3R - 90

REPORTS

DATE:

1997

ON SITE
TECHNOLOGIES, LTD.

February 1, 1998

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

FEB 27 1998

RE: 1997 Annual Ground Water Report
Conoco Location: NELL-HALL #1,
~~Sec. 02~~, T30N, R11W, NMPM, San Juan Co., NM
Unit M, Sec. 07

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 covered the prior calendar year of 1997, and follows the format outlined in the *Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico*, submitted to the New Mexico Oil Conservation Division on October 15, 1997.

SUMMARY OF 1997 ACTIVITIES:

The only activity that took place at the Nell-Hall #1 location during 1997, was the required quarterly ground water sampling of the three (3) monitoring wells.

Historically, the monitoring wells at this site only have water in them during certain times of the year. Due to this problem, Nell-Hall #1 was only sampled in August and September 1997. The monitoring wells at this location, are set up in a straight line, with approximately 0.79 foot difference elevation between wells.

SAMPLING:

Following the approved Conoco plan, during each sampling event, water levels were measured on all monitoring wells prior to purging and sampling. Samples were collected in laboratory supplied containers, preserved as needed, 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 each sampling event. Table 2, summarizes the laboratory results for BTEX compounds from all water sampling completed at the referenced site, including assessment data. Table 3, summarizes the laboratory results for RCRA metals and API water quality testing, as required by NMOCD.

Copies of all laboratory reports for the calendar year 1997, 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 1997 ground water monitoring results and trends associated with a former production pit at the Nell-Hall #1 well location:

1. Except for contamination from BTEX constituents, there appears to have been no significant hydrocarbon impact to ground water above the New Mexico Water Quality Control Commission (NMWQCC) standards. The BTEX contamination appears to be limited to the immediate area of the former pit.
2. BTEX contamination of ground water has fluctuated with the fluctuation of the ground water. Monitoring well #1 still shows contamination levels above NMWQCC standards. Monitoring well #2 contamination levels fluctuate above and below NMWQCC standards. Monitoring well #3, remains below NMWQCC standards.
3. The ground water during 1997 fluctuated seasonally with changes in irrigation and flow in the Animas River.

LIMITATIONS AND CLOSURE:

This annual groundwater report documents the results of ground water monitoring for the referenced Conoco well location during the calendar year 1997. 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,

Larry Trujillo
Project Manager

Reviewed by:

Michael K. Lane, P.E.
Senior Engineer

On Site Technologies, Limited Partnership

Attachments:
Table 1: Monitoring Well Details and Ground Water Levels Summary
Table 2: Ground Water BTEX Analytical Summary
Table 3: Other Constituents Analytical Summary
Figure 1: Site Sketch
Figure 2: Ground Water Potentiometric Map (Not Applicable)
Boring Logs and Monitoring Well Diagrams
Laboratory Results, QA/QC, Chain of Custody

Acknowledgment:
CONOCO, Inc.

Shirley L. Hurst Sheare Spec.
(Name/Title)

2/19/98
(Date)

MKL/mkl: 41363-97.doc

On Site Technologies, Ltd.:
Table1
Groundwater Level SUMMARY
Nell-Hall #1
Sec. 02, 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		28.61		20.5	03/27/97	NMW	
					08/07/97	19.11	
					09/16/97	21.09	
					12/30/97	NMW	
MW#2		27.31		21.0	03/27/97	NMW	
					08/07/97	19.17	
					09/16/97	20.79	
					12/30/97	NMW	
MW#3		27.03		22.0	03/27/97	NMW	
					08/07/97	20.02	
					09/16/97	21.40	
					12/30/97	NMW	

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

gwl1363.doc

On Site Technologies
Table 2
BTEX Analytical Summary
Nell-Hall #1
Sec.2, T30N, R11W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)				
				Benzene	Toluene	Ethylbenzene	Total Xylene	Total BTEX
06/14/96	0396G01016	MW#1	IML	26.6	27.7	757.0	9310.0	10,121.30
06/28/96	0369G01208	MW#1	IML	BDL	42.0	720.0	14404.0	15,166.00
07/12/96	0369G01336	MW#1	IML	BDL	15.2	168.0	BDL	183.20
04/01/97		MW#1	No Sample Taken					
08/07/97	15686	MW#1	On Site Lab.	19.0	17.0	49.0	1197.0	1,282.00
09/16/97	16200	MW#1	On Site Lab.	77.0	15.0	195.0	2140.0	2,428.0
12/30/97		MW#1	No Sample Taken					
06/14/97	0396G01017	MW#2	IML	9.0	1.6	26.1	1.1	37.80
06/28/96	0396G01209	MW#2	IML	BDL	0.4	1.6	0.4	2.40
07/12/96	0396G01337	MW#2	IML	0.5	BDL	1.7	0.8	3.00
04/01/97		MW#2	No Sample Taken					
08/07/97	15687	MW#2	On Site Lab.	BDL	BDL	0.8	0.9	1.70
09/16/97	16201	MW#2	On Site Lab.	35.0	0.2	33.8	2704	96.4
12/30/97		MW#2	No Sample Taken					
06/14/96	0396G01017	MW#3	IML	31.3	BDL	BDL	BDL	31.30
06/28/96	0396G1210	MW#3	IML	BDL	BDL	BDL	BDL	BDL
07/12/96	0396G01338	MW#3	IML	BDL	BDL	BDL	BDL	BDL
04/01/97		MW#3	No Sample Taken					
08/07/97	15688	MW#3	On Site Lab.	BDL	BDL	BDL	BDL	BDL
09/16/97	16202	MW#3	On Site Lab.	BDL	BDL	BDL	BDL	0.2
12/30/97		MW#3	No Sample Taken					
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0	

BDL Below Detection Limits

On Site Technologies
Table 3
Other Constituent Analytical Summary
Nell-Hall #1
Sec. 2, T30N, R11W

API Results

CATIONS						ANIONS				
PARAMETER		RESULTS	UNIT of MEASURE	WQCC Standards	UNIT OF MEASURE	PARAMETER		RESULTS	UNIT OF MEASURE	WQCC Standards	UNIT OF MEASURE
Sodium	NA	17.0	mg/L			Chloride	Cl	7.0	mg/L	250.0	mg/L
Calcium	Ca	75.0	mg/L			Sulfate	SO_4	12.0	mg/L	600.0	mg/L
Magnesium	Mg	8.6	mg/L			Carbonate	CO_3	<1	mg/L		
Potassium	K	1.92	mg/L			Bicarbonate	HCO_3	254.0	mg/L		
						Hydroxide	HO	<1	mg/L		
						Sulfide	S_2	NA	mg/L		
						Iron	Fe	0.17	mg/L	1.0	mg/L
						Total Dissolved Solids		376.0	mg/L	1000.0	mg/L
						Total Naphthalene		<0.03	mg/l	0.03	mg/l
						benzo-a-pyrene		<0.0007	mg/L	0.0007	mg/L
						pH		7.10		between 6 and 9	
						Resistivity		19.6078		ohm-m	
						Specific Gravity		1.0005			
						Total hardness of $CaCO_3$		223.0		mg/L	

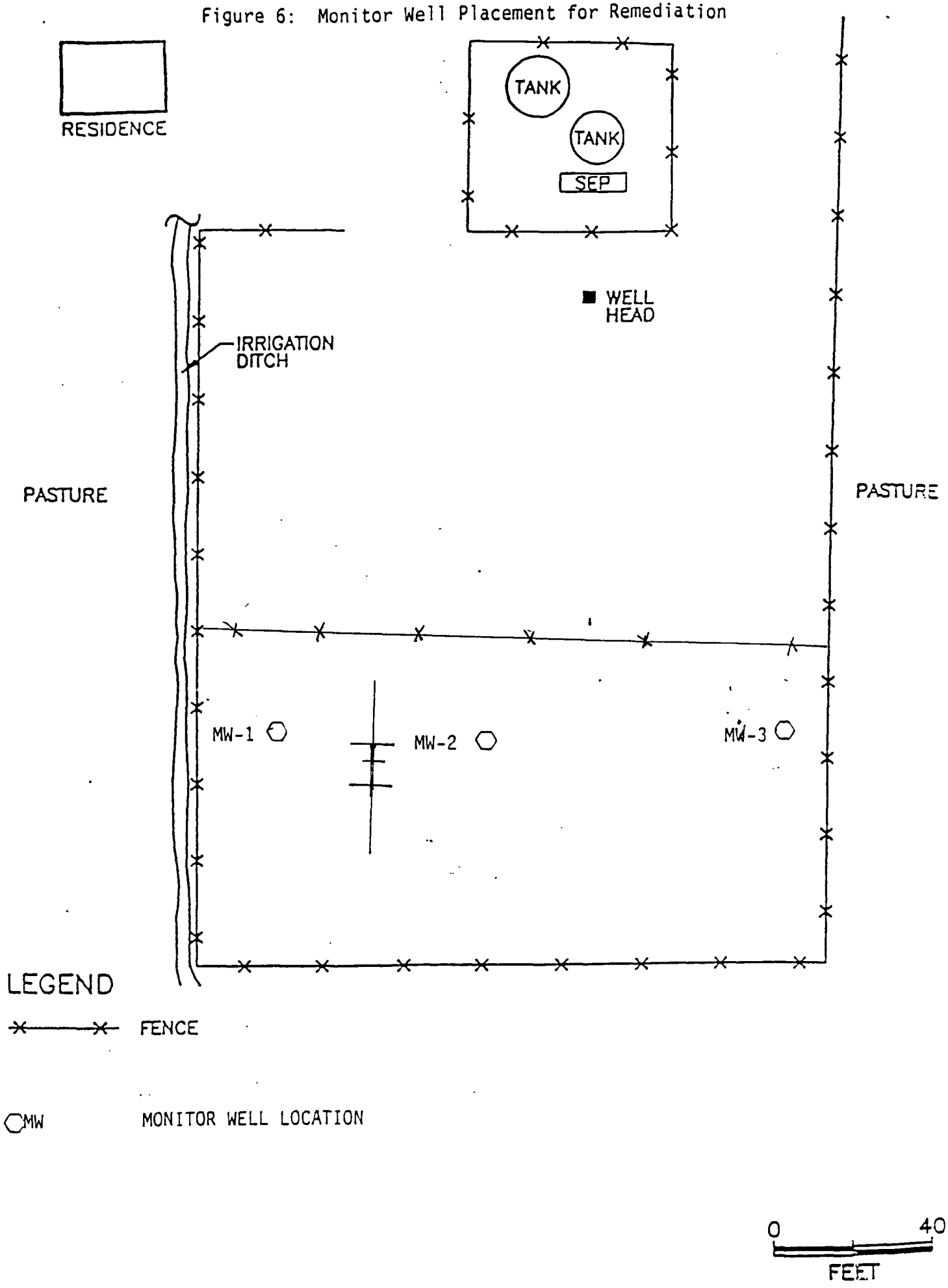
Sample Date: September 16,, 1997

Cation-Anion Balance	
Difference Cation-Anion me/L	0.66
Total Cation-Anion me/L	9.87
Difference Cation-Anion	6.7%

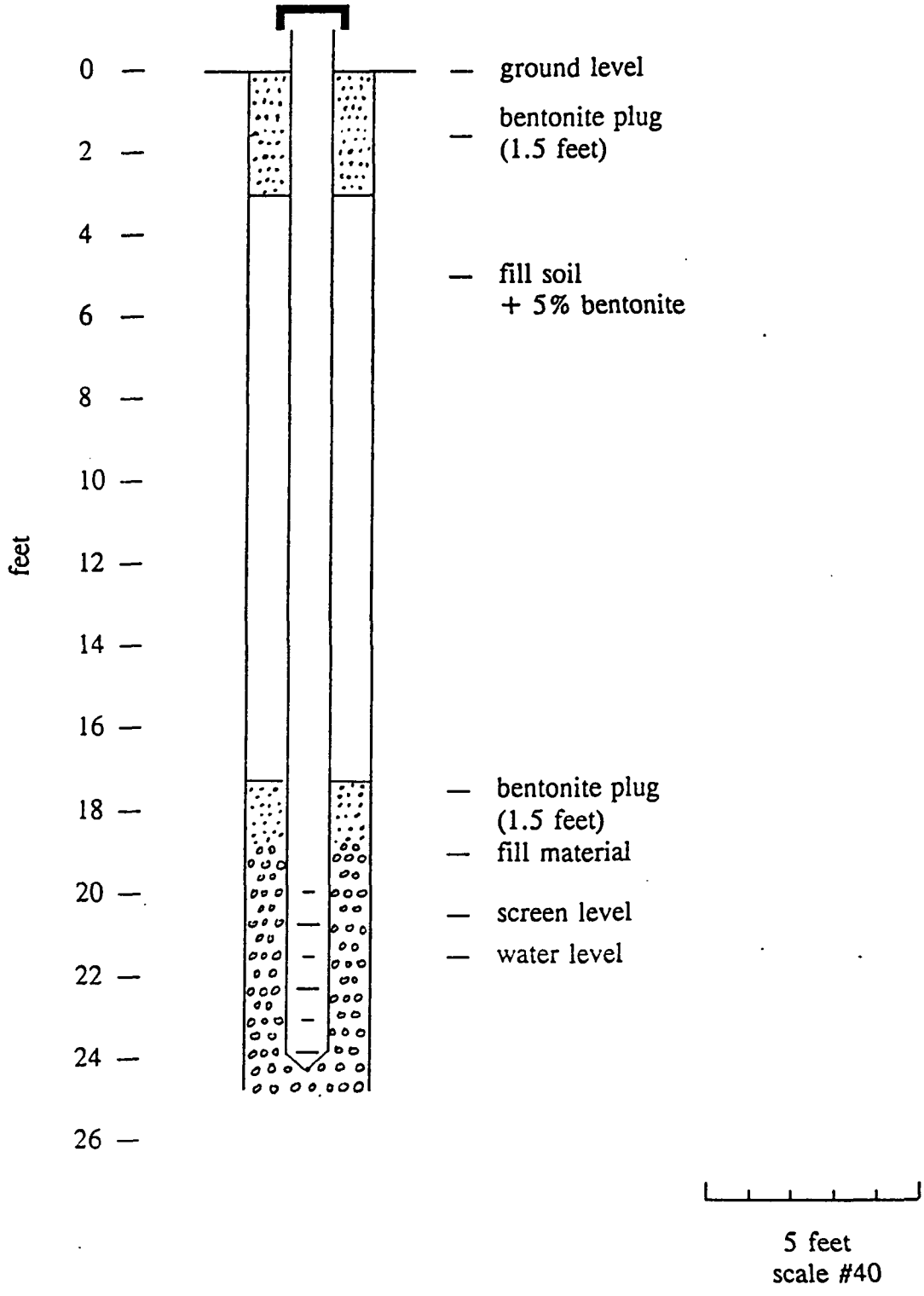
RCRA Metals
Test Method SW-846

PARAMETER	RESULTS	UNITS	WQCC	UNITS
Mercury by CVAA	<0.0005	mg/L	0.002	mg/L
Arsenic by ICP	<0.15	mg/L	0.1	mg/L
Barium by ICP	1.07	mg/L	1.0	mg/L
Cadmium by ICP	<0.020	mg/L	0.01	mg/L
Chromium by ICP	<0.050	mg/L	0.05	mg/L
Lead by ICP	<0.20	mg/L	0.05	mg/L
Selenium by ICP	<0.35	mg/L	0.05	mg/L
Silver by ICP	<0.030		0.05	mg/L

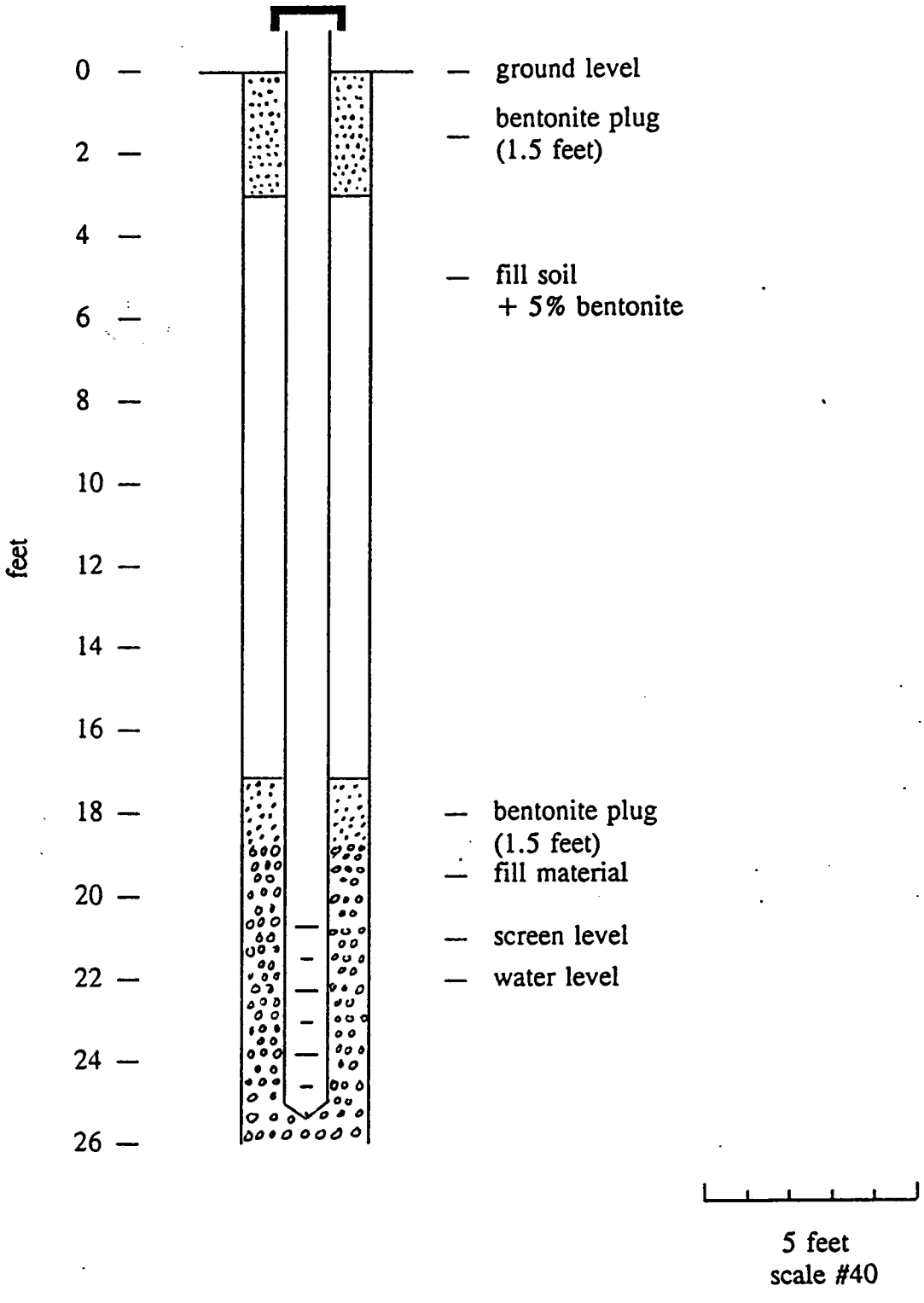
Figure 6: Monitor Well Placement for Remediation



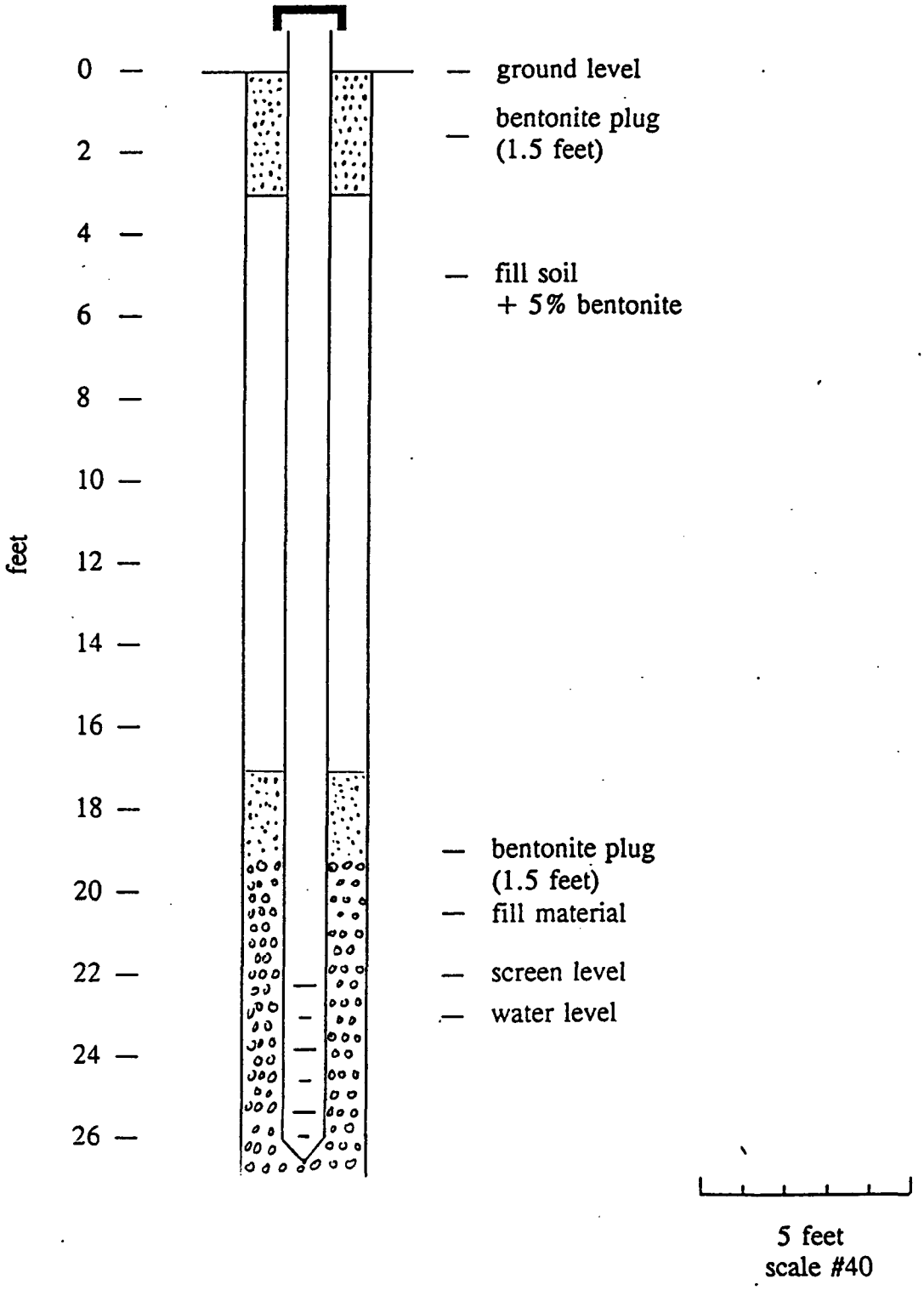
Monitor Well Design - MW#1 Nell Hall



Monitor Well Design - MW#2 Nell Hall



Monitor Well Design - MW#3 Nell Hall



OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Larry Trujillo*	Date:	26-Sep-97
Company:	*On Site Technologies, Ltd. c/o Conoco, Inc.*	COC No.:	*6476*
Address:	*612 E. Murray Drive*	Sample No.:	*16200*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1363*

Project Name:	***Conoco, Inc. - Nell Hall #1***				
Project Location:	***2-1363***				
Sampled by:	LT	Date:	16-Sep-97	Time:	12:49
Analyzed by:	DC	Date:	17-Sep-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	77	ug/L	2	ug/L
Toluene	15	ug/L	2	ug/L
Ethylbenzene	195	ug/L	2	ug/L
m,p-Xylene	2130	ug/L	2	ug/L
o-Xylene	10	ug/L	2	ug/L
TOTAL	2428	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 9/26/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

API WATER ANALYSIS

Attn:	*Larry Trujillo*	Date:	10-Oct-97
Company:	*On Site Technologies, Ltd. c/o Conoco, Inc.*	*COC No.:*	*6476*
Address:	*612 E. Murray Drive*	*Sample ID:*	*16200*
City, State:	*Farmington, NM 87401*	*Job No.:*	*2-1363*

Project Name:	***Conoco Inc. - Nell Hall #1***				
Project Location:	***2-1363***				
Sampled by:	LT	Date:	16-Sep-97	Time:	12:45
Analyzed by:	HR	Date:	25-Sep-97		

API RP-45 Laboratory Analysis

Parameter		*Result*	*Unit of Measure*		*Result*	*Unit of Measure*	
Cations							
Sodium	*Na*	17	mg/L		0.74	me/L	
Calcium	*Ca*	75	mg/L		3.76	me/L	
Magnesium	*Mg*	8.6	mg/L		0.70	me/L	
Potassium	*K*	1.92	mg/L		0.05	me/L	
Anions							
Chloride	*Cl*	7	mg/L		0.20	me/L	
Sulfate	*SO4*	12	mg/L		0.25	me/L	
Carbonate	*CO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3*	254	mg/L		4.16	me/L	
Hydroxide	*OH*	<1	mg/L		<0.01	me/L	
Sulfide	*S2*	NA	mg/L		NA	me/L	
Iron	*Fe*	0.17	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		376	mg/L				
pH		7.10					
Resistivity		19.6078	ohm-m				
Specific Gravity		1.0005					
Total Hardness as CaCO3		223	mg/L				

Cation-Anion Balance

0.66 *Difference Cation-Anion, me/L*

9.87 *Total Cation-Anion, me/L*

6.7 *% Difference Cation-Anion*

Comments

NA: *Not Analyzed*

Approved by:

Date: 10/15/97

RECEIVED OCT 0 6 1997
HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9709894-01

On Site Technologies
612 East Murray
Farmington, NM 87401
ATTN: David Cox

P.O.# 6476
10/02/97

PROJECT: Water Analysis
SITE: Nell Hall #1
SAMPLED BY: On Site Technologies
SAMPLE ID: 2-1363-PAH

PROJECT NO:
MATRIX: WATER
DATE SAMPLED: 09/16/97 12:37:00
DATE RECEIVED: 09/18/97

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	28	10.0	ug/L
Acenaphthylene	ND	10.0	ug/L
Acenaphthene	ND	30.0	ug/L
Fluorene	ND	30.0	ug/L
Phenanthrene	ND	10.0	ug/L
Anthracene	ND	10.0	ug/L
Fluoranthene	ND	10.0	ug/L
Pyrene	ND	10.0	ug/L
Chrysene	ND	10.0	ug/L
Benzo (a) anthracene	ND	10.0	ug/L
Benzo (b) fluoranthene	ND	10.0	ug/L
Benzo (k) fluoranthene	ND	10.0	ug/L
Benzo (a) pyrene	ND	10.0	ug/L
Dibenzo (a,h) anthracene	ND	10.0	ug/L
Benzo (g,h,i) perylene	ND	10.0	ug/L
Indeno (1,2,3-cd) pyrene	ND	10.0	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1-Fluoronaphthalene	0.20 ug/L	D	50	150
Phenanthrene d-10	0.20 ug/L	D	50	150

ANALYZED BY: KA DATE/TIME: 09/29/97 16:24:27
EXTRACTED BY: AM DATE/TIME: 09/23/97 14:00:00
METHOD: 8310 Polynuclear Aromatic Hydrocarbons
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed
D - Diluted, control limits not applicable.

COMMENTS:

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Analytical Report

RECEIVED OCT 1 6 1997

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Nell Hall #1

MSAI Sample: 68590
MSAI Group: 17957
Date Reported: 10/09/97
Discard Date: 11/08/97
Date Submitted: 09/23/97
Date Sampled: 09/16/97
Collected by:
Purchase Order:
Project No.:

Sample ID: 16200-6476
Matrix: Waste Water

Test	Analysis	Results as Received	Units	Limit of Quantitation
0259B	Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0005
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Complete		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	W 0		
7245	Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.15
7246	Barium by ICP, w/ww, 6010A Method: SW-846 6010A	1.07	mg/l	0.02
7249	Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.020
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.20
7264	Selenium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.35
7266	Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.030

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Larry Trujillo*	Date:	26-Sep-97
Company:	*On Site Technologies, Ltd. c/o Conoco, Inc.*	COC No.:	*6476*
Address:	*612 E. Murray Drive*	Sample No.:	*16201*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1363*

Project Name:	***Conoco, Inc. - Nell Hall #1***				
Project Location:	***2-1363; MW-2***				
Sampled by:	LT	Date:	16-Sep-97	Time:	13:10
Analyzed by:	DC	Date:	18-Sep-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	35.0	ug/L	0.2	ug/L
Toluene	0.2	ug/L	0.2	ug/L
Ethylbenzene	33.8	ug/L	0.2	ug/L
m,p-Xylene	27.4	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	96.4	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: DMC
Date: 9/26/97

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Larry Trujillo*	Date:	26-Sep-97
Company:	*On Site Technologies, Ltd. c/o Conoco, Inc.*	COC No.:	*6476*
Address:	*612 E. Murray Drive*	Sample No.:	*16202*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1363*

Project Name:	***Conoco, Inc. - Nell Hall #1***				
Project Location:	***2-1363; MW-3***				
Sampled by:	LT	Date:	16-Sep-97	Time:	13:27
Analyzed by:	DC	Date:	18-Sep-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	ND	ug/L	0.2	ug/L
Toluene	ND	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	0.2	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	0.2	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 9/26/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 17-Sep-97

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

Method Blank

Parameter	*Result*	*Unit of Measure*
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	*Unit of Measure*	*True Value*	*Analyzed Value*	*RPD*	*Limit*
Benzene	ppb	20.0	19.7	1	15%
Toluene	ppb	20.0	20.5	2	15%
Ethylbenzene	ppb	20.0	20.4	2	15%
m,p-Xylene	ppb	40.0	39.7	1	15%
o-Xylene	ppb	20.0	20.6	3	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*RPD*	*Limit*
Benzene	95	93	(39-150)	1	20%
Toluene	100	99	(46-148)	1	20%
Ethylbenzene	99	98	(32-160)	1	20%
m,p-Xylene	95	94	(35-145)	1	20%
o-Xylene	99	97	(35-145)	1	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*	*Laboratory Identification*	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)		*Limit Percent Recovered*	(70-130)	
16200-6476	95				
				WNR 10/15/97	(DC) 9/26/97

S1: *Flourobenzene*

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 18-Sep-97

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

Method Blank

Parameter	*Result*	*Unit of Measure*
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	*Unit of Measure*	*True Value*	*Analyzed Value*	*RPD*	*Limit*
Benzene	ppb	20.0	19.4	3	15%
Toluene	ppb	20.0	20.1	0	15%
Ethylbenzene	ppb	20.0	20.2	1	15%
m,p-Xylene	ppb	40.0	39.1	2	15%
o-Xylene	ppb	20.0	20.1	0	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*RPD*	*Limit*
Benzene	91	89	(39-150)	2	20%
Toluene	97	95	(46-148)	2	20%
Ethylbenzene	95	93	(32-160)	2	20%
m,p-Xylene	90	84	(35-145)	1	20%
o-Xylene	92	90	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*	*Laboratory Identification*	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)		*Limit Percent Recovered*	(70-130)	
16201-6476	95				
16202-6476	95				
				10/15/97	9/26/97

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

API RP-45 Water Analysis

Date: 25-Sep-97

Quality Control Sample

Parameter	*Laboratory Identification*	*True Value*	*Analyzed Value*	*Unit of Measure*	*% Diff*	*Limit % Diff*
Sodium, Na	0541-QC	2.32	2.22	mg/L	-4	10
Calcium, Ca	0465-QC	2.18	2.03	mg/L	-7	10
Magnesium, Mg	0465-QC	1.14	1.22	mg/L	7	10
Potassium, K	0541-QC	1.33	1.30	mg/L	-2	10
Chloride, Cl	0538-QC	66	70	mg/L	5	10
Sulfate, SO4	0538-QC	78	79	mg/L	2	10
Alkalinity	0538-QC	159	156	mg/L	-2	10
Iron, Fe	0495-QC	1.00	0.98	mg/L	-2	10
pH	0538-QC	9.13	9.30		2	10
Conductivity	0541-QC	740	738	uS/cm	0	15

Matrix Spike

Parameter	*Laboratory Identification*	*Analyzed Value*	*Matrix Spike*	*Spike Value*	*Unit of Measure*	*Spike Recovery*
Sodium, Na	16203-6477	0.84	0.50	1.38	mg/L	103%
Calcium, Ca	16208-6478	1.28	0.50	1.75	mg/L	98%
Magnesium, Mg	16208-6478	1.95	0.50	2.45	mg/L	100%
Potassium, K	16203-6477	0.88	0.50	1.36	mg/L	99%
Iron, Fe	16308-6500	0.04	0.50	0.50	mg/L	93%

Method Blank

Parameter	*Laboratory Identification*	*Analyzed Value*	*Unit of Measure*
Sodium, Na	LF-Blank	<0.2	mg/L
Calcium, Ca	LF-Blank	<0.05	mg/L
Magnesium, Mg	LF-Blank	<0.05	mg/L
Potassium, K	LF-Blank	<0.05	mg/L
Iron, Fe	LF-Blank	<0.05	mg/L
Chloride, Cl	LF-Blank	<3 X DL	mg/L
Sulfate, SO4	LF-Blank	<1	mg/L
Sulfide, SO2	LF-Blank	NA	mg/L
Conductivity	LF-Blank	<2	uS/cm

10/15/97 10/15/97

Mountain States Analytical, Inc.

October 9, 1997

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:
Project: Nell Hall #1
MSAI Group: 17957

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following sample is included in the report.

16200-6476

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

QUALITY CONTROL

DOCUMENTATION

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

October 2, 1997

Mr. David Cox
ON SITE TECHNOLOGIES
612 East Murray
Farmington, NM 87401

The following report contains analytical results for samples received at Southern Petroleum Laboratories (SPL) on September 18, 1997. The samples were assigned to Certificate of Analysis No.(s)9709894 and analyzed for all parameters as listed on the chain of custody.

There were no analytical problems encountered with this group of samples and all quality control data was within acceptance limits.

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Sonia West

Sonia West
Client Services Representative

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 97-09-894

Approved for Release by:

Sonia West
Sonia West, Client Services Representative

10-2-97
Date:

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.

MSAI Sample: 68590
MSAI Group: 17957

Sample ID: 16200-6476

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:05
Group: 17957

Analysis Batch Number: 0259B-10/07/97-107 -1
Test Identification : 0259B-Mercury by CVAA, w/ww, 7470 Sequence : 0259B-1
Number of Samples : 8
Batch Data-Date/Time : 10/08/97 / 13:18:09

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-698	Mercury	-0.0900	0.1000

SPIKE

						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	LOWER	UPPER
17959-68592	Mercury	2.0000	0.1200	1.7800	83.0	80.0	120.0

MSD

						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
17959-68592	Mercury	2.0000	0.1200	1.8200	85.0	80.0	120.0	2.2	20.0

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
17958-68591	Mercury	0.0200	-0.0400	600.0(11)	20.0	1.00

CONTROL

				QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	LOWER UPPER
CSW-698	Mercury	2.3700	2.5000	94.8	80.0 120.0

				QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER UPPER
CCV-	Mercury	3.0000	2.8600	95.3	90.0 110.0
CCV--2	Mercury	5.0000	5.0500	101.0	80.0 120.0
CCV--3	Mercury	5.0000	5.1700	103.4	80.0 120.0
CCV--4	Mercury	5.0000	5.2100	104.2	80.0 120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB-	Mercury	0.0300	0.1000
CCB-	Mercury	0.0900	0.1000
CCB-	Mercury	0.0300	0.1000
CCB-	Mercury	0.0500	0.1000

---------- Result Footnotes ----------

(11) - Both Duplicate results are less than the MDL.

Groups & Samples

17956-68588 17956-68589 17957-68590 17958-68591 17959-68592 17961-68594 17961-68595 17962-68596

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:11
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-670	Silver	ND	0.0060
	Aluminum	0.0193	0.0500
	Arsenic	0.0064	0.0300
	Barium	0.0013	0.0030
	Beryllium	ND	0.0002
	Calcium	0.1138	0.4000
	Cadmium	0.0005	0.0040
	Chromium	0.0014	0.0100
	Copper	0.0050	0.0100
	Iron	0.0380	0.2000
	Potassium	0.0292	0.1000
	Magnesium	0.0206	0.0500
	Manganese	0.0016	0.0020
	Molybdenum	0.0152	0.0300
	Sodium	0.0604	0.2000
	Nickel	0.0050	0.0300
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	ND	0.0700
	Silicon	0.0459	0.2000
	Thallium	0.0054	0.1000
	Vanadium	ND	0.0030
	Zinc	0.0296	0.0300
BW2-670-2	Silver	ND	0.0060
	Aluminum	0.0054	0.0500
	Arsenic	ND	0.0300
	Barium	0.0002	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0586	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0001	0.0100
	Copper	0.0045	0.0100
	Iron	0.0121	0.2000
	Potassium	0.0038	0.1000
	Magnesium	0.0106	0.0500
	Manganese	0.0009	0.0020
	Molybdenum	0.0111	0.0300
	Sodium	0.0070	0.2000
	Nickel	ND	0.0300
	Lead	0.0001	0.0400
	Antimony	0.0197	0.1000
	Selenium	ND	0.0700
	Silicon	0.0927	0.2000
	Thallium	ND	0.1000
	Vanadium	ND	0.0030
	Zinc	0.0027	0.0300

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:13
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
17956-68588	Silver	0.0500	-0.0010	0.0442	90.4	80.0	120.0
	Aluminum	2.0000	9.8158	15.4624	282.3(2a)	80.0	120.0
	Arsenic	2.0000	0.0163	1.8581	92.1	80.0	120.0
	Barium	2.0000	0.1714	1.8801	85.4	80.0	120.0
	Beryllium	0.0500	0.0017	0.0455	87.6	80.0	120.0
	Calcium	2.0000	624.8877	628.1472	163.0(2a)	80.0	120.0
	Cadmium	0.0500	0.0007	0.0473	93.2	80.0	120.0
	Chromium	0.2000	0.0072	0.1861	89.4	80.0	120.0
	Copper	0.2500	0.0514	0.2654	85.6	80.0	120.0
	Iron	1.0000	21.0847	23.5782	249.3(2a)	80.0	120.0
	Potassium	10.0000	14.4180	24.4076	99.9	80.0	120.0
	Magnesium	2.0000	55.4827	57.8857	120.1(2a)	80.0	120.0
	Manganese	0.5000	20.3162	20.8274	102.2	80.0	120.0
	Molybdenum	0.5000	0.0247	0.4674	88.5	80.0	120.0
	Sodium	3.0000	164.0427	167.3475	110.2	80.0	120.0
	Nickel	0.5000	0.0378	0.4738	87.2	80.0	120.0
	Lead	0.5000	0.0191	0.4421	84.6	80.0	120.0
	Antimony	0.5000	0.0000	0.3993	79.9(A1)	80.0	120.0
	Selenium	2.0000	-0.0525	1.8224	93.7	80.0	120.0
	Silicon	2.0000	26.0226	33.8212	389.9(2a)	80.0	120.0
	Thallium	2.0000	0.0911	1.8017	85.5	80.0	120.0
	Vanadium	0.5000	0.0235	0.4729	89.9	80.0	120.0
	Zinc	0.5000	0.0973	0.5342	87.4	80.0	120.0

MSD

AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMIT
7956-68588	Silver	0.0500	-0.0010	0.0489	99.8	80.0	120.0	10.1	20.0
	Aluminum	2.0000	9.8158	15.5592	287.2(2a)	80.0	120.0	0.6	20.0
	Arsenic	2.0000	0.0163	1.8846	93.4	80.0	120.0	1.4	20.0
	Barium	2.0000	0.1714	1.9214	87.5	80.0	120.0	2.2	20.0
	Beryllium	0.0500	0.0017	0.0463	89.2	80.0	120.0	1.7	20.0
	Calcium	2.0000	624.8877	615.1779	-485.5(2a)	80.0	120.0	2.1(2a)	20.0
	Cadmium	0.0500	0.0007	0.0474	93.4	80.0	120.0	0.2	20.0
	Chromium	0.2000	0.0072	0.1921	92.4	80.0	120.0	3.2	20.0
	Copper	0.2500	0.0514	0.2714	88.0	80.0	120.0	2.2	20.0
	Iron	1.0000	21.0847	23.7541	266.9(2a)	80.0	120.0	0.7	20.0
	Potassium	10.0000	14.4180	24.7133	103.0	80.0	120.0	1.2	20.0
	Magnesium	2.0000	55.4827	57.0179	76.8(2a)	80.0	120.0	1.5(2a)	20.0
	Manganese	0.5000	20.3162	20.5152	39.8(2a)	80.0	120.0	1.5(2a)	20.0
	Molybdenum	0.5000	0.0247	0.4775	90.6	80.0	120.0	2.1	20.0
	Sodium	3.0000	164.0427	164.3913	11.6(2a)	80.0	120.0	1.8(2a)	20.0
	Nickel	0.5000	0.0378	0.4666	85.8	80.0	120.0	1.5	20.0
	Lead	0.5000	0.0191	0.4537	86.9	80.0	120.0	2.6	20.0
	Antimony	0.5000	0.0809	0.4267	69.2(A1)	80.0	120.0	6.6	20.0
	Selenium	2.0000	-0.0525	1.8262	93.9	80.0	120.0	0.2	20.0
	Silicon	2.0000	26.0226	35.0630	452.0(2a)	80.0	120.0	3.6	20.0
	Thallium	2.0000	0.0911	1.8211	86.5	80.0	120.0	1.1	20.0
	Vanadium	0.5000	0.0235	0.4806	91.4	80.0	120.0	1.6	20.0
	Zinc	0.5000	0.0973	0.5424	89.0	80.0	120.0	1.5	20.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:16
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
17956-68588	Silver	-0.0010	0.0023	507.7(11)	20.0	1.00
	Aluminum	9.8158	8.1057	19.1	20.0	1.00
	Arsenic	0.0163	0.0113	36.2(11)	20.0	1.00
	Barium	0.1714	0.1518	12.1	20.0	1.00
	Beryllium	0.0017	0.0017	0.0	20.0	1.00
	Calcium	624.8877	610.9565	2.3	20.0	1.00
	Cadmium	0.0007	0.0029	122.2(11)	20.0	1.00
	Chromium	0.0072	0.0086	17.7	20.0	1.00
	Copper	0.0514	0.0502	2.4	20.0	1.00
	Iron	21.0847	19.6861	6.9	20.0	1.00
	Potassium	14.4180	13.6026	5.8	20.0	1.00
	Magnesium	55.4827	53.6734	3.3	20.0	1.00
	Manganese	20.3162	19.8042	2.6	20.0	1.00
	Molybdenum	0.0247	0.0164	40.4(11)	20.0	1.00
	Sodium	164.0427	156.4015	4.8	20.0	1.00
	Nickel	0.0378	0.0344	9.4	20.0	1.00
	Lead	0.0191	0.0151	23.4(11)	20.0	1.00
	Antimony	0.0809	0.0479	51.2(11)	20.0	1.00
	Selenium	-0.0525	0.0000	200.0(11)	20.0	1.00
	Silicon	26.0226	23.5304	10.1	20.0	1.00
	Thallium	0.0911	0.0537	51.7(11)	20.0	1.00
	Vanadium	0.0235	0.0214	9.4	20.0	1.00
	Zinc	0.0973	0.0877	10.4	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
CSW-670	Silver	0.0450	0.0500	90.0	80.0	120.0
	Aluminum	1.9110	2.0000	95.6	80.0	120.0
	Arsenic	1.9465	2.0000	97.3	80.0	120.0
	Barium	1.8681	2.0000	93.4	80.0	120.0
	Beryllium	0.0478	0.0500	95.6	80.0	120.0
	Calcium	2.0468	2.0000	102.3	80.0	120.0
	Cadmium	0.0491	0.0500	98.2	80.0	120.0
	Chromium	0.1977	0.2000	98.9	80.0	120.0
	Copper	0.2360	0.2500	94.4	80.0	120.0
	Iron	0.9697	1.0000	97.0	80.0	120.0
	Potassium	9.6682	10.0000	96.7	80.0	120.0
	Magnesium	1.9609	2.0000	98.0	80.0	120.0
	Manganese	0.4854	0.5000	97.1	80.0	120.0
	Molybdenum	0.4946	0.5000	98.9	80.0	120.0
	Sodium	2.9941	3.0000	99.8	80.0	120.0
	Nickel	0.4869	0.5000	97.4	80.0	120.0
	Lead	0.4985	0.5000	99.7	80.0	120.0
	Antimony	0.4445	0.5000	88.9	80.0	120.0
	Selenium	1.9148	2.0000	95.7	80.0	120.0
	Silicon	1.9804	2.0000	99.0	80.0	120.0
	Thallium	1.9557	2.0000	97.8	80.0	120.0
	Vanadium	0.4870	0.5000	97.4	80.0	120.0
	Zinc	0.4834	0.5000	96.7	80.0	120.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Silver	0.4000	0.3964	99.1	90.0	110.0
	Aluminum	20.0000	19.1585	95.8	90.0	110.0
	Arsenic	1.6000	1.5872	99.2	90.0	110.0
	Barium	4.0000	3.8304	95.8	90.0	110.0
	Beryllium	0.4000	0.3901	97.5	90.0	110.0
	Calcium	40.0000	40.1705	100.4	90.0	110.0
	Cadmium	4.0000	3.9535	98.8	90.0	110.0
	Chromium	4.0000	4.1066	102.7	90.0	110.0
	Copper	4.0000	3.8662	96.7	90.0	110.0
	Iron	4.0000	4.0692	101.7	90.0	110.0
	Potassium	40.0000	38.0531	95.1	90.0	110.0
	Magnesium	20.0000	19.3594	96.8	90.0	110.0
	Manganese	4.0000	3.9836	99.6	90.0	110.0
	Molybdenum	20.0000	20.3030	101.5	90.0	110.0
	Sodium	40.0000	37.2168	93.0	90.0	110.0
	Nickel	8.0000	7.9838	99.8	90.0	110.0
	Lead	20.0000	20.1874	100.9	90.0	110.0
	Antimony	4.0000	4.0015	100.0	90.0	110.0
	Selenium	1.6000	1.5349	95.9	90.0	110.0
	Silicon	1.6000	1.6574	103.6	90.0	110.0
	Thallium	4.0000	3.9596	99.0	90.0	110.0
	Vanadium	1.6000	1.5553	97.2	90.0	110.0
	Zinc	4.0000	3.9384	98.5	90.0	110.0
CCV1--2	Silver	0.4000	0.3955	98.9	90.0	110.0
	Aluminum	20.0000	19.4301	97.2	90.0	110.0
	Arsenic	1.6000	1.5657	97.9	90.0	110.0
	Barium	4.0000	3.8164	95.4	90.0	110.0
	Beryllium	0.4000	0.3840	96.0	90.0	110.0
	Calcium	40.0000	39.6588	99.1	90.0	110.0
	Cadmium	4.0000	3.8962	97.4	90.0	110.0
	Chromium	4.0000	4.0424	101.1	90.0	110.0
	Copper	4.0000	3.8584	96.5	90.0	110.0
	Iron	4.0000	4.0902	102.3	90.0	110.0
	Potassium	40.0000	37.8083	94.5	90.0	110.0
	Magnesium	20.0000	19.3860	96.9	90.0	110.0
	Manganese	4.0000	3.9478	98.7	90.0	110.0
	Molybdenum	20.0000	20.0684	100.3	90.0	110.0
	Sodium	40.0000	37.5082	93.8	90.0	110.0
	Nickel	8.0000	7.8509	98.1	90.0	110.0
	Lead	20.0000	20.0413	100.2	90.0	110.0
	Antimony	4.0000	3.8553	96.4	90.0	110.0
	Selenium	1.6000	1.5364	96.0	90.0	110.0
	Silicon	1.6000	1.6484	103.0	90.0	110.0
	Thallium	4.0000	3.8984	97.5	90.0	110.0
	Vanadium	1.6000	1.5437	96.5	90.0	110.0
	Zinc	4.0000	3.8874	97.2	90.0	110.0
CV3--3	Silver	0.4000	0.4031	100.8	90.0	110.0
	Aluminum	20.0000	19.8229	99.1	90.0	110.0
	Arsenic	1.6000	1.6116	100.7	90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:21
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC	#	QC LIMITS LOWER	QC LIMITS UPPER
CCV3--3	Barium	4.0000	3.7625	94.1		90.0	110.0
	Beryllium	0.4000	0.3929	98.2		90.0	110.0
	Calcium	40.0000	40.5814	101.5		90.0	110.0
	Cadmium	4.0000	3.9254	98.1		90.0	110.0
	Chromium	4.0000	4.0540	101.4		90.0	110.0
	Copper	4.0000	3.7990	95.0		90.0	110.0
	Iron	4.0000	3.9559	98.9		90.0	110.0
	Potassium	40.0000	39.4701	98.7		90.0	110.0
	Magnesium	20.0000	19.9198	99.6		90.0	110.0
	Manganese	4.0000	3.9365	98.4		90.0	110.0
	Molybdenum	20.0000	19.9715	99.9		90.0	110.0
	Sodium	40.0000	39.4913	98.7		90.0	110.0
	Nickel	8.0000	7.8848	98.6		90.0	110.0
	Lead	20.0000	20.0248	100.1		90.0	110.0
	Antimony	4.0000	3.9634	99.1		90.0	110.0
	Selenium	1.6000	1.5651	97.8		90.0	110.0
	Silicon	1.6000	1.6585	103.7		90.0	110.0
	Thallium	4.0000	3.9366	98.4		90.0	110.0
	Vanadium	1.6000	1.5663	97.9		90.0	110.0
	Zinc	4.0000	3.9044	97.6		90.0	110.0
CCV4--4	Silver	0.4000	0.4034	100.9		90.0	110.0
	Aluminum	20.0000	19.7115	98.6		90.0	110.0
	Arsenic	1.6000	1.6084	100.5		90.0	110.0
	Barium	4.0000	3.7167	92.9		90.0	110.0
	Beryllium	0.4000	0.3944	98.6		90.0	110.0
	Calcium	40.0000	41.0179	102.5		90.0	110.0
	Cadmium	4.0000	3.9885	99.7		90.0	110.0
	Chromium	4.0000	4.0841	102.1		90.0	110.0
	Copper	4.0000	3.7672	94.2		90.0	110.0
	Iron	4.0000	4.0335	100.8		90.0	110.0
	Potassium	40.0000	39.3301	98.3		90.0	110.0
	Magnesium	20.0000	19.8714	99.4		90.0	110.0
	Manganese	4.0000	3.9529	98.8		90.0	110.0
	Molybdenum	20.0000	20.1712	100.9		90.0	110.0
	Sodium	40.0000	38.6626	96.7		90.0	110.0
	Nickel	8.0000	7.9696	99.6		90.0	110.0
	Lead	20.0000	20.4132	102.1		90.0	110.0
	Antimony	4.0000	4.0318	100.8		90.0	110.0
	Selenium	1.6000	1.5555	97.2		90.0	110.0
	Silicon	1.6000	1.6630	103.9		90.0	110.0
	Thallium	4.0000	4.0951	102.4		90.0	110.0
	Vanadium	1.6000	1.5737	98.4		90.0	110.0
	Zinc	4.0000	3.9076	97.7		90.0	110.0
CV5--5	Silver	0.4000	0.4048	101.2		90.0	110.0
	Aluminum	20.0000	19.9291	99.6		90.0	110.0
	Arsenic	1.6000	1.6115	100.7		90.0	110.0
	Barium	4.0000	3.7499	93.7		90.0	110.0
	Beryllium	0.4000	0.3969	99.2		90.0	110.0
	Calcium	40.0000	41.0726	102.7		90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC	#	QC LIMITS LOWER	QC LIMITS UPPER
CCV5--5	Cadmium	4.0000	3.9626	99.1		90.0	110.0
	Chromium	4.0000	4.0761	101.9		90.0	110.0
	Copper	4.0000	3.7917	94.8		90.0	110.0
	Iron	4.0000	4.0093	100.2		90.0	110.0
	Potassium	40.0000	39.4128	98.5		90.0	110.0
	Magnesium	20.0000	19.8925	99.5		90.0	110.0
	Manganese	4.0000	3.9714	99.3		90.0	110.0
	Molybdenum	20.0000	20.2328	101.2		90.0	110.0
	Sodium	40.0000	38.7226	96.8		90.0	110.0
	Nickel	8.0000	7.9312	99.1		90.0	110.0
	Lead	20.0000	20.2610	101.3		90.0	110.0
	Antimony	4.0000	4.0479	101.2		90.0	110.0
	Selenium	1.6000	1.5589	97.4		90.0	110.0
	Silicon	1.6000	1.6940	105.9		90.0	110.0
	Thallium	4.0000	3.9805	99.5		90.0	110.0
	Vanadium	1.6000	1.5753	98.5		90.0	110.0
	Zinc	4.0000	3.9067	97.7		90.0	110.0
CCV6--6	Silver	0.4000	0.4064	101.6		90.0	110.0
	Aluminum	20.0000	20.0266	100.1		90.0	110.0
	Arsenic	1.6000	1.6059	100.4		90.0	110.0
	Barium	4.0000	3.8215	95.5		90.0	110.0
	Beryllium	0.4000	0.3964	99.1		90.0	110.0
	Calcium	40.0000	40.2553	100.6		90.0	110.0
	Cadmium	4.0000	3.8681	96.7		90.0	110.0
	Chromium	4.0000	4.0367	100.9		90.0	110.0
	Copper	4.0000	3.8576	96.4		90.0	110.0
	Iron	4.0000	4.0279	100.7		90.0	110.0
	Potassium	40.0000	39.8829	99.7		90.0	110.0
	Magnesium	20.0000	19.8221	99.1		90.0	110.0
	Manganese	4.0000	3.9359	98.4		90.0	110.0
	Molybdenum	20.0000	19.9920	100.0		90.0	110.0
	Sodium	40.0000	39.7069	99.3		90.0	110.0
	Nickel	8.0000	7.8587	98.2		90.0	110.0
	Lead	20.0000	19.8836	99.4		90.0	110.0
	Antimony	4.0000	4.1087	102.7		90.0	110.0
	Selenium	1.6000	1.6033	100.2		90.0	110.0
	Silicon	1.6000	1.6775	104.8		90.0	110.0
	Thallium	4.0000	3.9228	98.1		90.0	110.0
	Vanadium	1.6000	1.5851	99.1		90.0	110.0
	Zinc	4.0000	3.8934	97.3		90.0	110.0
CCV7--7	Silver	0.4000	0.3996	99.9		90.0	110.0
	Aluminum	20.0000	19.6809	98.4		90.0	110.0
	Arsenic	1.6000	1.5787	98.7		90.0	110.0
	Barium	4.0000	3.7522	93.8		90.0	110.0
	Beryllium	0.4000	0.3945	98.6		90.0	110.0
	Calcium	40.0000	40.2471	100.6		90.0	110.0
	Cadmium	4.0000	3.8827	97.1		90.0	110.0
	Chromium	4.0000	4.0237	100.6		90.0	110.0
	Copper	4.0000	3.7722	94.3		90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:26
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

					QC LIMITS	
CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	LOWER	UPPER
CCV7--7	Iron	4.0000	3.9816	99.5	90.0	110.0
	Potassium	40.0000	39.1539	97.9	90.0	110.0
	Magnesium	20.0000	19.6912	98.5	90.0	110.0
	Manganese	4.0000	3.9101	97.8	90.0	110.0
	Molybdenum	20.0000	19.9909	100.0	90.0	110.0
	Sodium	40.0000	38.6078	96.5	90.0	110.0
	Nickel	8.0000	7.8442	98.1	90.0	110.0
	Lead	20.0000	19.9819	99.9	90.0	110.0
	Antimony	4.0000	4.0704	101.8	90.0	110.0
	Selenium	1.6000	1.5951	99.7	90.0	110.0
	Silicon	1.6000	1.6592	103.7	90.0	110.0
	Thallium	4.0000	4.0553	101.4	90.0	110.0
	Vanadium	1.6000	1.5741	98.4	90.0	110.0
	Zinc	4.0000	3.8924	97.3	90.0	110.0
CCV8--8	Silver	0.4000	0.4009	100.2	90.0	110.0
	Aluminum	20.0000	20.4039	102.0	90.0	110.0
	Arsenic	1.6000	1.5744	98.4	90.0	110.0
	Barium	4.0000	3.9083	97.7	90.0	110.0
	Beryllium	0.4000	0.4050	101.3	90.0	110.0
	Calcium	40.0000	40.5777	101.4	90.0	110.0
	Cadmium	4.0000	3.8634	96.6	90.0	110.0
	Chromium	4.0000	4.0972	102.4	90.0	110.0
	Copper	4.0000	3.9155	97.9	90.0	110.0
	Iron	4.0000	4.1504	103.8	90.0	110.0
	Potassium	40.0000	40.8615	102.2	90.0	110.0
	Magnesium	20.0000	20.5928	103.0	90.0	110.0
	Manganese	4.0000	3.9379	98.4	90.0	110.0
	Molybdenum	20.0000	19.8151	99.1	90.0	110.0
	Sodium	40.0000	40.2360	100.6	90.0	110.0
	Nickel	8.0000	7.8717	98.4	90.0	110.0
	Lead	20.0000	20.0637	100.3	90.0	110.0
	Antimony	4.0000	4.2415	106.0	90.0	110.0
	Selenium	1.6000	1.5689	98.1	90.0	110.0
	Silicon	1.6000	1.6552	103.5	90.0	110.0
	Thallium	4.0000	3.9026	97.6	90.0	110.0
	Vanadium	1.6000	1.5921	99.5	90.0	110.0
	Zinc	4.0000	3.9489	98.7	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CB-	Silver	ND	0.0060
	Aluminum	0.0106	0.0500
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Beryllium	ND	0.0002
	Calcium	ND	0.4000
	Cadmium	0.0014	0.0040
	Chromium	0.0008	0.0100
	Copper	ND	0.0100
	Iron	0.0244	0.2000

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB-	Potassium	0.0083	0.1000
	Magnesium	ND	0.0500
	Manganese	0.0010	0.0020
	Molybdenum	0.0178	0.0300
	Sodium	0.0370	0.2000
	Nickel	0.0064	0.0300
	Lead	ND	0.0400
	Antimony	0.0014	0.1000
	Selenium	ND	0.0700
	Silicon	0.0060	0.2000
	Thallium	ND	0.1000
	Vanadium	ND	0.0030
	Zinc	0.0014	0.0300
CCB1-	Silver	0.0012	0.0060
	Aluminum	0.0150	0.0500
	Arsenic	0.0023	0.0300
	Barium	0.0006	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0109	0.4000
	Cadmium	0.0009	0.0040
	Chromium	0.0013	0.0100
	Copper	0.0002	0.0100
	Iron	0.0561	0.2000
	Potassium	ND	0.1000
	Magnesium	0.0236	0.0500
	Manganese	0.0008	0.0020
	Molybdenum	0.0182	0.0300
	Sodium	0.1052	0.2000
	Nickel	0.0014	0.0300
	Lead	0.0049	0.0400
	Antimony	ND	0.1000
	Selenium	ND	0.0700
	Silicon	ND	0.2000
	Thallium	0.0491	0.1000
	Vanadium	ND	0.0030
	Zinc	0.0027	0.0300
CCB3-	Silver	ND	0.0060
	Aluminum	0.0006	0.0500
	Arsenic	0.0049	0.0300
	Barium	0.0002	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0056	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0004	0.0100
	Copper	0.0008	0.0100
	Iron	ND	0.2000
	Potassium	0.0229	0.1000
	Magnesium	ND	0.0500
	Manganese	0.0005	0.0020
	Molybdenum	0.0185	0.0300

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:31
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB3-	Sodium	0.0604	0.2000
	Nickel	0.0087	0.0300
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	ND	0.0700
	Silicon	ND	0.2000
	Thallium	ND	0.1000
	Vanadium	ND	0.0030
	Zinc	ND	0.0300
CCB4-	Silver	ND	0.0060
	Aluminum	ND	0.0500
	Arsenic	0.0042	0.0300
	Barium	0.0003	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0087	0.4000
	Cadmium	0.0002	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Iron	ND	0.2000
	Potassium	0.0229	0.1000
	Magnesium	ND	0.0500
	Manganese	0.0004	0.0020
	Molybdenum	0.0092	0.0300
	Sodium	0.0986	0.2000
	Nickel	ND	0.0300
	Lead	ND	0.0400
	Antimony	0.0518	0.1000
	Selenium	ND	0.0700
	Silicon	ND	0.2000
	Thallium	0.0125	0.1000
	Vanadium	ND	0.0030
	Zinc	ND	0.0300
CCB5-	Silver	ND	0.0060
	Aluminum	ND	0.0500
	Arsenic	0.0041	0.0300
	Barium	ND	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0136	0.4000
	Cadmium	0.0002	0.0040
	Chromium	ND	0.0100
	Copper	ND	0.0100
	Iron	ND	0.2000
	Potassium	0.0420	0.1000
	Magnesium	ND	0.0500
	Manganese	0.0007	0.0020
	Molybdenum	0.0209	0.0300
	Sodium	0.0976	0.2000
	Nickel	ND	0.0300
	Lead	ND	0.0400
	Antimony	ND	0.1000

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:33
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB5-	Selenium	ND	0.0700
	Silicon	0.0095	0.2000
	Thallium	ND	0.1000
	Vanadium	ND	0.0030
	Zinc	ND	0.0300
CCB6-	Silver	0.0020	0.0060
	Aluminum	0.0025	0.0500
	Arsenic	0.0149	0.0300
	Barium	0.0005	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0058	0.4000
	Cadmium	0.0008	0.0040
	Chromium	0.0031	0.0100
	Copper	0.0023	0.0100
	Iron	ND	0.2000
	Potassium	0.0236	0.1000
	Magnesium	0.0112	0.0500
	Manganese	0.0013	0.0020
	Molybdenum	0.0063	0.0300
	Sodium	ND	0.2000
	Nickel	0.0007	0.0300
	Lead	ND	0.0400
	Antimony	0.0792	0.1000
	Selenium	ND	0.0700
	Silicon	0.0033	0.2000
	Thallium	ND	0.1000
	Vanadium	0.0003	0.0030
	Zinc	0.0015	0.0300
CCB7-	Silver	0.0004	0.0060
	Aluminum	0.0107	0.0500
	Arsenic	0.0039	0.0300
	Barium	0.0001	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0062	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0016	0.0100
	Copper	0.0018	0.0100
	Iron	0.0521	0.2000
	Potassium	0.0236	0.1000
	Magnesium	0.0094	0.0500
	Manganese	0.0009	0.0020
	Molybdenum	0.0052	0.0300
	Sodium	ND	0.2000
	Nickel	ND	0.0300
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	0.0143	0.0700
	Silicon	0.0119	0.2000
	Thallium	ND	0.1000
	Vanadium	ND	0.0030

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

10/09/97
15:19:35
Group: 17957

Analysis Batch Number: ICPWA-10/02/97-118 -1
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 18
Batch Data-Date/Time : 10/03/97 / 12:21:19

Sequence : DATB275

CB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB7-	Zinc	0.0003	0.0300
CCB8-	Silver	0.0013	0.0060
	Aluminum	0.0414	0.0500
	Arsenic	0.0071	0.0300
	Barium	0.0006	0.0030
	Beryllium	ND	0.0002
	Calcium	0.0248	0.4000
	Cadmium	ND	0.0040
	Chromium	0.0039	0.0100
	Copper	0.0050	0.0100
	Iron	0.0602	0.2000
	Potassium	0.0893	0.1000
	Magnesium	0.0270	0.0500
	Manganese	0.0011	0.0020
	Molybdenum	0.0029	0.0300
	Sodium	ND	0.2000
	Nickel	0.0056	0.0300
	Lead	ND	0.0400
	Antimony	ND	0.1000
	Selenium	0.0292	0.0700
	Silicon	0.0061	0.2000
	Thallium	ND	0.1000
	Vanadium	0.0014	0.0030
	Zinc	0.0006	0.0300

---------- Result Footnotes ----------
(2a) - Recovery is insignificant because sample conc. is >4x spike added.
(A1) - Matrix Interference with regard to digestion
(11) - Both Duplicate results are less than the MDL.

---------- Batch Notes ----------
Serial dilutions were recovereved within acceptance limits of +/- 10% for aluminum, calcium, iron, magnesium, manganese, silicon. A post digestion spike was recovered within acceptance limits of +/- 25% for antimony.
jdb

Groups & Samples

17956-68588 17956-68589 17957-68590 17958-68591 17959-68592 17960-68593 17961-68594 17961-68595
17962-68596 17989-68678 17989-68679 18004-68720 18004-68721 18004-68722 18004-68723 18004-68726
18004-68728 18004-68729

CHAIN OF CUSTODY RECORD

5485

ON SITE TECHNOLOGIES, LTD.

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

Date: 9/17/97

Page 1 of 1

Purchase Order No.: 6476	Job No. 2-1363		
SEND INVOICE TO: Name		REPORT RESULTS TO: Name DAVID COX	Title
Company	Dept.	Company ON SITE TECH	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No. 505-325-6232	Telefax No. 325-6256

Sampling Location: WELL HALL #1

Sampler: LT

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	RCRA METALS / TOTAL	LAB ID
2-1363-MET.	9/16/97	1247	WW	HNO_3	1	✓	16200-6476 pH=7 added 2 ml HNO_3 pH ≤2

Relinquished by:	Date/Time 9/17/97 1600	Received by: Richard Dinkes	Date/Time 09/23/97/1050
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date 9/17/97
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

CHAIN OF CUSTODY RECORD

5476

ON SITE TECHNOLOGIES, LTD.

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

Date: 9-16-97

Page 1 of 1

Purchase Order No.:	Job No. 2 1363		
SEND INVOICE TO: Name		REPORT RESULTS TO: Name	Title
Company	Dept.	Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No.
Sampling Location: [illegible]		Number of Containers	ANALYSIS REQUESTED
Sampler:			

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	LAB ID
2 1363 PAH	9-16-97	1237	H_2O	None	2	✓									
2 1363 API	9-16-97	1245	H_2O	None	1		✓								
2 1363 Met.	9-16-97	1247	H_2O	HNO_3	2			✓							
2 1363 BTEX	9-16-97	1249	H_2O	HCl	2				✓						
2 1363 MW #2 - BTEX	9-16-97	1310	H_2O	HCl	2				✓						
2 1363 MW #3 - BTEX	9-16-97	1327	H_2O	HCl	2				✓						

Relinquished by: Jay Toff	Date/Time 9/16/97/1701	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

CHAIN OF CUSTODY RECORD

6476

ON SITE TECHNOLOGIES, LTD.

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

Date: 1 [illegible]

Page 1 of 1

Purchase Order No.:	Job No.		
SEND INVOICE TO: Name		REPORT RESULTS TO: Name	Title
Company	Dept.	Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No.
Sampling Location:			
Sampler:			

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED	LAB ID
2 1363 PAH	[illegible]	[illegible]	[illegible]	[illegible]	2	✓	
2 1363 API	[illegible]	[illegible]	[illegible]	[illegible]	1	✓	
2 1363 MeT.	[illegible]	[illegible]	[illegible]	[illegible]	2	✓	
2 1363 BTEX	[illegible]	[illegible]	[illegible]	[illegible]	2	✓	
2 1363 MW #2 - BTEX	[illegible]	[illegible]	[illegible]	[illegible]	2	✓	
2 1363 MW #3 - BTEX	[illegible]	[illegible]	[illegible]	[illegible]	2	✓	

Relinquished by: [illegible]	Date/Time [illegible]	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:	Rush	24-48 Hours	10 Working Days
Authorized by: _____ Date _____ (Client Signature Must Accompany Request)			Special Instructions:

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

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Larry Trujillo*	Date:	14-Aug-97
Company:	*On Site Technologies, Ltd. c/o Conoco*	COC No.:	*6675*
Address:	*612 E. Murray Drive*	Sample No.:	*15686*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1363*

Project Name:	***Conoco, Inc. - Nell Hall #1***				
Project Location:	***MW#1***				
Sampled by:	ML	Date:	7-Aug-97	Time:	9:40
Analyzed by:	DC	Date:	12-Aug-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	19	ug/L	1	ug/L
Toluene	17	ug/L	1	ug/L
Ethylbenzene	49	ug/L	1	ug/L
m,p-Xylene	1193	ug/L	1	ug/L
o-Xylene	4	ug/L	1	ug/L
TOTAL	1282	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 8/14/97

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Larry Trujillo*	Date:	14-Aug-97
Company:	*On Site Technologies, Ltd. c/o Conoco*	COC No.:	*6675*
Address:	*612 E. Murray Drive*	Sample No.:	*15688*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1363*

Project Name:	***Conoco, Inc. - Nell Hall #1***				
Project Location:	***MW#3***				
Sampled by:	ML	Date:	7-Aug-97	Time:	10:05
Analyzed by:	DC	Date:	12-Aug-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	ND	ug/L	0.2	ug/L
Toluene	ND	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	ND	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 8/14/97

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Larry Trujillo*	Date:	14-Aug-97
Company:	*On Site Technologies, Ltd. c/o Conoco*	COC No.:	*6675*
Address:	*612 E. Murray Drive*	Sample No.:	*15687*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1363*

Project Name:	***Conoco, Inc. - Nell Hall #1***				
Project Location:	***MW#2***				
Sampled by:	ML	Date:	7-Aug-97	Time:	9:50
Analyzed by:	DC	Date:	12-Aug-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	ND	ug/L	0.2	ug/L
Toluene	ND	ug/L	0.2	ug/L
Ethylbenzene	0.8	ug/L	0.2	ug/L
m,p-Xylene	0.9	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	1.7	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 8/14/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 12-Aug-97

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

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	19.9	0	15%
Toluene	ppb	20.0	20.8	4	15%
Ethylbenzene	ppb	20.0	20.4	2	15%
m,p-Xylene	ppb	40.0	39.5	1	15%
o-Xylene	ppb	20.0	20.4	2	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	93	96	(39-150)	2	20%
Toluene	95	97	(46-148)	3	20%
Ethylbenzene	91	93	(32-160)	2	20%
m,p-Xylene	95	100	(35-145)	2	20%
o-Xylene	92	94	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
15686-6675	98				
15687-6675	96				
15688-6675	96				
				BTR	(RE)
				8/15/97	8/14/97

S1: Flourobenzene

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

* SPL BATCH QUALITY CONTROL REPORT ** PAGE
Method 8310 ***

Matrix: Aqueous
Units: ug/L

Batch Id: 2970925121220

B L A N K S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(**) (Advisory) RPD Max.	QC Limits(**) (Advisory) Recovery Range
NAPHTHALENE	ND	0.5	0.33	66.0	0.35	70.0	5.88	30	33 - 122
ACENAPHTHYLENE	ND	0.5	0.55	110	0.36	72.0	41.8 *	30	42 - 138
ACENAPHTHENE	ND	0.5	0.32	64.0	0.34	68.0	6.06	30	25 - 123
FLUORENE	ND	0.5	0.32	64.0	0.35	70.0	8.96	30	19 - 142
PHENANTHRENE	ND	0.5	0.36	72.0	0.36	72.0	0	30	40 - 121
ANTHRACENE	ND	0.5	0.29	58.0	0.32	64.0	9.84	30	32 - 121
FLUORANTHENE	ND	0.5	0.38	76.0	0.40	80.0	5.13	30	51 - 115
PYRENE	ND	0.5	0.37	74.0	0.39	78.0	5.26	30	45 - 117
CHRYSENE	ND	0.5	0.41	82.0	0.42	84.0	2.41	30	44 - 122
BENZO (A) ANTHRACENE	ND	0.5	0.38	76.0	0.40	80.0	5.13	30	57 - 118
BENZO (B) FLUORANTHENE	ND	0.5	0.42	84.0	0.43	86.0	2.35	30	62 - 121
BENZO (K) FLUORANTHENE	ND	0.5	0.43	86.0	0.45	90.0	4.55	30	63 - 117
BENZO (A) PYRENE	ND	0.5	0.46	92.0	0.48	96.0	4.26	30	42 - 120
DIBENZO (A,H) ANTHRACENE	ND	0.5	0.40	80.0	0.41	82.0	2.47	30	53 - 118
BENZO (G,H,I) PERYLENE	ND	0.5	0.41	82.0	0.42	84.0	2.41	30	51 - 116
INDENO (1,2,3-CD) PYRENE	ND	0.5	0.43	86.0	0.44	88.0	2.30	30	60 - 116

Analyst: KA
Sequence Date: 09/25/97
Method Blank File ID:
Sample File ID:
Blank Spike File ID: 970915B\003-0301
Matrix Spike File ID:
Matrix Spike Duplicate File ID:

* = Values Outside QC Range. « = Data outside Method Specification limits.
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL Temporary Limits

SAMPLES IN BATCH(SPL ID): 9709899-01A 9709894-01A 9709897-01A 9709881-33B 9709869-08B 9709869-17B 9709869-18B 9709869-27B 9709869-28B

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

CHAIN OF CUSTODY RECORD 9709899 9/20/97 SDC

ON SITE TECHNOLOGIES, LTD.

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

Date: 9/17/97

Page 1 of 1

Purchase Order No.: 6476	Job No. 2-1363		
SEND INVOICE TO: Name	ACCOUNTS REC.	REPORT RESULTS TO: Name	DAVID COX / Title
Company	ON SITE / Dept.	Company	ON SITE
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	505-325-2432 / Telefax No. 325-6252

Sampling Location: NELL HALL #1

Sampler: LT

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	PAH 8310	LAB ID
2-1363 - PAH	9/16/97	1237	WW	cool	1	✓	16200-6476
							4°C

ANALYSIS REQUESTED

Relinquished by:	Date/Time 9/17/97 1600	Received by:	Date/Time 9/18/97 1000
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date 9/17/97
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:
			UPS: 1Z 6665850 1000 3851

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

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
9/18/97	1600

SPL Sample ID: 9709894

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		6 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)		
		Other: UPS 1Z6655850110003851		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
Andrea Estes	9/18/97

CHAIN OF CUSTODY RECORD

6476

ON SITE TECHNOLOGIES, LTD.

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

Date: 9-16-97

Page 1 of 1

Purchase Order No.: | Job No. 2-1363

SEND INVOICE TO
Name: LARRY TRUJILLO
Company: CONOCO | Dept.
Address:
City, State, Zip:

REPORT RESULTS TO
Name: LARRY TRUJILLO | Title:
Company: CONOCO
Mailing Address:
City, State, Zip:
Telephone No. | Telefax No.

Sampling Location: NELL HALL #1

Sampler:

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	PAH	API	TOTAL METALS	BTEX 8020	LAB ID
2-1363 PAH	9-16-97	1237	H_2O	None	2	✓				16200-6476
2-1363 API	9-16-97	1245	H_2O	None	1		✓			
2-1363 Met.	9-16-97	1247	H_2O	HNO_3	2			✓		
2-1363 BTEX	9-16-97	1249	H_2O	HCl	2				✓	
2-1363 MW #2 - BTEX	9-16-97	1310	H_2O	HCl	2				✓	16201-6476
2-1363 MW #3 - BTEX	9-16-97	1327	H_2O	HCl	2				✓	16202-6477

Relinquished by: Larry Trujillo	Date/Time 9/16/97/1701	Received by: Heidi Reese	Date/Time 9/16/97 0705
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

CHAIN OF CUSTODY RECORD

5375

ON SITE TECHNOLOGIES, LTD.

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

Date: 8/7/97

Page 1 of 1

Purchase Order No.: | Job No. 2-1363

SEND INVOICE TO
Name [illegible]
Company [illegible]
Dept.
Address
City, State, Zip

REPORT RESULTS TO
Name [illegible] Title
Company On Site Technologies
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

Sampling Location: Nee Hibai #1

Sampler: Michael Lane

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX	LAB ID
MW #1	8/7	[illegible]	WATER	HCl	2	✓	
MW #2	↓	[illegible]	↓	↓	2	✓	
MW #3	↓	1345	↓	↓	2	✓	

Relinquished by: [signature]	Date/Time 8/7/97 1050	Received by: [illegible]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: [signature] Date 8/7/97
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

ON SITE
TECHNOLOGIES, LTD.

February 1, 1998

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

RE: 1997 Annual Ground Water Report
Conoco Location: NELL-HALL #1,
Sec. 02, T30N, R11W, NMPM, San Juan Co., NM

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 covered the prior calendar year of 1997, and follows the format outlined in the *Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico*, submitted to the New Mexico Oil Conservation Division on October 15, 1997.

SUMMARY OF 1997 ACTIVITIES:

The only activity that took place at the Nell-Hall #1 location during 1997, was the required quarterly ground water sampling of the three (3) monitoring wells.

Historically, the monitoring wells at this site only have water in them during certain times of the year. Due to this problem, Nell-Hall #1 was only sampled in August and September 1997.

SAMPLING:

Following the approved Conoco plan, during each sampling event, water levels were measured on all monitoring wells prior to purging and sampling. Samples were collected in laboratory supplied containers, preserved as needed, 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 each sampling event. Table 2, summarizes the laboratory results for BTEX compounds from all water sampling completed at the referenced site, including assessment data. Table 3, summarizes the laboratory results for RCRA metals and API water quality testing, as required by NMOCD.

Copies of all laboratory reports for the calendar year 1997, 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 1997 ground water monitoring results and trends associated with a former production pit at the Nell-Hall #1 well location:

1. Except for contamination from BTEX constituents, there appears to have been no significant hydrocarbon impact to ground water above the New Mexico Water Quality Control Commission (NMWQCC) standards. The BTEX contamination appears to be limited to the immediate area of the former pit.
2. BTEX contamination of ground water has fluctuated with the fluctuation of the ground water. Monitoring well #1 still shows contamination levels above NMWQCC standards. Monitoring well #2 and #3, remain below NMWQCC standards.
3. The ground water during 1997 fluctuated seasonally with changes in irrigation and flow in the Animas River. The ground water surface is relatively flat with a gradient of 0.029 to 0.019 feet/foot to the South-southeast. Refer to the Ground Water Potentiometric Maps attached.

LIMITATIONS AND CLOSURE:

This annual groundwater report documents the results of ground water monitoring for the referenced Conoco well location during the calendar year 1997. 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,

Larry J. Trujillo
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
Table 3: Other Constituents Analytical Summary
Figure 1: Site Sketch
Figure 2: Ground Water Potentiometric Map (August, 1997)
Figure 3: Ground Water Potentiometric Map (September, 1997)
Boring Logs and Monitoring Well Diagrams

Acknowledgment:
CONOCO, Inc.

_____
(Name/Title)

_____
(Date)

MKL/mkl: 41363-97.doc