

GW - 202

# MONITORING REPORTS

DATE:

2001

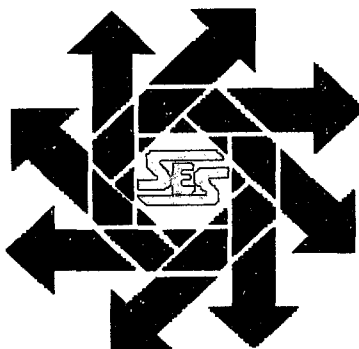
**Pro-Kem, Inc.  
Monitor Well Report  
Section 15, T16S, R36E  
Lea County, New Mexico**

**March 19, 2001**

**COPY**

APR 2 2001

NEW MEXICO DEPARTMENT OF  
NATURAL RESOURCES



**Prepared for:**

**Pro-Kem, Inc.  
P.O. Box 1506  
Lovington, New Mexico 88260**

**By:**

**Safety & Environmental Solutions, Inc.  
703 E. Clinton, Suite 102  
Hobbs, New Mexico 88240  
(505) 397-0510**

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## **I. Background**

The subject property is located in south Lovington, New Mexico adjacent to NM Highway 18 in Section 15, Township 16S, Range 36E. Safety & Environmental Solutions, Inc. (SESI) performed sampling and data collection on the three (3) ground water monitor wells previously installed in November 1997 at the site (See Vicinity Map). The casing size in all wells is 2".

## **II. Work Performed**

On March 19, 2001 an environmental technician with SESI arrived at the site. Ground water samples were taken from each well after a hand bailer was used to develop the wells. Three to five casing volumes of water were removed from each well until pH and temperature of the water were stabilized. The samples were obtained and placed in appropriate containers, preserved and transported under chain of custody to Cardinal Laboratories of Hobbs, New Mexico for analysis for the contaminants Carbon Tetrachloride, and BTEX. (See Analytical Data)

In addition to the sampling, SESI also measured the depth to the top of the water table and the total depth of each well. The depth to the top of ground water was measured using a Solinst water level indicator. The total depth of each well was measured in order to compute the proper casing volumes. A groundwater potentiometric and gradient map was prepared using the measured depth to water and previously surveyed top of casing elevations. A summary of this data follows:

ID	DATE	TOP OF CASING ELEVATION	DEPTH TO WATER	POTENTIO METRIC ELEVATION	TOTAL WELL DEPTH	FREE PRODUCT THICKNESS
MW - 1	3/19/01	3895.67'	60.15'	3835.52'	73.36'	0.00
MW - 2	3/19/01	3894.33'	59.42'	3834.91'	70.51'	0.00
MW - 3	3/19/01	3894.13'	60.17'	3833.96'	71.44'	0.00

### III. Analytical Results

The analysis of the groundwater samples performed by Cardinal Laboratories are summarized as follows:

CONTAMINANT	WQCC STANDARD	MW #1	MW #2	MW #3
Carbon Tet.	0.01 ppm	0.817ppm	0.023ppm	0.136ppm
Benzene	0.01 ppm	<0.005ppm	<0.005ppm	<0.005ppm
Toluene	0.75 ppm	<0.005ppm	<0.005ppm	<0.005ppm
Ethyl Benzene	0.75 ppm	<0.005ppm	<0.005ppm	<0.005ppm
Total Xylenes	0.62 ppm	<0.010ppm	<0.010ppm	<0.010ppm

### IV. Figures and Appendices

**Figures:**

Vicinity Map

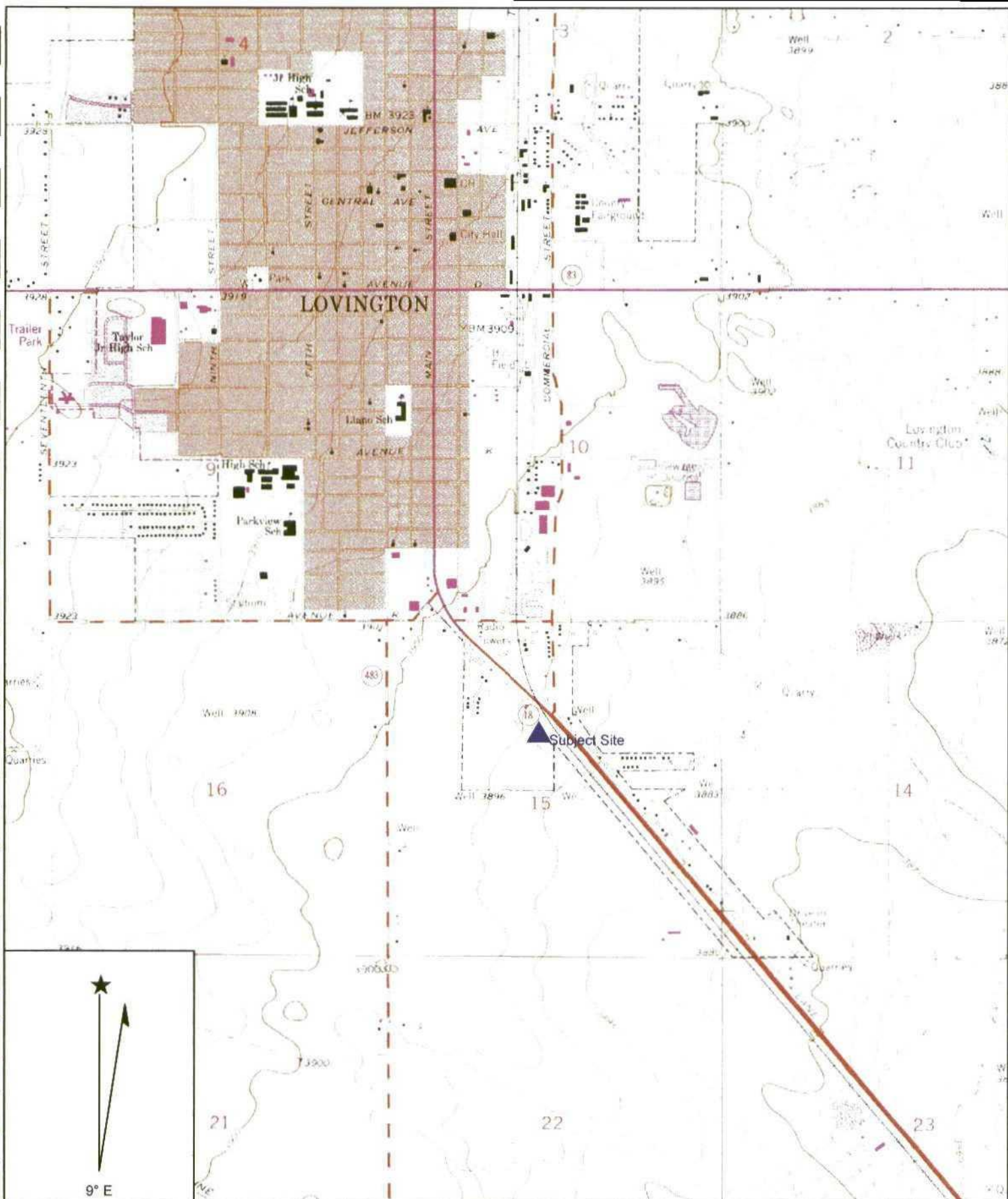
Potentiometric Map

**Appendices:**

Cumulative Well Water Quality Data Results

Analytical Results

Figure 1  
Vicinity Map

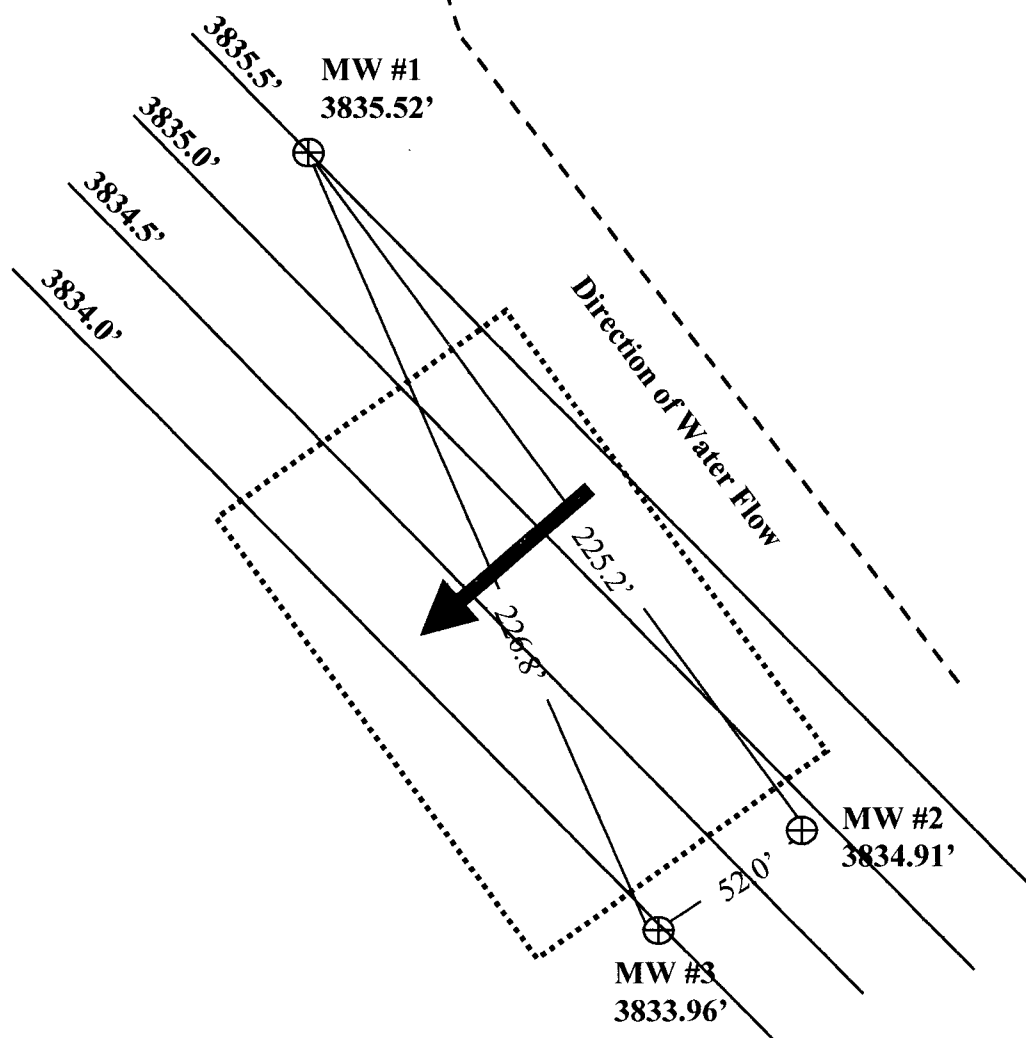
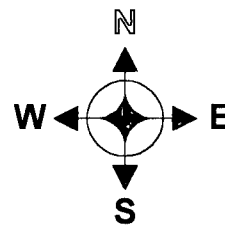
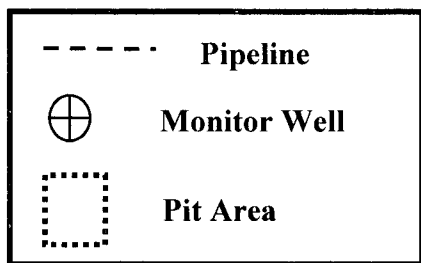


Name: LOVINGTON  
 Date: 3/29/2001  
 Scale: 1 inch equals 2000 feet

Location: 032° 55' 48.1" N 103° 20' 40.3" W  
 Caption: Pro-Kem, Inc.  
 Lovington Yard Monitor Wells  
 Section 15, T16S, R36E

Figure 2  
Potentiometric Map





Section 15,  
 Township 16 South  
 Range 36 East, N.M.P.M.

1" = 50'  
 Contour Interval 0.5'  
 Gradient = 0.020



**ProKem, Inc.**  
 March 19, 2001

**Groundwater  
 Potentiometric Map**

**Safety & Environmental  
 Solutions, Inc.**  
 Hobbs, New Mexico

Appendix A  
Cumulative Well Water Quality Data Results

## ProKem, Inc. Cumulative Well Data

### Monitor Well #1

CONTAMINANT	WQCC STANDARD	TEST DATE 1/8/99	TEST DATE 4/16/99	TEST DATE 12/8/99
Chloride	250.0ppm	56ppm	N/A	N/A
Carbon Tetrachloride	0.002ppm	.342ppm	.338ppm	.366ppm
Benzene	0.01ppm	<0.002ppm	<0.002ppm	<0.002ppm
Toluene	0.75ppm	<0.002ppm	<0.002ppm	<0.002ppm
E. Benzene	0.75ppm	<0.002ppm	<0.002ppm	<0.002ppm
Total Xylenes	0.62ppm	<0.006ppm	<0.006ppm	<0.006ppm
TPH	N/A	<1.0ppm	N/A	N/A

CONTAMINANT	WQCC STANDARD	TEST DATE 2/22/00	TEST DATE 6/16/00	TEST DATE 9/6/00
Chloride	250.0ppm	N/A	N/A	N/A
Carbon Tetrachloride	0.002ppm	.589ppm	0.144ppm	0.460ppm
Benzene	0.01ppm	<0.002ppm	<0.002ppm	<0.005ppm
Toluene	0.75ppm	<0.002ppm	<0.002ppm	<0.005ppm
E. Benzene	0.75ppm	<0.002ppm	<0.002ppm	<0.005ppm
Total Xylenes	0.62ppm	<0.006ppm	<0.004ppm	<0.015ppm
TPH	N/A	N/A	N/A	N/A

CONTAMINANT	WQCC STANDARD	TEST DATE 3/19/01
Chloride	250.0ppm	N/A
Carbon Tetrachloride	0.002ppm	0.817ppm
Benzene	0.01ppm	<0.005ppm
Toluene	0.75ppm	<0.005ppm
E. Benzene	0.75ppm	<0.005ppm
Total Xylenes	0.62ppm	<0.010ppm
TPH	N/A	N/A

**Monitor Well #2**

CONTAMINANT	WQCC STANDARD	TEST DATE 1/8/99	TEST DATE 4/16/99	TEST DATE 12/8/99
Chloride	250.0ppm	94ppm	N/A	N/A
Carbon Tetrachloride	0.002ppm	0.17ppm	0.15ppm	.008ppm
Benzene	0.01ppm	<0.002ppm	<0.002ppm	<0.002ppm
Toluene	0.75ppm	<0.002ppm	<0.002ppm	<0.002ppm
Ethyl Benzene	0.75ppm	<0.002ppm	<0.002ppm	<0.002ppm
Total Xylenes	0.62ppm	<0.006ppm	<0.006ppm	<0.006ppm
TPH	N/A	1.47ppm	N/A	N/A

CONTAMINANT	WQCC STANDARD	TEST DATE 2/22/00	TEST DATE 6/16/00	TEST DATE 9/6/00
Chloride	250.0ppm	N/A	N/A	N/A
Carbon Tetrachloride	0.002ppm	.354ppm	0.006ppm	<0.005ppm
Benzene	0.01ppm	<0.002ppm	<0.002ppm	<0.005ppm
Toluene	0.75ppm	<0.002ppm	<0.002ppm	<0.005ppm
Ethyl Benzene	0.75ppm	<0.002ppm	<0.002ppm	<0.005ppm
Total Xylenes	0.62ppm	<0.006ppm	<0.004ppm	<0.015ppm
TPH	N/A	N/A	N/A	N/A

CONTAMINANT	WQCC STANDARD	TEST DATE 3/19/01
Chloride	250.0ppm	N/A
Carbon Tetrachloride	0.002ppm	0.023ppm
Benzene	0.01ppm	<0.005ppm
Toluene	0.75ppm	<0.005ppm
Ethyl Benzene	0.75ppm	<0.005ppm
Total Xylenes	0.62ppm	<0.010ppm
TPH	N/A	N/A

**Monitor Well #3**

CONTAMINANT	WQCC STANDARD	TEST DATE 1/8/99	TEST DATE 4/16/99	TEST DATE 12/8/99
Chloride	250.0ppm	116ppm	N/A	N/A
Carbon Tetrachloride	0.002ppm	.111ppm	.109ppm	.353ppm
Benzene	0.01ppm	<0.002ppm	<0.002ppm	<0.002ppm
Toluene	0.75ppm	<0.002ppm	<0.002ppm	<0.002ppm
Ethyl Benzene	0.75ppm	<0.002ppm	<0.002ppm	<0.002ppm
Total Xylenes	0.62ppm	<0.006ppm	<0.006ppm	<0.006ppm
TPH	N/A	<1.0ppm	N/A	N/A

CONTAMINANT	WQCC STANDARD	TEST DATE 2/22/00	TEST DATE 6/16/00	TEST DATE 9/6/00
Chloride	250.0ppm	N/A	N/A	N/A
Carbon Tetrachloride	0.002ppm	.007ppm	0.438ppm	0.155ppm
Benzene	0.01ppm	<0.002ppm	<0.002ppm	<0.005ppm
Toluene	0.75ppm	<0.002ppm	<0.002ppm	<0.005ppm
Ethyl Benzene	0.75ppm	<0.002ppm	<0.002ppm	<0.005ppm
Total Xylenes	0.62ppm	<0.006ppm	<0.004ppm	<0.015ppm
TPH	N/A	N/A	N/A	N/A

CONTAMINANT	WQCC STANDARD	TEST DATE 3/19/01
Chloride	250.0ppm	N/A
Carbon Tetrachloride	0.002ppm	0.136ppm
Benzene	0.01ppm	<0.005ppm
Toluene	0.75ppm	<0.005ppm
Ethyl Benzene	0.75ppm	<0.005ppm
Total Xylenes	0.62ppm	<0.010ppm
TPH	N/A	N/A

## Appendix B

### Analytical Results



# ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.  
ATTN: BOB ALLEN  
703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/19/01  
Reporting Date: 03/20/01  
Project Number: NOT GIVEN  
Project Name: NOT GIVEN *PROKEN*  
Project Location: NOT GIVEN *Livingston*  
Lab Number: H5719-1  
Sample ID: MW #1

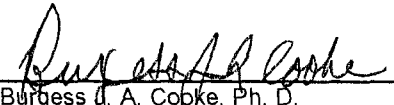
Analysis Date: 03/19/01  
Sampling Date: 03/19/01  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H5719-1	Method Blank	True Value		
			QC	%Recov.	QC
Benzene	<0.005	<0.005	0.107	107	0.100
Carbon Tetrachloride	0.817	<0.005	0.102	102	0.100
Toluene	<0.005	<0.005	0.108	108	0.100
Ethylbenzene	<0.005	<0.005	0.113	113	0.100
m,p-Xylene	<0.005	<0.005	0.224	112	0.200
o-Xylene	<0.005	<0.005	0.102	102	0.100

## % RECOVERY

Dibromofluoromethane	95
Toluene-d8	97
Bromofluorobenzene	99

METHODS: EPA SW-846 8260

  
Burgess J. A. Cooke, Ph. D.

*3/20/01*  
Date

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703 E. CLINTON, #103  
HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/19/01  
Reporting Date: 03/20/01  
Project Number: NOT GIVEN  
Project Name: NOT GIVEN *Broken*  
Project Location: NOT GIVEN *Levington*  
Lab Number: H5719-2  
Sample ID: MW #2

Analysis Date: 03/19/01  
Sampling Date: 03/19/01  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: BC

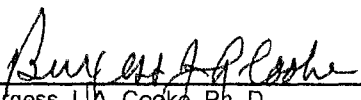
VOLATILES (mg/L)	Sample Result H5719-2	Method Blank	QC	%Recov.	True Value QC
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Benzene	<0.005	<0.005	0.107	107	0.100
Carbon Tetrachloride	0.023	<0.005	0.102	102	0.100
Toluene	<0.005	<0.005	0.108	108	0.100
Ethylbenzene	<0.005	<0.005	0.113	113	0.100
m,p-Xylene	<0.005	<0.005	0.224	112	0.200
o-Xylene	<0.005	<0.005	0.102	102	0.100

## % RECOVERY

Dibromofluoromethane	102
Toluene-d8	101
Bromofluorobenzene	97

METHODS: EPA SW-846 8260

  
Burgess J. A. Cooke, Ph. D.

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HOBBS, NM 88240  
FAX TO: (505) 393-4388

Receiving Date: 03/19/01  
Reporting Date: 03/20/01  
Project Number: NOT GIVEN  
Project Name: NOT GIVEN *Pro Kern*  
Project Location: NOT GIVEN *Livingston*  
Lab Number: H5719-3  
Sample ID: MW #3

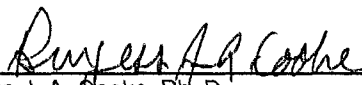
Analysis Date: 03/19/01  
Sampling Date: 03/19/01  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: BC

VOLATILES (mg/L)	Sample Result H5719-3	Method Blank	QC	%Recov.	True Value QC
Benzene	<0.005	<0.005	0.107	107	0.100
Carbon Tetrachloride	0.136	<0.005	0.102	102	0.100
Toluene	<0.005	<0.005	0.108	108	0.100
Ethylbenzene	<0.005	<0.005	0.113	113	0.100
m,p-Xylene	<0.005	<0.005	0.224	112	0.200
o-Xylene	<0.005	<0.005	0.102	102	0.100

## % RECOVERY

Dibromofluoromethane	97
Toluene-d8	103
Bromofluorobenzene	103

METHODS: EPA SW-846 8260

  
Burgess J. A. Cooke, Ph. D.

3/20/01  
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