

3R - 321

REPORTS

DATE:

1999

Public Service Company
of New Mexico
Alvarado Square MS 0408
Albuquerque, NM 87158

RECEIVED

April 5, 1999

APR 07 1999

Mr. William Olson
Hydrogeologist
Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



RE: 1999 SAN JUAN BASIN ANNUAL GROUNDWATER REPORT

Dear Bill:

PNM is pleased to submit the 1999 Annual Groundwater Report on Unlined Surface Impoundments in the San Juan Basin. Pursuant to PNM's Groundwater Management Program for Unlined Surface Impoundment Closures, the report details the ongoing investigation/remedial activities at unlined surface impoundments having groundwater contamination as identified by PNM. A list of groundwater sites reported in this document is provided below.

Blanco Wash Drip	Mangum 1E
Davis 1	McClanahan 22
Dogie East Pit	McClanahan A 2E
Dogie North Pit	McCoy Gas Com A1
Florance 124	Miles Federal 1E Drip
Florance 32A	O' Shea 1M
Florance 40	Patterson A Com A1
Florance 44	Pritchard 2
Florance M 47X	Randleman 1
Hampton 4M	Reid 16 Drip
Honolulu Drip	Turner 1A
Ice Canyon Drip	Wilmerding 1M
Jacques 2A	Zachry 18E
Jicarilla Contract 147-6	
Linda 1A	

Consistent with PNM's San Juan Basin Groundwater Management Plan, PNM will request closure of four of the above sites, the Florance 32A, Jacques 2A, Mangum 1E and the McClanahan A2E, with the submittal of the 1st Quarter 1999 Pit Closures Report. This request is based upon the analytical data collected over the last two years at each of the sites. BTEX concentrations have been consistently below WQCC standards for four consecutive quarters.

Upon approval of the groundwater closure report, PNM will plug and abandon all of the groundwater monitoring wells at each of the locations. 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

Bill Olson
04/05/99
Page 2

with cement containing 5% bentonite. If you have any questions regarding the contents of the report, please contact me at (505) 241-2974.

Sincerely,

A handwritten signature in cursive script, appearing to read "Maureen Gannon", with a long horizontal flourish extending to the right.

Maureen Gannon
Project Manager

Enclosure

cc: Colin Adams, Esq.
Ingrid Deklau, WFS
Denny Foust, OCD-Aztec Office
Ron Johnson
Mark Sikelianos
Bill VonDrehle, WFS



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APR 07 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION



Annual

Greenhouse Report

1999

Volume II

***Unlined Surface Impoundments
San Juan Basin***



Groundwater Site Summary Report

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

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

Operator: WFS

Sec: 15 Twn: 26N Rng: 4 Unit: B

Canyon: Tapecito

Vulnerable Class: Environmentally Sensitive

OCD Ranking: 40

Lead Agency: NMOCD/JAEPO

Topo Map: previously submitted

Well Completion Diagram: previously submitted

Site Map with Analysis: Figure 1

Soil Remediation Map with Benzene Concentrations: Figure 1a

Groundwater Contour Maps: Figure 2a (May 1998), Figure 2b (July 1998) and Figure 2c (February 1999)

Groundwater Hydrograph: Figure 3

Analytical Results: Attached

Site Hydrology:

The Honolulu Drip site is located on the southern edge of Tapecito Wash. Tapecito is a tributary to Largo Canyon, in the far southeast part of its drainage area. The site lies at an elevation of about 7000 ft. amsl. The valley floor of Tapecito Wash is just north and northwest of the site. Elevations drop towards the southwest, along the valley floor.

In general, materials beneath the site are silty, fine sands. The depth to water is about seven feet. On the south part of the site, elevations rise abruptly as the topography ascends a terrace level. Groundwater flow has been towards the southwest, parallel to the course of Tapecito Wash. The hydrograph, Figure 3, shows seasonal water level variations are on the order of 2 feet or more.

Activities for Previous Year:

PNM conducted quarterly groundwater sampling on May 19, July 23, 1998, and again on February 11, 1999. Prior to sampling, water level measurements were taken in each of the monitor wells. Samples from all wells were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020. Sampling was performed in strict compliance with EPA protocol. PNM delivered the samples to OnSite Technologies, Farmington, New Mexico.

During the month of December, 1998, extensive source remediation was conducted at the Honolulu Loop Line Drip site. Approximately 1800 cubic yards of contaminated soil were remediated along the southern portion of the Tapecito Wash, east and west of Williams Field Service' pipeline (Figure 1a). In the process, monitor wells, MW-2, -3, -4, -6, -9 and -10, were removed. On February 1, 1999, three new monitor wells were installed at the site (MW-11, -12 and -13). The wells were placed to provide adequate coverage to the east and northeast, and in the vicinity of former well MW-6, which has historically contained the highest benzene concentrations.

Results:

Figure 1 is a site map of the Honolulu Loop Line Drip and includes groundwater analytical results as an attachment. For the past three quarter, benzene concentrations in MW-5 have increased and are above WQCC standards. Concentrations of benzene in well, MW-7, have increased to above the standard during the previous quarter. PNM believes that with the recent additional remediation, contaminant levels in these wells will begin to decrease within the next few quarterly monitoring events. Results in monitor wells MW-12 and MW-13 also contain elevated contaminant levels. However, given the previous presence of free product and very high BTEX concentrations in the vicinity of MW-12, the results appear quite favorable.

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: Honolulu Loop Line Drip

Future Actions:

PNM will continue to monitor the Honolulu Loop Line Drip to determine if the remediation at the site was effective and whether or not natural attenuation is presently occurring.

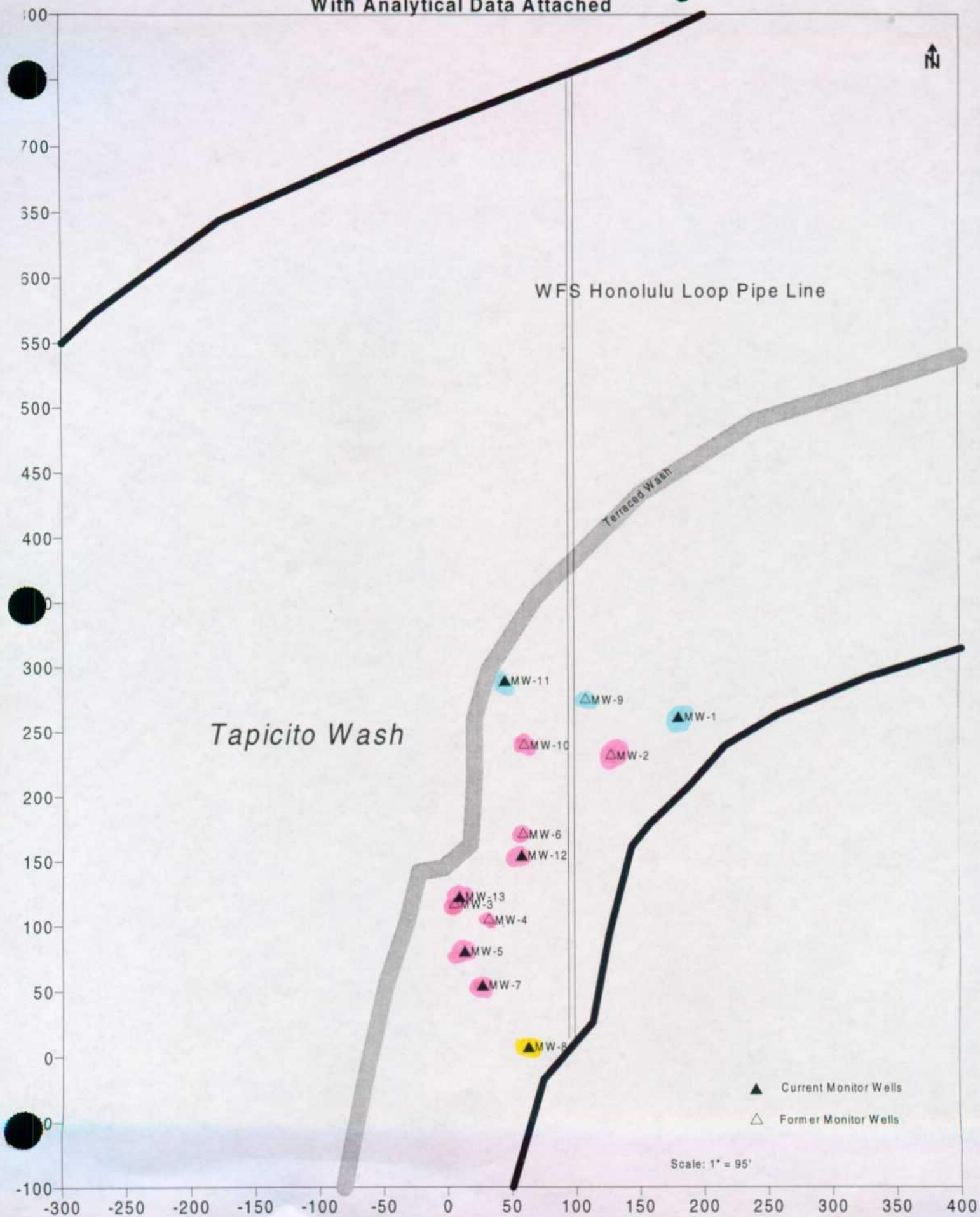
Public Service Company of New Mexico - Gas Services

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

Contact: Maureen Gannon

Telephone: 505-241-2974

Figure 1.
 Honolulu Loop Line Drip Site Map
 With Analytical Data Attached



Attachment to Figure 1. (Concentration in ppb)

MW-1	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98	11-Feb-99
B	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
T	<0.2	<0.2	<0.2	<0.2	0.7	<0.5	<0.5	<0.5
E	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
X	<0.2	0.8	<0.2	<0.2	1.6	<1.5	<1.5	<1.5

MW-2	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98
B	243.6	37.5	72.7	3.7	2.2	4.4	98
T	194.2	5.1	8.3	3.0	2.2	3	<0.5
E	107.0	27.8	15.9	6.5	6.1	7.	22
X	946.3	91.0	59.9	25.0	20.2	26	48

MW-3	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98
B	5326	3989	81.1	423	2200	2700	250
T	533	1678	0.5	<0.2	<2.5	<5	<0.5
E	44	103	1.0	11.0	65	99	11
X	2161	812	9.0	80.3	433	620	69

MW-4	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-9	23-Jul-98
B		889		62	96	62	22
T		3697		90	370	55	<0.5
E		249		56	75	85	59
X		2007		412	660	415	258

MW-5	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98	11-Feb-99
B	3.0	352	33.2	<0.2	<0.5	510	89.0	430
T	0.2	<1	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5
E	<0.2	<1	<0.2	<0.2	<0.5	<0.5	<0.5	0.6
X	<0.2	<1	<0.2	<0.2	<1.5	<1.5	<1.5	<1.5

MW-6	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98
B	18386	16434	16309	15061	15000	11000	8200
T	12030	9791	4531	1526	1000	54	130
E	460	714	588	520	490	620	480
X	7033	7841	6554	5412	5100	7400	5600

MW-7	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98	11-Feb-99
B	<0.2	68.0	<0.2	0.6	15	58	4	21
T	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	0.7	20
E	<0.2	<0.2	<0.2	<0.2	<0.5	0.5	4.6	<0.5
X	<0.2	<0.2	<0.2	<0.2	<1.5	1.8	14	1.5

MW-8	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98	11-Feb-99
B	282	289	<0.2	<0.2	7.5	<0.5	1.4	<5
T	13	12	5.1	7.4	11	8.5	7.8	370
E	7	94	29.7	36.8	52	42	28	<5
X	188	554	194.4	253.1	353	280	206	<15

MW-9	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98
B		<0.2	<0.2	<0.2	<0.5	<0.5	<0.5
T		0.7	0.3	0.2	0.7	<0.5	<0.5
E		<0.2	<0.2	<0.2	<0.5	<0.5	<0.5
X		0.4	<0.2	<0.2	1.3	<1.5	<1.5

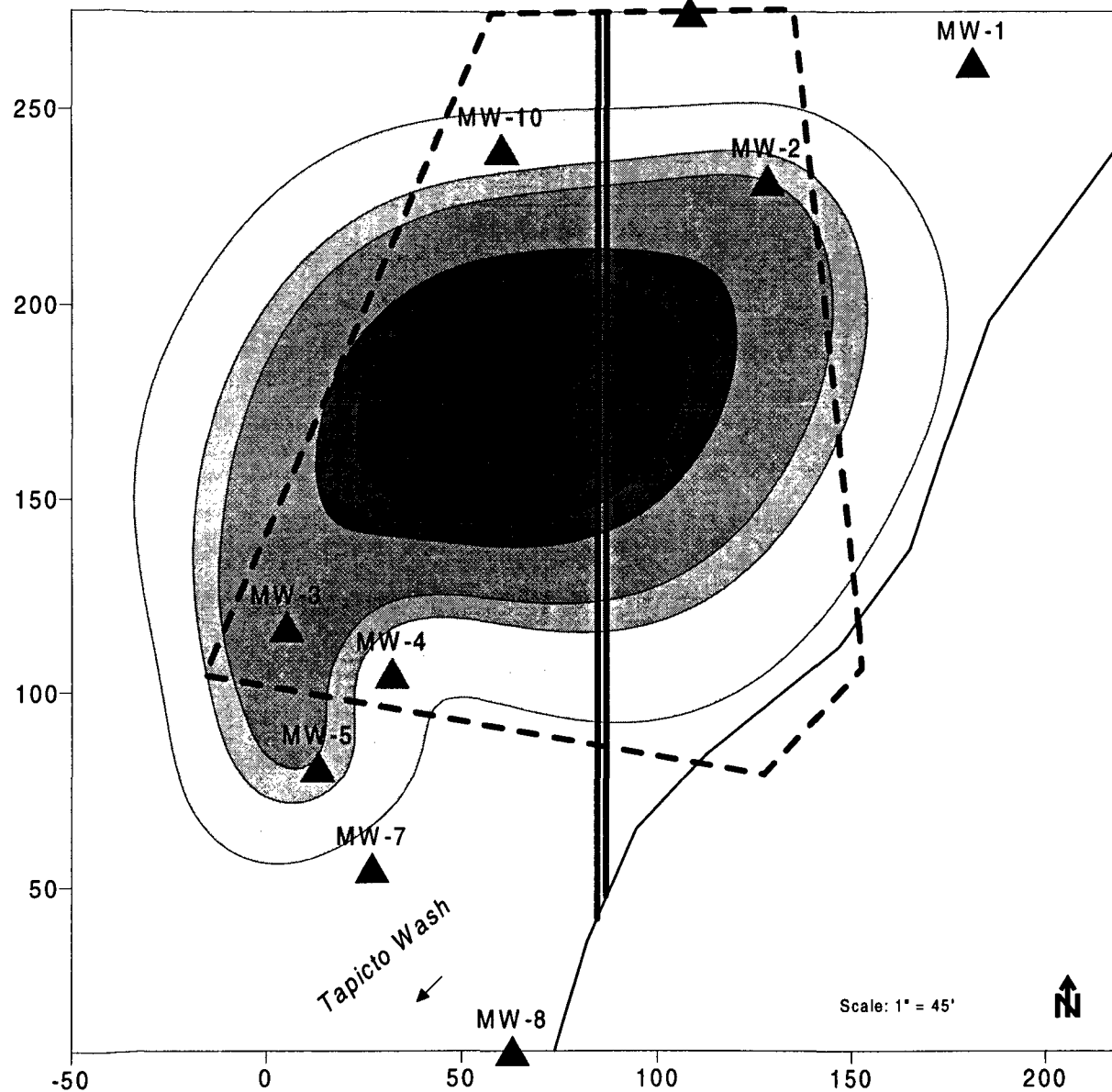
MW-10	7-Mar-97	4-Jun-97	18-Sep-97	15-Dec-97	9-Feb-98	19-May-98	23-Jul-98
B		352	38.4	87.9	1.3	260	26
T		5	3.4	2.5	3.5	3.5	2.3
E		4	0.8	3.0	2.7	3.0	1.7
X		2	<0.2	4.7	<1.5	<1.5	<1.5

MW-11	11-Feb-99
B	<2.5
T	<2.5
E	<2.5
X	<7.5

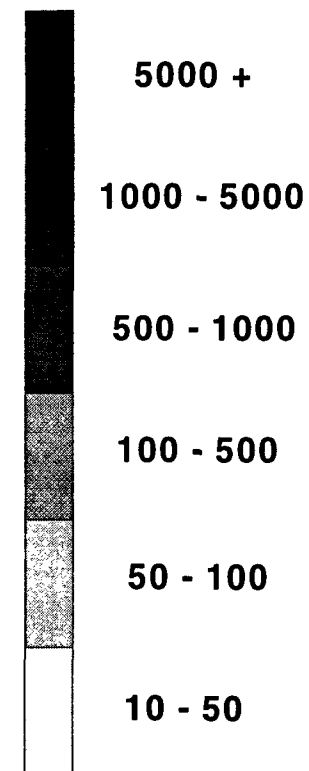
MW-12	11-Feb-99
B	110
T	3.2
E	22
X	196

MW-13	11-Feb-99
B	230
T	140
E	18
X	178

Figure 1a.
Honolulu Loop-line Drip South End of Pipeline
Soil Remediation Performed December, 1999
Monitor Wells: MW-2, MW-3, MW-4, MW6, MW-9 & MW-10 Removed



**Benzene Concentrations
in Groundwater (ppb)
July 1998**



--- Area Remediated
— WFS Pipeline
MW - Monitor Well

Figure 2a.
Honolulu Loop-line Drip Groundwater Contour Map
(May 19, 1998)

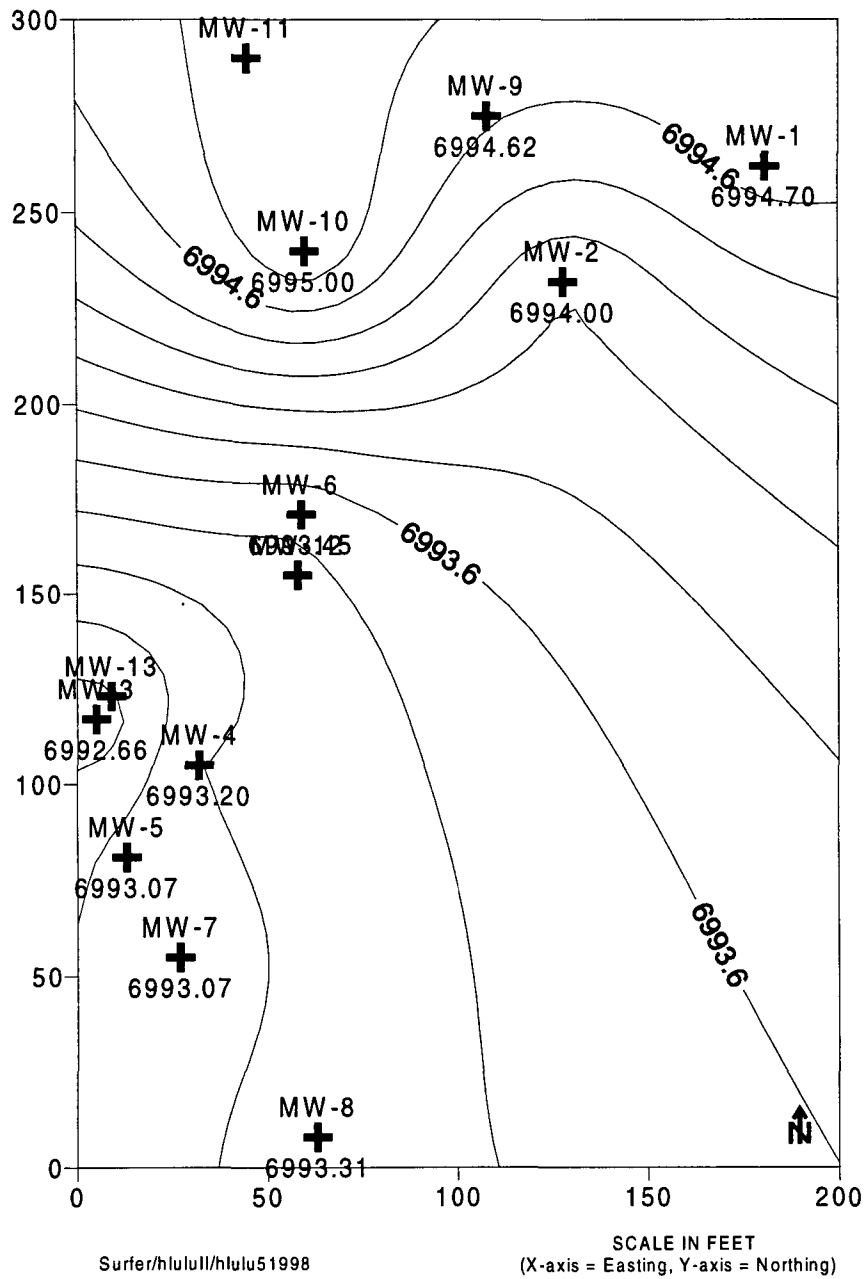


Figure2b.
Honolulu Loop-line Drip Groundwater Contour Map
(July 23, 1998)

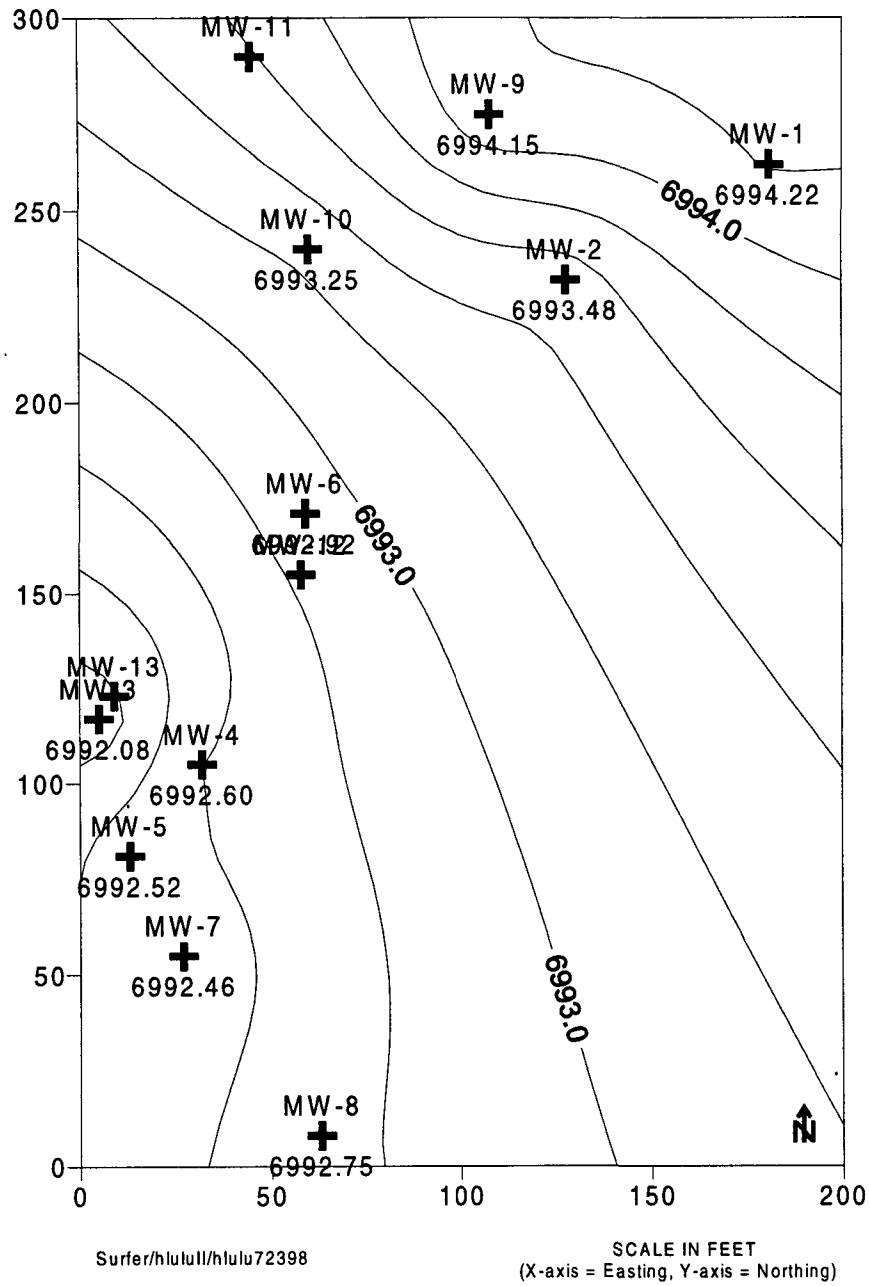


Figure 2c.
Honolulu Loop-line Drip Groundwater Contour Map
(February 11, 1999)

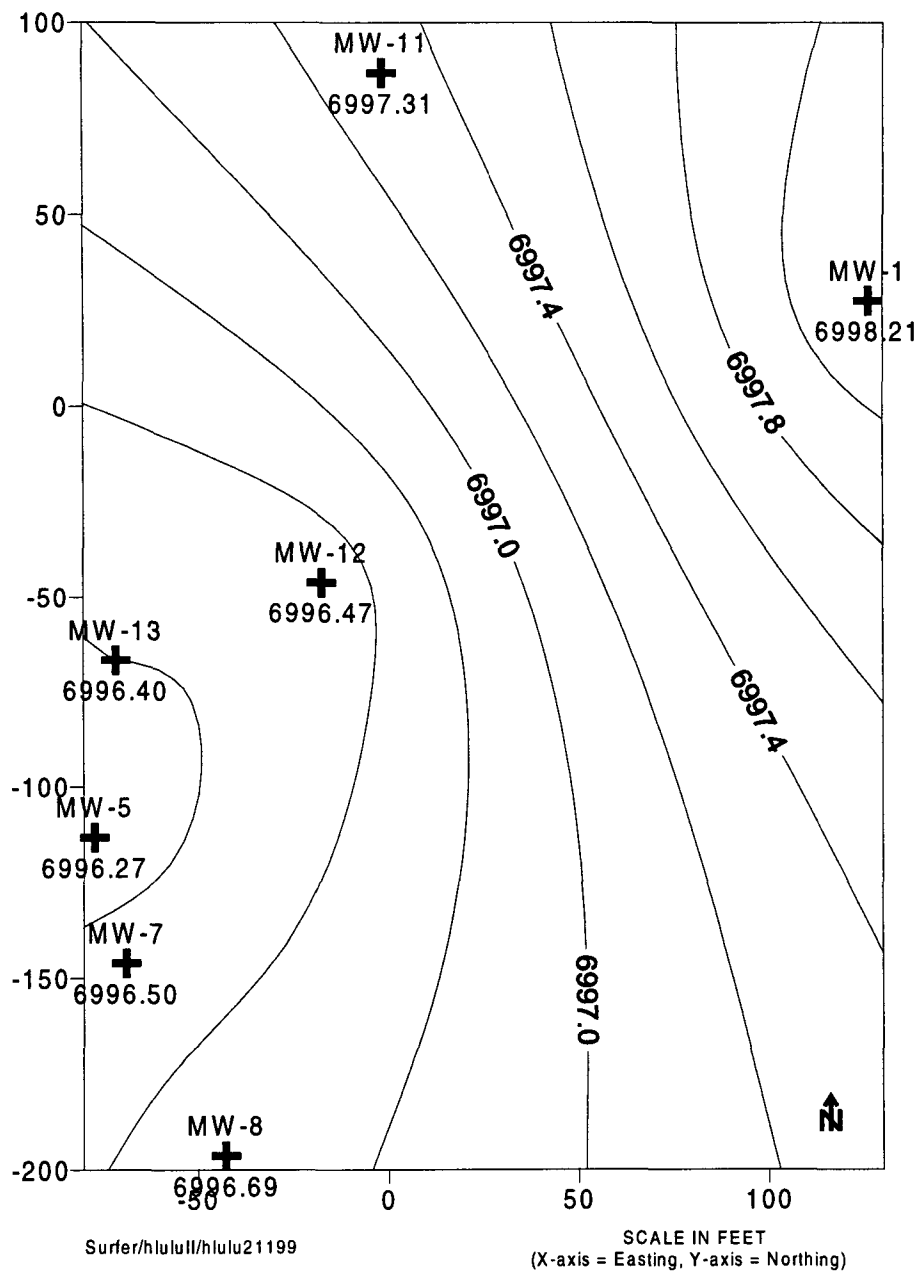
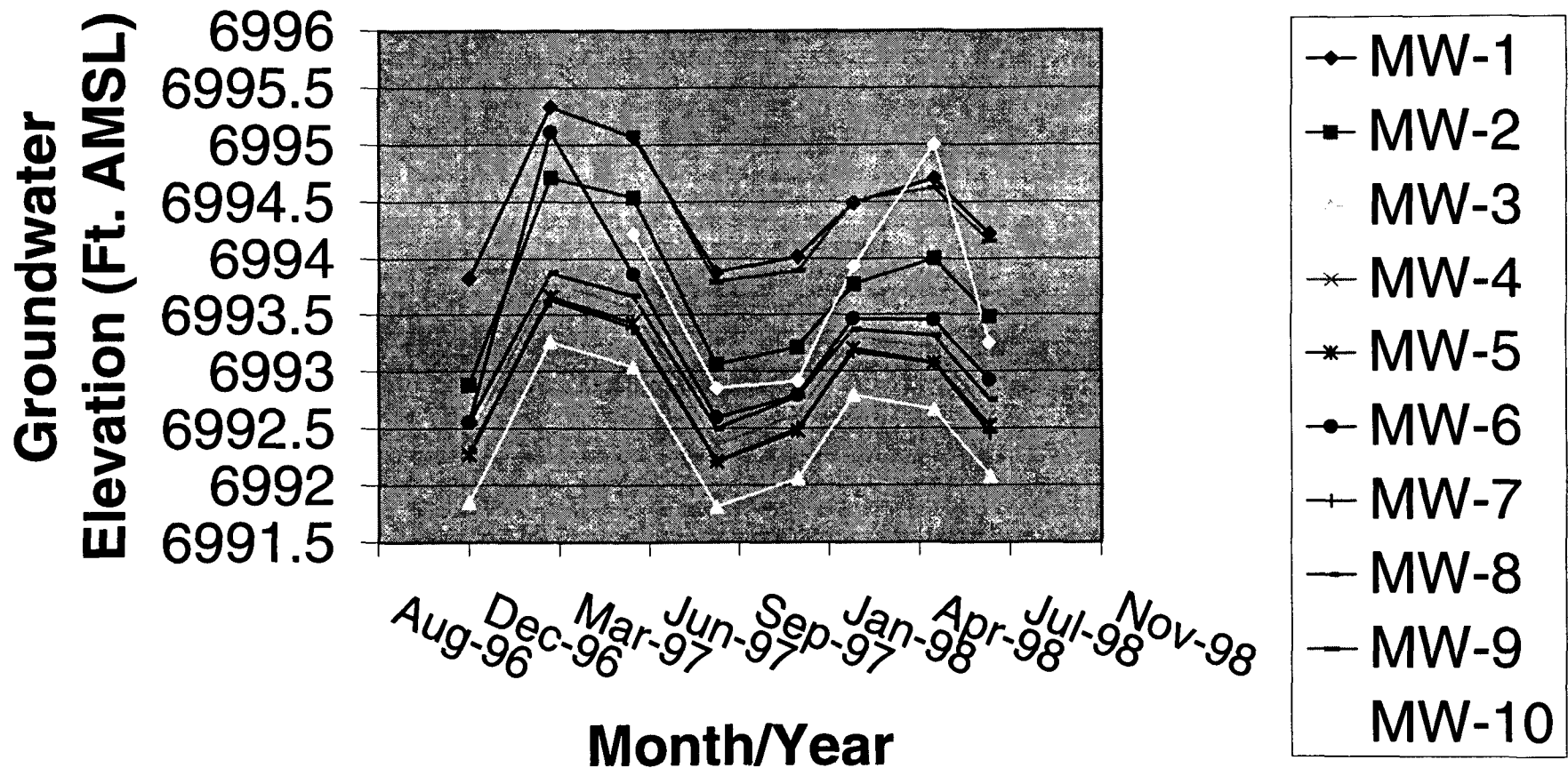


Figure 3. Honolulu Loop Line Drip Hydrograph



OFF: (505) 325-5667



LAB: (505) 325-1556

May 29, 1998

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

2nd Quarter 98

RE: Honolulu Loop Drip

Order No.: 9805062

Dear Maureen Gannon,

On Site Technologies, LTD. received 11 samples on 5/20/98 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

LAB: (505) 325-1556

ON SITE
TECHNOLOGIES, LTD.

On Site Technologies, LTD.

Date: 29-May-98

CLIENT: PNM - Public Service Company of NM

Project: Honolulu Loop Drip

Lab Order: 9805062

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

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191219; MW-1
Lab ID:	9805062-01A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 12:19:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	5/27/98
Toluene	ND	0.5		µg/L	1	5/27/98
Ethylbenzene	ND	0.5		µg/L	1	5/27/98
m,p-Xylene	ND	1		µg/L	1	5/27/98
o-Xylene	ND	0.5		µg/L	1	5/27/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191300; MW-2
Lab ID:	9805062-02A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 1:00:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	4.4	0.5		µg/L	1	5/27/98
Toluene	3	0.5		µg/L	1	5/27/98
Ethylbenzene	7.3	0.5		µg/L	1	5/27/98
m,p-Xylene	22	1		µg/L	1	5/27/98
o-Xylene	3.5	0.5		µg/L	1	5/27/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191327; MW-3
Lab ID:	9805062-03A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 1:27:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Toluene	ND	5		µg/L	10	5/27/98
Ethylbenzene	99	5		µg/L	10	5/27/98
m,p-Xylene	620	10		µg/L	10	5/27/98
o-Xylene	ND	5		µg/L	10	5/27/98
BTEX		SW8020A				Analyst: HR
Benzene	2700	10		µg/L	20	5/28/98

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

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OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191351; MW-4
Lab ID:	9805062-04A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 1:51:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	62	2.5		µg/L	5	5/27/98
Toluene	55	2.5		µg/L	5	5/27/98
Ethylbenzene	85	2.5		µg/L	5	5/27/98
m,p-Xylene	410	5		µg/L	5	5/27/98
o-Xylene	4.8	2.5		µg/L	5	5/27/98

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

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OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191417; MW-5
Lab ID:	9805062-05A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 2:17:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Toluene	ND	0.5		µg/L	1	5/27/98
Ethylbenzene	ND	0.5		µg/L	1	5/27/98
m,p-Xylene	ND	1		µg/L	1	5/27/98
o-Xylene	ND	0.5		µg/L	1	5/27/98
BTEX		SW8020A				Analyst: HR
Benzene	510	5		µg/L	10	5/28/98

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191448; MW-6
Lab ID:	9805062-06A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 2:48:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	11000	50		µg/L	100	5/27/98
Toluene	54	50		µg/L	100	5/27/98
Ethylbenzene	620	50		µg/L	100	5/27/98
m,p-Xylene	5800	100		µg/L	100	5/27/98
o-Xylene	1600	50		µg/L	100	5/27/98

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

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OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191510; MW-7
Lab ID:	9805062-07A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 3:10:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	58	0.5		µg/L	1	5/27/98
Toluene	ND	0.5		µg/L	1	5/27/98
Ethylbenzene	0.5	0.5		µg/L	1	5/27/98
m,p-Xylene	1.2	1		µg/L	1	5/27/98
o-Xylene	0.6	0.5		µg/L	1	5/27/98

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

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ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191538; MW-8
Lab ID:	9805062-08A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 3:38:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	5/27/98
Toluene	8.5	0.5		µg/L	1	5/27/98
Ethylbenzene	42	0.5		µg/L	1	5/27/98
m,p-Xylene	240	1		µg/L	1	5/27/98
o-Xylene	40	0.5		µg/L	1	5/27/98

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191558; MW-9
Lab ID:	9805062-09A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 3:58:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	5/27/98
Toluene	ND	0.5		µg/L	1	5/27/98
Ethylbenzene	ND	0.5		µg/L	1	5/27/98
m,p-Xylene	ND	1		µg/L	1	5/27/98
o-Xylene	ND	0.5		µg/L	1	5/27/98

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667

ON SITE

TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191617; MW-10
Lab ID:	9805062-10A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 4:17:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Toluene	3.5	0.5		µg/L	1	5/27/98
Ethylbenzene	3	0.5		µg/L	1	5/27/98
m,p-Xylene	ND	1		µg/L	1	5/27/98
o-Xylene	ND	0.5		µg/L	1	5/27/98
BTEX		SW8020A				Analyst: HR
Benzene	260	2.5		µg/L	5	5/28/98

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 29-May-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop Drip
Work Order:	9805062	Client Sample ID:	9805191637; MW-11
Lab ID:	9805062-11A	Matrix:	AQUEOUS
Project:	Honolulu Loop Drip	Collection Date:	5/19/98 4:37:00 PM
		COC Record:	7254

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: DC
Benzene	ND	0.5		µg/L	1	5/27/98
Toluene	7.8	0.5		µg/L	1	5/27/98
Ethylbenzene	43	0.5		µg/L	1	5/27/98
m,p-Xylene	250	1		µg/L	1	5/27/98
o-Xylene	43	0.5		µg/L	1	5/27/98

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 29-May-98

CLIENT: PNM - Public Service Company of NM
 Work Order: 9805062
 Project: Honolulu Loop Drip

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980527	Test Code: SW8020A	Units: µg/L	Analysis Date 5/27/98	Prep Date:						
Client ID:	9805062	Run ID: GC-1_980527A		SeqNo: 2477							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0437	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	.1041	1									J
Methyl tert-Butyl Ether	.0825	1									J
o-Xylene	ND	0.5									
Toluene	.1197	0.5									J

Sample ID: MB1	Batch ID: GC-1_980528	Test Code: SW8020A	Units: µg/L	Analysis Date 5/28/98	Prep Date:						
Client ID:	9805062	Run ID: GC-1_980528A		SeqNo: 2503							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0626	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	.1027	1									J
o-Xylene	ND	0.5									
Toluene	.1758	0.5									J

Limit
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: 29-May-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9805054-04AMS	Batch ID: GC-1_980527	Test Code: SW8020A	Units: µg/L			Analysis Date 5/27/98			Prep Date:		
Client ID:	9805062	Run ID:	GC-1_980527A			SeqNo:	2478				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1141	5	400	781.3	89.9%	56	128				
Ethylbenzene	743.8	5	400	377.3	91.6%	78	107				
m,p-Xylene	749.2	10	800	8.227	92.6%	67	118				
Methyl tert-Butyl Ether	709	10	400	357.3	87.9%	70	130				
o-Xylene	390.3	5	400	1.314	97.2%	78	107				
Toluene	389.1	5	400	4.545	96.1%	74	116				

Sample ID: 9805054-04AMSD	Batch ID: GC-1_980527	Test Code: SW8020A	Units: µg/L	Analysis Date 5/27/98					Prep Date:		
Client ID:	9805062	Run ID:	GC-1_980527A	SeqNo: 2479							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1137	5	400	781.3	88.9%	56	128	1141	0.3%	12	
Ethylbenzene	741.4	5	400	377.3	91.0%	78	107	743.8	0.3%	11	
m,p-Xylene	747.5	10	800	8.227	92.4%	67	118	749.2	0.2%	10	
Methyl tert-Butyl Ether	760.4	10	400	357.3	100.8%	70	130	709	7.0%	15	
o-Xylene	390.8	5	400	1.314	97.4%	78	107	390.3	0.1%	14	
Toluene	387.9	5	400	4.545	95.9%	74	116	389.1	0.3%	14	

Sample ID: 9805064-02AMS	Batch ID: GC-1_980528	Test Code: SW8020A	Units: µg/L	Analysis Date 5/28/98				Prep Date:			
Client ID:	9805062	Run ID:	GC-1_980528A	SeqNo: 2504							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	165.2	12	100	58	107.2%	56	128				
Ethylbenzene	119.5	12	100	11	108.5% <i>ND</i>	78	107				S
m,p-Xylene	239.5	25	200	29	105.3%	67	118				
o-Xylene	109.9	12	100	0.9	109.0% <i>ND</i>	78	107				S
Toluene	122.2	12	100	15	107.2%	74	116				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: 9805064-02AMSD		Batch ID: GC-1_980528		Test Code: SW8020A		Units: µg/L		Analysis Date 5/28/98			Prep Date:	
Client ID:		9805062		Run ID:		GC-1_980528A		SeqNo: 2505				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	161	12	100	58	103.1%	56	128	165.2	2.6%	12		
Ethylbenzene	117.7	12	100	11	106.7%	78	107	119.5	1.5%	11		
m,p-Xylene	235.8	25	200	29	103.4%	67	118	239.5	1.6%	10		
o-Xylene	109.6	12	100	0.9	108.7% (m)	78	107	109.9	0.3%	14	S	
Toluene	119	12	100	15	104.0%	74	116	122.2	2.6%	14		

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: 29-May-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: GC-1_980527	Test Code: SW8020A	Units: µg/L	Analysis Date: 5/27/98	Prep Date:						
Client ID:	9805062	Run ID: GC-1_980527A		SeqNo: 2476							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.46	0.5	40	0.0437	101.0%	56	128				
Ethylbenzene	40.66	0.5	40	0	101.6%	78	107				
m,p-Xylene	78.3	1	80	0.1041	97.8%	67	118				
Methyl tert-Butyl Ether	41.11	1	40	0.0825	102.6%	70	130				
o-Xylene	40.5	0.5	40	0	101.2%	78	107				
Toluene	40.34	0.5	40	0.1197	100.6%	74	116				

Sample ID: LCS	Batch ID: GC-1_980528	Test Code: SW8020A	Units: µg/L	Analysis Date: 5/28/98	Prep Date:						
Client ID:	9805062	Run ID: GC-1_980528A		SeqNo: 2502							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43.02	0.5	40	0.0626	107.4%	56	128				
Ethylbenzene	43.08	0.5	40	0	107.7% <i>W</i>	78	107				S
m,p-Xylene	82.61	1	80	0.1027	103.1%	67	118				
o-Xylene	42.73	0.5	40	0	106.8%	78	107				
Toluene	42.63	0.5	40	0.1758	106.1%	74	116				

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: 29-May-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0529/30		Batch ID: GC-1_980527	Test Code: SW8020A		Units: µg/L	Analysis Date 5/27/98			Prep Date:		
Client ID: 9805062		Run ID: GC-1_980527A				SeqNo: 2473					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.17	0.5	20	0	105.8%	85	115				
Ethylbenzene	21.45	0.5	20	0	107.2%	85	115				
m,p-Xylene	40.94	1	40	0	102.3%	85	115				
Methyl tert-Butyl Ether	21.44	1	20	0	107.2%	85	115				
o-Xylene	21.13	0.5	20	0	105.7%	85	115				
Toluene	21.17	0.5	20	0	105.9%	85	115				
1,4-Difluorobenzene	92.03	0	100	0	92.0%	70	130				
4-Bromochlorobenzene	87.06	0	100	0	87.1%	70	130				
Fluorobenzene	91.82	0	100	0	91.8%	70	130				

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980527	Test Code: SW8020A		Units: µg/L	Analysis Date 5/27/98			Prep Date:		
Client ID: 9805062		Run ID: GC-1_980527A				SeqNo: 2474					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.48	0.5	20	0	102.4%	85	115				
Ethylbenzene	20.64	0.5	20	0	103.2%	85	115				
m,p-Xylene	39.75	1	40	0	99.4%	85	115				
Methyl tert-Butyl Ether	19.41	1	20	0	97.1%	85	115				
o-Xylene	21.06	0.5	20	0	105.3%	85	115				
Toluene	20.6	0.5	20	0	103.0%	85	115				
1,4-Difluorobenzene	92.49	0	100	0	92.5%	70	130				
4-Bromochlorobenzene	85.5	0	100	0	85.5%	70	130				
Fluorobenzene	91.41	0	100	0	91.4%	70	130				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980527		Test Code: SW8020A		Units: µg/L		Analysis Date 5/27/98		Prep Date:	
Client ID:		9805062		Run ID:		GC-1_980527A		SeqNo: 2475			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.41	0.5	20	0	102.1%	85	115				
Ethylbenzene	20.57	0.5	20	0	102.9%	85	115				
m,p-Xylene	39.2	1	40	0	98.0%	85	115				
Methyl tert-Butyl Ether	21.36	1	20	0	106.8%	85	115				
o-Xylene	20.46	0.5	20	0	102.3%	85	115				
Toluene	20.35	0.5	20	0	101.7%	85	115				
1,4-Difluorobenzene	92.82	0	100	0	92.8%	70	130				
4-Bromochlorobenzene	90.06	0	100	0	90.1%	70	130				
Fluorobenzene	91.93	0	100	0	91.9%	70	130				

Sample ID: CCV1 QC0529/30	Batch ID: GC-1_980528	Test Code: SW8020A	Units: µg/L			Analysis Date 5/28/98			Prep Date:		
Client ID:	9805062	Run ID:	GC-1_980528A			SeqNo:		2499			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.8	0.5	20	0	109.0%	85	115				
Ethylbenzene	21.96	0.5	20	0	109.8%	85	115				
m,p-Xylene	41.88	1	40	0	104.7%	85	115				
o-Xylene	21.65	0.5	20	0	108.2%	85	115				
Toluene	21.72	0.5	20	0	108.6%	85	115				
1,4-Difluorobenzene	91.91	0	100	0	91.9%	70	130				
4-Bromochlorobenzene	88.8	0	100	0	88.8%	70	130				
Fluorobenzene	91.37	0	100	0	91.4%	70	130				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0529/30		Batch ID: GC-1_980528		Test Code: SW8020A		Units: µg/L		Analysis Date 5/28/98		Prep Date:	
Client ID: 9805062		Run ID: GC-1_980528A				SeqNo: 2500					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.8	0.5	20	0	104.0%	85	115				
Ethylbenzene	21.06	0.5	20	0	105.3%	85	115				
m,p-Xylene	40.16	1	40	0	100.4%	85	115				
o-Xylene	20.86	0.5	20	0	104.3%	85	115				
Toluene	20.88	0.5	20	0	104.4%	85	115				
1,4-Difluorobenzene	92.07	0	100	0	92.1%	70	130				
4-Bromochlorobenzene	85.01	0	100	0	85.0%	70	130				
Fluorobenzene	90.86	0	100	0	90.9%	70	130				

Sample ID: CCV3 QC0529/30		Batch ID: GC-1_980528		Test Code: SW8020A		Units: µg/L		Analysis Date 5/28/98			Prep Date:	
Client ID: 9805062		Run ID: GC-1_980528A				SeqNo: 2501						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	20.97	0.5	20	0	104.8%	85	115					
Ethylbenzene	21.12	0.5	20	0	105.6%	85	115					
m,p-Xylene	40.36	1	40	0	100.9%	85	115					
o-Xylene	21.39	0.5	20	0	107.0%	85	115					
Toluene	21.22	0.5	20	0	106.1%	85	115					
1,4-Difluorobenzene	91.69	0	100	0	91.7%	70	130					
4-Bromochlorobenzene	73.95	0	100	0	74.0%	70	130					
Fluorobenzene	90.82	0	100	0	90.8%	70	130					

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9805054-02A	92.9	86.7	93.4
9805054-04A	92.9	84.9	92.4
9805054-04AMS	92.6	85.2	91.9
9805054-04AMSD	92.9	88	92
9805054-05A	92	86	92.2
9805054-07A	88.4	84	88.5
9805054-10A	78.7	84.8	82.5
9805062-01A	92.7	87.5	92.1
9805062-02A	82.7	77.7	82.8
9805062-03A	92.4	91.2	92.3
9805062-04A	83.8	88.2	86.9
9805062-05A	91.9	89.6	90.9
9805062-06A	90.2	91.3	90.2
9805062-07A	91.8	85.4	90.8
9805062-08A	87.8	79.5	94.3
9805062-09A	93	84.6	92.3
9805062-10A	91.6	89.4	91.1
9805062-11A	86.4	84.1	93.9
9805063-01A	93.2	88.1	92
9805063-02A	88.4	87.6	87.9
9805063-03A	92.5	89	91.7
9805063-04A	93.2	88.4	91.7
9805063-05A	93.1	88.6	91.6
9805063-06A	88.5	86.3	87.9
9805064-01A	92.5	87.2	91.4
9805064-02A	90.3	84.5	89.7
9805064-02AMS	89.5	84.6	89.3

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9805062
Project: Honolulu Loop Drip
Test No: SW8020A

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ				
9805064-02AMSD	90	83.8	89.2				
9805064-03A	92.8	84.4	91.2				
9805064-04A	92.3	80.9	91.2				
9805064-05A	83.9	78.7	83.9				
9805065-02A	90.4	80.9	88.7				
9805065-04A	92	75.8	90.8				
9805065-05A	91.6	75.7	90.4				
CCV1 QC0529/30	91.9	88.8	91.4				
CCV2 QC0529/30	92.1	85	90.8				
CCV3 QC0529/30	91.7	74	90.8				
LCS	91.9	88.6	90.8				
MBI	92.3	90.9	91.7				

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits



CHAIN OF CUSTODY RECORD

Date: 5/19/98

Page: 1 of 1

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

Purchase Order No.:		Job No.		REPORT RESULTS TO	Name Maureen Gannon		Title										
SEND INVOICE TO	Name Denver Bearden		Company PNM Gas Services		Mailing Address Alverado Square, Mail Stop 0408												
	Company PNM Gas Services		Dept. 324-3763		City, State, Zip Albuquerque, NM 87158												
	Address 603 W. Elm Street				Telephone No. 505-848-2974												
	City, State, Zip Farmington, NM 87401				Telefax No.												
Sampling Location: Honolulu Loop Drip				Number of Containers	ANALYSIS REQUESTED												
Sampler: R. Dedrick					BTEX-0020												
SAMPLE IDENTIFICATION		SAMPLE											MATRIX	PRES.	LAB ID		
	DATE	TIME															
9805191219	mw-1	5/19/98	1219										H ₂ O	HCl	2	X	98050162-01A
9805191300	mw-2	5/19/98	1300										H ₂ O	HCl	2	X	-02A
9805191327	mw-3	5/19/98	1327										H ₂ O	HCl	2	X	-03A
9805191351	mw-4	5/19/98	1351										H ₂ O	HCl	2	X	-04A
9805191417	mw-5	5/19/98	1417										H ₂ O	HCl	2	X	-05A
9805191448	mw-6	5/19/98	1448										H ₂ O	HCl	2	X	-06A
9805191510	mw-7	5/19/98	1510	H ₂ O									HCl	2	X	-07A	
9805191538	mw-8	5/19/98	1538	H ₂ O	HCl	2	X	-08A									
9805191558	mw-9	5/19/98	1558	H ₂ O	HCl	2	X	-09A									
9805191617	mw-10	5/19/98	1617	H ₂ O	HCl	2	X	-10A									
9805191637	mw-11	5/19/98	1637	H ₂ O	HCl	2	X	-11A									
Relinquished by: <u>Ronald A. Dedrick</u>				Date/Time <u>5/20/98 1606</u>		Received by: <u>Heidi Rose</u>			Date/Time <u>5/20/98 1100</u>								
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: <u>Ronald A. Dedrick</u> Date <u>5/19/98</u>										Results to be sent to both parties.							
(Client Signature Must Accompany Request)																	

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

OFF: (505) 325-5667



LAB: (505) 325-1556

August 05, 1998

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

3rd Quarter 98

RE: PNM Pit Remediation *Honolulu Loop*

Order No.: 9807072

Dear Maureen Gannon,

On Site Technologies, LTD. received 11 samples on 7/23/98 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,

A handwritten signature in dark ink, appearing to read "David Cox", written over the printed name.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 05-Aug-98

CLIENT: PNM - Public Service Company of NM

Project: PNM Pit Remediation

Lab Order: 9807072

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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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231200; MW-1
Lab ID:	9807072-01A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 12:00:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	ND	0.5		µg/L	1	8/3/98
Toluene	ND	0.5		µg/L	1	8/3/98
Ethylbenzene	ND	0.5		µg/L	1	8/3/98
m,p-Xylene	ND	1		µg/L	1	8/3/98
o-Xylene	ND	0.5		µg/L	1	8/3/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231230; MW-2
Lab ID:	9807072-02A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 12:30:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	98	0.5		µg/L	1	8/3/98
Toluene	ND	0.5		µg/L	1	8/3/98
Ethylbenzene	22	0.5		µg/L	1	8/3/98
m,p-Xylene	41	1		µg/L	1	8/3/98
o-Xylene	7.2	0.5		µg/L	1	8/3/98

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

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231300; MW-3
Lab ID:	9807072-03A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 1:00:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	250	10		µg/L	20	8/3/98
Toluene	ND	0.5		µg/L	1	8/4/98
Ethylbenzene	11	0.5		µg/L	1	8/4/98
m,p-Xylene	69	1		µg/L	1	8/4/98
o-Xylene	ND	0.5		µg/L	1	8/4/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231330; MW-4
Lab ID:	9807072-04A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 1:30:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	22	2.5		µg/L	5	8/3/98
Toluene	ND	2.5		µg/L	5	8/3/98
Ethylbenzene	59	2.5		µg/L	5	8/3/98
m,p-Xylene	220	5		µg/L	5	8/3/98
o-Xylene	38	2.5		µg/L	5	8/3/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231400; MW-5
Lab ID:	9807072-05A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 2:00:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	89	0.5		µg/L	1	8/3/98
Toluene	ND	0.5		µg/L	1	8/3/98
Ethylbenzene	ND	0.5		µg/L	1	8/3/98
m,p-Xylene	ND	1		µg/L	1	8/3/98
o-Xylene	ND	0.5		µg/L	1	8/3/98

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

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231430; MW-6
Lab ID:	9807072-06A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 2:30:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	8200	62		µg/L	125	8/3/98
Toluene	130	62		µg/L	125	8/3/98
Ethylbenzene	480	62		µg/L	125	8/3/98
m,p-Xylene	4500	120		µg/L	125	8/3/98
o-Xylene	1100	62		µg/L	125	8/3/98

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

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231500; MW-7
Lab ID:	9807072-07A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 3:00:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	4	0.5		µg/L	1	8/3/98
Toluene	0.7	0.5		µg/L	1	8/3/98
Ethylbenzene	4.6	0.5		µg/L	1	8/3/98
m,p-Xylene	6.4	1		µg/L	1	8/3/98
o-Xylene	7.5	0.5		µg/L	1	8/3/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231530; MW-8
Lab ID:	9807072-08A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 3:30:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	1.4	0.5		µg/L	1	8/3/98
Toluene	7.8	0.5		µg/L	1	8/3/98
Ethylbenzene	28	0.5		µg/L	1	8/3/98
m,p-Xylene	170	1		µg/L	1	8/3/98
o-Xylene	36	0.5		µg/L	1	8/3/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231600; MW-9
Lab ID:	9807072-09A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 4:00:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	ND	0.5		µg/L	1	8/3/98
Toluene	ND	0.5		µg/L	1	8/3/98
Ethylbenzene	ND	0.5		µg/L	1	8/3/98
m,p-Xylene	ND	1		µg/L	1	8/3/98
o-Xylene	ND	0.5		µg/L	1	8/3/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Loop
Work Order:	9807072	Client Sample ID:	9807231630; MW-10
Lab ID:	9807072-10A	Matrix:	AQUEOUS
Project:	PNM Pit Remediation	Collection Date:	7/23/98 4:30:00 PM
		COC Record:	7273

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	26	0.5		µg/L	1	8/3/98
Toluene	2.3	0.5		µg/L	1	8/3/98
Ethylbenzene	1.7	0.5		µg/L	1	8/3/98
m,p-Xylene	ND	1		µg/L	1	8/3/98
o-Xylene	ND	0.5		µg/L	1	8/3/98

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 05-Aug-98

Client: PNM - Public Service Company of NM
Work Order: 9807072
Lab ID: 9807072-11A **Matrix:** AQUEOUS
Project: PNM Pit Remediation

Client Sample Info: Honolulu Loop
Client Sample ID: 9807231700; MW-11
Collection Date: 7/23/98 5:00:00 PM
COC Record: 7273

*Duplicate
of
MW-2*

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8020A				Analyst: HR
Benzene	110	0.5		µg/L	1	8/4/98
Toluene	1.8	0.5		µg/L	1	8/4/98
Ethylbenzene	24	0.5		µg/L	1	8/4/98
m,p-Xylene	43	1		µg/L	1	8/4/98
o-Xylene	8.7	0.5		µg/L	1	8/4/98

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 05-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_980803	Test Code: SW8020A	Units: µg/L	Analysis Date 8/3/98	Prep Date:						
Client ID:	9807072	Run ID: GC-1_980803A		SeqNo: 5288							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1526	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.0977	0.5									J

Sample ID: MB1	Batch ID: GC-1_980804	Test Code: SW8020A	Units: µg/L	Analysis Date 8/4/98	Prep Date:						
Client ID:	9807072	Run ID: GC-1_980804A		SeqNo: 5311							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0764	0.5									J
Ethylbenzene	.0909	0.5									J
m,p-Xylene	.9729	1									J
o-Xylene	.3717	0.5									J
Toluene	.2761	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: 05-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9807072-03AMS		Batch ID: GC-1_980803	Test Code: SW8020A	Units: µg/L	Analysis Date 8/3/98		Prep Date:				
Client ID: 9807231300; MW-		9807072	Run ID: GC-1_980803A		SeqNo: 5289						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	888.6	10	800	247.5	80.1%	56	128				
Ethylbenzene	730.2	10	800	11.4	89.9%	78	107				
m,p-Xylene	1430	20	1600	70.46	85.0%	67	118				
Methyl tert-Butyl Ether	579.6	20	800	25.16	69.3%	70	130				S
o-Xylene	691.1	10	800	1.312	86.2%	78	107				
Toluene	707.4	10	800	2.416	88.1%	74	116				
Sample ID: 9807072-03AMSD		Batch ID: GC-1_980803	Test Code: SW8020A	Units: µg/L	Analysis Date 8/3/98		Prep Date:				
Client ID: 9807231300; MW-		9807072	Run ID: GC-1_980803A		SeqNo: 5290						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	890.3	10	800	247.5	80.3%	56	128	888.6	0.2%	12	
Ethylbenzene	729.1	10	800	11.4	89.7%	78	107	730.2	0.2%	11	
m,p-Xylene	1428	20	1600	70.46	84.8%	67	118	1430	0.1%	10	
Methyl tert-Butyl Ether	566.2	20	800	25.16	67.6%	70	130	579.6	2.3%	15	S
o-Xylene	695.9	10	800	1.312	86.8%	78	107	691.1	0.7%	14	
Toluene	705.4	10	800	2.416	87.9%	74	116	707.4	0.3%	14	
Sample ID: 9807063-01AMS		Batch ID: GC-1_980804	Test Code: SW8020A	Units: µg/L	Analysis Date 8/4/98		Prep Date:				
Client ID:		9807072	Run ID: GC-1_980804A		SeqNo: 5318						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	50.61	0.5	40	13.9	91.8%	56	128				
Ethylbenzene	52.18	0.5	40	11.74	101.1%	78	107				
m,p-Xylene	85.28	1	80	11.07	92.8%	67	118				
o-Xylene	65.51	0.5	40	25.01	101.2%	78	107				
Toluene	53.81	0.5	40	15.08	96.8%	74	116				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: 9807063-01AMSD		Batch ID: GC-1_980804		Test Code: SW8020A		Units: µg/L		Analysis Date 8/4/98		Prep Date:	
Client ID:		9807072		Run ID: GC-1_980804A		SeqNo: 5319					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	48.19	0.5	40	13.9	85.7%	56	128	50.61	4.9%	12	
Ethylbenzene	49.94	0.5	40	11.74	95.5%	78	107	52.18	4.4%	11	
m,p-Xylene	81.8	1	80	11.07	88.4%	67	118	85.28	4.2%	10	
o-Xylene	63.23	0.5	40	25.01	95.5%	78	107	65.51	3.5%	14	
Toluene	51.52	0.5	40	15.08	91.1%	74	116	53.81	4.4%	14	

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: 05-Aug-98

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_980803	Test Code: SW8020A	Units: µg/L	Analysis Date 8/3/98				Prep Date:			
Client ID:	9807072	Run ID: GC-1_980803A	SeqNo: 5287								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	36.2	0.5	40	0.1526	90.1%	56	128				
Ethylbenzene	38.02	0.5	40	0	95.1%	78	107				
m,p-Xylene	71.84	1	80	0	89.8%	67	118				
Methyl tert-Butyl Ether	42.38	1	40	0	106.0%	70	130				
o-Xylene	37.09	0.5	40	0	92.7%	78	107				
Toluene	36.51	0.5	40	0.0977	91.0%	74	116				

Sample ID: LCS WATER	Batch ID: GC-1_980804	Test Code: SW8020A	Units: µg/L	Analysis Date 8/4/98				Prep Date:			
Client ID:	9807072	Run ID: GC-1_980804A	SeqNo: 5310								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	35.91	0.5	40	0.0764	89.6%	56	128				
Ethylbenzene	38.17	0.5	40	0.0909	95.2%	78	107				
m,p-Xylene	73.47	1	80	0.9729	90.6%	67	118				
o-Xylene	38.23	0.5	40	0.3717	94.6%	78	107				
Toluene	37.16	0.5	40	0.2761	92.2%	74	116				

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: 05-Aug-98

CLIENT: PNM - Public Service Company of NM

Work Order: 9807072

Project: PNM Pit Remediation

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_980803	Test Code: SW8020A	Units: µg/L		Analysis Date 8/3/98				Prep Date:		
Client ID:	9807072	Run ID:	GC-1_980803A		SeqNo:		5284				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.35	0.5	20	0	96.7%	85	115				
Ethylbenzene	19.84	0.5	20	0	99.2%	85	115				
m,p-Xylene	37.76	1	40	0	94.4%	85	115				
Methyl tert-Butyl Ether	21.85	1	20	0	109.2%	85	115				
o-Xylene	19.76	0.5	20	0	98.8%	85	115				
Toluene	19.52	0.5	20	0	97.6%	85	115				
1,4-Difluorobenzene	86.68	0	100	0	86.7%	70	130				
4-Bromochlorobenzene	91.93	0	100	0	91.9%	70	130				
Fluorobenzene	82.78	0	100	0	82.8%	70	130				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_980803	Test Code: SW8020A	Units: µg/L	Analysis Date 8/3/98				Prep Date:			
Client ID:	9807072	Run ID:	GC-1_980803A	SeqNo:		5285					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.03	0.5	20	0	90.1%	85	115				
Ethylbenzene	18.58	0.5	20	0	92.9%	85	115				
m,p-Xylene	35.3	1	40	0	88.3%	85	115				
Methyl tert-Butyl Ether	20.05	1	20	0	100.3%	85	115				
o-Xylene	18.44	0.5	20	0	92.2%	85	115				
Toluene	18.33	0.5	20	0	91.7%	85	115				
1,4-Difluorobenzene	86.42	0	100	0	86.4%	70	130				
4-Bromochlorobenzene	87.34	0	100	0	87.3%	70	130				
Fluorobenzene	82.48	0	100	0	82.5%	70	130				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_980803		Test Code: SW8020A		Units: µg/L		Analysis Date 8/3/98			Prep Date:	
Client ID:		9807072		Run ID:		GC-1_980803A		SeqNo:		5286		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	18.08	0.5	20	0	90.4%	85	115					
Ethylbenzene	18.86	0.5	20	0	94.3%	85	115					
m,p-Xylene	38.12	1	40	0	95.3%	85	115					
Methyl tert-Butyl Ether	18.46	1	20	0	92.3%	85	115					
o-Xylene	19.47	0.5	20	0	97.3%	85	115					
Toluene	18.92	0.5	20	0	94.6%	85	115					
1,4-Difluorobenzene	86.53	0	100	0	86.5%	70	130					
4-Bromochlorobenzene	92.38	0	100	0	92.4%	70	130					
Fluorobenzene	82.47	0	100	0	82.5%	70	130					

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_980804		Test Code: SW8020A		Units: µg/L		Analysis Date 8/4/98			Prep Date:	
Client ID:		9807072		Run ID:		GC-1_980804A		SeqNo:		5309		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	18.36	0.5	20	0	91.8%	85	115					
Ethylbenzene	19.36	0.5	20	0	96.8%	85	115					
m,p-Xylene	37.47	1	40	0	93.7%	85	115					
o-Xylene	19.51	0.5	20	0	97.6%	85	115					
Toluene	19	0.5	20	0	95.0%	85	115					
1,4-Difluorobenzene	86.02	0	100	0	86.0%	70	130					
4-Bromochlorobenzene	85.86	0	100	0	85.9%	70	130					
Fluorobenzene	82.84	0	100	0	82.8%	70	130					

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_980804	Test Code: SW8020A		Units: µg/L	Analysis Date 8/4/98			Prep Date:		
Client ID: 9807072		Run ID: GC-1_980804A				SeqNo: 5316					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.89	0.5	20	0	94.4%	85	115				
Ethylbenzene	19.8	0.5	20	0	99.0%	85	115				
m,p-Xylene	37.89	1	40	0	94.7%	85	115				
o-Xylene	19.75	0.5	20	0	98.7%	85	115				
Toluene	19.48	0.5	20	0	97.4%	85	115				
1,4-Difluorobenzene	86.06	0	100	0	86.1%	70	130				
4-Bromochlorobenzene	86.07	0	100	0	86.1%	70	130				
Fluorobenzene	82.7	0	100	0	82.7%	70	130				

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_980804	Test Code: SW8020A		Units: µg/L	Analysis Date 8/4/98			Prep Date:		
Client ID: 9807072		Run ID: GC-1_980804A				SeqNo: 5317					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	17.25	0.5	20	0	86.3%	85	115				
Ethylbenzene	19.51	0.5	20	0	97.5%	85	115				
m,p-Xylene	36.63	1	40	0	91.6%	85	115				
o-Xylene	18.76	0.5	20	0	93.8%	85	115				
Toluene	18.5	0.5	20	0	92.5%	85	115				
1,4-Difluorobenzene	84.71	0	100	0	84.7%	70	130				
4-Bromochlorobenzene	69.47	0	100	0	69.5%	70	130				
Fluorobenzene	80.86	0	100	0	80.9%	70	130				

S
 8/5/98
 15/98

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

CLIENT: PNM - Public Service Company of NM

Work Order: 9807072

Project: PNM Pit Remediation

Test No: SW8020A

**QC SUMMARY REPORT
SURROGATE RECOVERIES****BTEX**

Sample ID	14FBZ	4BCBZ	FLBZ				
9807063-01A	84.3	64.7 *	80.6				
9807063-01AMS	84.9	69.2 *	80.8				
9807063-01AMSD	85.5	68.4 *	81.2				
9807072-01A	87.8	94	83.6				
9807072-02A	74.6	82.5	72.8				
9807072-03A	86.8	85.8	82.1				
9807072-03AMS	82.6	63.1 *	79				
9807072-03AMSD	83.3	66.1 *	79				
9807072-04A	82.5	62.2 *	83.5				
9807072-05A	85	90	81.5				
9807072-06A	82.7	70.2	79.6				
9807072-07A	85	82.8	81.8				
9807072-08A	84.3	79.3	86.1				
9807072-09A	86.8	84.8	83.3				
9807072-10A	84.4	81.7	80.7				
9807072-11A	75.4	83.6	73				
9807077-01A	83.9	68.8 *	79.3				
9807077-02A	85.8	83.3	82.2				
9807077-03A	85.7	85.6	82.6				
9807078-01A	85.4	84.4	82.6				
9807083-01A	83.2	59.3 *	79.7				
9808001-01A	73.8	74	84.3				
9808001-02A	74.4	61.6 *	82.6				
CCV1 QC0606/07	86	85.9	82.8				
CCV2 QC0606/07	86	86.1	82.7				
CCV3 QC0606/07	84.7	69.5 *	80.9				
LCS WATER	85.8	89.7	82.4				

Acronym**Surrogate****QC Limits**

14FBZ

= 1,4-Difluorobenzene

70-130

4BCBZ

= 4-Bromochlorobenzene

70-130

FLBZ

= Fluorobenzene

70-130

* Surrogate recovery outside acceptance limits

CLIENT: PNM - Public Service Company of NM
Work Order: 9807072
Project: PNM Pit Remediation
Test No: SW8020A

**QC SUMMARY REPORT
SURROGATE RECOVERIES**

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
MB1	87.2	82.1	83.6

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	70-130
4BCBZ	= 4-Bromochlorobenzene	70-130
FLBZ	= Fluorobenzene	70-130

* Surrogate recovery outside acceptance limits



CHAIN OF CUSTODY RECORD

Date: 7/23/98

Page: 1 of 1

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

Purchase Order No.:		Job No.:		REPORT RESULTS TO	Name Maureen Gannon		Title																		
SEND INVOICE TO	Name Denver Bearden		Company PNM Gas Services		Mailing Address Alverado Square, Mail Stop 0408																				
	Company PNM Gas Services		Dept. 324-3763		City, State, Zip Albuquerque, NM 87158																				
	Address 603 W. Elm Street				Telephone No. 505-848-2974																				
	City, State, Zip Farmington, NM 87401				Telefax No.																				
Sampling Location: Honolulu Loop				Number of Containers	ANALYSIS REQUESTED																				
Sampler: MS MG					216X 6030																				
SAMPLE IDENTIFICATION		SAMPLE											MATRIX	PRES.	LAB ID										
		DATE	TIME																						
9807231200 MW-1													A20	HCL	2	X									9807231200
9807231230 MW-2															2	X									9807231230
9807231300 MW-3															2	X									9807231300
9807231330 MW-4															2	X									9807231330
9807231400 MW-5															2	X									9807231400
9807231430 MW-6															2	X									9807231430
9807231500 MW-7														2	X									9807231500	
9807231530 MW-8						2	X									9807231530									
9807231600 MW-9						2	X									9807231600									
9807231630 MW-10						2	X									9807231630									
9807231700 MW-11						2	X									9807231700									
Relinquished by: <u>[Signature]</u>				Date/Time <u>7-23-98 1207</u>		Received by: <u>[Signature]</u>				Date/Time <u>7/23/98 1707</u>															
Relinquished by:				Date/Time		Received by:				Date/Time															
Relinquished by:				Date/Time		Received by:				Date/Time															
Method of Shipment: <u>Hand Delivered</u>						Rush		24-48 Hours		10 Working Days		Special Instructions:													
Authorized by: <u>[Signature]</u> Date <u>7-23-98</u>												Results to be sent to both parties.													
(Client Signature Must Accompany Request)																									



CHAIN OF CUSTODY RECORD

Date: 12/1/78

Page: 1 of 1

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

Purchase Order No.:		Job No.		REPORT RESULTS TO	Name Maureen Gannon		Title																			
SEND INVOICE TO	Name Denver Bearden		Company PNM Gas Services		Mailing Address Alverado Square, Mall Stop 0408																					
	Company PNM Gas Services		Dept. 324-3763		City, State, Zip Albuquerque, NM 87158																					
	Address 603 W. Elm Street				Telephone No. 505-848-2974																					
	City, State, Zip Farmington, NM 87401				Telefax No.																					
Sampling Location: <u>11000 1st St</u>				Number of Containers	ANALYSIS REQUESTED																					
Sampler: <u>MA - MC</u>					11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St 11000 1st St																					
SAMPLE IDENTIFICATION		SAMPLE											MATRIX	PRES.	LAB ID											
DATE	TIME																									
9307231200		MW-1											11000 1st St	11000 1st St	2	X										
9807231230		MW-2											11000 1st St	11000 1st St	2	X										
9807231300		MW-3											11000 1st St	11000 1st St	2	X										
1307231330		MW-4											11000 1st St	11000 1st St	2	X										
7307231400		MW-5											11000 1st St	11000 1st St	2	X										
7307231430		MW-6											11000 1st St	11000 1st St	2	X										
7307231500		MW-7		11000 1st St	11000 1st St	2	X																			
9307231530		MW-8		11000 1st St	11000 1st St	2	X																			
9307231600		MW-9		11000 1st St	11000 1st St	2	X																			
7307231630		MW-10		11000 1st St	11000 1st St	2	X																			
9307231700		MW-11		11000 1st St	11000 1st St	2	X																			
Relinquished by: <u>John Doe</u>				Date/Time: <u>12/1/78</u>		Received by: <u>Maureen Gannon</u>				Date/Time: <u>12/1/78</u>																
Relinquished by:				Date/Time:		Received by:				Date/Time:																
Relinquished by:				Date/Time:		Received by:				Date/Time:																
Method of Shipment: <u>Hand Delivered</u>						Rush		24-48 Hours		10 Working Days		Special Instructions:														
Authorized by: <u>John Doe</u> Date: <u>12/1/78</u> (Client Signature <u>Must</u> Accompany Request)												Results to be sent to both parties.														

OFF: (505) 325-5667



LAB: (505) 325-1556

February 23, 1999

RECEIVED

MAR 02 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: Honolulu Drip

Order No.: 9902063

Dear Maureen Gannon,

On Site Technologies, LTD. received 8 samples on 2/11/99 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 be "David Cox", written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 23-Feb-99

CLIENT: PNM - Public Service Company of NM
Project: Honolulu Drip
Lab Order: 9902063

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 Comments for METHOD BTEX_W, SAMPLE 9902063-04A: This sample required a ten fold (10X) dilution prior to analysis due to sediment, >50%. Analytical Comments for METHOD

BTEX_W, SAMPLE 9902063-05A: This sample required a five fold (5X) dilution prior to analysis due to sediment, >50%.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902110915; MW-1
Lab ID:	9902063-01A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 9:15:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	2/16/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	ND	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	ND	0.5		µg/L	1	2/16/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902110935; MW-5
Lab ID:	9902063-02A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 9:35:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	430	2.5		µg/L	5	2/17/99
Toluene	ND	0.5		µg/L	1	2/16/99
Ethylbenzene	0.6	0.5		µg/L	1	2/16/99
m,p-Xylene	ND	1		µg/L	1	2/16/99
o-Xylene	0.8	0.5		µg/L	1	2/16/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902110956; MW-7
Lab ID:	9902063-03A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 9:56:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	21	0.5		µg/L	1	2/17/99
Toluene	20	0.5		µg/L	1	2/17/99
Ethylbenzene	ND	0.5		µg/L	1	2/17/99
m,p-Xylene	1.5	1		µg/L	1	2/17/99
o-Xylene	ND	0.5		µg/L	1	2/17/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902111021; MW-8
Lab ID:	9902063-04A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 10:21:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	5		µg/L	10	2/17/99
Toluene	370	5		µg/L	10	2/17/99
Ethylbenzene	ND	5		µg/L	10	2/17/99
m,p-Xylene	ND	10		µg/L	10	2/17/99
o-Xylene	ND	5		µg/L	10	2/17/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902111040; MW-11
Lab ID:	9902063-05A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 10:40:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	2.5		µg/L	5	2/17/99
Toluene	ND	2.5		µg/L	5	2/17/99
Ethylbenzene	ND	2.5		µg/L	5	2/17/99
m,p-Xylene	ND	5		µg/L	5	2/17/99
o-Xylene	ND	2.5		µg/L	5	2/17/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902111115; MW-12
Lab ID:	9902063-06A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 11:15:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	110	0.5		µg/L	1	2/17/99
Toluene	3.2	0.5		µg/L	1	2/17/99
Ethylbenzene	22	0.5		µg/L	1	2/17/99
m,p-Xylene	160	1		µg/L	1	2/17/99
o-Xylene	36	0.5		µg/L	1	2/17/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902111140; MW-13
Lab ID:	9902063-07A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 11:40:00 AM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	230	2.5		µg/L	5	2/18/99
Toluene	140	2.5		µg/L	5	2/18/99
Ethylbenzene	18	2.5		µg/L	5	2/18/99
m,p-Xylene	140	5		µg/L	5	2/18/99
o-Xylene	38	2.5		µg/L	5	2/18/99

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Feb-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902063	Client Sample ID:	9902111217; MW-14
Lab ID:	9902063-08A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/11/99 12:17:00 PM
		COC Record:	7372

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	110	0.5		µg/L	1	2/17/99
Toluene	3.7	0.5		µg/L	1	2/17/99
Ethylbenzene	21	0.5		µg/L	1	2/17/99
m,p-Xylene	160	1		µg/L	1	2/17/99
o-Xylene	35	0.5		µg/L	1	2/17/99

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

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P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



CHAIN OF CUSTODY RECORD

Date: 2/11/99Page: 1 of 1612 E. Murphy Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.:		Job No.		REPORT RESULTS TO	Name Maureen Gannon		Title					
SEND INVOICE TO	Name Denver Bearden				Company PNM Gas Services							
	Company PNM Gas Services		Dept. 324-3763		Mailing Address Alverado Square, Mall Stop 0408							
	Address 603 W. Elm Street				City, State, Zip Albuquerque, NM 87158							
	City, State, Zip Farmington, NM 87401				Telephone No. 505-848-2974		Telefax No.					
Sampling Location: Honolulu Drip				Number of Containers BTX-8020	ANALYSIS REQUESTED							
Sampler: R. Dedrick												
SAMPLE IDENTIFICATION		SAMPLE			MATRIX		PRES.				LAB ID	
		DATE	TIME									
9902110915		mw-1	2/11/99 0915		H₂O		HCl		2		X	
9902110935		mw-5	2/11/99 0935		H₂O		HCl		2		X	
9902110956		mw-7	2/11/99 0956		H₂O		HCl		2		X	
9902111021		mw-8	2/11/99 1021		H₂O		HCl		2		X	
9902111040		mw-11	2/11/99 1040		H₂O		HCl		2		X	
9902111115		mw-12	2/11/99 1115		H₂O		HCl		2		X	
9902111140		mw-13	2/11/99 1140	H₂O		HCl		2		X		
9902111217		mw-14	2/11/99 1217	H₂O		HCl		2		X		
Relinquished by: Ronald A Dedrick				Date/Time 2/11/99 1534		Received by: [Signature]				Date/Time 2/11/99 1534		
Relinquished by:				Date/Time		Received by:				Date/Time		
Relinquished by:				Date/Time		Received by:				Date/Time		
Method of Shipment: Hand delivered				Rush		24-48 Hours		10 Working Days		Special Instructions:		
Authorized by: Ronald A Dedrick Date 2/11/99 (Client Signature Must Accompany Request)										Results to be sent to both parties.		

OFF: (505) 325-5667



LAB: (505) 325-1556

March 11, 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: Honolulu Drip

Dear Maureen Gannon,

1st Quarter 1999
Resample of
MW-9 + MW-11
Order No.: 9902089 due to
high Sediment

On Site Technologies, LTD. received 2 samples on 2/24/99 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 dark 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: 11-Mar-99

CLIENT: PNM - Public Service Company of NM
Project: Honolulu Drip
Lab Order: 9902089

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: 11-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902089	Client Sample ID:	9902240915; MW-11
Lab ID:	9902089-01A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/24/99 9:15:00 AM
		COC Record:	7373

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	3/8/99
Toluene	ND	0.5		µg/L	1	3/8/99
Ethylbenzene	ND	0.5		µg/L	1	3/8/99
m,p-Xylene	ND	1		µg/L	1	3/8/99
o-Xylene	ND	0.5		µg/L	1	3/8/99

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 11-Mar-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Honolulu Drip
Work Order:	9902089	Client Sample ID:	9902240935; MW-8
Lab ID:	9902089-02A	Matrix:	AQUEOUS
Project:	Honolulu Drip	Collection Date:	2/24/99 9:35:00 AM
		COC Record:	7373

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
BTEX		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	3/9/99
Toluene	110	0.5		µg/L	1	3/9/99
Ethylbenzene	10	0.5		µg/L	1	3/9/99
m,p-Xylene	51	1		µg/L	1	3/9/99
o-Xylene	9.3	0.5		µg/L	1	3/9/99

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 11-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902089
Project: Honolulu Drip

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_990308	Test Code: SW8021B	Units: µg/L	Analysis Date: 3/8/99	Prep Date:						
Client ID:	9902089	Run ID: GC-1_990308A		SeqNo: 11839							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0298	0.5									J
Toluene	.0703	0.5									J

Sample ID: MB1	Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L	Analysis Date: 3/9/99	Prep Date:						
Client ID:	9902089	Run ID: GC-1_990309A		SeqNo: 11935							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0322	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.0696	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: 11-Mar-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902089

Project: Honolulu Drip

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902089-02AMS		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9902240935; MW-		9902089		Run ID: GC-1_990308A				SeqNo: 11840			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	201.2	2.5	200	0.399	100.4%	73	115				
Ethylbenzene	205.8	2.5	200	7.29	99.3%	74	117				
m,p-Xylene	422	5	400	37.21	96.2%	76	112				
Methyl tert-Butyl Ether	201.9	5	200	0	101.0%	62	122				
o-Xylene	206.4	2.5	200	6.91	99.7%	83	112				
Toluene	361.2	2.5	200	168.1	96.5%	71	120				

Sample ID: 9902089-02AMSD		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9902240935; MW-		9902089		Run ID: GC-1_990308A				SeqNo: 11841			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	206.4	2.5	200	0.399	103.0%	73	115	201.2	2.5%	8	
Ethylbenzene	211.1	2.5	200	7.29	101.9%	74	117	205.8	2.5%	9	
m,p-Xylene	432	5	400	37.21	98.7%	76	112	422	2.3%	9	
Methyl tert-Butyl Ether	203.1	5	200	0	101.5%	62	122	201.9	0.6%	7	
o-Xylene	210.8	2.5	200	6.91	101.9%	83	112	206.4	2.1%	9	
Toluene	370	2.5	200	168.1	100.9%	71	120	361.2	2.4%	9	

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9902089
Project: Honolulu Drip

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 9902095-01AMS	Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L			Analysis Date 3/9/99			Prep Date:		
Client ID:	9902089	Run ID:	GC-1_990309A			SeqNo:	11936				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2150	10	800	1400	93.8%	73	115				
Ethylbenzene	1203	10	800	440	95.4%	74	117				
m,p-Xylene	6651	20	1600	5100	97.0%	76	112				
Methyl tert-Butyl Ether	799.4	20	800	10	98.7%	62	122				
o-Xylene	1710	10	800	940	96.3%	83	112				
Toluene	1292	10	800	520	96.5%	71	120				

Sample ID: 9902095-01AMSD	Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L			Analysis Date 3/9/99			Prep Date:		
Client ID:	9902089	Run ID:	GC-1_990309A			SeqNo:	11937				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2194	10	800	1400	99.2%	73	115	2150	2.0%	8	
Ethylbenzene	1226	10	800	440	98.3%	74	117	1203	1.9%	9	
m,p-Xylene	6782	20	1600	5100	105.2%	76	112	6651	2.0%	9	
Methyl tert-Butyl Ether	798.8	20	800	10	98.6%	62	122	799.4	0.1%	7	
o-Xylene	1737	10	800	940	99.7%	83	112	1710	1.6%	9	
Toluene	1317	10	800	520	99.6%	71	120	1292	1.9%	9	

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: 11-Mar-99

CLIENT: PNM - Public Service Company of NM

Work Order: 9902089

Project: Honolulu Drip

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_990308	Test Code: SW8021B	Units: µg/L	Analysis Date 3/8/99					Prep Date:		
Client ID:	9902089	Run ID:	GC-1_990308A	SeqNo: 11838							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.31	0.5	40	0	105.8%	84	110				
Ethylbenzene	42.1	0.5	40	0	105.3%	86	113				
m,p-Xylene	82.11	1	80	0	102.6%	81	114				
Methyl tert-Butyl Ether	40.3	1	40	0	100.7%	69	129				
o-Xylene	42.03	0.5	40	0.0298	105.0%	86	112				
Toluene	41.6	0.5	40	0.0703	103.8%	85	111				

Sample ID: LCS WATER	Batch ID: GC-1_990309	Test Code: SW8021B	Units: µg/L			Analysis Date 3/9/99			Prep Date:		
Client ID:	9902089	Run ID:	GC-1_990309A			SeqNo:	11934				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.9	0.5	40	0.0322	107.2%	84	110				
Ethylbenzene	42.86	0.5	40	0	107.1%	86	113				
m,p-Xylene	83.6	1	80	0	104.5%	81	114				
Methyl tert-Butyl Ether	40.07	1	40	0	100.2%	69	129				
o-Xylene	42.74	0.5	40	0	106.8%	86	112				
Toluene	42.3	0.5	40	0.0696	105.6%	85	111				

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: 11-Mar-99

CLIENT: PNM - Public Service Company of NM
Work Order: 9902089
Project: Honolulu Drip

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 QC0606/07	Batch ID: GC-1_990308	Test Code: SW8021B	Units: µg/L			Analysis Date 3/8/99			Prep Date:		
Client ID:	9902089	Run ID:	GC-1_990308A			SeqNo:	11835				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.99	0.5	20	0	105.0%	85	115				
Ethylbenzene	20.95	0.5	20	0	104.8%	85	115				
m,p-Xylene	40.81	1	40	0	102.0%	85	115				
Methyl tert-Butyl Ether	20.4	1	20	0	102.0%	85	115				
o-Xylene	20.95	0.5	20	0	104.8%	85	115				
Toluene	20.6	0.5	20	0	103.0%	85	115				
1,4-Difluorobenzene	93.85	0	100	0	93.8%	84	100				
4-Bromochlorobenzene	96.37	0	100	0	96.4%	87	105				
Fluorobenzene	96.13	0	100	0	96.1%	87	99				

Sample ID: CCV2 QC0606/07	Batch ID: GC-1_990308	Test Code: SW8021B	Units: µg/L			Analysis Date 3/8/99			Prep Date:		
Client ID:	9902089	Run ID:	GC-1_990308A			SeqNo:	11836				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.28	0.5	20	0	106.4%	85	115				
Ethylbenzene	21.1	0.5	20	0	105.5%	85	115				
m,p-Xylene	40.9	1	40	0	102.3%	85	115				
Methyl tert-Butyl Ether	20.43	1	20	0	102.2%	85	115				
o-Xylene	21.06	0.5	20	0	105.3%	85	115				
Toluene	20.86	0.5	20	0	104.3%	85	115				
1,4-Difluorobenzene	93.79	0	100	0	93.8%	84	100				
4-Bromochlorobenzene	96.38	0	100	0	96.4%	87	105				
Fluorobenzene	95.75	0	100	0	95.8%	87	99				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9902089
Project: Honolulu Drip

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_990308		Test Code: SW8021B		Units: µg/L		Analysis Date 3/8/99		Prep Date:	
Client ID: 9902089		Run ID: GC-1_990308A				SeqNo: 11837					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.6	0.5	40	0	101.5%	85	115				
Ethylbenzene	40.11	0.5	40	0	100.3%	85	115				
m,p-Xylene	78.34	1	80	0	97.9%	85	115				
Methyl tert-Butyl Ether	40.67	1	40	0	101.7%	85	115				
o-Xylene	40.58	0.5	40	0	101.4%	85	115				
Toluene	39.95	0.5	40	0	99.9%	85	115				
1,4-Difluorobenzene	93.52	0	100	0	93.5%	84	100				
4-Bromochlorobenzene	94.65	0	100	0	94.7%	87	105				
Fluorobenzene	95.46	0	100	0	95.5%	87	99				

Sample ID: CCV1 QC0606/07		Batch ID: GC-1_990309		Test Code: SW8021B		Units: µg/L		Analysis Date 3/9/99		Prep Date:	
Client ID: 9902089		Run ID: GC-1_990309A				SeqNo: 11931					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.02	0.5	20	0	110.1%	85	115				
Ethylbenzene	22	0.5	20	0	110.0%	85	115				
m,p-Xylene	42.87	1	40	0	107.2%	85	115				
Methyl tert-Butyl Ether	20.45	1	20	0	102.2%	85	115				
o-Xylene	21.92	0.5	20	0	109.6%	85	115				
Toluene	21.63	0.5	20	0	108.2%	85	115				
1,4-Difluorobenzene	93.81	0	100	0	93.8%	84	100				
4-Bromochlorobenzene	97.39	0	100	0	97.4%	87	105				
Fluorobenzene	95.24	0	100	0	95.2%	87	99				

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

CLIENT: PNM - Public Service Company of NM
Work Order: 9902089
Project: Honolulu Drip

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 QC0606/07		Batch ID: GC-1_990309		Test Code: SW8021B		Units: µg/L		Analysis Date 3/9/99		Prep Date:	
Client ID: 9902089		Run ID: GC-1_990309A				SeqNo: 11932					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.61	0.5	20	0	108.1%	85	115				
Ethylbenzene	21.46	0.5	20	0	107.3%	85	115				
m,p-Xylene	41.72	1	40	0	104.3%	85	115				
Methyl tert-Butyl Ether	20.46	1	20	0	102.3%	85	115				
o-Xylene	21.54	0.5	20	0	107.7%	85	115				
Toluene	21.25	0.5	20	0	106.2%	85	115				
1,4-Difluorobenzene	93.76	0	100	0	93.8%	84	100				
4-Bromochlorobenzene	95.93	0	100	0	95.9%	87	105				
Fluorobenzene	95.2	0	100	0	95.2%	87	99				

Sample ID: CCV3 QC0606/07		Batch ID: GC-1_990309		Test Code: SW8021B		Units: µg/L		Analysis Date 3/9/99			Prep Date:	
Client ID:		9902089		Run ID:		GC-1_990309A		SeqNo:		11933		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	41.29	0.5	40	0	103.2%	85	115					
Ethylbenzene	41.08	0.5	40	0	102.7%	85	115					
m,p-Xylene	80.13	1	80	0	100.2%	85	115					
Methyl tert-Butyl Ether	40.9	1	40	0	102.3%	85	115					
o-Xylene	41.55	0.5	40	0	103.9%	85	115					
Toluene	40.78	0.5	40	0	101.9%	85	115					
1,4-Difluorobenzene	93.31	0	100	0	93.3%	84	100					
4-Bromochlorobenzene	95.03	0	100	0	95.0%	87	105					
Fluorobenzene	94.73	0	100	0	94.7%	87	99					

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

CLIENT: PNM - Public Service Company of NM

Work Order: 9902089

Project: Honolulu Drip

Test No: SW8021B

**QC SUMMARY REPORT
SURROGATE RECOVERIES****BTEX**

Sample ID	14FBZ	4BCBZ	FLBZ
9902089-01A	94.3	96.5	96.4
9902089-02A	91.7	95.6	94.3
9902089-02AMS	93.2	96.5	95.2
9902089-02AMSD	92.7	96.4	95.4
9902095-01A	88.3	93.4	91
9902095-01AMS	88.5	94.1	91.3
9902095-01AMSD	88.1	93.4	91.3
9902095-02A	93.9	97.4	96
9902096-01A	94.4	96	96.4
9902096-02A	94.2	96.4	96.5
9902096-03A	94	96.4	96.6
9902096-05A	94.5	95.8	96.3
9903001-02A	94	95.5	96.7
9903002-01A	89.9	93.1	93.5
9903003-01A	93.7	96.1	96
9903004-01A	89.8	94.5	92.1
9903006-01A	92.5	95.9	94
9903006-02A	92.6	93.9	95.1
9903006-03A	94.4	95.7	96.4
9903008-01A	89.3	90.7	96.6
9903009-01A	94.4	95.9	96.9
9903009-02A	94.2	96.3	96.4
9903010-01A	92.5	97.3	94.5
9903012-01A	94.5	97.5	96.2
9903012-02A	94.3	98.1	96
9903012-03A	94.1	98.2	96.1
9903012-04A	94	98.2	96.1

Acronym**Surrogate****QC Limits**

14FBZ

= 1,4-Difluorobenzene

84-100

4BCBZ

= 4-Bromochlorobenzene

87-105

FLBZ

= Fluorobenzene

87-99

* Surrogate recovery outside acceptance limits

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Work Order: 9902089
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Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

BTEX

Sample ID	14FBZ	4BCBZ	FLBZ
9903012-05A	92.8	96.6	95
9903013-01A	93.6	94.8	95.6
9903014-01A	94.2	96.9	96
9903024-01A	92.5	96.5	93.1
9903024-02A	93	96.6	95.7
9903024-03A	93.8	96.9	96.2
9903025-01A	94.1	95.8	95.5
9903025-02A	94.1	96.4	95.6
9903025-03A	93.9	97.2	95.8
9903025-04A	94.3	96.8	95.6
9903025-05A	94.1	97.2	95.6
CCV1 QC0606/07	93.8	97.4	95.2
CCV2 QC0606/07	93.8	95.9	95.2
CCV3 QC0606/07	93.3	95	94.7
LCS WATER	93.3	97.9	94.9
MB1	93.9	96.5	96

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	84-100
4BCBZ	= 4-Bromochlorobenzene	87-105
FLBZ	= Fluorobenzene	87-99

* Surrogate recovery outside acceptance limits

