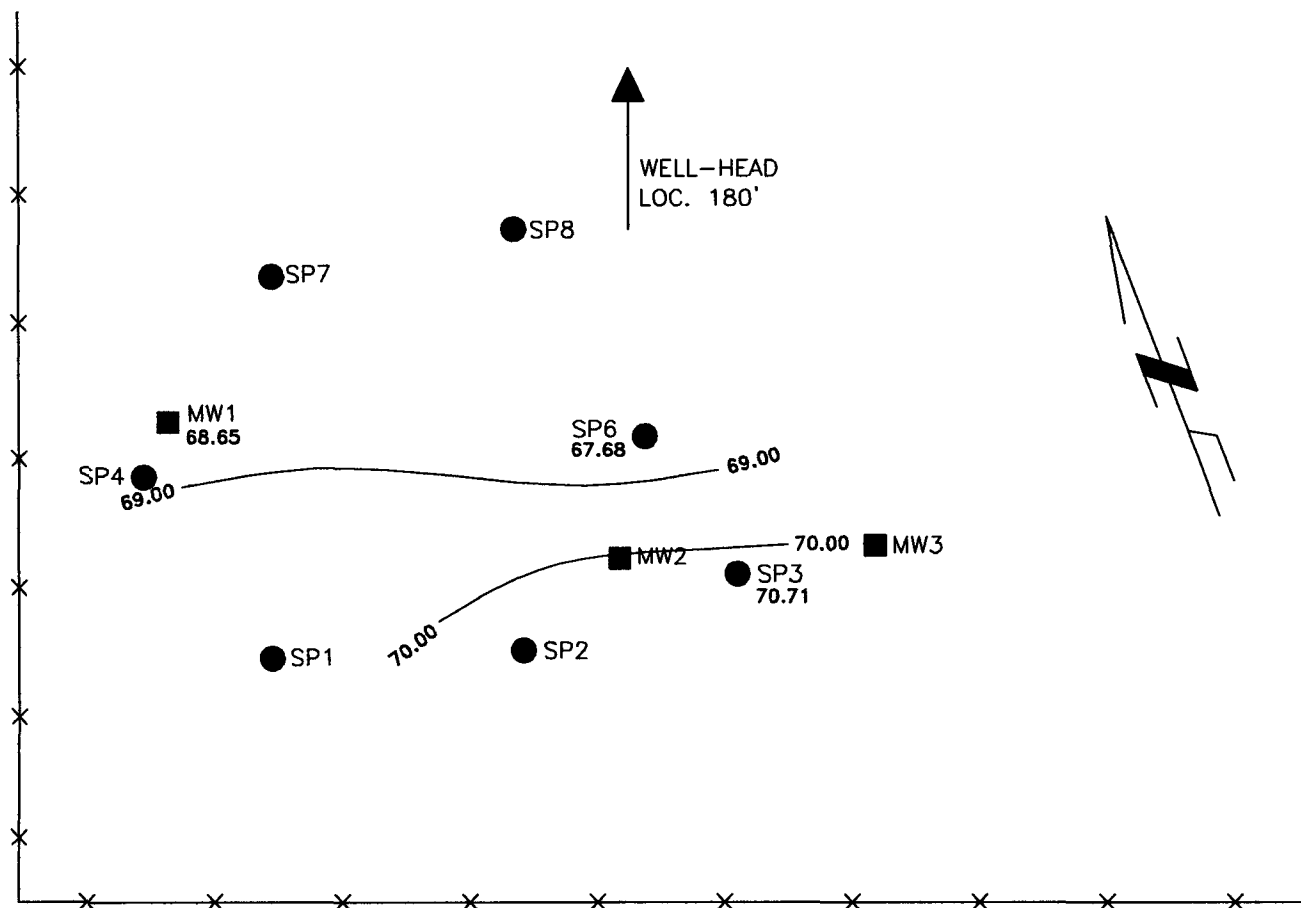
GROUND WATER POTENTIOMETRIC MAP
9/28/98

NELL-HALL #1

PROJECT NO: 2-1363

SHEET: 3 OF 4

21363NHA3a



LEGEND

■ MW3 MONITOR WELL LOCATION

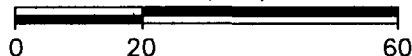
—X—X— FENCE (APPROX. LOCATION)

● SP3 SPARGE POINT

NOTES:

1. CONTOURS AT 1.0' INTERVALS.
2. NOT ENOUGH WATER LEVELS TO DEVELOP COMPREHENSIVE GROUND WATER POTENTIOMETRIC MAP.

SCALE (feet)



REVISED:	DATE:
REVISED:	DATE:
REVISED:	DATE:
APPROVED:	DATE:
DRWN BY: MED	DATE: 2/9/99
CHK'D BY:	DATE:

ON SITE
TECHNOLOGIES, LTD.
Limited Partnership

612 E. MURRAY DR.
FARMINGTON, NM 87401
PH. (505) 327-1072
FAX (505) 327-1496

GROUND WATER POTENTIOMETRIC MAP
12/30/98

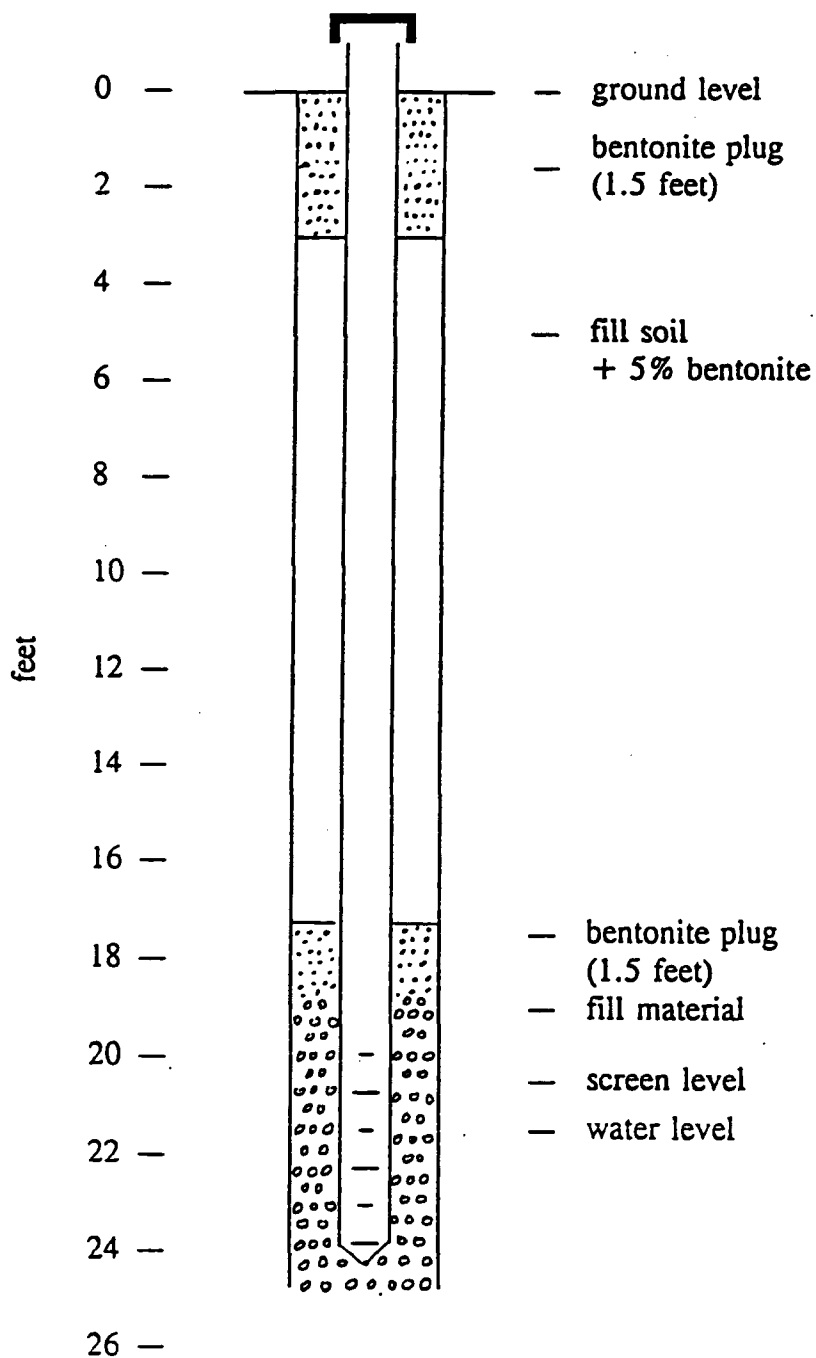
NELL-HALL #1

PROJECT NO: 2-1363

SHEET: 4 OF 4

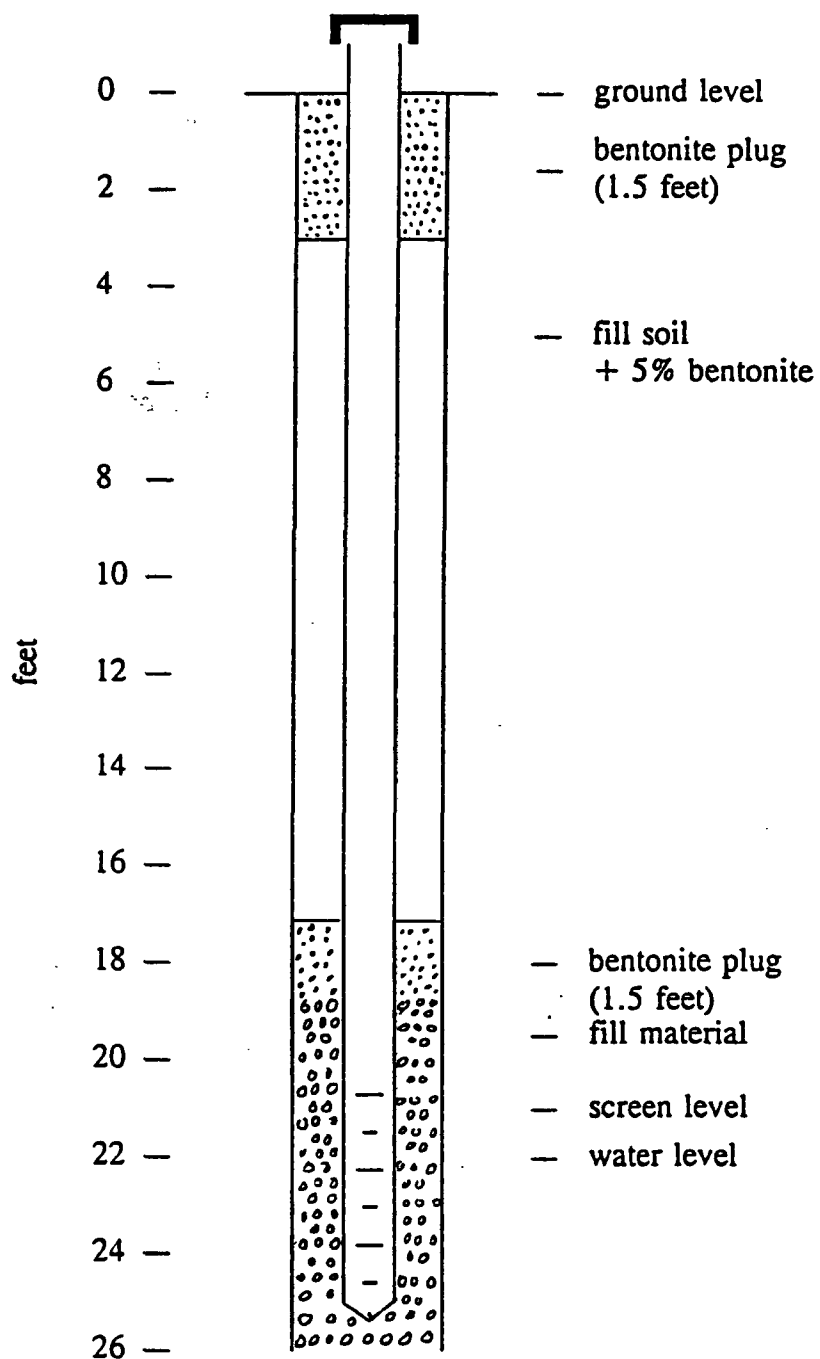
21363NHA4a

Monitor Well Design - MW#1 Nell Hall



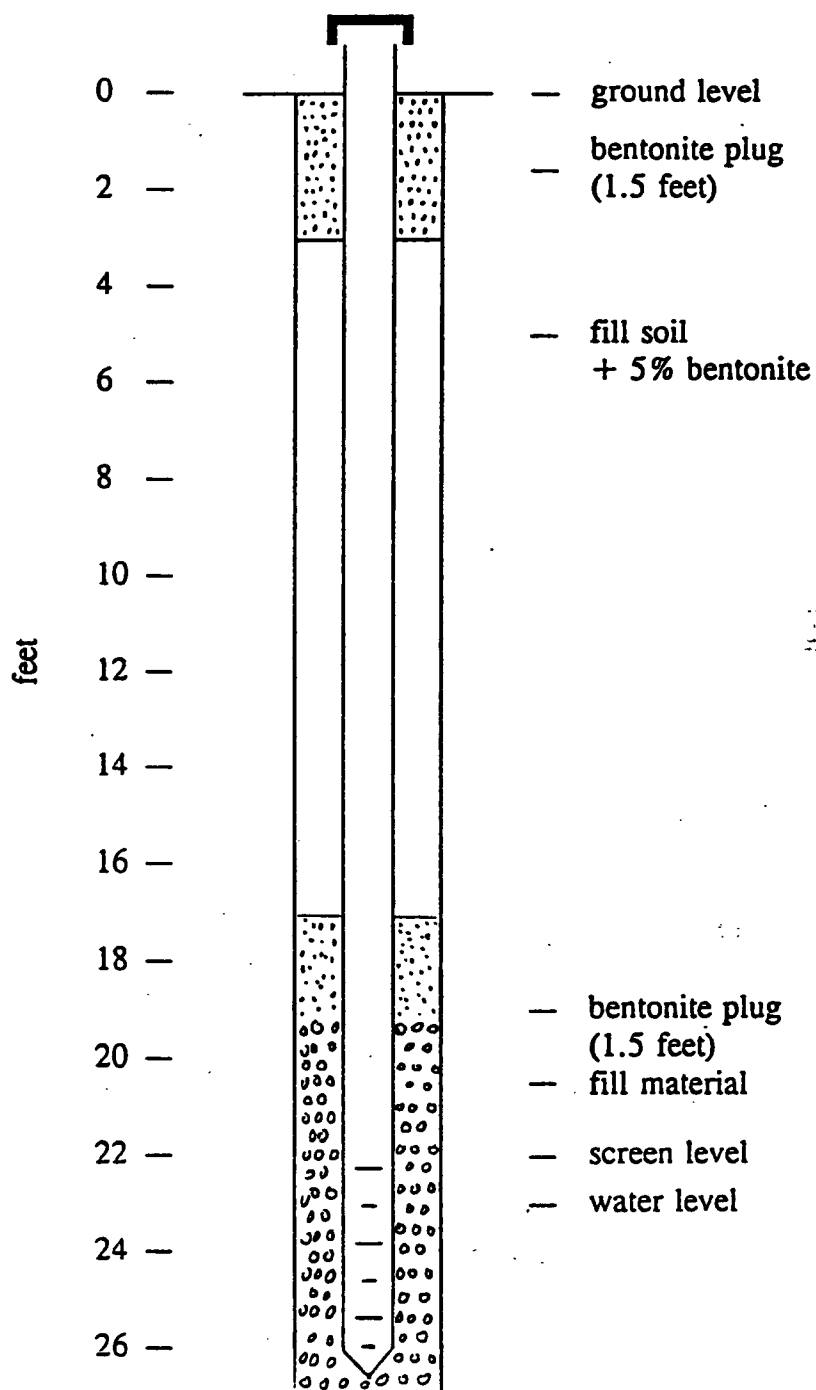
5 feet
 scale #40

Monitor Well Design - MW#2 Nell Hall



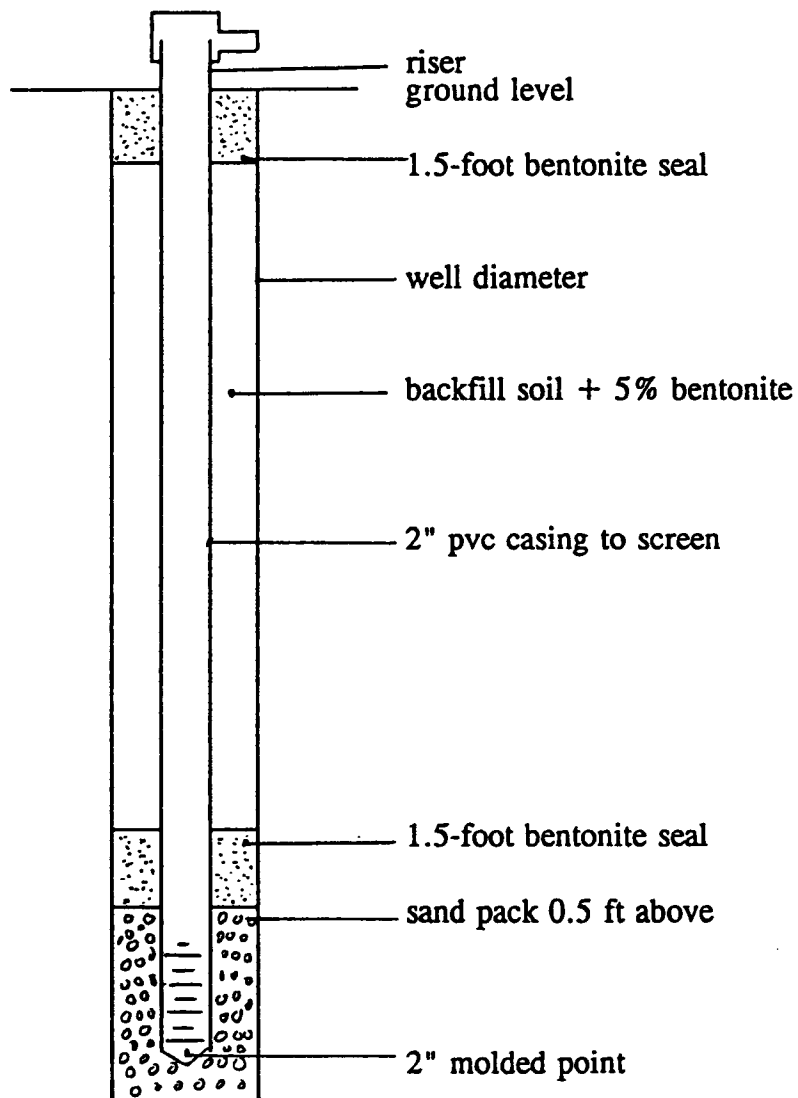
5 feet
scale #40

Monitor Well Design - MW#3 Nell Hall



5 feet
scale #40

Air Sparging Well Design for Nell Hall #1



4 feet
Scale #40

OFF: (505) 325-5667



LAB: (505) 325-1556

October 14, 1998

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

RE: 4-1363

Order No.: 9809078

Dear Larry Trujillo,

On Site Technologies, LTD. received 6 samples on 9/28/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

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'.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 14-Oct-98

CLIENT: On Site Technologies, Limited Partnership

Project: 4-1363

Lab Order: 9809078

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: 14-Oct-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9809078	Client Sample ID:	MW-1
Lab ID:	9809078-01A	Matrix:	AQUEOUS
Project:	4-1363	Collection Date:	9/28/98 10:00:00 AM
		COC Record:	5569

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	3.3	1		µg/L	1	10/10/98
Toluene	38	1		µg/L	1	10/10/98
Ethylbenzene	8.2	1		µg/L	1	10/10/98
m,p-Xylene	110	2		µg/L	1	10/10/98
o-Xylene	1.2	1		µg/L	1	10/10/98

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 14-Oct-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9809078	Client Sample ID:	MW #2
Lab ID:	9809078-02A	Matrix:	AQUEOUS
Project:	4-1363	Collection Date:	9/28/98 8:38:00 AM
		COC Record:	5569

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	10/10/98
Toluene	ND	1		µg/L	1	10/10/98
Ethylbenzene	ND	1		µg/L	1	10/10/98
m,p-Xylene	ND	2		µg/L	1	10/10/98
o-Xylene	ND	1		µg/L	1	10/10/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 14-Oct-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9809078	Client Sample ID:	MW #3
Lab ID:	9809078-03A	Matrix:	AQUEOUS
Project:	4-1363	Collection Date:	9/28/98 8:13:00 AM
		COC Record:	5569

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	10/10/98
Toluene	ND	1		µg/L	1	10/10/98
Ethylbenzene	ND	1		µg/L	1	10/10/98
m,p-Xylene	ND	2		µg/L	1	10/10/98
o-Xylene	ND	1		µg/L	1	10/10/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 14-Oct-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9809078	Client Sample ID:	SB #2
Lab ID:	9809078-04A	Matrix:	AQUEOUS
Project:	4-1363	Collection Date:	9/28/98 8:55:00 AM
		COC Record:	5569

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	10/10/98
Toluene	ND	1		µg/L	1	10/10/98
Ethylbenzene	2.2	1		µg/L	1	10/10/98
m,p-Xylene	ND	2		µg/L	1	10/10/98
o-Xylene	ND	1		µg/L	1	10/10/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 14-Oct-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9809078	Client Sample ID:	SB #1
Lab ID:	9809078-05A	Matrix:	AQUEOUS
Project:	4-1363	Collection Date:	9/28/98 9:18:00 AM
		COC Record:	5569

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/L	1	10/10/98
Toluene	4.2	1		µg/L	1	10/10/98
Ethylbenzene	4	1		µg/L	1	10/10/98
m,p-Xylene	ND	2		µg/L	1	10/10/98
o-Xylene	ND	1		µg/L	1	10/10/98

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: 14-Oct-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9809078	Client Sample ID:	SB #7
Lab ID:	9809078-06A	Matrix:	AQUEOUS
Project:	4-1363	Collection Date:	9/28/98 9:37:00 AM
		COC Record:	5569

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	120	10		µg/L	10	10/10/98
Toluene	19	10		µg/L	10	10/10/98
Ethylbenzene	15	10		µg/L	10	10/10/98
m,p-Xylene	3300	20		µg/L	10	10/10/98
o-Xylene	ND	10		µg/L	10	10/10/98

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: 14-Oct-98

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9809078

Project: 4-1363

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_981010	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/10/98	Prep Date:
Client ID:	9809078	Run ID: GC-1_981010A		SeqNo: 7552	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Benzene	.0539	1			
Ethylbenzene	ND	1			
m,p-Xylene	.1836	2			
o-Xylene	.0811	1			
Toluene	.1533	1			
				HighLimit	LowLimit
				RPD Ref Val	%RPD
				RPDLimit	Qual

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: 14-Oct-98

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9809078

Project: 4-1363

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9809078-01AMS		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/10/98		Prep Date:	
Client ID: MW-1		9809078		Run ID: GC-1_981010A				SeqNo: 7553			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	384.3	10	400	5.268	94.8%	56	128				
Ethylbenzene	413.4	10	400	1.482	103.0%	78	107				
m,p-Xylene	880.2	20	800	120.6	95.0%	67	118				
o-Xylene	388	10	400	5.668	95.6%	78	107				
Toluene	402.1	10	400	7.565	98.6%	74	116				

Sample ID: 9809078-01AMS		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/10/98		Prep Date:	
Client ID: MW-1		9809078		Run ID: GC-1_981010A				SeqNo: 7555			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	380.5	10	400	5.268	93.8%	56	128	384.3	1.0%	12	
Ethylbenzene	398.8	10	400	1.482	99.3%	78	107	413.4	3.6%	11	
m,p-Xylene	871	20	800	120.6	93.8%	67	118	880.2	1.0%	10	
o-Xylene	395.5	10	400	5.668	97.5%	78	107	388	1.9%	14	
Toluene	400.5	10	400	7.565	98.2%	74	116	402.1	0.4%	14	

Sample ID: 9809082-01AMS		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/12/98		Prep Date:	
Client ID:		9809078		Run ID: GC-1_981010A				SeqNo: 7554			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	401.4	10	400	10.74	97.7%	56	128				
Ethylbenzene	1024	10	400	610	103.4%	78	107				
m,p-Xylene	1163	20	800	389.7	96.7%	67	118				
o-Xylene	531.8	10	400	128.1	100.9%	78	107				
Toluene	1033	10	400	628.1	101.1%	74	116				

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 Partnership

Work Order: 9809078

Project: 4-1363

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 9809082-01AMSD		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/12/98		Prep Date:	
Client ID:		9809078		Run ID:		GC-1_981010A		SeqNo: 7556			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	398.5	10	400	10.74	97.0%	56	128	401.4	0.7%	12	
Ethylbenzene	1017	10	400	610	101.7%	78	107	1024	0.7%	11	
m,p-Xylene	1158	20	800	389.7	96.0%	67	118	1163	0.4%	10	
o-Xylene	531.7	10	400	128.1	100.9%	78	107	531.8	0.0%	14	
Toluene	1028	10	400	628.1	99.9%	74	116	1033	0.5%	14	

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: 14-Oct-98

CLIENT: On Site Technologies, Limited Partnership
 Work Order: 9809078
 Project: 4-1363

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_981010	Test Code: SW8020A	Units: µg/L	Analysis Date: 10/10/98		Prep Date:				
Client ID:		9809078	Run ID: GC-1_981010A		SeqNo: 7551						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.35	1	40	0.0539	95.7%	56	128				
Ethylbenzene	38.82	1	40	0	97.0%	78	107				
m,p-Xylene	76.82	2	80	0.1836	95.8%	67	118				
o-Xylene	39.36	1	40	0.0811	98.2%	78	107				
Toluene	38.71	1	40	0.1533	96.4%	74	116				

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 Partnership
Work Order: 9809078
Project: 4-1363

Date: 14-Oct-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/10/98		Prep Date:	
Client ID:		9809078		Run ID:		GC-1_981010A		SeqNo: 7546			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.63	1	20	0	103.1%	85	115				
Ethylbenzene	21.03	1	20	0	105.1%	85	115				
m,p-Xylene	41.52	2	40	0	103.8%	85	115				
o-Xylene	21.26	1	20	0	106.3%	85	115				
Toluene	20.87	1	20	0	104.3%	85	115				
1,4-Difluorobenzene	91.12	0	100	0	91.1%	70	130				
4-Bromochlorobenzene	99.37	0	100	0	99.4%	70	130				
Fluorobenzene	90.47	0	100	0	90.5%	70	130				

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/10/98		Prep Date:	
Client ID:		9809078		Run ID:		GC-1_981010A		SeqNo: 7547			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.21	1	20	0	101.0%	85	115				
Ethylbenzene	20.52	1	20	0	102.6%	85	115				
m,p-Xylene	40.18	2	40	0	100.5%	85	115				
o-Xylene	20.8	1	20	0	104.0%	85	115				
Toluene	20.34	1	20	0	101.7%	85	115				
1,4-Difluorobenzene	91.45	0	100	0	91.5%	70	130				
4-Bromochlorobenzene	99.84	0	100	0	99.8%	70	130				
Fluorobenzene	90.84	0	100	0	90.8%	70	130				

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 Partnership

Work Order: 9809078

Project: 4-1363

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/10/98		Prep Date:	
Client ID:		9809078		Run ID: GC-1_981010A				SeqNo: 7548			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.86	1	40	0	99.6%	85	115				
Ethylbenzene	40.09	1	40	0	100.2%	85	115				
m,p-Xylene	79.23	2	80	0	99.0%	85	115				
o-Xylene	40.7	1	40	0	101.7%	85	115				
Toluene	40.2	1	40	0	100.5%	85	115				
1,4-Difluorobenzene	90.63	0	100	0	90.6%	70	130				
4-Bromochlorobenzene	95.53	0	100	0	95.5%	70	130				
Fluorobenzene	89.9	0	100	0	89.9%	70	130				

Sample ID: CCV4 QC0606/07		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/12/98		Prep Date:	
Client ID:		9809078		Run ID: GC-1_981010A				SeqNo: 7549			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.17	1	20	0	105.9%	85	115				
Ethylbenzene	21.54	1	20	0	107.7%	85	115				
m,p-Xylene	42.44	2	40	0	106.1%	85	115				
o-Xylene	21.74	1	20	0	108.7%	85	115				
Toluene	21.37	1	20	0	106.8%	85	115				
1,4-Difluorobenzene	91.19	0	100	0	91.2%	70	130				
4-Bromochlorobenzene	97.57	0	100	0	97.6%	70	130				
Fluorobenzene	90.69	0	100	0	90.7%	70	130				

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 Partnership

Work Order: 9809078

Project: 4-1363

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 QC0606/07		Batch ID: GC-1_981010		Test Code: SW8020A		Units: µg/L		Analysis Date: 10/12/98			Prep Date:	
Client ID:		9809078		Run ID:		GC-1_981010A		SeqNo:		7550		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.59	1	20	0	103.0%	85	115					
Ethylbenzene	20.98	1	20	0	104.9%	85	115					
m,p-Xylene	41.18	2	40	0	102.9%	85	115					
o-Xylene	21.23	1	20	0	106.2%	85	115					
Toluene	20.88	1	20	0	104.4%	85	115					
1,4-Difluorobenzene	91.12	0	100	0	91.1%	70	130					
4-Bromochlorobenzene	98.55	0	100	0	98.6%	70	130					
Fluorobenzene	90.14	0	100	0	90.1%	70	130					

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: 14-Oct-98

CLIENT: On Site Technologies, Limited Partnership
 Work Order: 9809078
 Project: 4-1363
 Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9809078-01A	86.9	103	95.5
9809078-01AMS	88.9	97.7	88.9
9809078-01AMSD	88.9	97.3	89.1
9809078-02A	90.6	99.3	90.4
9809078-03A	91.1	98.8	90.4
9809078-04A	91.3	98	90.6
9809078-05A	91.5	106	90.3
9809078-06A	90.2	98.8	91.4
9809082-01A	90.9	96.5	90.2
9809082-01AMS	90.5	98.8	89.9
9809082-01AMSD	91.1	98.9	90.2
9810013-01A	91	100	91.3
9810013-02A	91.6	101	91.3
9810013-03A	91.3	100	90.2
CCV1 QC0606/07	91.1	99.4	90.5
CCV2 QC0606/07	91.4	99.8	90.8
CCV3 QC0606/07	90.6	95.5	89.9
CCV4 QC0606/07	91.2	97.6	90.7
CCV5 QC0606/07	91.1	98.6	90.1
LCS WATER	90.3	99	90.1
MB1	91.2	98.8	90.5

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

Date: _____

TECHNOLOGIES, LTD.

6657 W. Maple • P. O. Box 2606 • Farmington NM 87499

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

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

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

OFF: (505) 325-5667



LAB: (505) 325-1556

June 22, 1998

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

RE: 2-1363; Conoco

Order No.: 9806053

Dear Larry Trujillo,

On Site Technologies, LTD. received 3 samples on 6/12/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (SW8020A)

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".

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 22-Jun-98

CLIENT: On Site Technologies, Limited Partnership

Project: 2-1363; Conoco

Lab Order: 9806053

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: 22-Jun-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9806053	Client Sample ID:	MW #1
Lab ID:	9806053-01A	Matrix:	AQUEOUS
Project:	2-1363; Conoco	Collection Date:	6/12/98 8:24:00 AM
		COC Record:	5145

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	39	0.5		µg/L	1	6/16/98
Toluene	18	0.5		µg/L	1	6/16/98
Ethylbenzene	320	5		µg/L	10	6/17/98
m,p-Xylene	2900	10		µg/L	10	6/17/98
o-Xylene	2.8	0.5		µg/L	1	6/16/98

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

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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: 22-Jun-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9806053	Client Sample ID:	MW #2
Lab ID:	9806053-02A	Matrix:	AQUEOUS
Project:	2-1363; Conoco	Collection Date:	6/12/98 8:27:00 AM
		COC Record:	5145

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

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

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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: 22-Jun-98

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell Hall #1
Work Order:	9806053	Client Sample ID:	MW #3
Lab ID:	9806053-03A	Matrix:	AQUEOUS
Project:	2-1363; Conoco	Collection Date:	6/12/98 8:30:00 AM
		COC Record:	5145

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/16/98
Toluene	ND	0.5		µg/L	1	6/16/98
Ethylbenzene	ND	0.5		µg/L	1	6/16/98
m,p-Xylene	ND	1		µg/L	1	6/16/98
o-Xylene	ND	0.5		µg/L	1	6/16/98

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: 22-Jun-98

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9806053

Project: 2-1363; Conoco

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98	Prep Date:
Client ID:	9806053	Run ID: GC-1_980616A		SeqNo: 3136	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0478	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.1193	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0988	0.5			J

Sample ID: MB1	Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98	Prep Date:
Client ID:	9806053	Run ID: GC-1_980617A		SeqNo: 3179	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0648	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	.2322	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0819	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: 22-Jun-98

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9806053

Project: 2-1363; Conoco

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806052-02AMS		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806053		Run ID: GC-1_980616A		PQL		SPK value		SeqNo: 3137			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1823	10	800	1021	100.3%	56	128				
Ethylbenzene	1178	10	800	404.6	96.7%	78	107				
m,p-Xylene	2263	20	1600	739.2	95.2%	67	118				
Methyl tert-Butyl Ether	776.8	20	800	22.28	94.3%	70	130				
o-Xylene	1042	10	800	243.9	99.8%	78	107				
Toluene	1298	10	800	507.9	98.8%	74	116				

Sample ID: 9806052-02AMS		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806053		Run ID: GC-1_980616A		PQL		SPK value		SeqNo: 3138			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1771	10	800	1021	93.8%	56	128	1823	2.9%	12	
Ethylbenzene	1146	10	800	404.6	92.7%	78	107	1178	2.7%	11	
m,p-Xylene	2188	20	1600	739.2	90.6%	67	118	2263	3.3%	10	
Methyl tert-Butyl Ether	760.7	20	800	22.28	92.3%	70	130	776.8	2.1%	15	
o-Xylene	1026	10	800	243.9	97.8%	78	107	1042	1.5%	14	
Toluene	1264	10	800	507.9	94.5%	74	116	1298	2.7%	14	

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 Partnership
Work Order: 9806053
Project: 2-1363; Conoco

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9806053-01AMS		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID: MW #1		9806053		Run ID: GC-1_980617A				SeqNo: 3180			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	429.5	5	400	36.48	98.3%	56	128				
Ethylbenzene	701.9	5	400	321.6	95.1%	78	107				
m,p-Xylene	3739	10	800	2933	100.6%	67	118				
Methyl tert-Butyl Ether	434.7	10	400	5.234	107.4%	70	130				
o-Xylene	390	5	400	3.084	96.7%	78	107				
Toluene	401.2	5	400	15.91	96.3%	74	116				

Sample ID: 9806053-01AMSD		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID: MW #1		9806053		Run ID: GC-1_980617A				SeqNo: 3181			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	445.6	5	400	36.48	102.3%	56	128	429.5	3.7%	12	
Ethylbenzene	732.2	5	400	321.6	102.7%	78	107	701.9	4.2%	11	
m,p-Xylene	3903	10	800	2933	121.2%	67	118	3739	4.3%	10	
Methyl tert-Butyl Ether	448.3	10	400	5.234	110.8%	70	130	434.7	3.1%	15	
o-Xylene	419.7	5	400	3.084	104.1%	78	107	390	7.3%	14	
Toluene	415.6	5	400	15.91	99.9%	74	116	401.2	3.5%	14	

SW 6/17/98
con 6/17/98
6/22/98

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 Partnership
Work Order: 9806053
Project: 2-1363; Conoco

Date: 22-Jun-98

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_980616	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/16/98		Prep Date:				
Client ID:		9806053	Run ID: GC-1_980616A		SeqNo: 3135						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.01	0.5	40	0.0478	102.4%	56	128				
Ethylbenzene	41.79	0.5	40	0	104.5%	78	107				
m,p-Xylene	79.51	1	80	0.1193	99.2%	67	118				
Methyl tert-Butyl Ether	44.96	1	40	0	112.4%	70	130				
o-Xylene	40.79	0.5	40	0	102.0%	78	107				
Toluene	40.42	0.5	40	0.0988	100.8%	74	116				

Sample ID: LCS WATER		Batch ID: GC-1_980617	Test Code: SW8020A	Units: µg/L	Analysis Date: 6/17/98				Prep Date:		
Client ID:		9806053	Run ID: GC-1_980617A		SeqNo: 3178						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.22	0.5	40	0.0648	100.4%	56	128				
Ethylbenzene	40.16	0.5	40	0	100.4%	78	107				
m,p-Xylene	77.22	1	80	0.2322	96.2%	67	118				
Methyl tert-Butyl Ether	40.63	1	40	0	101.6%	70	130				
o-Xylene	39.94	0.5	40	0	99.8%	78	107				
Toluene	39.73	0.5	40	0.0819	99.1%	74	116				

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 Partnership
Work Order: 9806053
Project: 2-1363; Conoco

Date: 22-Jun-98

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID:		9806053		Run ID:		GC-1_980616A		SeqNo:		3132	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.71	0.5	20	0	108.5%	85	115				
Ethylbenzene	22.4	0.5	20	0	112.0%	85	115				
m,p-Xylene	42.29	1	40	0	105.7%	85	115				
Methyl tert-Butyl Ether	23.12	1	20	0	115.6%	85	115				S
o-Xylene	21.74	0.5	20	0	108.7%	85	115				
Toluene	21.52	0.5	20	0	107.6%	85	115				
1,4-Difluorobenzene	93.47	0	100	0	93.5%	70	130				
4-Bromochlorobenzene	85.45	0	100	0	85.4%	70	130				
Fluorobenzene	93.66	0	100	0	93.7%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID:		9806053		Run ID:		GC-1_980616A		SeqNo:		3133	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.55	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.3	0.5	20	0	106.5%	85	115				
m,p-Xylene	39.94	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	21.29	1	20	0	106.5%	85	115				
o-Xylene	21.45	0.5	20	0	107.2%	85	115				
Toluene	20.47	0.5	20	0	102.3%	85	115				
1,4-Difluorobenzene	93.62	0	100	0	93.6%	70	130				
4-Bromochlorobenzene	83.56	0	100	0	83.6%	70	130				
Fluorobenzene	93.34	0	100	0	93.3%	70	130				

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 Partnership

Work Order: 9806053

Project: 2-1363; Conoco

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980616		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/16/98		Prep Date:	
Client ID: 9806053		Run ID: GC-1_980616A		SeqNo: 3134							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.28	0.5	40	0	100.7%	85	115				
Ethylbenzene	40.18	0.5	40	0	100.5%	85	115				
m,p-Xylene	77.38	1	80	0	96.7%	85	115				
Methyl tert-Butyl Ether	37.36	1	40	0	93.4%	85	115				
o-Xylene	40.35	0.5	40	0	100.9%	85	115				
Toluene	40.24	0.5	40	0	100.6%	85	115				
1,4-Difluorobenzene	92.6	0	100	0	92.6%	70	130				
4-Bromochlorobenzene	80.3	0	100	0	80.3%	70	130				
Fluorobenzene	93.09	0	100	0	93.1%	70	130				

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID: 9806053		Run ID: GC-1_980617A		SeqNo: 3175							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115				
Ethylbenzene	21.03	0.5	20	0	105.2%	85	115				
m,p-Xylene	40.25	1	40	0	100.6%	85	115				
Methyl tert-Butyl Ether	20.4	1	20	0	102.0%	85	115				
o-Xylene	20.74	0.5	20	0	103.7%	85	115				
Toluene	20.64	0.5	20	0	103.2%	85	115				
1,4-Difluorobenzene	94.02	0	100	0	94.0%	70	130				
4-Bromochlorobenzene	80.22	0	100	0	80.2%	70	130				
Fluorobenzene	93.82	0	100	0	93.8%	70	130				

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 Partnership

Work Order: 9806053

Project: 2-1363; Conoco

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID:		9806053		Run ID:		GC-1_980617A		SeqNo: 3176			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.14	0.5	40	0	100.4%	85	115				
Ethylbenzene	41.08	0.5	40	0	102.7%	85	115				
m,p-Xylene	77.94	1	80	0	97.4%	85	115				
Methyl tert-Butyl Ether	42.36	1	40	0	105.9%	85	115				
o-Xylene	39.57	0.5	40	0	98.9%	85	115				
Toluene	39.74	0.5	40	0	99.3%	85	115				
1,4-Difluorobenzene	92.73	0	100	0	92.7%	70	130				
4-Bromochlorobenzene	72.28	0	100	0	72.3%	70	130				
Fluorobenzene	93.22	0	100	0	93.2%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980617		Test Code: SW8020A		Units: µg/L		Analysis Date: 6/17/98		Prep Date:	
Client ID:		9806053		Run ID:		GC-1_980617A		SeqNo: 3177			
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	21.06	0.5	20	0	105.3%	85	115				
m,p-Xylene	39.89	1	40	0	99.7%	85	115				
Methyl tert-Butyl Ether	21.56	1	20	0	107.8%	85	115				
o-Xylene	20.24	0.5	20	0	101.2%	85	115				
Toluene	20.28	0.5	20	0	101.4%	85	115				
1,4-Difluorobenzene	92.87	0	100	0	92.9%	70	130				
4-Bromochlorobenzene	72.41	0	100	0	72.4%	70	130				
Fluorobenzene	93.3	0	100	0	93.3%	70	130				

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: 22-Jun-98

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9806053
Project: 2-1363; Conoco
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9806014-03A	92.3	86.2	93
9806014-04A	91.9	86.7	92.8
9806014-05A	92	86.3	93.2
9806043-03A	93.3	84	94.6
9806043-04A	93.2	82.9	94.6
9806044-03A	93.8	86.5	94
9806044-04A	92.3	85.8	95.6
9806044-05A	93.3	86.1	94.2
9806045-01A	90.2	84.9	91.2
9806052-01A	90.4	83.2	90.4
9806052-02A	92.4	75.5	93.2
9806052-02AMS	91.9	86.3	92.5
9806052-02AMSD	92.4	85.4	92.6
9806052-03A	93.5	85.8	94.6
9806053-01A	94.8	74.8	97.2
9806053-01AMS	94.6	75	96.4
9806053-01AMSD	94.6	76.7	96.4
9806053-02A	93.4	82.8	94.1
9806053-03A	93.5	82.4	94.1
9806054-01A	93.3	82.3	94.3
9806054-02A	93.6	81.9	94
9806055-01A	94	81.1	93.8
9806055-02A	91.8	81.8	93.8
9806057-01A	93.6	84.3	94.2
9806057-02A	87.9	72.6	90.7
9806057-03A	93.4	81.6	93.8
9806057-04A	93.4	78.8	94.6

Acronym

Surrogate

QC Limits

14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9806053
Project: 2-1363; Conoco
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ					
9806057-05A	93.3	80.1	94.4					
9806058-01A	93.8	85.9	94.1					
9806058-02A	92.2	74.3	92.7					
9806059-02A	93.5	81.1	94.2					
9806059-03A	93.2	82.6	94.4					
9806059-04A	93.4	82.8	94.3					
9806059-05A	93.2	83.6	94.4					
9806059-09A	92.7	78.3	94.2					
9806059-10A	93.3	75.6	94.3					
9806059-11A	93.3	72.9	93.6					
9806063-01A	92.1	75.8	93.2					
9806063-02A	93.6	87.3	94.6					
CCV1 QC0529/30	94	80.2	93.8					
CCV2 QC0529/30	92.7	72.3	93.2					
CCV3 QC0529/30	92.9	72.4	93.3					
LCS WATER	92.8	77.7	93.5					
MB1	93.9	73.6	94.5					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

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ON SITE

Page 1 of 1

TECHNOLOGIES, LTD.

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

Purchase Order No.:		Job No.		Name		Title	
SEND INVOICE TO		Company		Company		Company	
Address		Address		Mailing Address		Mailing Address	
City, State, Zip		City, State, Zip		City, State, Zip		City, State, Zip	
Sampling Location:		Name		Title		Title	
Sampler:		Name		Title		Title	
SAMPLE IDENTIFICATION		DATE		TIME		PRES.	
MW #1		4/12		8:00		H	
MW #2		↓		8:27		↓	
MW #3		↓		8:50		↓	
RELINQUISHED BY:		DATE		TIME		PRES.	
RELINQUISHED BY:		DATE		TIME		PRES.	
RELINQUISHED BY:		DATE		TIME		PRES.	
Method of Shipment:		DATE		TIME		PRES.	
Authorized by:		DATE		TIME		PRES.	
Special Instructions:		DATE		TIME		PRES.	

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client
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ON SITE

TECHNOLOGIES, LTD.

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

[illegible]

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