

District I
P.O. Box 1980, Hobbs, NM

District II
P.O. Drawer DD, Artesia, NM 88221

District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Approved Bill Olson
6/30/2000

SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

PIT REMEDIATION AND CLOSURE REPORT

Operator: WFS [PNM Gas Services] (Amoco) Telephone: 324-3764

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Florance #44

Location: Unit H Sec 31 T 30N R 8W County San Juan

Pit Type: Separator Dehydrator Other _____

Land Type: BLM State Fee Other _____

Pit Location: Pit dimensions: length 20' width 20' depth 3'

(Attach diagram) Reference: wellhead other _____

Footage from reference: 96'

Direction from reference: 65 Degrees East North
 West of South

Depth to Ground Water: <small>(Vertical distance from contaminants to seasonal high water elevation of ground water)</small>	Less than 50 feet	(20 points)	
	50 feet to 99 feet	(10 points)	
	Greater than 100 feet	(0 points)	<u>20</u>

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DIST. 3

Wellhead Protection Area: <small>(Less than 200 feet from a private domestic water source, or; less than 1,000 feet from all other water sources)</small>	Yes	(20 points)	
	No	(0 points)	<u>0</u>

Distance to Surface Water: <small>(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)</small>	Less than 200 feet	(20 points)	
	200 feet to 1,000 feet	(10 points)	
	Greater than 1,000 feet	(0 points)	<u>0</u>

RANKING SCORE (TOTAL POINTS): 20

Florance #44

Date Remediation Started: 05/13/1996 Date Completed: 05/17/1996

Remediation Method: Excavation X Approx. Cubic Yard 582

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds) 582

Other _____

Remediation Location: Onsite X - 120 cu yds Offsite Florance 44E - 462 cu yds.

(i.e., landfarmed onsite, name and location of offsite facility)

Backfill Material Location: _____

General Description of Remedial Action:

Excavated contaminated soil to a pit size of 25' X 37' X 17' and landfarmed soil on location and on Florance 44E within bermed areas at a depth of 6" to 12". Soil was aerated by disking/plowing until soil met regulatory levels.

Ground Water Encountered: No Yes Depth 14'

Final Pit Closure Sampling:

Sample Location Composite - four side walls and center of pit bottom.

(if multiple samples, attach sample result and diagram of sample locations and depths.)

Sample depth 17'

Sample date 05/14/1996 Sample time 3:15:00 PM

Sample Results

Benzene (ppm) 0.0259

Total BTEX (ppm) 1.4807

Field headspace (ppm) _____

TPH (ppm) < 5.00 Method 8015A

Vertical Extent (ft) _____ Risk Analysis form attached Yes No

Ground Water Sample: Yes No (If yes, see attached Groundwater Site Summary Report)

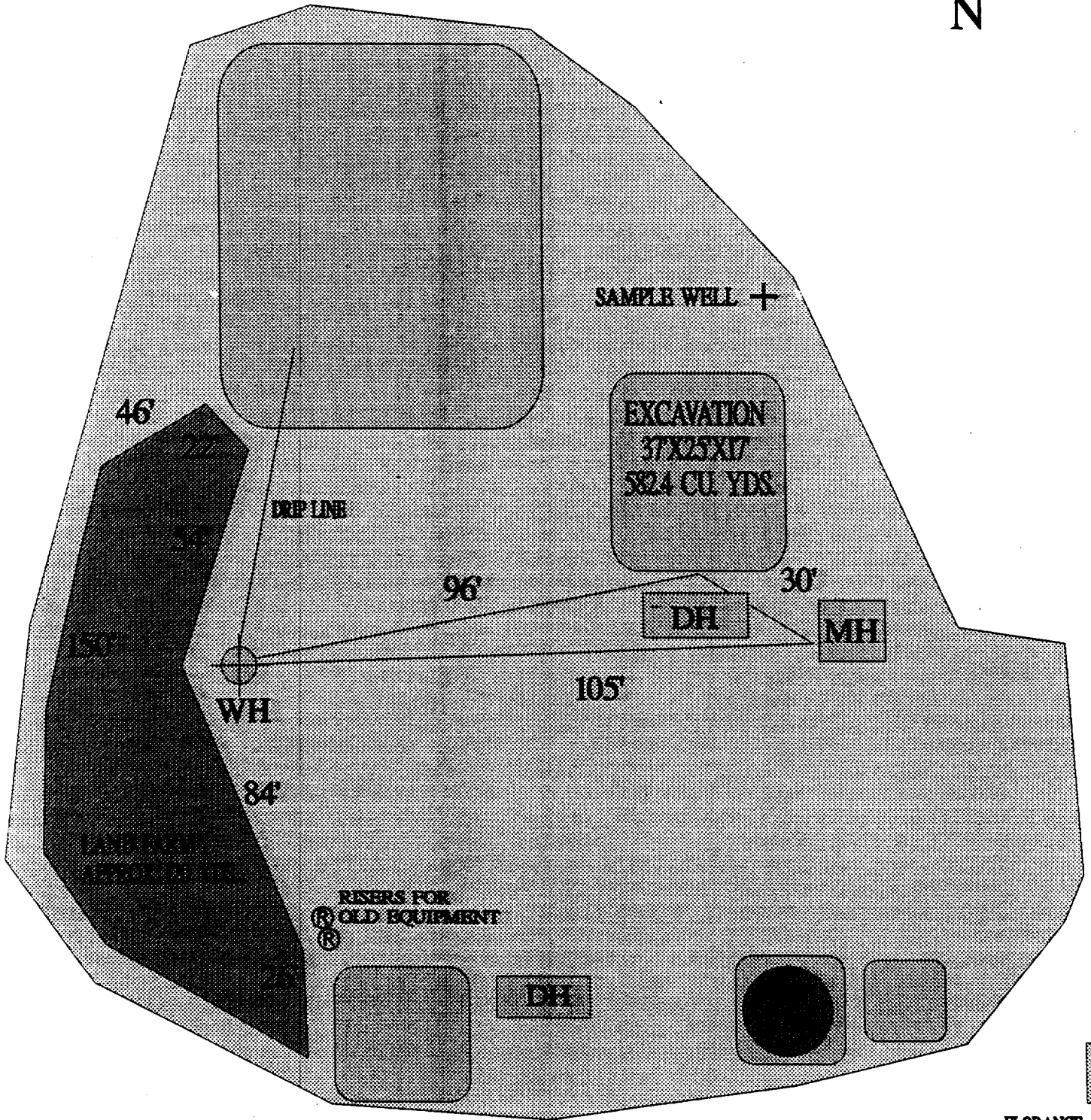
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND MY BELIEF

DATE January 24, 2000

SIGNATURE Maureen Gannon

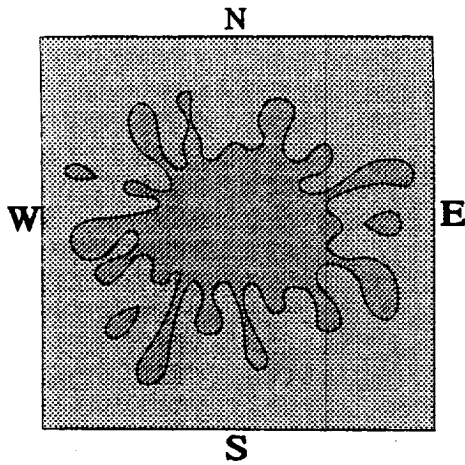
PRINTED NAME **Maureen Gannon**
AND TITLE **Project Manager**

FLORANCE #44 EXCAVATION
05/17/96



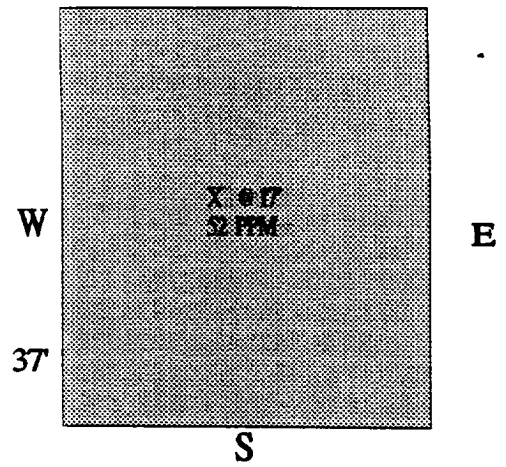
MH
FLORANCE #44A MH

20'X20'X3'



PIT AT START

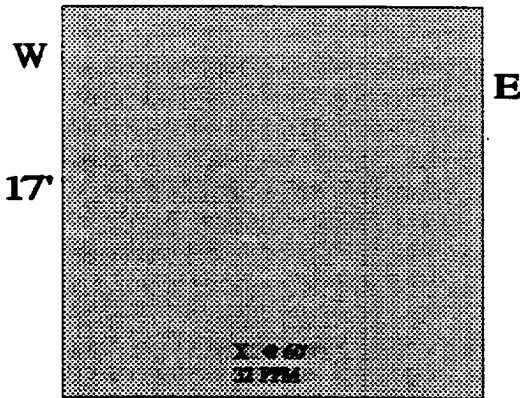
25' N



COMPOSITE SAMPLE TAKEN OF NORTH, SOUTH, EAST, & WEST WALLS OF EXCAVATION.

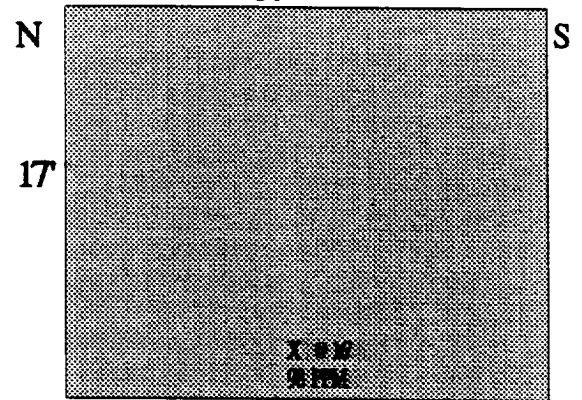
SAMPLE # 9605011515

25'



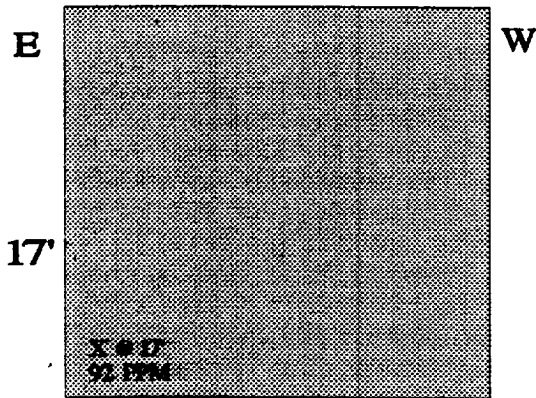
NORTH WALL

37'



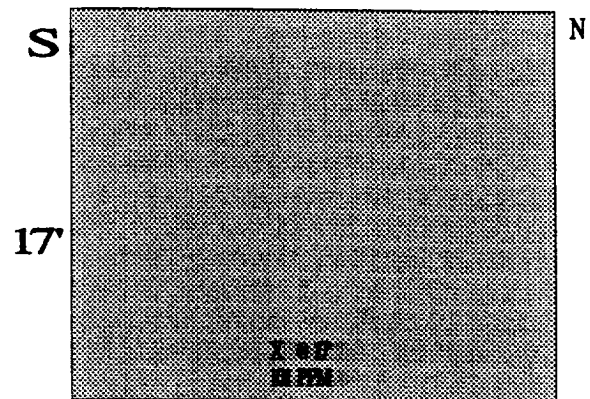
EAST WALL

25'

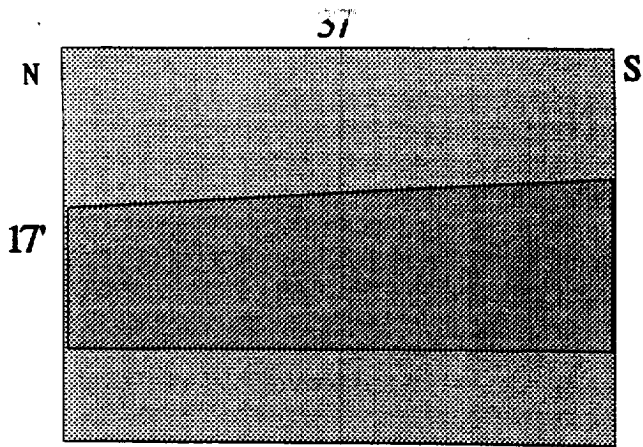


SOUTH WALL

37'

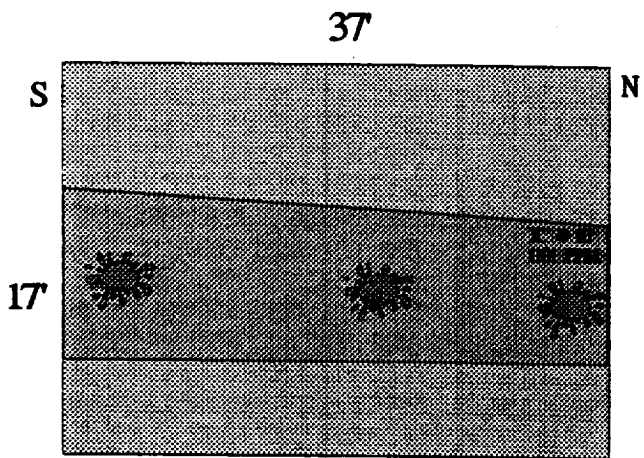


WEST WALL





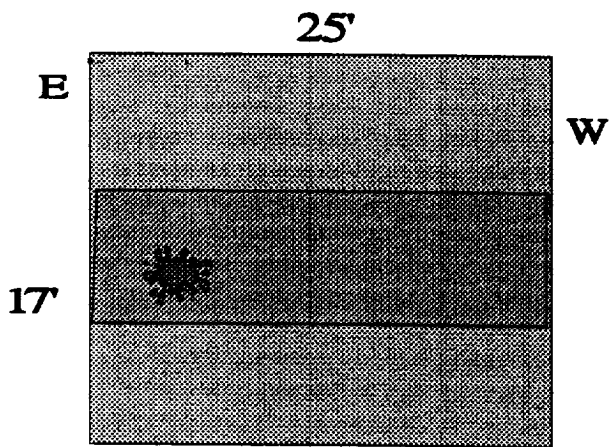
EAST WALL

EXCAVATION AT END
 PIT WATER SAMPLE 9605151010
 WELL H2O SAMPLE 9605151005
 WEST WALL SAMPLE 9605151630

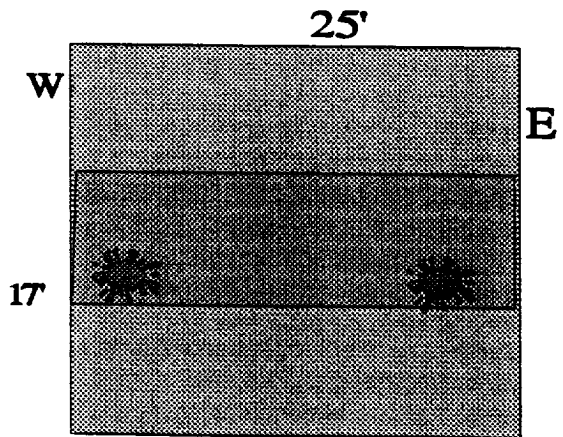


WEST WALL

 = WATER SEEPS
 = CONTAMINATION



SOUTH WALL



NORTH WALL

OFF: (505) 325-8786



LAB: (505) 325-5667

Diesel Range Organics

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-May-96*
 COC No.: *4624*
 Sample No. *10886*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Florance 44*
 Project Location: *9605141515; Pit Excavation Composite Sample*
 Sampled by: *RH* Date: *14-May-96* Time: *15:15*
 Analyzed by: *HR* Date: *15-May-96*
 Sample Matrix: *Soil*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i><5.0</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

DRO QC No.: *0475-QC*

Calibration Check

<i>Parameter</i>	<i>Method Blank</i>	<i>Unit of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
<i>Diesel Range (C10 - C28)</i>	<i><5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>1,816</i>	<i>9.2</i>	<i>15%</i>

Matrix Spike

<i>Parameter</i>	<i>1 - Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
<i>Diesel Range (C10-C28)</i>	<i>88</i>	<i>96</i>	<i>(70-130)</i>	<i>6</i>	<i>20%</i>

Method - *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: *Ja L*
 Date: *5/16/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-8786



LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *16-May-96*
 COC No.: *4624*
 Sample No.: *10886*
 Job No.: *2-1000*

Project Name: *PNM Gas Services - Florance 44*
 Project Location: *9605141515; Pit Excavation Composite Sample*
 Sampled by: *RH* Date: *14-May-96* Time: *15:15*
 Analyzed by: *HR* Date: *15-May-96*
 Sample Matrix: *Soil*

Laboratory Analysis

<i>Component</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Benzene</i>	<i>25.9</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>167.0</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>243.9</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>777.4</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>266.4</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
TOTAL	1480.7	ug/kg		

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

Approved by: *Da4*
 Date: *5/16/96*

P. O. BOX 2606 • FARMINGTON, NM 87499

— TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT —

FLORANCE #44
Amoco
Sec. 31-30N-09W

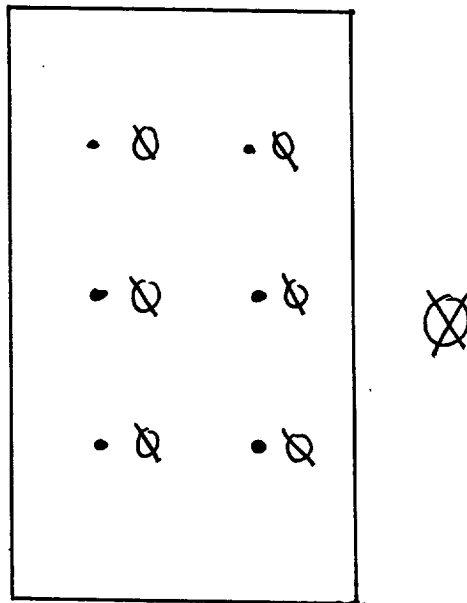
July 23, 1996

Land Farm: On Location
120 Yards

Composite Sample #: 9607231500

Soil Vapor Head-Space Reading = 3.8 ppm (PID)

Sample depths between 2" and 12"



OFF: (505) 325-5667



LAB: (505) 325-1556

Diesel Range Organics

Attn: *Denver Bearden*
 Company: *PNM Gas Services*
 Address: *603 W. Elm*
 City, State: *Farmington, NM 87401*

Date: *25-Jul-96*
 COC No.: *4916*
 Sample No. *11580*
 Job No. *2-1000*

Project Name: *PNM Gas Services - Florance #44 Landfarm*
 Project Location: *9607231500; 6pt. Composite, 2" - 12" depth*
 Sampled by: *GC* Date: *23-Jul-96* Time: *15:00*
 Analyzed by: *HR* Date: *25-Jul-96*
 Sample Matrix: *Soil*

Laboratory Analysis

<i>Parameter</i>	<i>Result</i>	<i>Unit of Measure</i>	<i>Detection Limit</i>	<i>Unit of Measure</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i><5.0</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

DRO QC No.: 0479-QC

Calibration Check

<i>Parameter</i>	<i>Method Blank</i>	<i>Unit of Measure</i>	<i>True Value</i>	<i>Analyzed Value</i>	<i>% Diff</i>	<i>Limit</i>
<i>Diesel Range (C10 - C28)</i>	<i><5.0</i>	<i>ppm</i>	<i>2,000</i>	<i>1,931</i>	<i>3.4</i>	<i>15%</i>

Matrix Spike

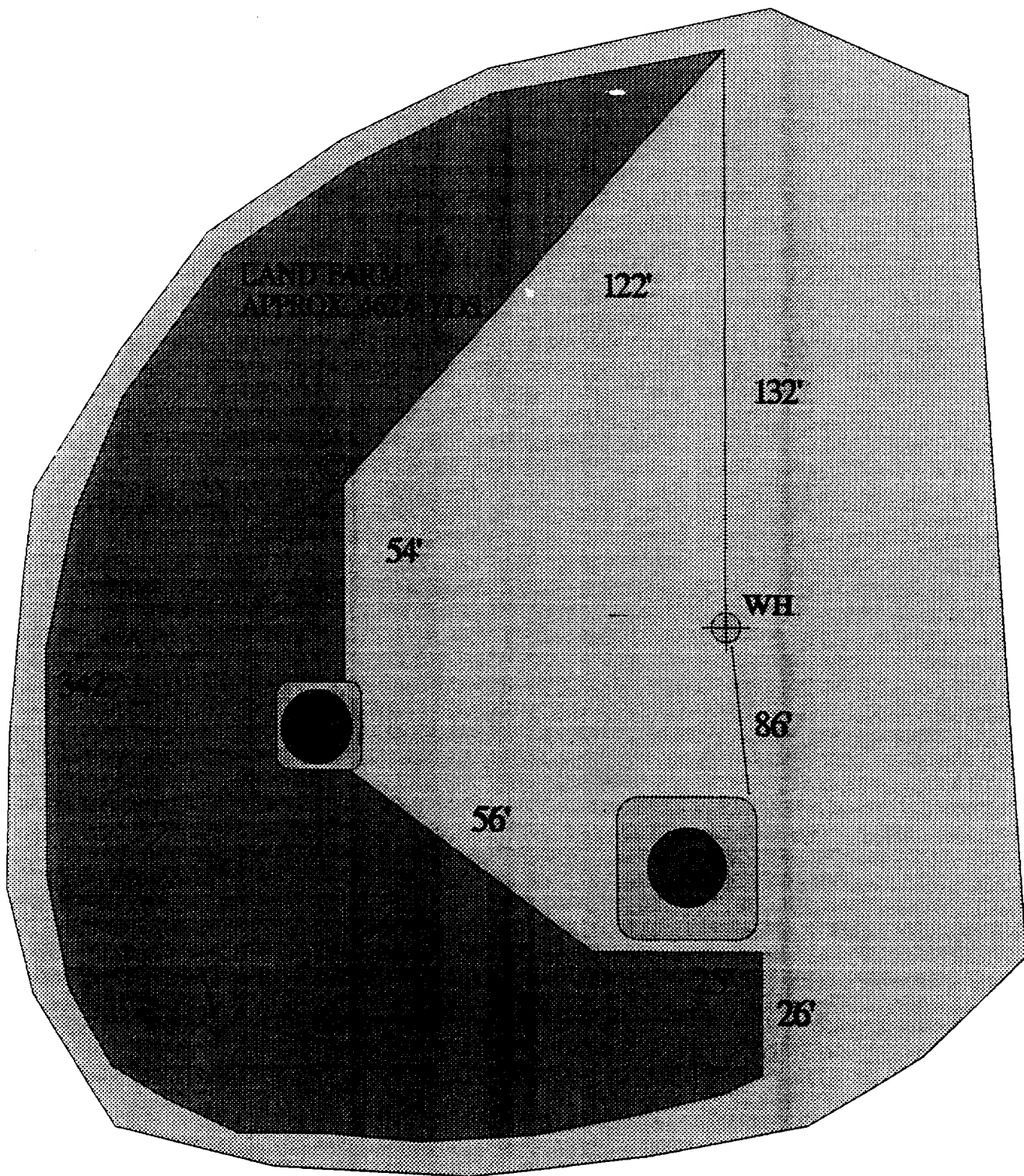
<i>Parameter</i>	<i>1- Percent Recovered</i>	<i>2 - Percent Recovered</i>	<i>Limit</i>	<i>%RSD</i>	<i>Limit</i>
<i>Diesel Range (C10-C28)</i>	<i>111</i>	<i>121</i>	<i>(70-130)</i>	<i>6</i>	<i>20%</i>

Method - SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography

Approved by: *Jag*
 Date: *7/25/96*

P.O. BOX 2606 • FARMINGTON, NM 87499

FLORANCE #44 LANDFARM
ON FLORANCE #44E
05/17/96



Groundwater Site Summary Report

Reporting Period Quarter/Year: 1st/99, 2nd/99, 3rd/99 and 4th/99

Operator: Amoco

Vulnerable Class: Extended

Sec: 31 Twn: 30 Rng: 8 Unit: H

OCD Ranking: 20

Canyon: Salvador, San Juan

Lead Agency: OCD

Topo Map: Figure 1

Well Completion Diagram: previously submitted

Site Map with Groundwater Analysis: Figure 2

Groundwater Contour Maps: Figure 3 (January 1999), Figure 4 (May 1999), Figure 5 (July 1999) and Figure 6 (October 1999).

Hydrograph: Figure 7

Full Suite- Groundwater Sampling: previously submitted

Analytical Results: attached

Site Hydrology:

The Florance 44 site lies in a small side canyon immediately west of Salvador Canyon, which empties into the San Juan River near the town of Archuleta, New Mexico. The side canyon drops in elevation towards the east, and is hemmed in by steep cliffs to the north and south of the site (see Figure 1). The wellhead elevation is 5836 ft. amsl. A small spring formerly flowed across the well pad, entering the site from the south. However, after the secondary source removal activities in November 1997 the springflow was diverted to the east, and was prevented from entering the area of the well pad by berms on the south side of the pad (Figure 2).

Alluvial materials encountered beneath the site are composed primarily of sand, with varying amounts of clay. Bedrock in the area is hard sandstone, and was frequently encountered at shallow depths beneath the site. At the extreme southern end of the site (in the area of Amoco's separator pit), hard bedrock was found at depths of 18 to 20 feet. Towards the west (upstream), bedrock was found at 14 feet deep in the area of MW-1. In the center of the site (near MW-2), bedrock was found at 20 feet. In general, the top of the bedrock surface parallels surface topography, and slopes towards the center of the drainage and thence towards the east.

Groundwater beneath the site is as shallow as 7 feet (in upgradient well MW-1) to as deep as 43 feet (in downgradient well MW-4). Groundwater flows east-northeast beneath the site (Figures: 3-6), parallel with surface topography and in the same direction as the assumed bedrock-alluvium contact. The water levels are found within alluvium, which is saturated in the area of study.

The hydrograph of the site (Figure 7) shows fairly steady to slightly falling water levels over time. Owing to the removal and reinstallation of wells, it is not possible to construct a comprehensive hydrograph in the central part of the well pad. However, bore holes SB-1 through SB-3 (see Figure 2) showed dry conditions to the bedrock surface, and wells MW-5 and MW-6 contain only a few feet or less of saturated alluvium. It is believed that the diversion of the spring on the south side of the study area has caused the gradual dewatering of the local alluvium. The site was recently resurveyed using a slightly different datum, thus the inconsistency of past hydrographs to current. However, the groundwater elevations recorded at each of the monitoring wells track nicely with the greatest changes occurring in wells MW-1 and MW-6, closest to the wash on the northern edge of the site.

Florance 44 (continued)

Activities for Previous Year:

Because of contamination discovered during PNM's additional source removal activities at the Florance 44 in November 1997, which included recontamination of the clean fill in our previous excavation, PNM prepared and submitted to OCD a summary report detailing the activities, results and recommendations at the Florance 44 in April 1998. In July 1998, the OCD directed PNM to remediate the site jointly with the operator, Amoco. After discussion and analysis, PNM proposed a well installation and sampling plan in December 1998. Amoco accepted, and the field program commenced in January 1999.

Soil borings SB-1, -2 and -3 encountered dry conditions and did not produce groundwater. Soil boring SB-3 was left open for 24-hours, with no indications of the presence of water. All efforts to re-establish a "source" well were unsuccessful. Little to no contamination was observed in these borings (Figure 2). Soil borings SB-4 and SB-5 encountered saturated alluvium and were completed as monitor wells MW-5 and MW-6.

PNM conducted quarterly groundwater sampling at the Florance 44 on January 12, May 26, July 28, and again on October 28, 1999. Water level data were collected from all wells during each sampling event. All sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico for chemical analyses of BTEX using EPA method 8021B.

Results:

Figure 2 is a site map of the Florance 44 and includes groundwater analytical results. Upgradient well MW-1 and downgradient well MW-4 have been below standards during every sampling event. Wells MW-5 and MW-6 also showed BTEX concentrations below standards. It is believed that the additional excavation, in addition to other actions taken by the operator, were successful in controlling the source of hydrocarbon contamination at the Florance 44 site.

BTEX concentrations in all wells have been below standards for four consecutive quarters. Apparently the additional source removal performed in November, 1997 appears to have accelerated the reduction of benzene in this area.

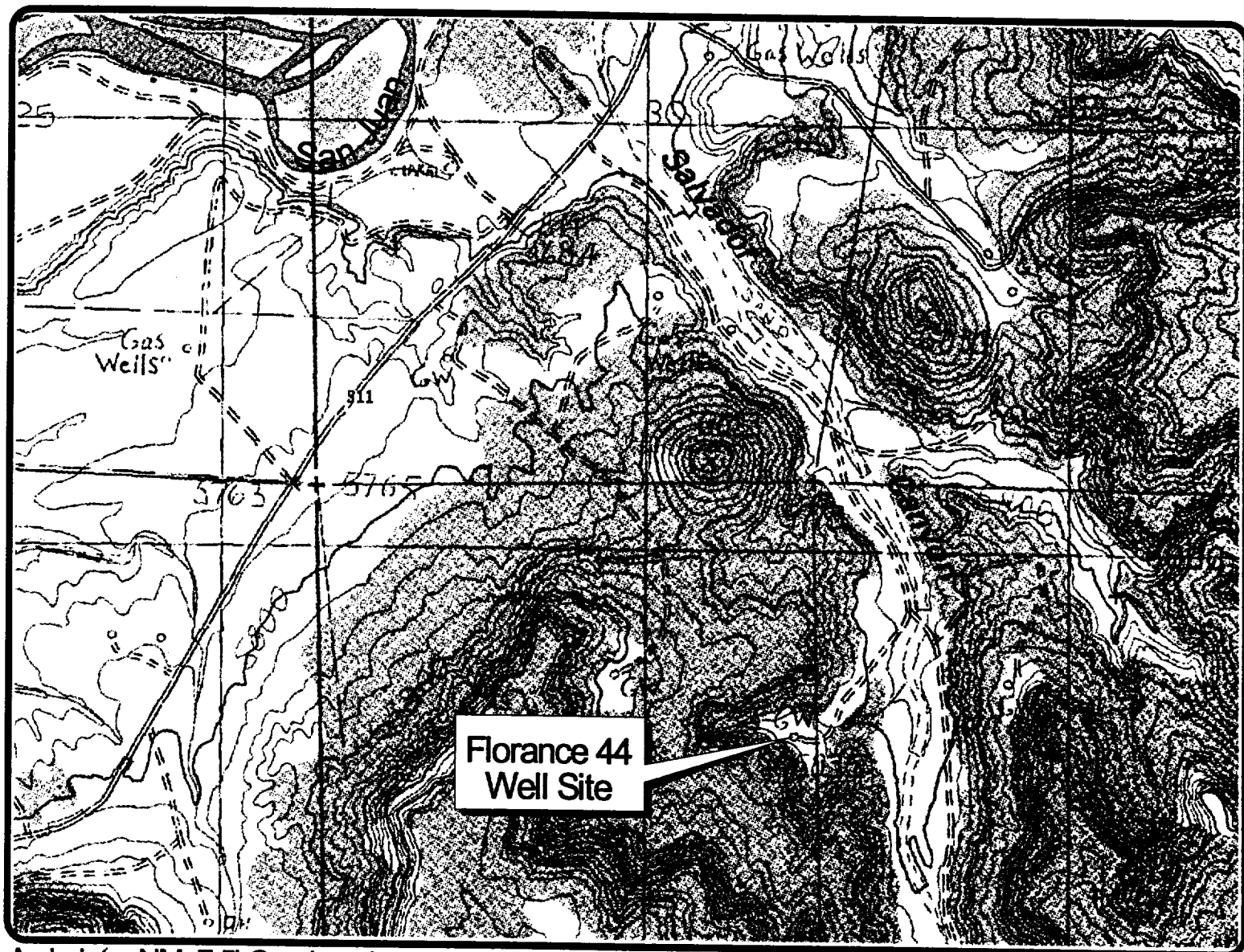
Future Actions:

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM requests closure of the Florance 44. This request is based upon the analytical data collected over the last three years at the site. The secondary excavation of additional source materials appears to have been successful in achieving clean-up at the Florance 44; the BTEX concentrations in all of the wells have been below standards for four consecutive quarters.

Upon approval of the groundwater closure report, PNM will plug and abandon the four groundwater monitoring wells at the site. The concrete pad and metal vault surrounding each well will be removed. The well casing will be removed or cut below ground surface and each well will be plugged to the surface with cement containing 5% bentonite.



Figure 1.
Florance 44
Sec. 31 Twn. 30N Rng. 8W Unit H



Archuleta, NM 7.5' Quadrangle





Figure 2.
Florence 44 Site Map and Analytical Results
(Concentrations in mg/l)

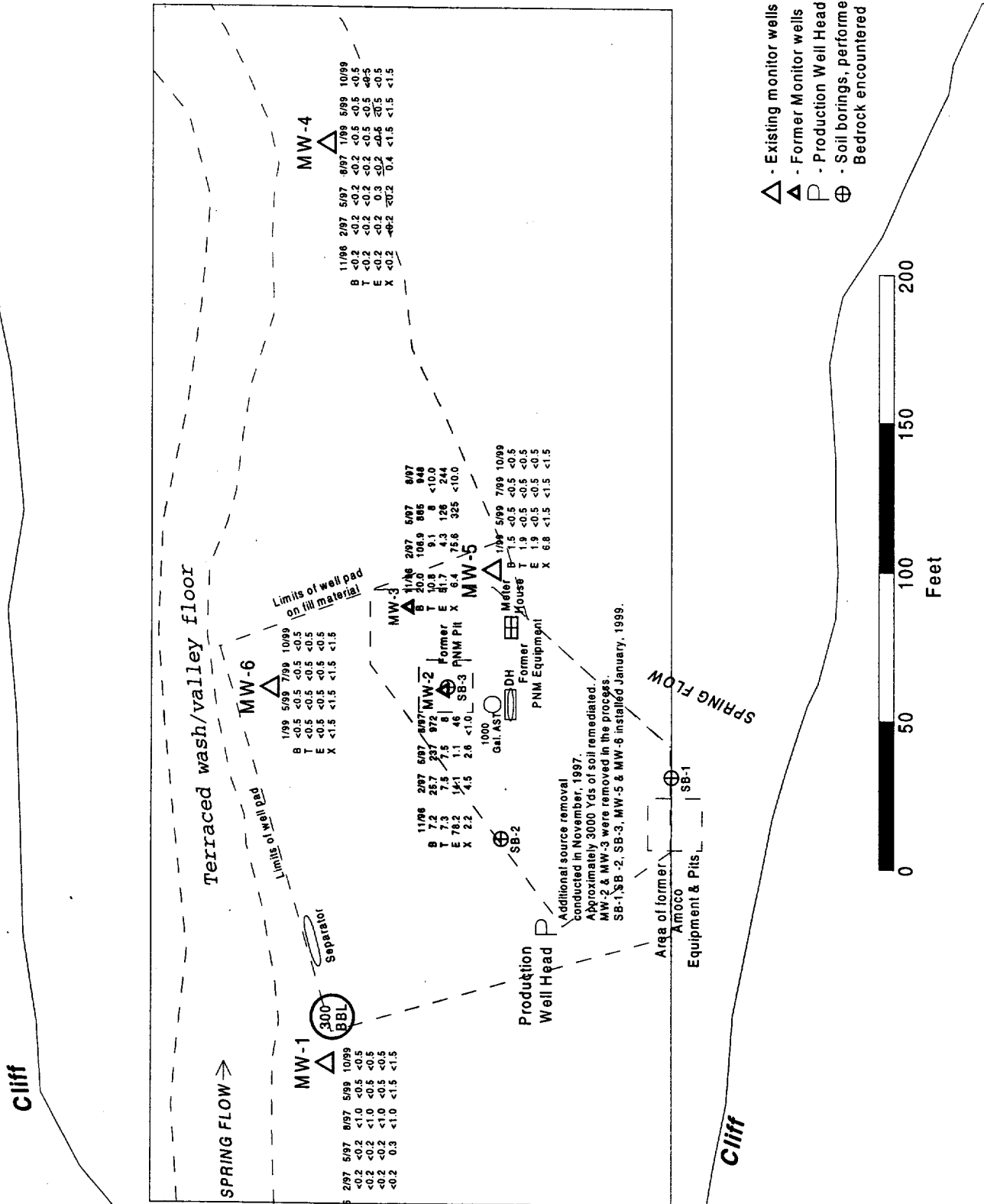
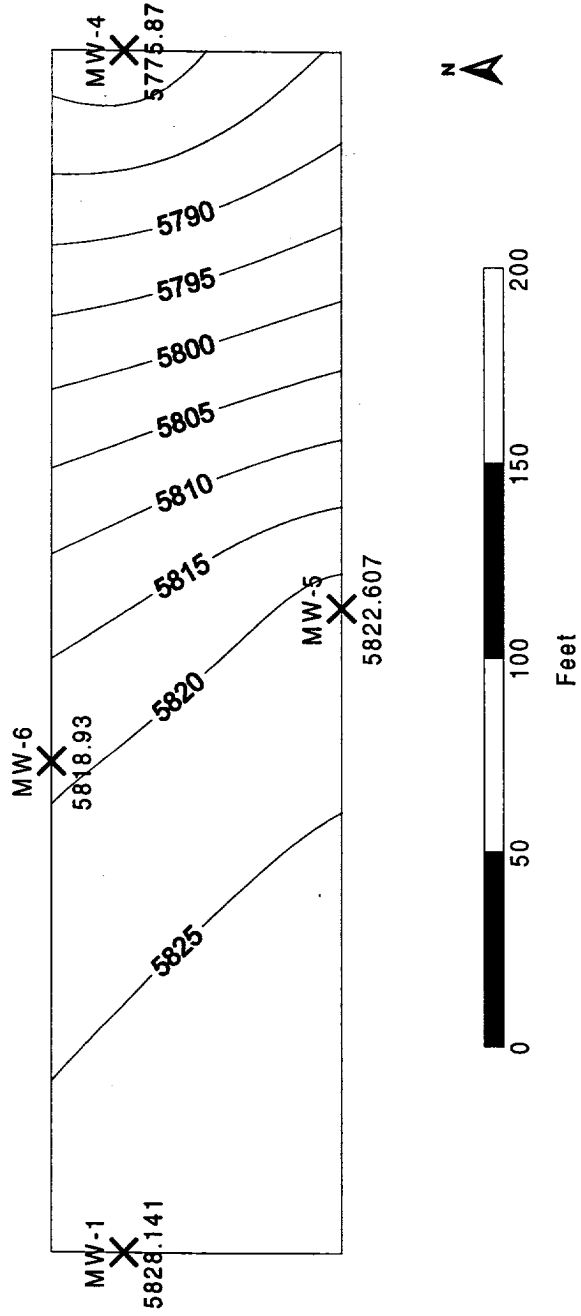
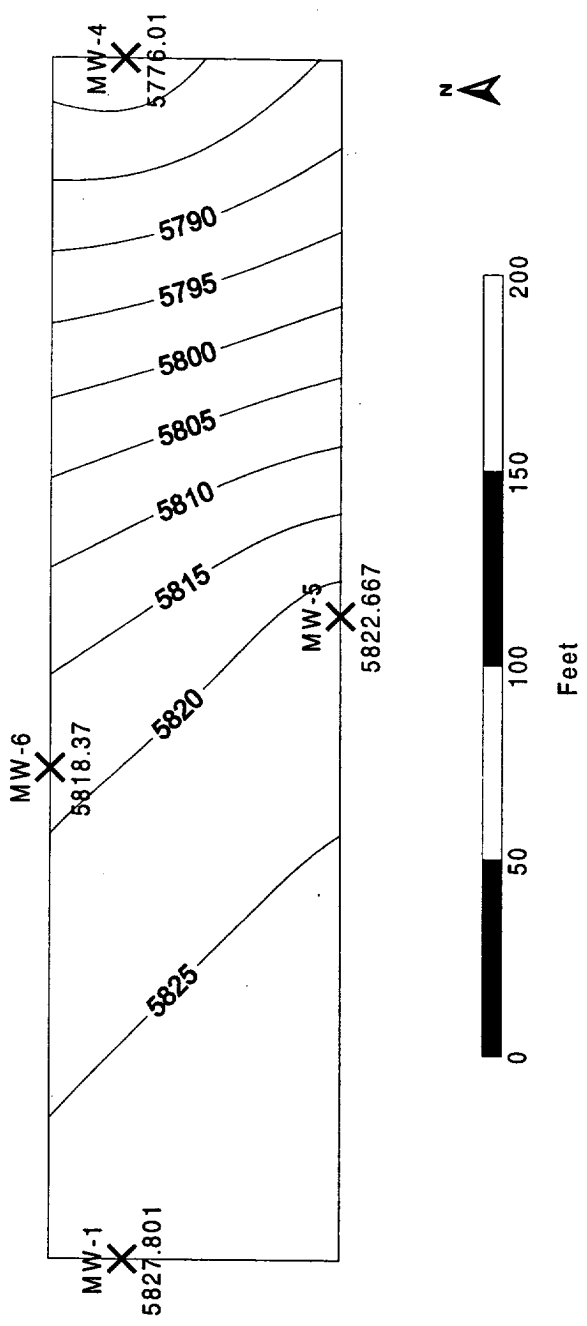


Figure 3.
Florance 44 Groundwater Contour Map (January 12, 1999)



**Figure 4.
Florance 44 Groundwater Contour Map (May 26, 1999)**



**Figure 5.
Florance 44 Groundwater Contour Map (July 28, 1999)**

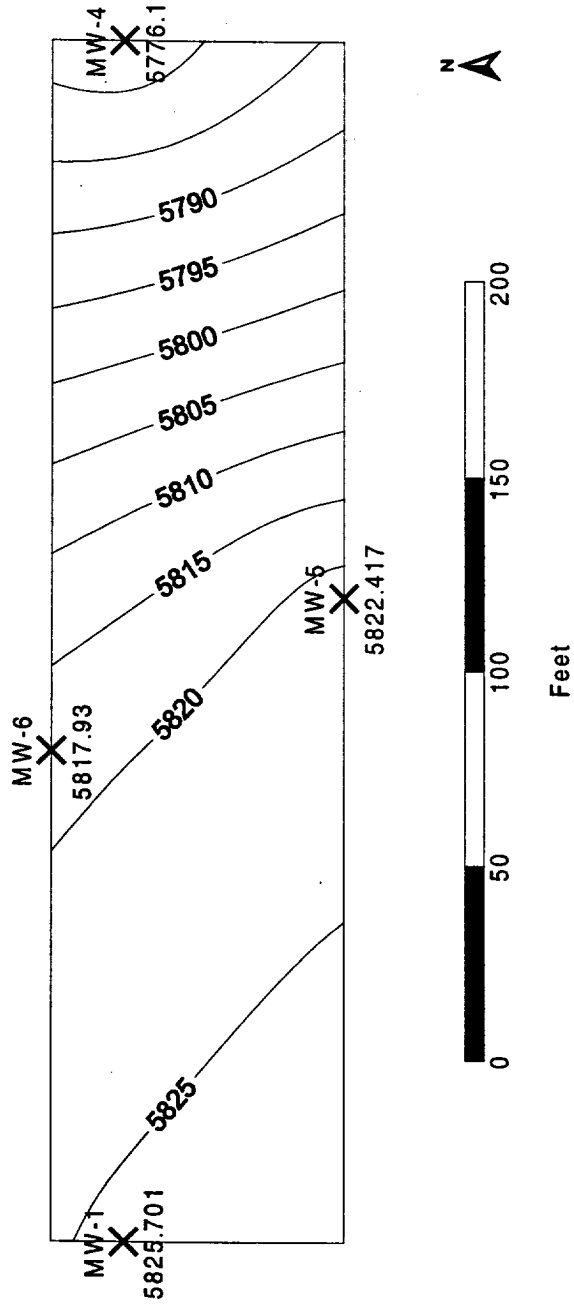


Figure 6.
Florance 44 Groundwater Contour Map (October 20, 1999)

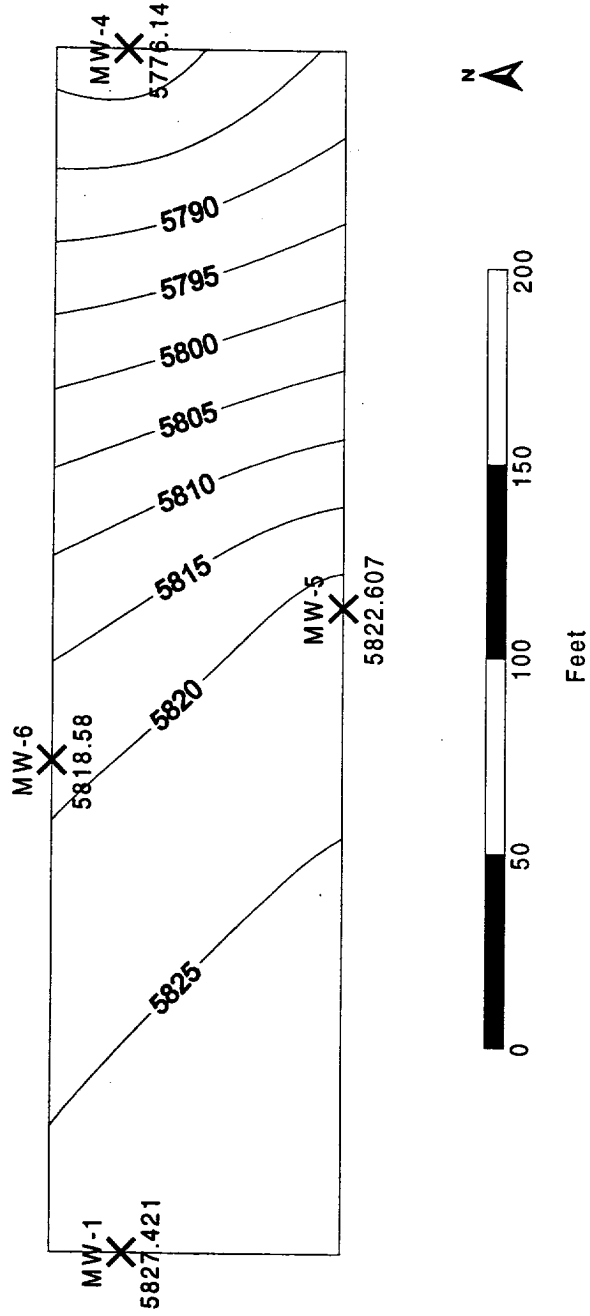
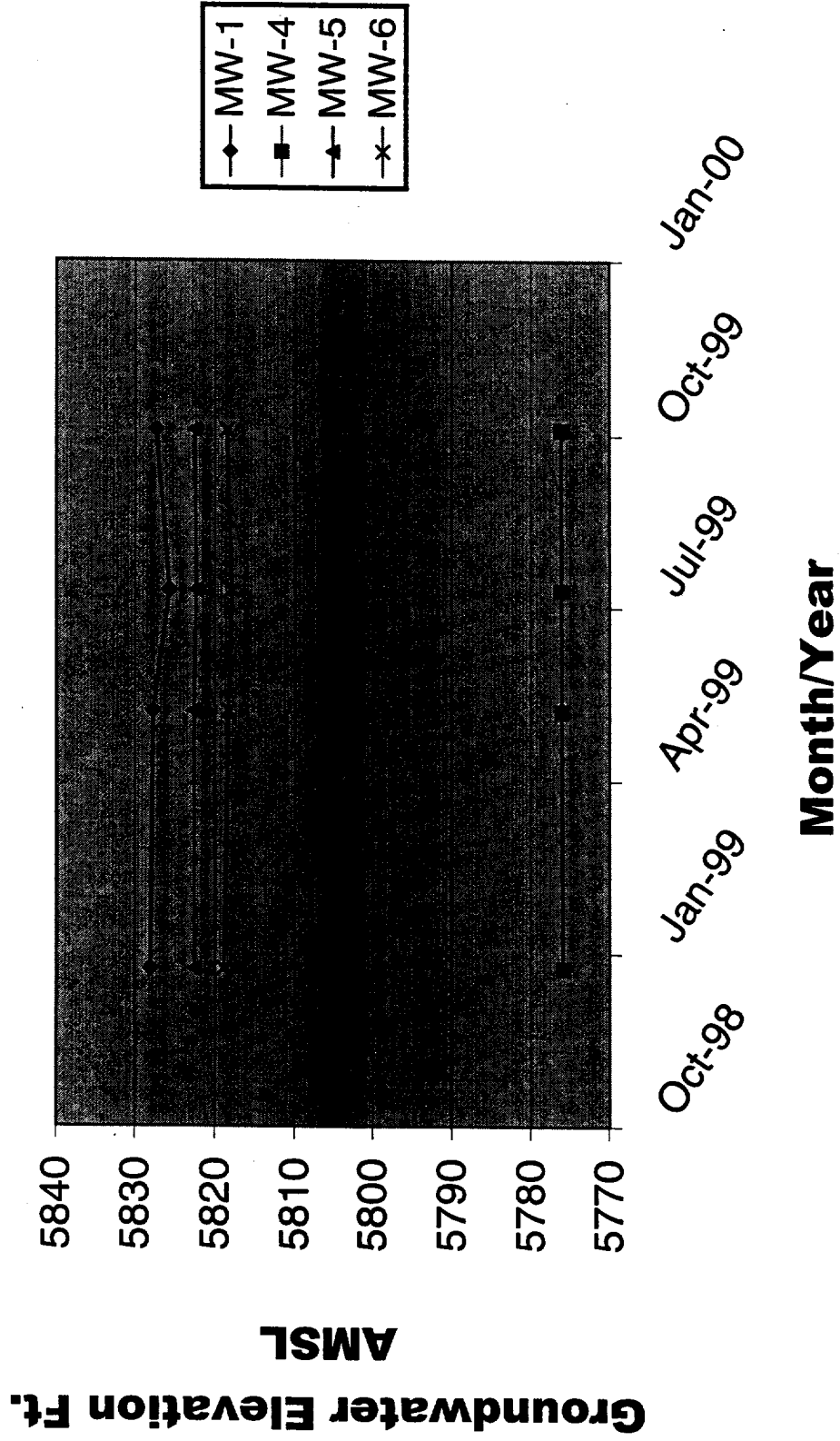


Figure 7.
Florance 44 Hydrograph



OFF: (505) 325-5667



(included in 1999
Annual Report)
JMS 1/29/99
LAB: (505) 325-1556

January 21, 1999

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

1st Quarter 1999

RE: Florance 44

Order No.: 9901005

Dear Maureen Gannon,

On Site Technologies, LTD. received 4 samples on 1/12/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
BTEX (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 in a cursive style.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 21-Jan-99

CLIENT: PNM - Public Service Company of NM

Project: Florance 44

Lab Order: 9901005

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.



ANALYTICAL REPORT

Date: 21-Jan-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9901005	Client Sample ID:	9901121030; MW-4
Lab ID:	9901005-01A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	1/12/99 10:30:00 AM
		COC Record:	7462

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	1/13/99
Toluene	ND	0.5		µg/L	1	1/13/99
Ethylbenzene	ND	0.5		µg/L	1	1/13/99
m,p-Xylene	ND	1		µg/L	1	1/13/99
o-Xylene	ND	0.5		µg/L	1	1/13/99

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 21-Jan-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9901005	Client Sample ID:	9901121050; MW-5
Lab ID:	9901005-02A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	1/12/99 10:50:00 AM
		COC Record:	7462

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	1.5	0.5		µg/L	1	1/13/99
Toluene	1.9	0.5		µg/L	1	1/13/99
Ethylbenzene	1.9	0.5		µg/L	1	1/13/99
m,p-Xylene	6.8	1		µg/L	1	1/13/99
o-Xylene	ND	0.5		µg/L	1	1/13/99

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



ANALYTICAL REPORT

Date: 21-Jan-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9901005	Client Sample ID:	9901121110; MW-6
Lab ID:	9901005-03A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	1/12/99 11:10:00 AM
		COC Record:	7462

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	1/13/99
Toluene	ND	0.5		µg/L	1	1/13/99
Ethylbenzene	ND	0.5		µg/L	1	1/13/99
m,p-Xylene	ND	1		µg/L	1	1/13/99
o-Xylene	ND	0.5		µg/L	1	1/13/99

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

OFF: (505) 325-5667



LAB: (505) 325-1556

Duplicate of MW-6

ANALYTICAL REPORT

Date: 21-Jan-99

Client: PNM - Public Service Company of NM	Client Sample Info: Florance 44
Work Order: 9901005	Client Sample ID: 9901121130; MW-7
Lab ID: 9901005-04A Matrix: AQUEOUS	Collection Date: 1/12/99 11:30:00 AM
Project: Florance 44	COC Record: 7462

Duplicate of MW-6

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	1/13/99
Toluene	ND	0.5		µg/L	1	1/13/99
Ethylbenzene	ND	0.5		µg/L	1	1/13/99
m,p-Xylene	ND	1		µg/L	1	1/13/99
o-Xylene	ND	0.5		µg/L	1	1/13/99

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

OFF: (505) 325-5667



LAB: (505) 325-1556

June 08, 1999

RECEIVED
JUN 09 1999

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

RE: Florance 44

Order No.: 9905091

Dear Maureen Gannon,

On Site Technologies, LTD. received 5 samples on 5/26/99 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 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: 08-Jun-99

CLIENT: PNM - Public Service Company of NM
Project: Florance 44
Lab Order: 9905091

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.



ANALYTICAL REPORT

Date: 08-Jun-99

Client: PNM - Public Service Company of NM	Client Sample Info: Florance 44
Work Order: 9905091	Client Sample ID: 9905260740; MW-1
Lab ID: 9905091-01A Matrix: AQUEOUS	Collection Date: 5/26/99 7:40:00 AM
Project: Florance 44	COC Record: 7044

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/3/99
Toluene	ND	0.5		µg/L	1	6/3/99
Ethylbenzene	ND	0.5		µg/L	1	6/3/99
m,p-Xylene	ND	1		µg/L	1	6/3/99
o-Xylene	ND	0.5		µg/L	1	6/3/99

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ANALYTICAL REPORT

Date: 08-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9905091	Client Sample ID:	9905260810; MW-4
Lab ID:	9905091-02A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	5/26/99 8:10:00 AM
		COC Record:	7044

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/3/99
Toluene	ND	0.5		µg/L	1	6/3/99
Ethylbenzene	ND	0.5		µg/L	1	6/3/99
m,p-Xylene	ND	1		µg/L	1	6/3/99
o-Xylene	ND	0.5		µg/L	1	6/3/99

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ANALYTICAL REPORT

Date: 08-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9905091	Client Sample ID:	9905260850; MW-5
Lab ID:	9905091-03A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	5/26/99 8:50:00 AM
		COC Record:	7044

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	6/3/99
Toluene	ND	0.5		µg/L	1	6/3/99
Ethylbenzene	ND	0.5		µg/L	1	6/3/99
m,p-Xylene	ND	1		µg/L	1	6/3/99
o-Xylene	ND	0.5		µg/L	1	6/3/99

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ANALYTICAL REPORT

Date: 08-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9905091	Client Sample ID:	9905260923; MW-6
Lab ID:	9905091-04A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	5/26/99 9:23:00 AM
		COC Record:	7044

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/3/99
Toluene	ND	0.5		µg/L	1	6/3/99
Ethylbenzene	ND	0.5		µg/L	1	6/3/99
m,p-Xylene	ND	1		µg/L	1	6/3/99
o-Xylene	ND	0.5		µg/L	1	6/3/99

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



ANALYTICAL REPORT

Date: 08-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9905091	Client Sample ID:	9905260953; MW-7
Lab ID:	9905091-05A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	5/26/99 9:53:00 AM
		COC Record:	7044

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	6/3/99
Toluene	ND	0.5		µg/L	1	6/3/99
Ethylbenzene	ND	0.5		µg/L	1	6/3/99
m,p-Xylene	ND	1		µg/L	1	6/3/99
o-Xylene	ND	0.5		µg/L	1	6/3/99

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

OFF: (505) 325-5667



LAB: (505) 325-1556

August 27, 1999

RECEIVED
SEP 01 1999

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

RE: Florance 44

Order No.: 9907068

Dear Maureen Gannon,

On Site Technologies, LTD. received 2 samples on 07/28/1999 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Aromatic Volatiles by GC/PID (SW8021B)

Mercury, Dissolved (SW7470)

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



On Site Technologies, LTD.

Date: 27-Aug-99

CLIENT: PNM - Public Service Company of NM
Project: Florance 44
Lab Order: 9907068

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.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.



ANALYTICAL REPORT

Date: 27-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9907068	Client Sample ID:	9907281111; MW-5
Lab ID:	9907068-01A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	07/28/1999 11:11:00 AM
		COC Record:	7052

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	08/04/1999
Toluene	ND	0.5		µg/L	1	08/04/1999
Ethylbenzene	ND	0.5		µg/L	1	08/04/1999
m,p-Xylene	ND	1		µg/L	1	08/04/1999
o-Xylene	ND	0.5		µg/L	1	08/04/1999

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



ANALYTICAL REPORT

Date: 27-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance 44
Work Order:	9907068	Client Sample ID:	9907281133; MW-6
Lab ID:	9907068-02A	Matrix:	AQUEOUS
Project:	Florance 44	Collection Date:	07/28/1999 11:33:00 AM
		COC Record:	7052

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	08/04/1999
Toluene	ND	0.5		µg/L	1	08/04/1999
Ethylbenzene	ND	0.5		µg/L	1	08/04/1999
m,p-Xylene	ND	1		µg/L	1	08/04/1999
o-Xylene	ND	0.5		µg/L	1	08/04/1999

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

ACZ Laboratories, Inc.
 2773 Downhill Drive
 Steamboat Springs, CO 80487
 (800) 334-5493

Florance 44 9907281111; MW-5

Lab Sample ID: **L24154-01**
 Client Sample ID: **9907068-01B**
 Client Project ID:
 ACZ Report ID: **RG99025**

On Site Technologies, LTD.
 612 E Murray Dr
 Farmington, NM 87499
 David Cox

Date Sampled: **7/28/99 11:11:00 AM**
 Date Received: **7/30/99**
 Date Reported: **8/16/99**

Sample Matrix: **Ground Water**

Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Mercury, dissolved	M245.1 CVAA	0.0003	B	mg/L	0.0002	0.001	8/14/99	ms

Inorganic Qualifiers (based on EPA CLP 3:90)
 U = Analyte was analyzed for but not detected at the indicated MDL
 B = Analyte concentration detected at a value between MDL and PQL
 PQL = Practical Quantitation Limit

S. Poulsen
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.

2773 Downhill Drive

Steamboat Springs, CO 80487

(800) 334-5493

Florance 44 9907281133; MW-6⑥ Lab Sample ID: **L24154-02**Client Sample ID: **9907068-02B**

Client Project ID:

ACZ Report ID: **RG99026**

On Site Technologies, LTD.

612 E Murray Dr

Farmington, NM 87499

David Cox

Date Sampled: **7/28/99 11:33:00 AM**Date Received: **7/30/99**Date Reported: **8/16/99**Sample Matrix: **Ground Water****Metals Analysis**

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/14/99	ms

Inorganic Qualifiers (based on EPA CLP 3-90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

S. Haasmeier for

Vice President of Operations: Ralph Poulsen

L24154

CHAIN-OF-CUSTODY RECORD

On Site Technologies, LTD.
 612 E. Murray Drive
 Farmington, NM 87401
 (505) 325-2432

Subcontractor:

ACZ Laboratories, Inc.
 2773 Downhill Drive

TEL: (800) 334-5493
 FAX: (970) 879-2216

Steamboat Springs, Colorado 80487 Acct #: TJV0776 29-Jul-99

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests	
				SW7470	
9907068-01B	Aqueous	7/28/99 11:11:00 AM	500HDPE	1	
9907068-02B	Aqueous	7/28/99 11:33:00 AM	500HDPE	1	

Comments: Please analyze two (2) water samples for Mercury. Dissolved. Samples have not been filtered.

Relinquished by: <i>Heidi Reuss</i>	Date/Time: <i>7/29/99 15:30</i>
Relinquished by: <i>[Signature]</i>	Date/Time: <i>7/30/99 10:00</i>

SAMPLE RECEIPT FORM

CLIENT: ON SITE
 PROJECT #: L241534
Dist

DATE 7/30/97

1) Does this project require special handling procedures such as CLP protocol?	<input checked="" type="radio"/> NA	YES	NO
2) Are the custody seals on the cooler intact?	<input checked="" type="radio"/> NA	YES	NO
3) Are the custody seals on the sample containers intact?	<input checked="" type="radio"/> NA	YES	NO
4) Is there a Chain of Custody (COC), or other directive shipping papers present?		<input checked="" type="radio"/> YES	NO
5) Is the COC complete? Relinquished? Yes ___ No ___ Requested Analysis? Yes ___ No ___		<input checked="" type="radio"/> YES	NO
6) Is the COC in agreement with the samples received? # of Samples: Yes ___ No ___ Sample ID: Yes ___ No ___ Matrix: Yes ___ No ___ # of Containers: Yes ___ No ___		<input checked="" type="radio"/> YES	NO
7) Is there enough sample for all requested analysis?		<input checked="" type="radio"/> YES	NO
8) Are all samples within holding times for requested analysis?		<input checked="" type="radio"/> YES	NO
9) Were all sample containers received intact?		<input checked="" type="radio"/> YES	NO
10) Are samples requiring no headspace, headspace free?	<input checked="" type="radio"/> NA	YES	NO
11) Do the samples require a Foreign Soils Permit Label or quarantine?		YES	<input checked="" type="radio"/> NO
12) Do samples require special disposal/hold considerations? Non-Hazardous: Yes ___ No ___ Hazardous: Yes ___ No ___ Hold: ___ months			

Describe "NO" items (except #1, 11, & 12):

Was the client contacted? Yes ___ No ___

If yes: Date: _____

Name of person contacted: _____

Actions taken or client instructions:

Signature: 

OFF: (505) 325-5667



LAB: (505) 325-1556

November 01, 1999

Maureen Gannon
PNM - Public Service Company of NM
Alvarado Square Mail Stop 0408
Albuquerque, NM 87158
TEL: (505) 241-2974
FAX (505) 241-2340

RECEIVED
NOV 05 1999

RE: Florance #44

Order No.: 9910033

Dear Maureen Gannon,

On Site Technologies, LTD. received 5 samples on 10/20/99 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 black ink, appearing to read "David Cox", with a stylized flourish at the end.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 01-Nov-99

CLIENT: PNM - Public Service Company of NM
Project: Florance #44
Lab Order: 9910033

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.



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance #44
Work Order:	9910033	Client Sample ID:	9910201410; MW-1
Lab ID:	9910033-01A	Matrix:	AQUEOUS
Project:	Florance #44	Collection Date:	10/20/99 2:10:00 PM
		COC Record:	7741

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	10/25/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

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

P.O. BOX 2606 • FARMINGTON, NM 87499

1 of 1



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance #44
Work Order:	9910033	Client Sample ID:	9910201435; MW-6
Lab ID:	9910033-02A	Matrix:	AQUEOUS
Project:	Florance #44	Collection Date:	10/20/99 2:35:00 PM
		COC Record:	7741

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	10/25/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

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



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance #44
Work Order:	9910033	Client Sample ID:	9910201450; MW-5
Lab ID:	9910033-03A	Matrix:	AQUEOUS
Project:	Florance #44	Collection Date:	10/20/99 2:50:00 PM
		COC Record:	7741

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	10/25/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

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



ANALYTICAL REPORT

Date: 01-Nov-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Florance #44
Work Order:	9910033	Client Sample ID:	9910201515; MW-4
Lab ID:	9910033-04A	Matrix:	AQUEOUS
Project:	Florance #44	Collection Date:	10/20/99 3:15:00 PM
		COC Record:	7741

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	10/25/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

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



ANALYTICAL REPORT

Date: 01-Nov-99

Client: PNM - Public Service Company of NM	Client Sample Info: Florance #44
Work Order: 9910033	Client Sample ID: 9910201530; MW-7
Lab ID: 9910033-05A Matrix: AQUEOUS	Collection Date: 10/20/99 3:30:00 PM
Project: Florance #44	COC Record: 7741

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	10/25/99
Toluene	ND	0.5		µg/L	1	10/25/99
Ethylbenzene	ND	0.5		µg/L	1	10/25/99
m,p-Xylene	ND	1		µg/L	1	10/25/99
o-Xylene	ND	0.5		µg/L	1	10/25/99

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

CHAIN OF CUSTODY RECORD



612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 10/20/99

Purchase Order No.:		Job No.					
Name: Denver Bearden		Title: Maureen Gannon					
Company: PNM Gas Services		Company: PNM Gas Services					
Address: 603 W. Elm Street		Mailing Address: Alverado Square, Mail Stop 0408					
City, State, Zip: Farmington, NM 87401		City, State, Zip: Albuquerque, NM 87158					
Telephone No.:		Telephone No.:					
Telefax No.:		Telefax No.:					
Sampling Location:		ANALYSIS REQUESTED					
Florange # 44							
Sampler: Roy Buchanan							
STANDARD INVOICE TO	SAMPLE IDENTIFICATION	SAMPLE DATE		MATRIX	PRES.	Containers	LAB ID
		DATE	TIME				
	991030 1410 MW # 1	10/20/99	1410	MLC	MLC	2	1105
	991030 1435 MW # 6	10/20/99	1435	MLC	MLC	2	1105
	991030 1450 MW # 5	10/20/99	1450	MLC	MLC	2	1105
	991030 1515 MW # 4	10/20/99	1515	MLC	MLC	2	1105
	991030 1530 MW # 7	10/20/99	1530	MLC	MLC	2	1105
Relinquished by: Roy Buchanan		Date/Time: 10/20/99		Received by: Maureen Gannon		Date/Time: 10/20/99	
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: Roy Buchanan		Date: 10/20/99		Special Instructions:		Results to be sent to both parties.	