

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well
GAS

RECEIVED

FEB - 3 1998

50 JAN 26 PM 2:33

OTO-FARMINGTON, NM

5. Lease Number
NM-01772A

6. If Indian, All. or
Tribe Name

2. Name of Operator

OIL CON. DIV.

DIST. 3

7. Unit Agreement Name

BURLINGTON
RESOURCES

OIL & GAS COMPANY

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499 (505) 326-9700

8. Well Name & Number
Reid #169. API Well No.
30-045-07440

4. Location of Well, Footage, Sec., T, R, M

1750' FSL, 800' FWL, Sec. 18, T-28-N, R-9-W, NMPM

10. Field and Pool
Aztec Pict. Cliffs11. County and State
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

<input type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Other -	

13. Describe Proposed or Completed Operations

12-24-97 MIRU. SD for holiday.

12-29-97 ND WH. NU BOP. TOOH w/57 jts 1 1/4" tbg & pkr. TOOH, tag CIBP @ 1990'. Pump 2 bbl wtr. Close csg valve. Establish injection into csg leaks. Plug #1: pump 12 sx Class "B" neat cmt @ 1554-1990'. TOOH. WOC. SDON.

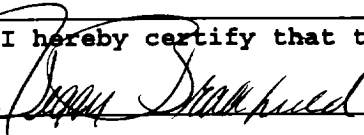
12-30-97 TIH, tag TOC @ 1919'. Pump 2 bbl wtr. Plug #2: pump 10 sx Class "B" neat cmt inside csg @ 1556-1919'. TOOH. WOC. TIH, tag TOC @ 1622'. Perf 2 sqz holes @ 1082'. TOOH. TIH w/2 7/8" cmt retainer, set @ 1034'. TOOH. TIH, establish injection. Plug #3: pump 132 sx Class "B" neat cmt below cmt retainer outside csg @ 820-1082'. Pump 8 sx Class "B" neat cmt inside csg @ 744-1082'. TOOH. SDON.

12-31-97 TIH, tag TOC @ 362'. TOOH. Load hole w/1 bbl wtr. Attempt to PT csg, failed. Perf 2 sqz holes @ 362'. TOOH. Establish circ down csg & out bradenhead. Plug #4: pump 155 sx Class "B" neat cmt down csg & out bradenhead. WOC. SD for holiday.

1-2-98 ND BOP. Cut off WH. Install dry hole marker w/15 sx Class "B" neat cmt. RD. Rig released. Well plugged and abandoned 1-2-98.

14. I hereby certify that the foregoing is true and correct.

Signed


Title Regulatory Administrator Date 1/20/98

(This space for Federal or State Office use)

APPROVED BY /s/ Duane W. Spencer Title _____Date FEB - 2 1998

CONDITION OF APPROVAL, if any:

NMOCB

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

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

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

GW site

RECEIVED
NOV - 1 1999
OIL CON. DIV.
DIST. 3

PIT REMEDIATION AND CLOSURE REPORT

Operator: PNM Gas Services (Burlington) Telephone: 324-3764

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Reid #16 Drip

Location: Unit L Sec 18 T 28 N R 9 W County San Juan

Pit Type: Separator ☐ Dehydrator ☐ Other Drip

Land Type: BLM ☐ State ☐ Fee ☒ Other

Pit Location: Pit dimensions: length 15' width 15' depth 3'

(Attach diagram) Reference: wellhead ☐ other McClanahan #18 Wellhead

Footage from reference: 1320'

Direction from reference: 70 Degrees ☒ East North ☒
of ☐ West South ☐

Depth to Ground Water:

(Vertical distance from contaminants to
seasonal high water elevation of ground
water)

Less than 50 feet (20 points)
50 feet to 99 feet (10 points)
Greater than 100 feet (0 points) 20

Wellhead Protection Area:

(Less than 200 feet from a private
domestic water source, or, less than 1,000
feet from all other water sources)

Yes (20 points)
No (0 points) 0

Distance to Surface Water:

(Horizontal distance to perennial lakes,
ponds, rivers, streams, creeks, irrigation
canals and ditches)

Less than 200 feet (20 points)
200 feet to 1,000 feet (10 points)
Greater than 1,000 feet (0 points) 0

RANKING SCORE (TOTAL POINTS): 20

Reid #16 Drip

Date Remediation Started: 08/19/1996

Date Completed: 08/20/1996

Remediation Method: Excavation ☒

Approx. Cubic Yard 316

(Check all appropriate sections)

Landfarmed ☒

Amount Landfarmed (cubic yds) 316

Other _____

Remediation Location:

Onsite _____

Offsite

McClanahan #21 (13-28N-10W)

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

Backfill Material Location: _____

General Description of Remedial Action:

Excavated contaminated soil to pit size of 19' X 25' X 18' and landfarmed soil offsite within a bermed area at a depth of 6" to 12". Soil was aerated by plowing/disking until soil met regulatory levels.Secondary source removal conducted on 7/1/98; approximately 2,472 cu yds of contaminated soil removed.

Ground Water Encountered:

No ☐Yes ☒

Depth

20'

Final Pit Closure Sampling:

Sample Location

5 pt composite-4 side walls and center of pit bottom

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

Sample depth

18'

Sample date

08/20/1996

Sample time

11:00:00 AM

Sample Results

Benzene (ppm)

0.47610

Total BTEX (ppm)

88.8474

Field headspace (ppm)

TPH (ppm)

109.70

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 October 28, 1999

SIGNATURE

Maureen GannonPRINTED NAME Maureen Gannon
AND TITLE Project Manager

Groundwater Site Summary Report

Quarter/Year: 4th/98, 1st/99, 2nd/99 & 3rd/99

Copies: WFS(1)
Operator (1)
NMOCD District Office (1)
NMOCD Santa Fe (1)

Operator: Burlington Resources
Sec: 18 Twn: 28N Rng: 9W Unit: L
Canyon: Muñoz

Vulnerable Class: Original
OCD Ranking: 20
Lead Agency: NMOCD

Topo Map: Figure 1

Well Completion Diagram: previously submitted

Site Map with Analytical Results: Figure 2

Groundwater Contour Map: Figure 3 (November 1998), Figure 4 (February 1999), Figure 5 (April 1999) & Figure 6 (August 1999)

Hydrograph: Figure 7

Full suite-Groundwater Sampling Results: previously submitted

Analytical Results: attached 2nd/99 & 3rd/99 only

Site Hydrology:

The Reid 16 Drip site lies in a steep side drainage on the flanks of Muñoz Canyon, a tributary to the San Juan River located about 9 miles southeast of Bloomfield, New Mexico. The site lies at an elevation of about 5755 feet amsl, on the west side of a narrow, north-flowing drainage that empties into Muñoz Canyon about 1000 feet north-northeast of the site.

Subsurface materials beneath the site are composed primarily of sands, with minor amounts of silt or clay materials, as determined from the four monitoring wells installed (see Figure 1). Total depths of the wells are 30 to 43 feet, and no resistant bedrock units were encountered in the monitor well borings.

Depth to water has ranged from 30 to 35 feet beneath the site. Groundwater flows towards the north, parallel with the direction of the topographic gradient and of the flow in Muñoz Canyon and the side wash by the site. There are no appreciable seasonal changes in flow direction that are apparent, except for an abnormally high measurement in well MW-4 in November, 1998 (Figure 3) which creates an apparent northwestward gradient. It is possible that a flood and recharge event caused the elevated water table in MW-4, but this is suspect because no other wells register similar trends (see hydrograph, Figure 7). More likely, the anomalous reading in MW-4 was an error in data collection.

The site hydrograph (Figure 7) shows that in general water levels do not fluctuate seasonally at the Reid 16 Drip site. There is, however, a slight upward trend of perhaps 1 foot or more throughout the period of record (April 1997 to February 1999).

Activities for Previous Year:

On November 5, 1998, February 11, 1999 and again on April 20, 1999 PNM performed quarterly sampling of monitor well MW-2 at this site. During quarterly sampling activities performed August 2, 1999, all monitor wells were sampled. PNM measured water levels quarterly in all 4 wells. Groundwater samples were submitted for chemical analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8021B. Sampling was performed in strict compliance with EPA protocol. In all instances, PNM delivered the samples to OnSite Technologies, Farmington, New Mexico.

Results:

Figure 2 presents a site map showing BTEX for each monitoring well since groundwater contamination was discovered. For two years, MW-1, -3 and -4 have consistently shown BTEX concentrations below WQCC

Public Service Company of New Mexico - Gas Services

Environmental Services Division - Alvarado Square, MS-0408
Albuquerque, NM 87158

Contact: Maureen Gannon

Telephone: 505-241-2974

PNMGS Well Site: Reid 16 Drip (continued)

standards. BTEX concentrations in MW-2 have fluctuated although xylene levels have remained fairly constant, with most parameters over WQCC standards. After the additional source removal activities of January 1998 (approximately 1200 cubic yards of contaminated soil were remediated), BTEX levels began to drop. Monitor well MW-2 has shown BTEX concentrations below standards for four consecutive quarters.

Further Action:

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM requests closure of the Reid 16 Drip. This request is based upon the analytical data collected over the last two years at the site. The excavation of source materials was successful in achieving clean-up at the Reid 16 Drip. BTEX concentrations in all wells have been below standards for four consecutive quarters.

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

Public Service Company of New Mexico - Gas Services

Environmental Services Division - Alvarado Square, MS-0408
Albuquerque, NM 87158

Contact: Maureen Gannon

Telephone: 505-241-2974



**Figure 1.
Reid 16 Drip
Twn. 28N Rng. 9W Sec. 18 Unit L**

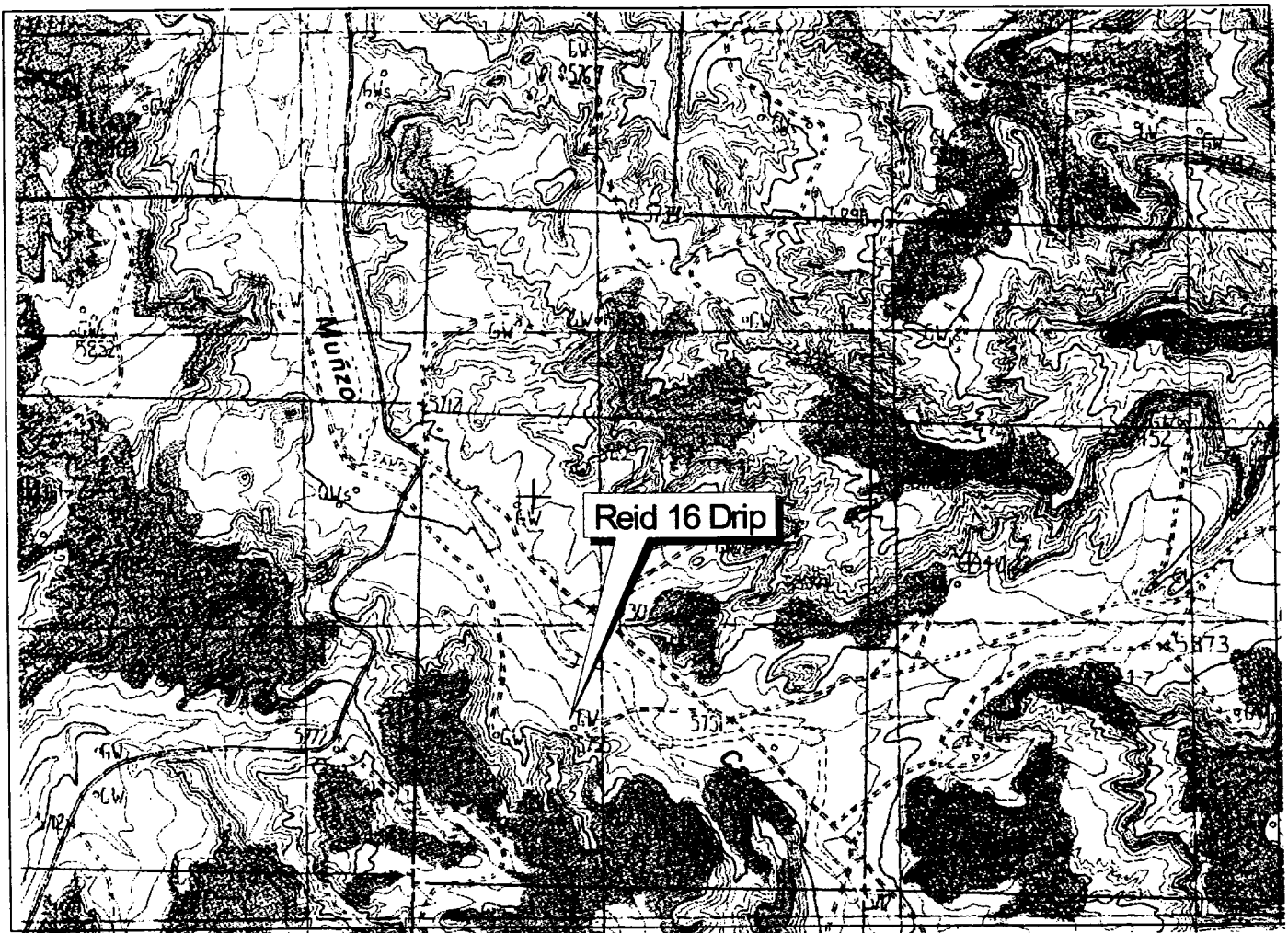
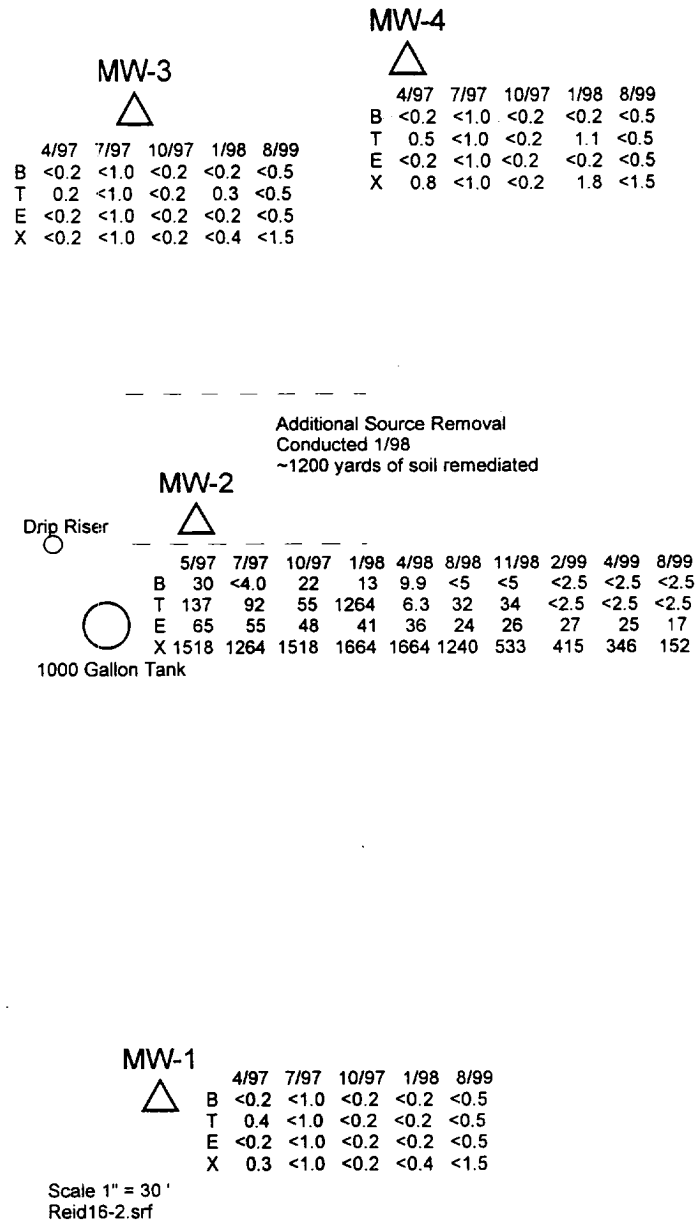


Figure 2.
Reid 16 Drip Groundwater Site Map and Analytical Results
(Concentrations in ppb)



0 20 40 60 80



Figure 3.
Reid 16 Drip Groundwater Contour Map
(November 5, 1998)

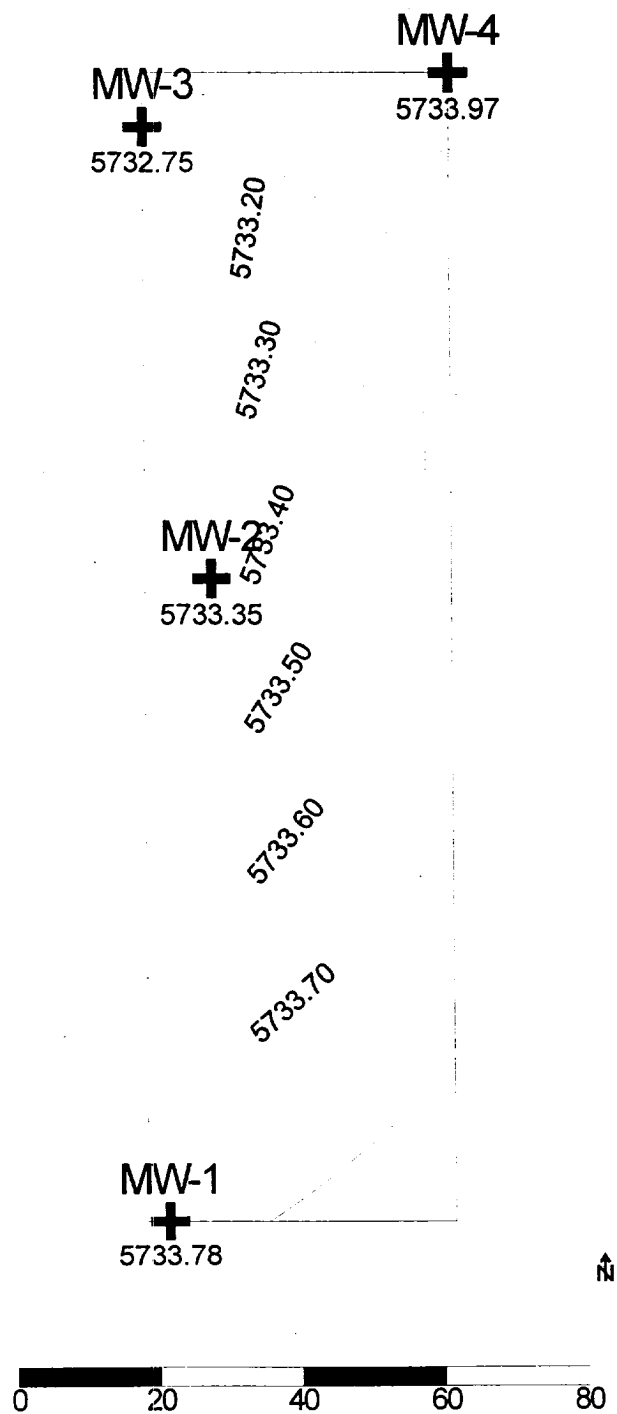


Figure 4.
Reid 16 Drip Groundwater Contour Map
(February 11, 1999)

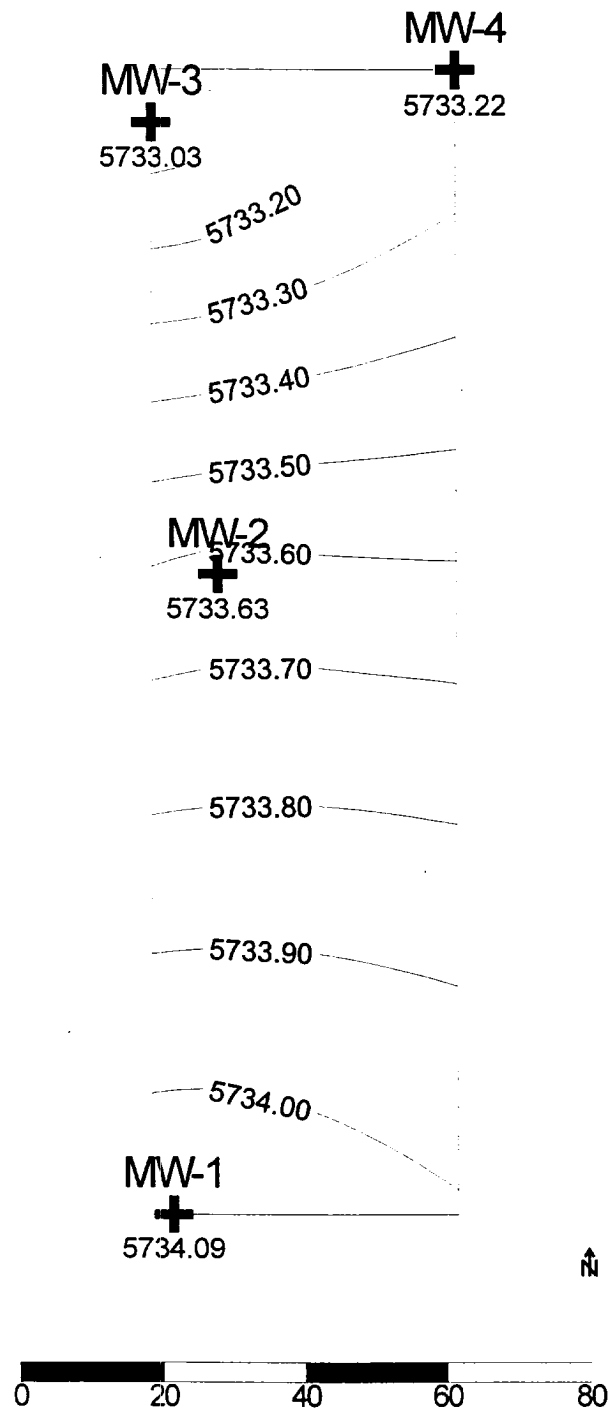


Figure 5.
Reid 16 Drip Groundwater Contour Map
(April 20, 1999)

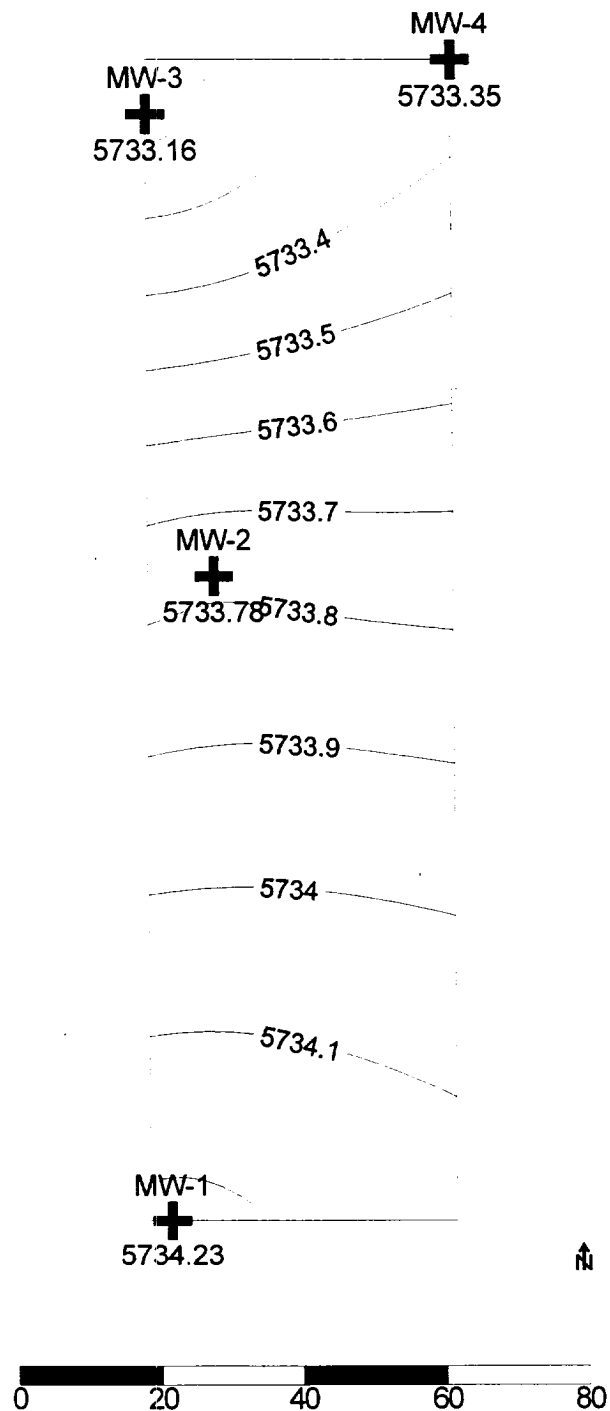


Figure 6.
Reid 16 Drip Groundwater Contour Map
(August 2, 1999)

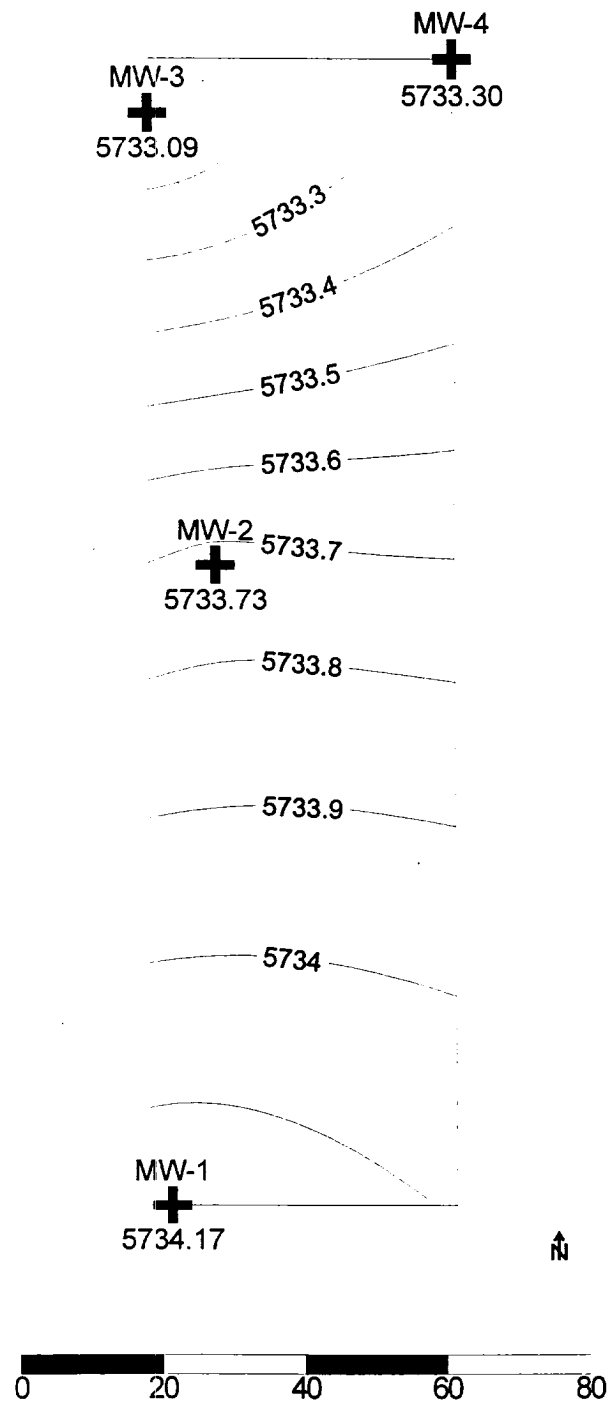
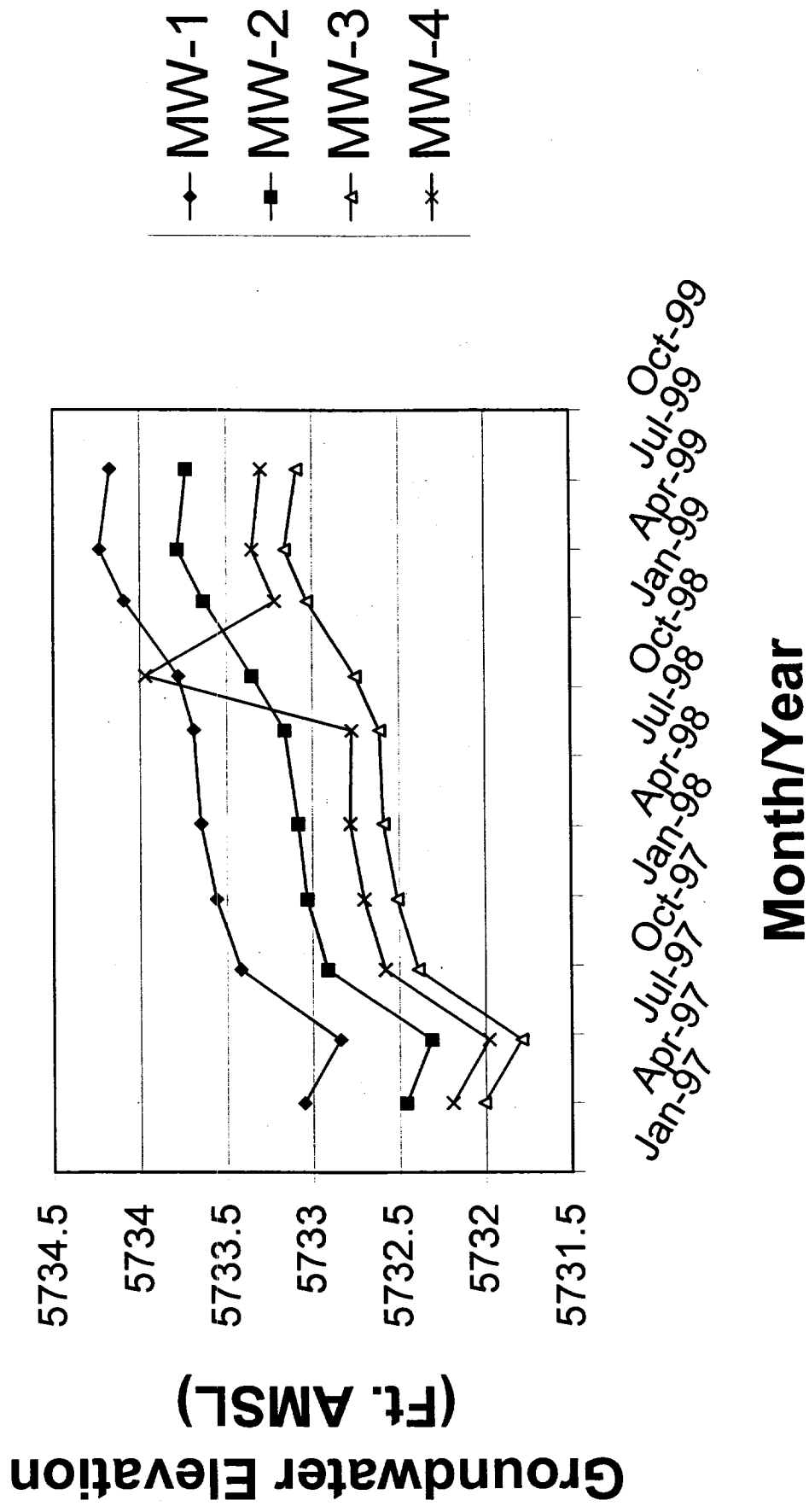


Figure 7. Reid 16 Drip Hydrograph



OFF: (505) 325-5667



LAB: (505) 325-1556

August 09, 1999

RECEIVED
AUG 12 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: Reid 16 Drip

Order No.: 9908002

Dear Maureen Gannon,

On Site Technologies, LTD. received 5 samples on 08/02/1999 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

Aromatic Volatiles by GC/PID (SW8021B)

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

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

Sincerely,

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

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 09-Aug-99

CLIENT: PNM - Public Service Company of NM

Project: Reid 16 Drip

Lab Order: 9908002

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 09-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9908002	Client Sample ID:	9908021450; MW-1
Lab ID:	9908002-01A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	08/02/1999 2:50:00 PM
		COC Record:	7779

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

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 09-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9908002	Client Sample ID:	9908021517; MW-2
Lab ID:	9908002-02A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	08/02/1999 3:17:00 PM
		COC Record:	7779

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	2.5		µg/L	5	08/05/1999
Toluene	ND	2.5		µg/L	5	08/05/1999
Ethylbenzene	17	2.5		µg/L	5	08/05/1999
m,p-Xylene	140	5		µg/L	5	08/05/1999
o-Xylene	12	2.5		µg/L	5	08/05/1999

Qualifiers:

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J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 09-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9908002	Client Sample ID:	9908021537; MW-3
Lab ID:	9908002-03A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	08/02/1999 3:37:00 PM
		COC Record:	7779

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
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 09-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9908002	Client Sample ID:	9908021554; MW-4
Lab ID:	9908002-04A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	08/02/1999 3:54:00 PM
		COC Record:	7779

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

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J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 09-Aug-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9908002	Client Sample ID:	9908021614; MW-5
Lab ID:	9908002-05A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	08/02/1999 4:14:00 PM
		COC Record:	7779

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	2.5		µg/L	5	08/05/1999
Toluene	ND	2.5		µg/L	5	08/05/1999
Ethylbenzene	16	2.5		µg/L	5	08/05/1999
m,p-Xylene	150	5		µg/L	5	08/05/1999
o-Xylene	14	2.5		µg/L	5	08/05/1999

Qualifiers:

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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

April 28, 1999

RECEIVED

MAY 03 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: Reid 16 Drip

Order No.: 9904039

Dear Maureen Gannon,

On Site Technologies, LTD. received 2 samples on 4/20/99 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 be "David Cox", written in a cursive style.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 28-Apr-99

CLIENT: PNM - Public Service Company of NM

Project: Reid 16 Drip

Lab Order: 9904039

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Apr-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9904039	Client Sample ID:	9904200830; MW 2
Lab ID:	9904039-01A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	4/20/99 8:30:00 AM
		COC Record:	7039

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	2.5		µg/L	5	4/26/99
Toluene	ND	2.5		µg/L	5	4/26/99
Ethylbenzene	25	2.5		µg/L	5	4/26/99
m,p-Xylene	320	5		µg/L	5	4/26/99
o-Xylene	26	2.5		µg/L	5	4/26/99

Qualifiers:

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Apr-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid 16 Drip
Work Order:	9904039	Client Sample ID:	9904200900; MW 5
Lab ID:	9904039-02A	Matrix:	AQUEOUS
Project:	Reid 16 Drip	Collection Date:	4/20/99 9:00:00 AM
		COC Record:	7039

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	2.5		µg/L	5	4/26/99
Toluene	ND	2.5		µg/L	5	4/26/99
Ethylbenzene	24	2.5		µg/L	5	4/26/99
m,p-Xylene	300	5		µg/L	5	4/26/99
o-Xylene	24	2.5		µg/L	5	4/26/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1



7039

Page: 7 of 7

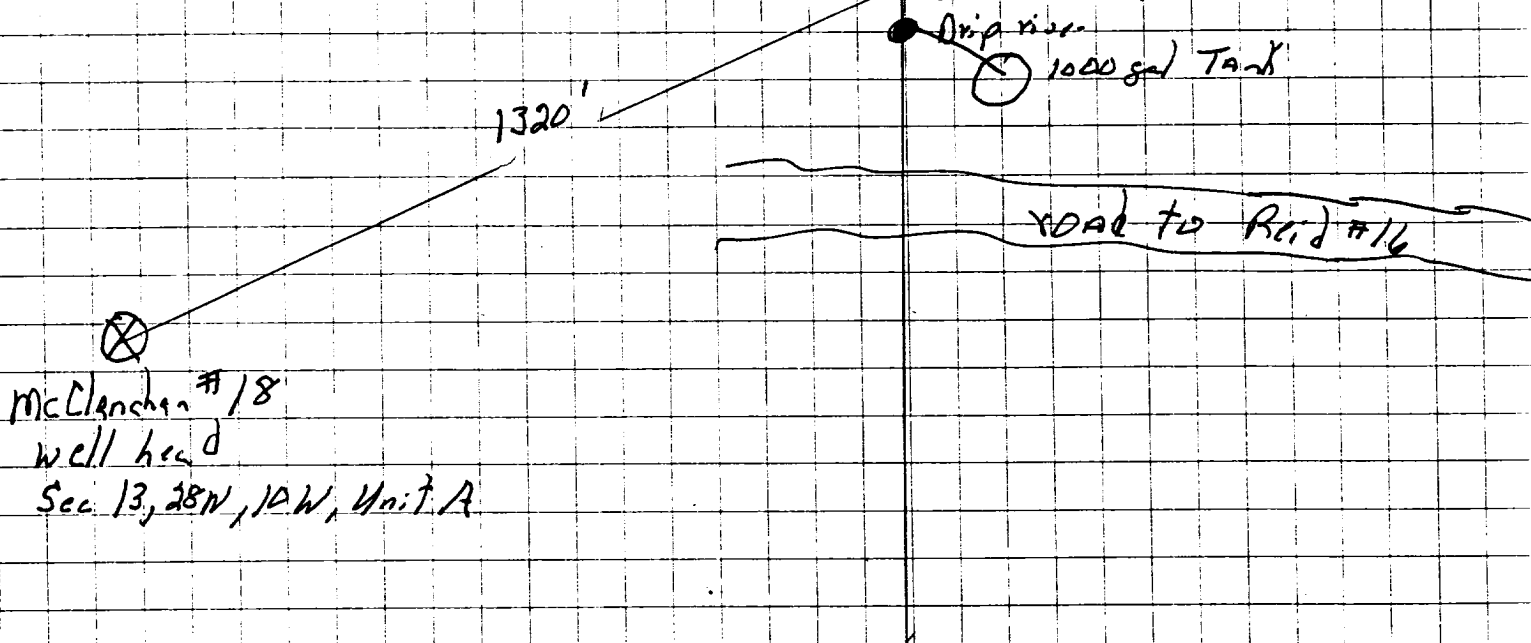
Date:

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

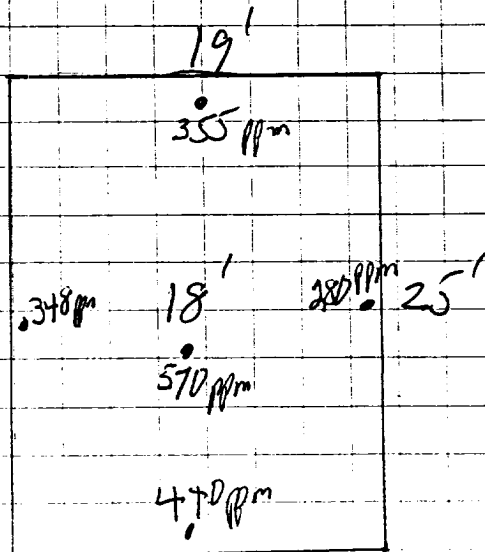
Distribution:	White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
---------------	-----------------	--------------	----------------	--------------------

Reid #16 Drip P.T.
Sec. 18 28, 9W

Excavated P.T.
19' x 25' x 18'



Excavated P.T.



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: *21-Aug-96*
COC No.: *4731*
Sample No. *11840*
Job No. *2-1000*

Project Name: *PNM Gas Services - Reid #16 Drip (West of Reid #16)*
Project Location: *9608201100; Pit Excavation Composite Sample*
Sampled by: *RH* Date: *20-Aug-96* Time: *11:00*
Analyzed by: *DC* Date: *21-Aug-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>109.7</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

DRO QC No.: 0489-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>100</i>	<i>107</i>	<i>7.2</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>101</i>	<i>(70-130)</i>	<i>10</i>	<i>20%</i>

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

Approved by: *Ja4*
Date: *8/21/96*

OFF: (505) 325-5667



LAB: (505) 325-1556

AROMATIC VOLATILE ORGANICS

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

Date: *21-Aug-96*
COC No.: *4731*
Sample No. *11840*
Job No. *2-1000*

Project Name: ***PNM Gas Services - Reid #16 Drip (West of Reid #16)***

Project Location: ***9608201100; Pit Excavation Composite Sample***

Sampled by: *RH* Date: *20-Aug-96* Time: *11:00*

Analyzed by: *DC* Date: *21-Aug-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>Benzene</i>	<i>476.1</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Toluene</i>	<i>21456.6</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>Ethylbenzene</i>	<i>3229.1</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>m,p-Xylene</i>	<i>55268.6</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
<i>o-Xylene</i>	<i>8416.9</i>	<i>ug/kg</i>	<i>0.2</i>	<i>ug/kg</i>
	<i>TOTAL</i>	<i>88847.4</i>		<i>ug/kg</i>

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

Approved by: *JCF*
Date: *8/21/96*

Reid # 16 Drip Pit

9-12-96

Meridian Oil

Sec. 16, 28 N, 9 W

Land Farm: McClanahan # 2)

Meridian Oil

Sec. 13, 28 N, 10 W

Composite sample # 9609121320 kept

Soil Vapor PID reading = 11.2 ppm

⊗

2"-12" depth
sand

φ	1.8	.96
.	.	.
2.1	6.1	1.0
.	.	.

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: *16-Sep-96*
COC No.: *5043*
Sample No. *12147*
Job No. *2-1000*

Project Name: *PNM Gas Services - Reid #16 Drip Pit Landfarm*
Project Location: *9609121320; 6pt. Composite, 2"-12" depth*
Sampled by: *GC* Date: *12-Sep-96* Time: *13:20*
Analyzed by: *DC* Date: *16-Sep-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>14.9</i>	<i>mg/kg</i>	<i>5.0</i>	<i>mg/kg</i>

Quality Assurance Report

DRO QC No.: 0489-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>100</i>	<i>109</i>	<i>9.1</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>91</i>	<i>81</i>	<i>(70-130)</i>	<i>8</i>	<i>20%</i>

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

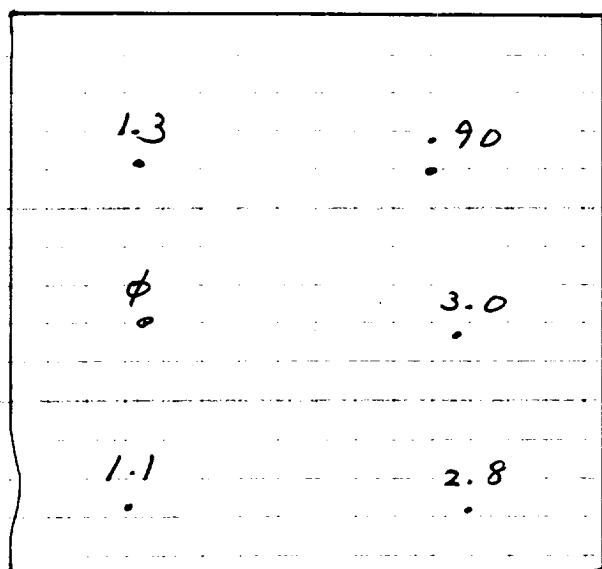
Approved by: *[Signature]*
Date: *9/16/96*

P.O. BOX 2606 • FARMINGTON, NM 87499

Reid #16 Drip
WFS

7/20/98

Landfarm: On location



300 yards

2"-12" depth

Soil vapor headspace = 7.8 ppm

980720 1630

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 28-Jul-98

CLIENT: PNM - Public Service Company of NM
Project: PNM Pit Remediation
Lab Order: 9807058

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Reid #16 Drip LF
Work Order:	9807058	Client Sample ID:	9807201630; 6pt. Comp.
Lab ID:	9807058-16A	Matrix:	SOIL
Project:	PNM Pit Remediation	Collection Date:	7/20/98 4:30:00 PM
		COC Record:	7389

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/28/98
BTEX		SW8020A				Analyst: DC
Benzene	ND	1		µg/Kg	1	7/22/98
Toluene	ND	2		µg/Kg	1	7/22/98
Ethylbenzene	ND	1		µg/Kg	1	7/22/98
m,p-Xylene	ND	2		µg/Kg	1	7/22/98
o-Xylene	ND	1		µg/Kg	1	7/22/98

Handwritten: $\frac{1}{10000}$ ppm

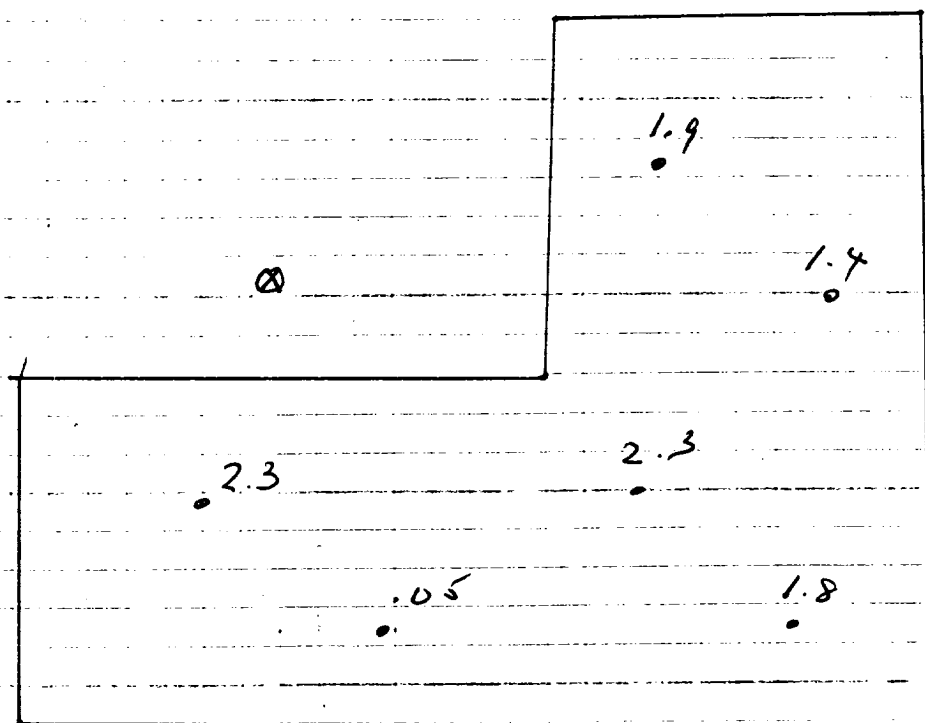
Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected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

1 of 1

Reid # 16 Drig
WFS
Sec. 13, 28N, 10W

7/26/98

Land farm = MC Clewahan #21
BR
Sec. 13, 28N, 10W



2"-12" depth

soil vapor headspace = 5.7 ppm

9807281000

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 04-Aug-98

CLIENT: PNM - Public Service Company of NM
Project: PNM Pit Remediation
Lab Order: 9807076

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 04-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	McClanahan #21
Work Order:	9807076	Client Sample ID:	907281000; 6pt. Comp
Lab ID:	9807076-01A	Matrix:	SOIL
Project:	Reid #16 Drip Landfarm	Collection Date:	7/28/98 10:00:00 AM
		COC Record:	7327

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	7/30/98

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1