3R - 94

REPORTS

DATE:

1998

ON SITE TECHNOLOGIES, LTD.

February 7, 1999

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

RECEIVED
FEB 19 1999
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 1998 Annual Ground Water Report
Conoco Location: San Juan 28-7-47
Unit A, Sec. 20, T28N, R7W, 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 1998, and follows the format outlined in the *Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico* (hereafter Known as the monitoring plan), submitted to the New Mexico Oil Conservation Division on October 15, 1997.

SUMMARY OF 1997 ACTIVITIES:

Sampling events were conducted in March, June, September and December.

September 1998, NMOCD authorized Conoco to install Regenesis® Oxygen Release Compound (ORC) socks in the monitoring well at this location.

On December 9, 1998 two (2) ORC sock were placed in the monitoring well, following ground water sampling event.

Results of the ground water sampling, site assessment and laboratory results were previously documented in the following correspondence:

New Mexico Oil Conservation Division, January 31, 1997. Letter to Mr. Neal. Goates, Senior Environmental Specialist, Conoco, Inc. Midland Division, regarding: Ground *Water Contamination Assessment San Juan Unit Wells #219, #47, #19, #126, Conoco Location, San Juan 28-7 #47, Unit A, Sec. 20, T28N, R7W, NMPM, San Juan Co., NM.*

On Site Technologies, Ltd., February 1, 1998, Letter to Ms. Shirley Ebert, SHEAR Specialist, Conoco, Inc., Midland Division, regarding1997 Annual Ground Water Report, *Conoco Location, San Juan 28-7-19, Unit A, Sec. 20, T28N, R7W, NMPM, San Juan Co., NM.*

SAMPLING:

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

PO Box 2606
Farmington, NM
505-325-5667 FAX: 505-327-1496

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

Copies of all laboratory reports for the calendar year 1998, along with all laboratory QA/QC documentation and chains-of-custody, are attached with this report.

SUMMARY AND CONCLUSIONS:

The following conclusions are based on the 1998 ground water monitoring results and trends associated with a former production pit at the San Juan 28-7-47 well location:

1. Benzene contamination of ground water remains above New Mexico Water Quality Control Commission (NMWQCC) standards.
2. ORC socks placed in the well in December of 1998, to aid the remediation of the ground water.

RECOMMENDATION:

Continue ground water monitoring, until NMWQCC abatement standards and requirements are met.

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 Comprehensive Ground Water Remediation and Long-Term Monitoring Plan for Conoco Locations in the San Juan Basin, New Mexico, dated October 15, 1997.

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

Reviewed by:

Michael K. Lane, P.E.
Senior Engineer

On Site Technologies, Limited Partnership

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

Acknowledgment:
CONOCO, Inc.

Shirley Ebert SHEAR Specialist
(Name/Title)

2/17/99
(Date)

LET/let: 41359-98.doc

On Site Technologies

February 8, 1999

Table 1
Ground Water Level Summary
San Juan 28-7-47
Unit A, Sec. 20, T28N, R7W

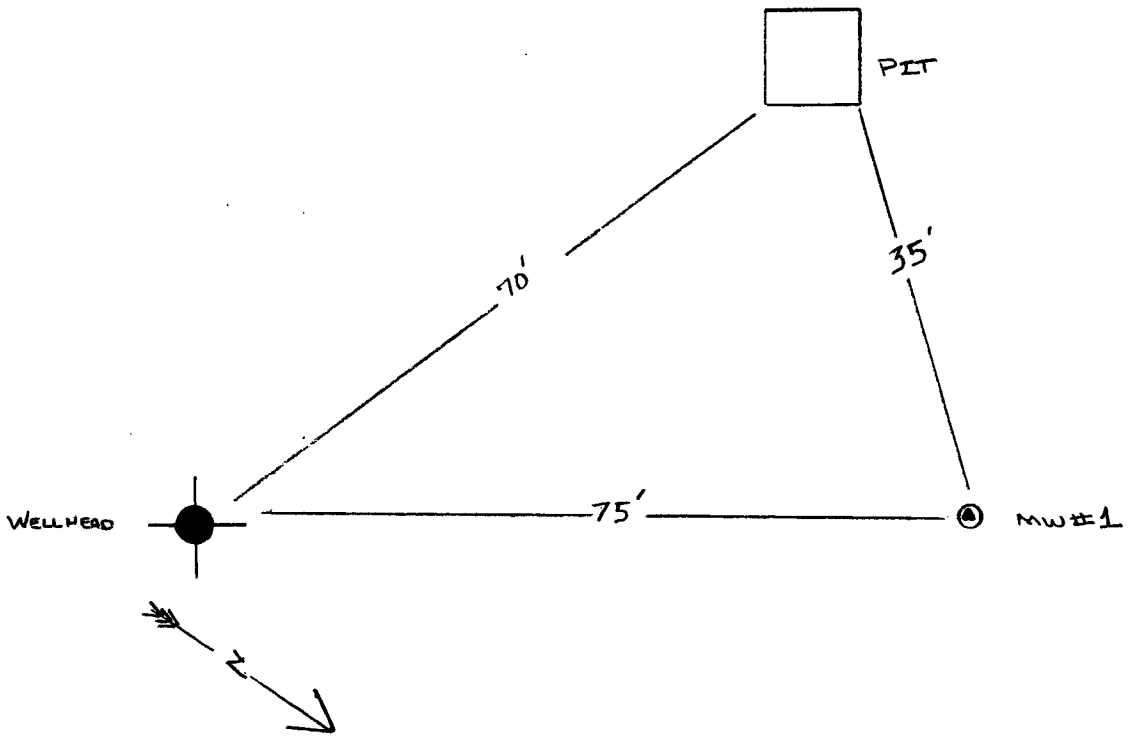
Well Number	Elevation at Ground surface (ft)	Total Depth of Well (ft)*	Well Type	Screen Interval (ft) (BGS) *	Sample Date	Depth to Groundwater (ft) (BTOC)*	Relative Groundwater Elevation (ft)
MW#1	6049.00	84.79			03/26/97	69.59	5979.41
					06/10/97	69.67	5979.33
					10/9/97	79.03	5969. 97
					12/22/97	69.32	5979.68
					3/12/98	69.37	5979.63
					6/9/98	55.08	5993.92
					9/14/98	69.69	5979.31
					12/9/98	68.87	5980.13

BTOC - Below Top of Casing
NM - Not Measured

Table 2
BTEX Analytical Summary
San Juan 28-7-47
Unit A, Sec. 20, T28N, R7W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total Xylene
08/15/95	G01392	MW	IML	12.2	186.0	BDL	27.7
03/22/96	0396G00321	MW#1	IML	86.8	896.0	BDL	177.8
03/26/97	14047	MW#1	On Site Lab.	301.2	821.2	27.0	182.1
04/21/97	14294	MW#1	On Site Lab.	91.1	291.1	8.0	101.4
06/10/97	14894	MW#1	On Site Lab.	68.0	196.0	7.0	73.0
10/09/97	16561	MW#1	On Site Lab.	113.0	344.0	10.0	84.0
12/22/97	17208	MW#1	On Site Lab.	161.0	355.0	16.0	100.0
3/9/98	9803029-01A	MW#1	On Site Lab.	120.0	270.0	14.0	81.0
6/9/98	9806033-01A	MW#1	On Site Lab.	BDL	BDL	BDL	BDL
9/14/98	9809029-01A	MW#1	On Site Lab.	30.0	19.0	6.1	9.5
12/9/98	9812022-01A	MW#1	On Site Lab	17.0	33.0	2.4	11.4
WQCC	ACTION	LEVELS		10.0	750.0	750.0	620.0

BDL, Below Detection Levels



SITE MAP
San Juan 28-7-47
NOT TO SCALE
ALL DISTANCES Approximated

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

March 25, 1998

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

RE: 2-1359 Order No.: 9803029

Dear Larry Trujillo,

On Site Technologies, LTD. received 1 sample on 3/9/98 for the analyses presented in the following report.

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

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

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

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

Date: *25-Mar-98*

CLIENT: Conoco, Inc.
Project: 2-1359
Lab Order: 9803029

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.

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OFF: (505) 325-5667

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *25-Mar-98*

Client:	Conoco, Inc.	**Client Sample Info:**	San Juan 28-7-47
Work Order:	9803029	**Client Sample ID:**	#1
Lab ID:	9803029-01A **Matrix:** AQUEOUS	**Collection Date:**	3/9/98 12:07:00 PM
Project:	2-1359	**COC#:**	6899

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
BTEX		**SW8020A**				Analyst: **DC**
Benzene	120	0.5		µg/L	1	3/10/98
Toluene	270	2.5		µg/L	5	3/10/98
Ethylbenzene	14	0.5		µg/L	1	3/10/98
m,p-Xylene	31	1		µg/L	1	3/10/98
o-Xylene	50	0.5		µg/L	1	3/10/98
Surr: Fluorobenzene	93.1	70-130		%REC	1	3/10/98
Surr: Fluorobenzene	92.6	70-130		%REC	5	3/10/98
Surr: 1,4-Difluorobenzene	94.4	70-130		%REC	1	3/10/98
Surr: 1,4-Difluorobenzene	92.4	70-130		%REC	5	3/10/98
Surr: 4-Bromochlorobenzene	91.0	70-130		%REC	1	3/10/98
Surr: 4-Bromochlorobenzene	91.1	70-130		%REC	5	3/10/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

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On Site Technologies, LTD.

Date: *25-Mar-98*

CLIENT: Conoco, Inc.
Work Order: 9803029
Project: 2-1359

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_980310** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/10/98** Prep Date:

Client ID: **9803029** Run ID: **GC-1_980310A** SeqNo: **113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.061	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
o-Xylene	ND	0.5									
Toluene	.1124	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: *25-Mar-98*

CLIENT: Conoco, Inc.
Work Order: *9803029*
Project: 2-1359

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **9803011-01AMS** Batch ID: **GC-1_980310** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/10/98** Prep Date:

Client ID: **9803029** Run ID: **GC-1_980310A** SeqNo: **114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	424.9	5	400	13.06	103.0%	56	128				
Ethylbenzene	861.9	5	400	463.1	99.7%	78	107				
m,p-Xylene	1021	10	800	234.2	98.3%	67	118				
o-Xylene	644.6	5	400	239.3	101.3%	78	107				
Toluene	995.9	5	400	589.3	101.7%	74	116				

Sample ID: **9803011-01AMSD** Batch ID: **GC-1_980310** Test Code: **SW8020A** Units: **µg/L** Analysis Date: **3/10/98** Prep Date:

Client ID: **9803029** Run ID: **GC-1_980310A** SeqNo: **115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	419	5	400	13.06	101.5%	56	128	424.9	1.4%	15	
Ethylbenzene	851.8	5	400	463.1	97.2%	78	107	861.9	1.2%	15	
m,p-Xylene	1007	10	800	234.2	96.6%	67	118	1021	1.4%	15	
o-Xylene	639.6	5	400	239.3	100.1%	78	107	644.6	0.8%	15	
Toluene	985.5	5	400	589.3	99.1%	74	116	995.9	1.0%	15	

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