

3R - 90

REPORTS

DATE:

1999

ON SITE

TECHNOLOGIES, LTD.

February 4, 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: NELL-HALL #1,
Unit M, Sec. 07, T30N, R11W, NMPM, San Juan Co., NM

Project #: 4-1363

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. Samples were not during the March and December sampling event, due to the lack of measurable water.

During the September 1998 sampling effort, SP#1 was found to have been broken off approximately 12 inches below the ground surface due to traffic. In June 1999 continued disturbance of SP#1 was discovered with debris in well bore and partially buried. SP#1 was no longer used for sampling. SP#6 was substituted for SP#1 and was sampled in June and September.

Historically ground water levels in the area fluctuate, leading to periods of the year when there is no measurable water in any of the monitoring wells and sparge points. March and December are routinely the month with the lowest water levels.

SAMPLING:

In accordance with the monitoring plan, water levels were measured on all monitoring wells prior to purging and sampling. If measurable water was present in the monitoring well, water 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.

PO Box 2606
Farmington, NM

505-325-5667

FAX: 505-327-1496

SUMMARY AND CONCLUSIONS:

The following conclusions are based on the 1999 ground water monitoring results and trends associated with a former production pit at the Nell-Hall #1 well location:

1. All sampling point show BTEX contamination levels above the New Mexico Water Quality Control Commission (NMWQCC) standards.
2. BTEX contamination of ground water fluctuates with the fluctuation of the ground water elevation.
3. The ground water during 1999 fluctuated seasonally with changes in irrigation and flow in the Animas River.

RECOMMENDATION:

1. Continue sampling of monitoring wells and sparge points until four 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 1999. 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, 3, 4, 5 Ground Water Potentiometric Map
Laboratory Results, QA/QC, Chain of Custody

Acknowledgment:
CONOCO, Inc.

Shirley J. Ebert FSI
(Name/Title)

2/10/00
(Date)

LET/let: 41363-99.doc

REFERENCES:

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.*

On Site Technologies, Ltd., February 9, 1999, letter to Ms. Shirley Ebert, SHEAR Specialist, Conoco, Inc., Midland Division, regarding 1998 Annual Ground Water Report, *Conoco Location, Nell-Hall #1, Unit M, Sec. 07, T30N, R11W, NMPM, San Juan Co., NM.*

Table 1

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

Table1

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

Table1
Groundwater Level SUMMARY
Neill-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 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
					3/3/99	NMW	
					6/6/99	21.67	74.15
					9/15/99	21.49	74.33
SP 4	96.03	25.36	2" PVC	15.36 to 25.36	12/13/99	NMW	
					6/16/98	22.09	73.94
					9/28/98	13.33	82.70
					12/30/98	NMW	
					3/3/99	NMW	
					6/6/99	22.47	73.56
SP 6	95.90	28.12	2" PVC	18.12 to 28.12	9/15/99	21.32	74.71
					12/13/99	NMW	
					6/16/98	22.77	73.13
					9/28/98	14.00	81.90
					12/30/98	28.22	67.68
					3/3/99	NMW	
					6/6/99	22.21	73.69
					9/15/99	21.65	74.25
					12/13/99	NMW	

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

Table 1

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
Neill-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	MVW#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	
6/16/99	9806061-04A			76.0	16.0	230.0	2006.4	
9/15/99	9809057-04A			20.0	17.0	86.0	524.0	
06/14/97	0396G01017	MVW#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	MVW#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	

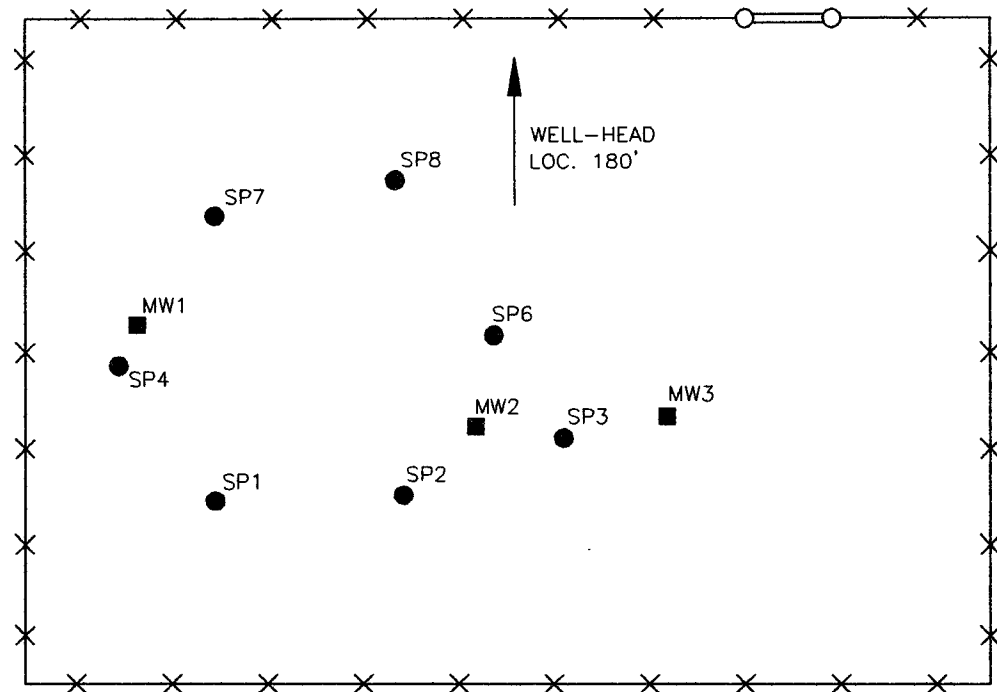
Table 2
BTEX Analytical Summary
Nell-Hall #1
Unit M, Sec.07, T30N, R11W

BDL: Below Detection Limits

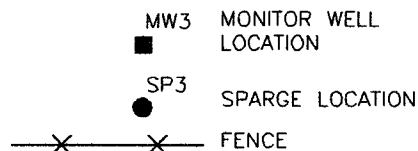
Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total Xylene
9/28/98	9809078-04A	SP#2	On Site Lab.	BDL	BDL	2.2	BDL
6/16/99	9906061-01A			7.8	BDL	BDL	1.7
9/15/99	9909057-01A			21	2.2	130.0	265.5
99/28/98	9809078-05A	SP#1	On Site Lab.	BDL	4.2	4.0	BDL
6/16/99	9906061-02A	SP#6	On Site Lab.	580.0	BDL	270.0	3000.0
9/15/99	9909057-02A			1.2	0.5	10.0	14.6
9/28/998	9809078-06A	SP#7	On Site Lab.	120.0	19.0	15.0	3300.0
6/16/99	9906061-03A			200.0	40.0	240.0	7313.0
9/15/99	9909057-03A			140.0	19.0	260.0	5110.0
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0

BDL: Below Detection Limits

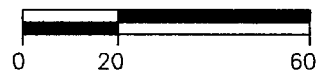
Note: No samples taken during the December 30, 1998 sampling event



LEGEND



SCALE (feet)



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

APPROVED:

DRWN BY: MED

CHK'D BY:

PROJECT NO: 2-1363

DATE:

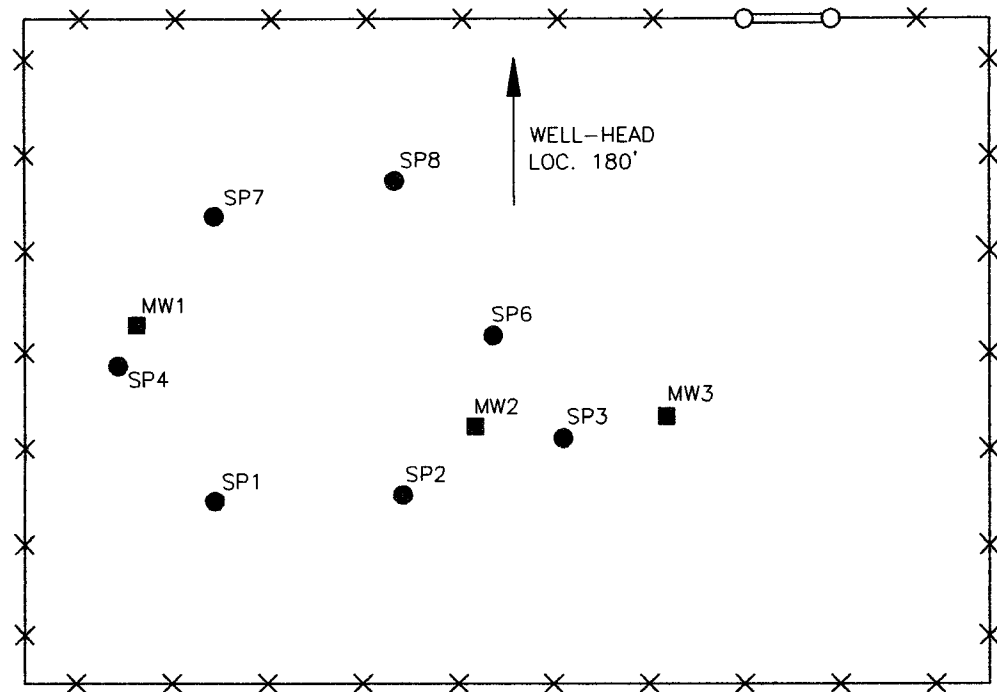
DATE: 2/7/00

DATE:

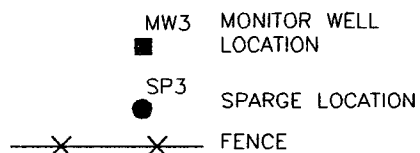
SHEET: 1 OF 5

SITE MAP

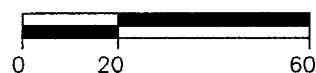
NELL HALL #1



LEGEND



SCALE (feet)



NOTE: NO MEASURABLE WATER LEVELS
RECORDED AT TIME OF WELL READINGS.



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

APPROVED:

DRWN BY: MED

CHK'D BY:

PROJECT NO: 2-1363

DATE:

DATE: 2/7/00

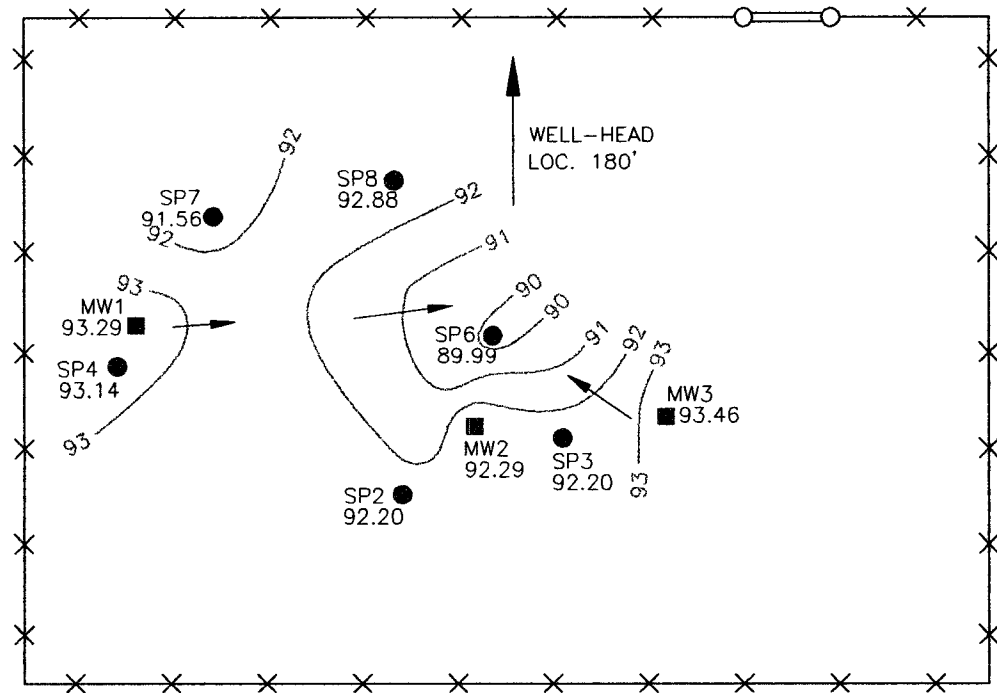
DATE:

SHEET: 2 OF 5

GROUND WATER POTENTIOMETER MAP
MARCH 1999

NELL HALL #1

21363NHd2.dwg



LEGEND

- MW3 MONITOR WELL LOCATION
- SP3 SPARGE LOCATION
- X—X— FENCE
- 92 — GROUND WATER SURFACE CONTOUR
- GRADIENT

SCALE (feet)



NOTE: SP#1 REMOVED.



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

APPROVED:

DRWN BY: MED

CHK'D BY:

PROJECT NO: 2-1363

DATE:

DATE: 2/7/00

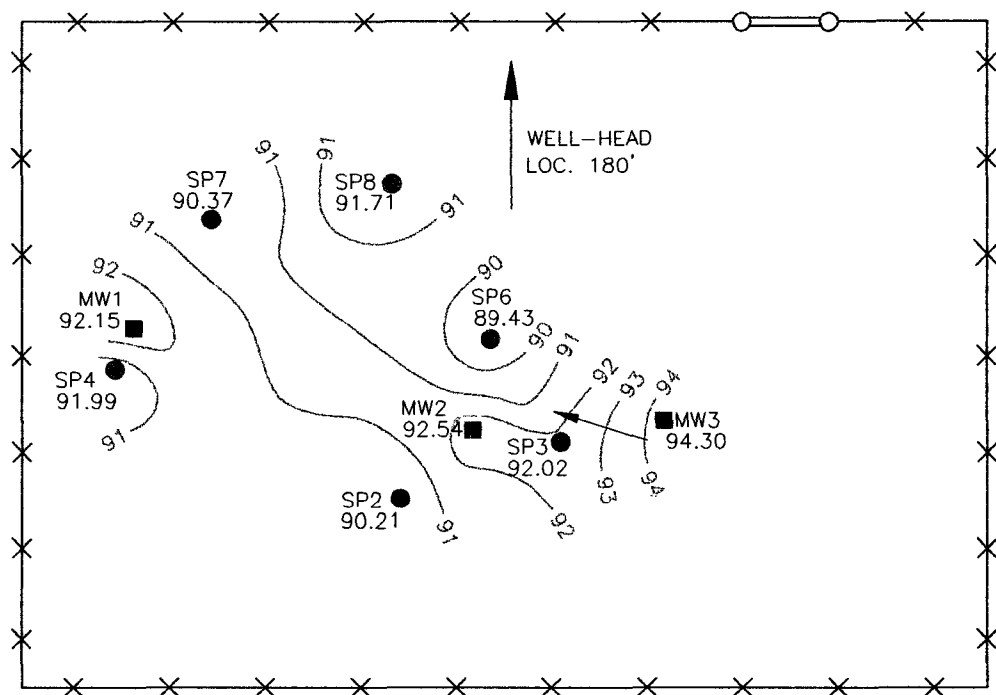
DATE:

SHEET: 3 OF 5

GROUND WATER POTENTIOMETER MAP
JUNE 1999

NELL HALL #1

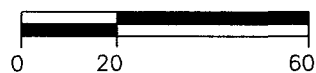
21363NHd3.dwg



LEGEND

- MW3 MONITOR WELL LOCATION
- SP3 SPARGE LOCATION
- X—X— FENCE
- 92— GROUND WATER SURFACE CONTOUR
- GRADIENT

SCALE (feet)



NOTE: SP#1 REMOVED.



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

APPROVED:

DRWN BY: MED

CHK'D BY:

PROJECT NO: 2-1363

DATE:

DATE: 2/7/00

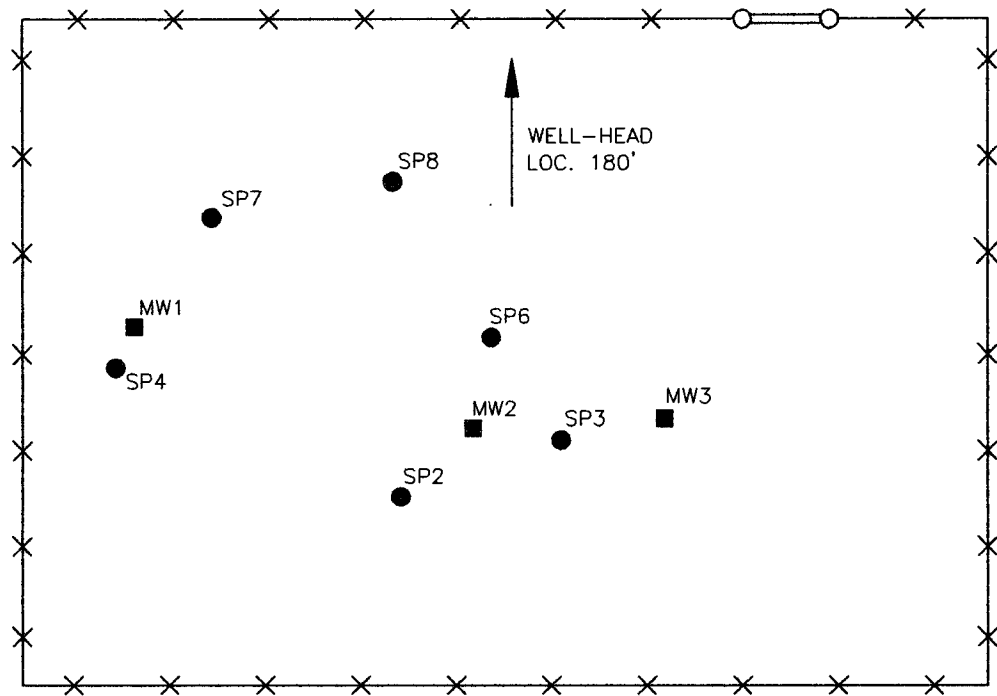
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SHEET: 4 OF 5

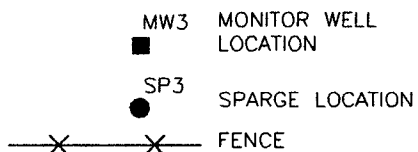
GROUND WATER POTENTIOMETER MAP
SEPTEMBER 1999

NELL HALL #1

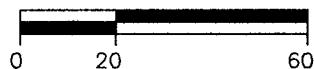
21363NHla4.dwg



LEGEND



SCALE (feet)



NOTE: NO MEASURABLE WATER LEVELS
RECORDED AT TIME OF WELL READINGS.



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

APPROVED:	DATE:
DRWN BY: MED	DATE: 2/7/00
CHK'D BY:	DATE:
PROJECT NO: 2-1363	SHEET: 5 OF 5

GROUND WATER POTENTIOMETER MAP
DECEMBER 1999

NELL HALL #1

OFF: (505) 325-5667



LAB: (505) 325-1556

June 30, 1999

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

RE: 2-1363; Nell-Hall

Order No.: 9906061

Dear Larry Trujillo,

On Site Technologies, LTD. received 4 samples on 6/16/99 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", is written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 30-Jun-99

CLIENT: Conoco, Inc.
Project: 2-1363; Nell-Hall
Lab Order: 9906061

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-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Nell-Hall
Work Order:	9906061	Client Sample ID:	SP-2
Lab ID:	9906061-01A	Matrix:	AQUEOUS
Project:	2-1363; Nell-Hall	Collection Date:	6/16/99 9:15:00 AM
		COC Record:	10205

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	7.8	0.5		µg/L	1	6/29/99
Toluene	ND	0.5		µg/L	1	6/29/99
Ethylbenzene	ND	0.5		µg/L	1	6/29/99
m,p-Xylene	1.7	1		µg/L	1	6/29/99
o-Xylene	ND	0.5		µg/L	1	6/29/99

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

P.O. BOX 2606 • FARMINGTON, NM 87499

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Nell-Hall
Work Order:	9906061	Client Sample ID:	SP-6
Lab ID:	9906061-02A	Matrix:	AQUEOUS
Project:	2-1363; Nell-Hall	Collection Date:	6/16/99 9:25:00 AM
		COC Record:	10205

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	580	5		µg/L	10	6/29/99
Toluene	ND	5		µg/L	10	6/29/99
Ethylbenzene	270	5		µg/L	10	6/29/99
m,p-Xylene	3000	10		µg/L	10	6/29/99
o-Xylene	ND	5		µg/L	10	6/29/99

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Nell-Hall
Work Order:	9906061	Client Sample ID:	SP-7
Lab ID:	9906061-03A	Matrix:	AQUEOUS
Project:	2-1363; Nell-Hall	Collection Date:	6/16/99 9:30:00 AM
		COC Record:	10205

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	200	25		µg/L	50	6/29/99
Toluene	40	5		µg/L	10	6/28/99
Ethylbenzene	240	25		µg/L	50	6/29/99
m,p-Xylene	7300	50		µg/L	50	6/29/99
o-Xylene	13	5		µg/L	10	6/28/99

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 30-Jun-99

Client:	Conoco, Inc.	Client Sample Info:	Nell-Hall
Work Order:	9906061	Client Sample ID:	MW-1
Lab ID:	9906061-04A	Matrix:	AQUEOUS
Project:	2-1363; Nell-Hall	Collection Date:	6/16/99 9:35:00 AM
		COC Record:	10205

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	76	5		µg/L	10	6/28/99
Toluene	16	5		µg/L	10	6/28/99
Ethylbenzene	230	5		µg/L	10	6/28/99
m,p-Xylene	2000	10		µg/L	10	6/28/99
o-Xylene	6.4	5		µg/L	10	6/28/99

2304

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

On Site Technologies, LTD.

Date: 30-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906061

Project: 2-1363; Nell-Hall

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990628	Test Code: SW8021B	Units: µg/L	Analysis Date 6/28/99	Prep Date:						
Client ID:	9906061	Run ID: GC-1_990628A		SeqNo: 16541							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.1616	0.5									J

Sample ID: MB1	Batch ID: GC-1_990629	Test Code: SW8021B	Units: µg/L	Analysis Date 6/29/99	Prep Date:						
Client ID:	9906061	Run ID: GC-1_990629A		SeqNo: 16569							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	.2401	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.2236	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-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906061

Project: 2-1363; Nell-Hall

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9906061-04AMS	Batch ID: GC-1_990628	Test Code: SW8021B	Units: µg/L	Analysis Date: 6/28/99	Prep Date:
Client ID: MW-1	9906061	Run ID: GC-1_990628A		SeqNo: 16542	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	441.7	5	400	76.3	91.4% 73 115
Ethylbenzene	602.5	5	400	234.1	92.1% 74 117
m,p-Xylene	2708	10	800	2012	87.1% 76 112
Methyl tert-Butyl Ether	405.2	10	400	0	101.3% 62 122
o-Xylene	364.2	5	400	6.435	89.5% 83 112
Toluene	388.6	5	400	16.16	93.1% 71 120

Sample ID: 9906061-04AMSD	Batch ID: GC-1_990628	Test Code: SW8021B	Units: µg/L	Analysis Date: 6/28/99	Prep Date:
Client ID: MW-1	9906061	Run ID: GC-1_990628A		SeqNo: 16543	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	427.6	5	400	76.3	87.8% 73 115 441.7 3.2% 8
Ethylbenzene	585.4	5	400	234.1	87.8% 74 117 602.5 2.9% 9
m,p-Xylene	2635	10	800	2012	78.0% 76 112 2708 2.7% 9
Methyl tert-Butyl Ether	405.1	10	400	0	101.3% 62 122 405.2 0.0% 7
o-Xylene	355.1	5	400	6.435	87.2% 83 112 364.2 2.6% 9
Toluene	376.2	5	400	16.16	90.0% 71 120 388.6 3.3% 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

CLIENT: Conoco, Inc.

Work Order: 9906061

Project: 2-1363; Nell-Hall

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9906061-03AMS		Batch ID: GC-1_990629		Test Code: SW8021B		Units: µg/L		Analysis Date 6/29/99		Prep Date:	
Client ID: SP-7		9906061		Run ID: GC-1_990629A				SeqNo: 16570			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	994.4	10	800	194.4	100.0%	73	115				E ✓ 6/30/99 4/11/99
Ethylbenzene	817.4	10	800	58.24	94.9%	74	117				
m,p-Xylene	10180	20	1600	8634	96.5%	76	112				
Methyl tert-Butyl Ether	853.2	20	800	0	106.7%	62	122				
o-Xylene	814.2	10	800	58.97	94.4%	83	112				
Toluene	863.3	10	800	34.05	103.7%	71	120				

Sample ID: 9906061-03AMSD		Batch ID: GC-1_990629		Test Code: SW8021B		Units: µg/L		Analysis Date 6/29/99		Prep Date:	
Client ID: SP-7		9906061		Run ID: GC-1_990629A				SeqNo: 16571			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	952.1	10	800	194.4	94.7%	73	115	994.4	4.4%	8	ES ✓ 6/30/99 4/11/99
Ethylbenzene	783.2	10	800	58.24	90.6%	74	117	817.4	4.3%	9	
m,p-Xylene	9756	20	1600	8634	70.1%	76	112	10180	4.2%	9	
Methyl tert-Butyl Ether	823	20	800	0	102.9%	62	122	853.2	3.6%	7	
o-Xylene	782.6	10	800	58.97	90.5%	83	112	814.2	4.0%	9	
Toluene	829.9	10	800	34.05	99.5%	71	120	863.3	3.9%	9	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-Jun-99

CLIENT: Conoco, Inc.

Work Order: 9906061

Project: 2-1363; Nell-Hall

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_990628		Test Code: SW8021B		Units: µg/L		Analysis Date 6/28/99		Prep Date:	
Client ID:		9906061		Run ID:		GC-1_990628A		SeqNo: 16540			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.13	0.5	40	0	105.3%	84	110				
Ethylbenzene	41.58	0.5	40	0	103.9%	86	113				
m,p-Xylene	79.82	1	80	0	99.8%	81	114				
Methyl tert-Butyl Ether	45.7	1	40	0	114.3%	69	129				
o-Xylene	41.59	0.5	40	0	104.0%	86	112				
Toluene	41.17	0.5	40	0.1616	102.5%	85	111				

Sample ID: LCS WATER	Batch ID: GC-1_990629	Test Code: SW8021B	Units: µg/L	Analysis Date 6/29/99	Prep Date:						
Client ID:	9906061	Run ID: GC-1_990629A		SeqNo: 16568							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.03	0.5	40	0	100.1%	84	110				
Ethylbenzene	40.47	0.5	40	0	101.2%	86	113				
m,p-Xylene	81.83	1	80	0.2401	102.0%	81	114				
Methyl tert-Butyl Ether	41.82	1	40	0	104.6%	69	129				
o-Xylene	41.06	0.5	40	0	102.6%	86	112				
Toluene	40.25	0.5	40	0.2236	100.1%	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: 30-Jun-99

CLIENT: Conoco, Inc.
Work Order: 9906061
Project: 2-1363; Nell-Hall

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_9906		Batch ID: GC-1_990628	Test Code: SW8021B	Units: µg/L	Analysis Date 6/28/99		Prep Date:
Client ID: 9906061		Run ID: GC-1_990628A	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val
Analyte	Result						%RPD RPDLimit Qual
Benzene	21.8	0.5	0.5	20	0	109.0%	85 115
Ethylbenzene	21.56	0.5	0.5	20	0	107.8%	85 115
m,p-Xylene	41.46	1	1	40	0	103.6%	85 115
Methyl tert-Butyl Ether	22.97	1	1	20	0	114.8%	85 115
o-Xylene	21.56	0.5	0.5	20	0	107.8%	85 115
Toluene	21.38	0.5	0.5	20	0	106.9%	85 115
1,4-Difluorobenzene	94.82	0	0	100	0	94.8%	86 100
4-Bromochlorobenzene	93.8	0	0	100	0	93.8%	90 104
Fluorobenzene	97.56	0	0	100	0	97.6%	89 101

Sample ID: CCV2 BTEX_9906		Batch ID: GC-1_990628	Test Code: SW8021B	Units: µg/L	Analysis Date 6/28/99		Prep Date:
Client ID: 9906061		Run ID: GC-1_990628A	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val
Analyte	Result						%RPD RPDLimit Qual
Benzene	19.62	0.5	0.5	20	0	98.1%	85 115
Ethylbenzene	19.21	0.5	0.5	20	0	96.1%	85 115
m,p-Xylene	36.85	1	1	40	0	92.1%	85 115
Methyl tert-Butyl Ether	20.92	1	1	20	0	104.6%	85 115
o-Xylene	19.08	0.5	0.5	20	0	95.4%	85 115
Toluene	19.01	0.5	0.5	20	0	95.1%	85 115
1,4-Difluorobenzene	94.88	0	0	100	0	94.9%	86 100
4-Bromochlorobenzene	92.7	0	0	100	0	92.7%	90 104
Fluorobenzene	97.33	0	0	100	0	97.3%	89 101

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

CLIENT: Conoco, Inc.
Work Order: 9906061
Project: 2-1363; Nell-Hall

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_9906		Batch ID: GC-1_990628		Test Code: SW8021B		Units: µg/L		Analysis Date: 6/28/99		Prep Date:	
Client ID:		9906061		Run ID:		GC-1_990628A		SeqNo: 16539			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.8	0.5	40	0	107.0%	85	115				
Ethylbenzene	36.82	0.5	40	0	92.1%	85	115				
m,p-Xylene	71.88	1	80	0	89.8%	85	115				
Methyl tert-Butyl Ether	49.4	1	40	0	123.5%	85	115				S
o-Xylene	39.19	0.5	40	0	98.0%	85	115				
Toluene	35.86	0.5	40	0	89.6%	85	115				
1,4-Difluorobenzene	98.12	0	100	0	98.1%	86	100				
4-Bromochlorobenzene	102.5	0	100	0	102.5%	90	104				
Fluorobenzene	103.8	0	100	0	103.8%	89	101				

✓ 11050
 8/12/99
 S

Sample ID: CCV1 BTEX_9906		Batch ID: GC-1_990629		Test Code: SW8021B		Units: µg/L		Analysis Date: 6/29/99		Prep Date:	
Client ID:		9906061		Run ID:		GC-1_990629A		SeqNo: 16566			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.62	0.5	20	0	103.1%	85	115				
Ethylbenzene	20.87	0.5	20	0	104.4%	85	115				
m,p-Xylene	41.98	1	40	0	104.9%	85	115				
Methyl tert-Butyl Ether	21.77	1	20	0	108.8%	85	115				
o-Xylene	21.08	0.5	20	0	105.4%	85	115				
Toluene	20.61	0.5	20	0	103.1%	85	115				
1,4-Difluorobenzene	89.97	0	100	0	90.0%	80	120				
4-Bromochlorobenzene	87.87	0	100	0	87.9%	80	120				
Fluorobenzene	90	0	100	0	90.0%	80	120				

✓ 11050
 8/12/99
 S

CLIENT: Conoco, Inc.
Work Order: 9906061
Project: 2-1363; Nell-Hall

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV2 BTEX_9906		Batch ID: GC-1_990629	Test Code: SW8021B		Units: µg/L	Analysis Date 6/29/99		Prep Date:	
Client ID: 9906061		Run ID: GC-1_990629A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 16567
Analyte	Result								
Benzene	41.11		0.5	40	0	102.8%	85	115	
Ethylbenzene	41.29		0.5	40	0	103.2%	85	115	
m,p-Xylene	82.98		1	80	0	103.7%	85	115	
Methyl tert-Butyl Ether	42.42		1	40	0	106.0%	85	115	
o-Xylene	41.19		0.5	40	0	103.0%	85	115	
Toluene	40.85		0.5	40	0	102.1%	85	115	
1,4-Difluorobenzene	89.52		0	100	0	89.5%	80	120	
4-Bromochlorobenzene	87.58		0	100	0	87.6%	80	120	
Fluorobenzene	89.83		0	100	0	89.8%	80	120	

On Site Technologies, LTD.

Date: 30-Jun-99

CLIENT: Conoco, Inc.
Work Order: 9906061
Project: 2-1363; Nell-Hall
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
9906060-01A	93.1	92.7	95.9
9906061-01A	90.4	87.8	90.2
9906061-02A	89.7	86.8	89.2
9906061-03A	89.8	87.6	90.3
9906061-03AMS	86.9	85.9	88
9906061-03AMSD	86.6	85.6	87.6
9906061-04A	93.4	90.6	97.2
9906061-04AMS	92.6	91.7	96.3
9906061-04AMSD	91.8	91	95.6
9906062-09A	90.8	87.9	90.8
9906062-10A	94.4	91.6	97.4
9906062-11A	94.3	93.1	97.9
9906062-13A	94.3	93.3	99.9
9906062-19A	95	92.6	98.1
9906064-01A	94.8	92.4	98
9906064-02A	95.5	92.8	98.1
9906064-03A	95.1	93.1	98.1
9906064-04A	79.7 *	77 *	82.6 *
9906064-05A	92.6	91.2	95.4
9906065-01A	93.6	92	96.8
9906076-01A	95.1	93	98
9906076-02A	95	92.1	97.4
9906076-03A	96.1	93.6	98.2
9906079-01A	90.3	86.5	90
9906079-02A	90	86.2	90.5
CCV1 BTEX_99061	90	87.9	90
CCV2 BTEX_99061	89.5	87.6	89.8

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	86-100
14FBZ	= 1,4-Difluorobenzene	80-120
4BCBZ	= 4-Bromochlorobenzene	90-104
4BCBZ	= 4-Bromochlorobenzene	80-120
FLBZ	= Fluorobenzene	89-101
FLBZ	= Fluorobenzene	80-120

* Surrogate recovery outside acceptance limits

CLIENT: Conoco, Inc.
Work Order: 9906061
Project: 2-1363; Nell-Hall
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
CCV3 BTEX_99061	98.1	102	104 *
LCS WATER	90	87.7	89.6
MB1	90.6	87.9	90.8

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	86-100
14FBZ	= 1,4-Difluorobenzene	80-120
4BCBZ	= 4-Bromochlorobenzene	90-104
4BCBZ	= 4-Bromochlorobenzene	80-120
FLBZ	= Fluorobenzene	89-101
FLBZ	= Fluorobenzene	80-120

* Surrogate recovery outside acceptance limits



Date: _____

Page: 1 of 1

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

[illegible]



Date: 5/1
Page: 1 of 1

Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
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OFF: (505) 325-5667



LAB: (505) 325-1556

September 24, 1999

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: Nell-Hall; 2-1363

Order No.: 9909057

Dear Larry Trujillo,

On Site Technologies, LTD. received 4 samples on 09/15/1999 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Aromatic Volatiles by GC/PID (SW8021B)

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

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

Sincerely,

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

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 24-Sep-99

CLIENT: On Site Technologies, Limited Partnership
Project: Nell-Hall; 2-1363
Lab Order: 9909057

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: 24-Sep-99

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell-Hall
Work Order:	9909057	Client Sample ID:	SP-2
Lab ID:	9909057-01A	Matrix:	AQUEOUS
Project:	Nell-Hall; 2-1363	Collection Date:	09/15/1999 2:02:00 PM
		COC Record:	10321

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	21	0.5		µg/L	1	09/21/1999
Toluene	2.2	0.5		µg/L	1	09/21/1999
Ethylbenzene	130	0.5		µg/L	1	09/21/1999
m,p-Xylene	260	1		µg/L	1	09/21/1999
o-Xylene	5.5	0.5		µg/L	1	09/21/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Sep-99

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell-Hall
Work Order:	9909057	Client Sample ID:	SP-6
Lab ID:	9909057-02A	Matrix:	AQUEOUS
Project:	Nell-Hall; 2-1363	Collection Date:	09/15/1999 2:20:00 PM
		COC Record:	10321

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	1.2	0.5		µg/L	1	09/22/1999
Toluene	0.5	0.5		µg/L	1	09/22/1999
Ethylbenzene	10	0.5		µg/L	1	09/22/1999
m,p-Xylene	14	1		µg/L	1	09/22/1999
o-Xylene	0.6	0.5		µg/L	1	09/22/1999

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Sep-99

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell-Hall
Work Order:	9909057	Client Sample ID:	SP-7
Lab ID:	9909057-03A	Matrix:	AQUEOUS
Project:	Nell-Hall; 2-1363	Collection Date:	09/15/1999 2:40:00 PM
		COC Record:	10321

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	140	10		µg/L	20	09/22/1999
Toluene	19	10		µg/L	20	09/22/1999
Ethylbenzene	260	10		µg/L	20	09/22/1999
m,p-Xylene	5000	20		µg/L	20	09/22/1999
o-Xylene	110	10		µg/L	20	09/22/1999

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 24-Sep-99

Client:	On Site Technologies, Limited Partnership	Client Sample Info:	Nell-Hall
Work Order:	9909057	Client Sample ID:	MW-1
Lab ID:	9909057-04A	Matrix:	AQUEOUS
Project:	Nell-Hall; 2-1363	Collection Date:	09/15/1999 3:00:00 PM
		COC Record:	10321

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	20	5		µg/L	10	09/21/1999
Toluene	17	5		µg/L	10	09/21/1999
Ethylbenzene	86	5		µg/L	10	09/21/1999
m,p-Xylene	510	10		µg/L	10	09/21/1999
o-Xylene	14	5		µg/L	10	09/21/1999

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

On Site Technologies, LTD.

Date: 24-Sep-99

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9909057

Project: Nell-Hall; 2-1363

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L	Analysis Date 09/21/1999	Prep Date:						
Client ID:	9909057	Run ID: GC-1_990921A		SeqNo: 19804							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	ND	0.5									

Sample ID: MB1	Batch ID: GC-1_990922	Test Code: SW8021B	Units: µg/L	Analysis Date 09/22/1999	Prep Date:						
Client ID:	9909057	Run ID: GC-1_990922A		SeqNo: 19829							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0573	0.5									J
Ethylbenzene	.0618	0.5									J
m,p-Xylene	.1319	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0448	0.5									J
Toluene	.3785	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: 24-Sep-99

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9909057
Project: Nell-Hall; 2-1363

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9909057-04AMS		Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L	Analysis Date 09/21/1999		Prep Date:						
Client ID: MW-1	Run ID: 9909057	GC-1_990921A	PQL	SPK value	SPK Ref Val	%REC	SeqNo: 19805	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Benzene	414.6		5	400	20.08	98.6%		80		116			
Ethylbenzene	487.2		5	400	85.54	100.4%		80		118			
m,p-Xylene	1276		10	800	509.8	95.7%		77		116			
Methyl tert-Butyl Ether	406.6		10	400	5.276	100.3%		62		122			
o-Xylene	436.3		5	400	13.81	105.6%		83		117			
Toluene	430.7		5	400	16.64	103.5%		80		116			

Sample ID: 9909057-04AMSD		Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L	Analysis Date 09/21/1999		Prep Date:				
Client ID: MW-1		Run ID: 9909057	GC-1_990921A		SeqNo: 19806						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	404.2	5	400	20	96.0%	80	116	414.6	2.5%	7	
Ethylbenzene	475.7	5	400	86	97.4%	80	118	487.2	2.4%	7	
m,p-Xylene	1246	10	800	510	92.0%	77	116	1276	2.4%	7	
Methyl tert-Butyl Ether	401.6	10	400	5	99.1%	62	122	406.6	1.2%	7	
o-Xylene	426.3	5	400	14	103.1%	83	117	436.3	2.3%	6	
Toluene	421.1	5	400	17	101.0%	80	116	430.7	2.2%	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

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9909057

Project: Neil-Hall; 2-1363

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9909064-05AMS		Batch ID: GC-1_990922		Test Code: SW8021B		Units: µg/L		Analysis Date 09/22/1999		Prep Date:					
Client ID: 9909057		Run ID: GC-1_990922A		PQL		SPK value		SeqNo: 19830							
Analyte	Result							LowLimit		HighLimit		RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	7092			25		2000				80		116			
Ethylbenzene	2572			25		2000		524.5		80		118			
m,p-Xylene	8491			50		4000		4560		77		116			
Methyl tert-Butyl Ether	2146			50		2000		0		62		122			
o-Xylene	2756			25		2000		703.6		83		117			
Toluene	2675			25		2000		569.6		80		116			

Sample ID: 9909064-05AMSD		Batch ID: GC-1_990922	Test Code: SW8021B	Units: µg/L	Analysis Date 09/22/1999		Prep Date:				
Client ID: 9909057		Run ID: GC-1_990922A			SeqNo: 19831						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6909	25	2000	4873	101.8%	80	116	7092	2.6%	7	
Ethylbenzene	2505	25	2000	524.5	99.0%	80	118	2572	2.6%	7	
m,p-Xylene	8274	50	4000	4560	92.9%	77	116	8491	2.6%	7	
Methyl tert-Butyl Ether	2134	50	2000	0	106.7%	62	122	2146	0.6%	7	
o-Xylene	2694	25	2000	703.6	99.5%	83	117	2756	2.2%	6	
Toluene	2566	25	2000	569.6	99.8%	80	116	2675	4.2%	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: 24-Sep-99

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9909057
Project: Nell-Hall; 2-1363

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L	Analysis Date 09/21/1999		Prep Date:					
Client ID:	9909057	Run ID: GC-1_990921A		SeqNo: 19803							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.59	0.5	40	0	101.5%	87	119				
Ethylbenzene	41.2	0.5	40	0	103.0%	89	117				
m,p-Xylene	77.35	1	80	0	96.7%	88	114				
Methyl tert-Butyl Ether	43.36	1	40	0	108.4%	69	129				
o-Xylene	41.14	0.5	40	0	102.9%	90	116				
Toluene	40.93	0.5	40	0	102.3%	90	115				

Sample ID: LCS WATER	Batch ID: GC-1_990922	Test Code: SW8021B	Units: µg/L	Analysis Date 09/22/1999		Prep Date:					
Client ID:	9909057	Run ID:	GC-1_990922A	SeqNo:	19828						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.62	0.5	40	0.0573	98.9%	87	119				
Ethylbenzene	40.03	0.5	40	0.0618	99.9%	89	117				
m,p-Xylene	74.94	1	80	0.1319	93.5%	88	114				
Methyl tert-Butyl Ether	40.06	1	40	0	100.2%	69	129				
o-Xylene	39.82	0.5	40	0.0448	99.4%	90	116				
Toluene	40.04	0.5	40	0.3785	99.1%	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.

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9909057
Project: Nell-Hall; 2-1363

Date: 24-Sep-99

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_9906		Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L	Analysis Date 09/21/1999				Prep Date:		
Client ID:		9909057	Run ID:	GC-1_990921A		SeqNo:	19800				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.84	0.5	20	0	104.2%	85	115				
Ethylbenzene	21.26	0.5	20	0	106.3%	85	115				
m,p-Xylene	40.04	1	40	0	100.1%	85	115				
Methyl tert-Butyl Ether	22.13	1	20	0	110.7%	85	115				
o-Xylene	21.18	0.5	20	0	105.9%	85	115				
Toluene	20.87	0.5	20	0	104.4%	85	115				
1,4-Difluorobenzene	95.1	0	100	0	95.1%	80	120				
4-Bromochlorobenzene	90.97	0	100	0	91.0%	80	120				
Fluorobenzene	93.94	0	100	0	93.9%	80	120				

Sample ID: CCV2 BTEX_9906		Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L	Analysis Date 09/21/1999				Prep Date:		
Client ID:		9909057	Run ID:	GC-1_990921A		SeqNo:	19801				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.58	0.5	20	0	102.9%	85	115				
Ethylbenzene	20.97	0.5	20	0	104.8%	85	115				
m,p-Xylene	39.31	1	40	0	98.3%	85	115				
Methyl tert-Butyl Ether	20.84	1	20	0	104.2%	85	115				
o-Xylene	20.92	0.5	20	0	104.6%	85	115				
Toluene	20.62	0.5	20	0	103.1%	85	115				
1,4-Difluorobenzene	94.79	0	100	0	94.8%	80	120				
4-Bromochlorobenzene	92.54	0	100	0	92.5%	80	120				
Fluorobenzene	93.71	0	100	0	93.7%	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 Partnership

Work Order: 9909057

Project: Neill-Hall; 2-1363

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_9906		Batch ID: GC-1_990921	Test Code: SW8021B	Units: µg/L		Analysis Date 09/21/1999		Prep Date:	
Client ID:		9909057	Run ID: GC-1_990921A			SeqNo: 19802			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	21.38	0.5	20	0	106.9%	85	115		Qual
Ethylbenzene	21.92	0.5	20	0	109.6%	85	115		
m,p-Xylene	41.29	1	40	0	103.2%	85	115		
Methyl tert-Butyl Ether	22.38	1	20	0	111.9%	85	115		
o-Xylene	21.97	0.5	20	0	109.8%	85	115		
Toluene	21.76	0.5	20	0	108.8%	85	115		
1,4-Difluorobenzene	94.98	0	100	0	95.0%	80	120		
4-Bromochlorobenzene	95.65	0	100	0	95.6%	80	120		
Fluorobenzene	93.94	0	100	0	93.9%	80	120		

Sample ID: CCV1 BTEX_9906		Batch ID: GC-1_990922	Test Code: SW8021B	Units: µg/L		Analysis Date 09/22/1999		Prep Date:	
Client ID:		9909057	Run ID: GC-1_990922A			SeqNo: 19825			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	20.47	0.5	20	0	102.4%	85	115		Qual
Ethylbenzene	21.01	0.5	20	0	105.1%	85	115		
m,p-Xylene	39.51	1	40	0	98.8%	85	115		
Methyl tert-Butyl Ether	20.94	1	20	0	104.7%	85	115		
o-Xylene	20.9	0.5	20	0	104.5%	85	115		
Toluene	20.87	0.5	20	0	104.3%	85	115		
1,4-Difluorobenzene	94.7	0	100	0	94.7%	80	120		
4-Bromochlorobenzene	92.68	0	100	0	92.7%	80	120		
Fluorobenzene	93.83	0	100	0	93.8%	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 Partnership

Work Order: 9909057

Project: Nell-Hall; 2-1363

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 BTEX_9906		Batch ID: GC-1_990922	Test Code: SW8021B	Units: µg/L		Analysis Date 09/22/1999		Prep Date:	
Client ID:		9909057	Run ID: GC-1_990922A			SeqNo: 19826			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	19.97	0.5	20	0	99.9%	85	115		
Ethylbenzene	20.3	0.5	20	0	101.5%	85	115		
m,p-Xylene	38.06	1	40	0	95.2%	85	115		
Methyl tert-Butyl Ether	20.87	1	20	0	104.4%	85	115		
o-Xylene	20.31	0.5	20	0	101.5%	85	115		
Toluene	20.21	0.5	20	0	101.1%	85	115		
1,4-Difluorobenzene	94.51	0	100	0	94.5%	80	120		
4-Bromochlorobenzene	93.77	0	100	0	93.8%	80	120		
Fluorobenzene	93.65	0	100	0	93.7%	80	120		

Sample ID: CCV3 BTEX_9906		Batch ID: GC-1_990922	Test Code: SW8021B	Units: µg/L		Analysis Date 09/22/1999		Prep Date:	
Client ID:		9909057	Run ID: GC-1_990922A			SeqNo: 19827			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	21.22	0.5	20	0	106.1%	85	115		
Ethylbenzene	21.27	0.5	20	0	106.3%	85	115		
m,p-Xylene	39.8	1	40	0	99.5%	85	115		
Methyl tert-Butyl Ether	21.73	1	20	0	108.7%	85	115		
o-Xylene	21.23	0.5	20	0	106.1%	85	115		
Toluene	21.37	0.5	20	0	106.8%	85	115		
1,4-Difluorobenzene	94.6	0	100	0	94.6%	80	120		
4-Bromochlorobenzene	93.5	0	100	0	93.5%	80	120		
Fluorobenzene	94.28	0	100	0	94.3%	80	120		

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 24-Sep-99

CLIENT: On Site Technologies, Limited Partnership

Work Order: 9909057

Project: Nell-Hall; 2-1363

Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
9909042-06B	94.8	95.3	94.2
9909056-01A	92.7	92.9	92.5
9909057-01A	94.4	99.6	93.6
9909057-02A	94.8	92.6	95.1
9909057-03A	92.2	91.7	92.9
9909057-04A	92.9	90.1	93.7
9909057-04AMS	92.5	93.8	92.1
9909057-04AMSD	90.2	90.4	90.1
9909059-01A	95.3	94	94.2
9909062-01A	95.7	92.5	95.1
9909062-02A	96.2	93.8	95.4
9909062-03A	95.4	94.2	95.2
9909062-04A	95.8	94.2	95.2
9909062-05A	95.7	94.4	95.2
9909062-06A	92.8	93.9	97.6
9909062-07A	96.2	95.4	95.2
9909062-08A	95.3	94.8	95.4
9909062-09A	92.3	93.9	95.1
9909062-10A	91.4	91.6	95
9909062-11A	95.1	93.7	95.1
9909062-12A	93.7	92.4	97.5
9909062-13A	95.7	92.8	95.4
9909062-14A	94.7	94.5	94.9
9909062-15A	95.3	94	94.9
9909062-16A	95	93.9	94.8
9909062-17A	95.9	93.8	95.2
9909063-01A	95.8	93.6	95.5

Acronym

Surrogate

QC Limits

14FBZ

= 1,4-Difluorobenzene

80-120

4BCBZ

= 4-Bromochlorobenzene

80-120

FLBZ

= Fluorobenzene

80-120

* Surrogate recovery outside acceptance limits

CLIENT: On Site Technologies, Limited Partnership
Work Order: 9909057
Project: Nell-Hall; 2-1363
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
9909063-02A	95.4	93.8	94.9
9909063-03A	94.9	93.9	95.2
9909063-04A	95.3	94.3	94.9
9909064-03A	91	94.3	90.5
9909064-04A	94.3	94.8	93.8
9909064-05A	91.9	94	91.5
9909064-05AMS	92.1	93.5	90.8
9909064-05AMSD	91.8	94.6	90.9
9909065-02A	95	94	94.8
9909067-01A	93.6	95.7	93
9909067-02A	95.1	94.5	94.6
CCV1 BTEX_99061	94.7	92.7	93.8
CCV2 BTEX_99061	94.5	93.8	93.6
CCV3 BTEX_99061	94.6	93.5	94.3
LCS WATER	94.6	92.7	93.5
MBI	95.3	92.7	94.7

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

* Surrogate recovery outside acceptance limits



Date: _____

Page: 1 of 1

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Purchase Order No.:		Project No.		Name		Title	
SEND INVOICE TO		Company		Company			
Address		Dept.		Mailing Address			
City, State, Zip				City, State, Zip		Telephone No.	
PROJECT LOCATION:		PROJECT NO.:		RESULTS TO		Name	
SAMPLER'S SIGNATURE:		DATE		Number of Containers		Company	
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DATE		MATRIX		LAB ID		City, State, Zip	
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PRES.				LAB ID		Date/Time	
DATE				LAB ID		Date/Time	
TIME				LAB ID		Date/Time	
MATRIX							



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