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

EXHIBIT
PNM 40
SUBJECT/DCC COPY

March 31, 1998

Bill Olson
Hydrologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: Hampton 4M Site
Free Product and Groundwater Contamination

Dear Bill:

In response to your letter of March 13, 1998, PNM has concerns regarding the effectiveness of any further remedial actions taken by PNM in the face of continuing hydrocarbon sources at this site. We provide a summary of PNM activities, a review of Burlington's reports concerning effectiveness of source removal actions performed by Burlington, and our position regarding free phase hydrocarbons.

I. Summary of PNM Activities

PNM removed soils associated with the former PNM drip pit shown on Figure 1 in April 1996. Approximately 300 cubic yards of soil were excavated, with a total excavation dimension of approximately 32' x 21' x 12'. Soils remaining at the bottom of the excavation exceeded 1000 ppm as measured by a photoionization detector. Excavation was stopped due to safety concerns related to excessive side-wall sloughing and proximity to the edges of the well pad and onsite equipment. The excavation was backfilled with clean soil; approximately 286 cubic yards of soil excavated from Hampton 4M were landfarmed at the Hampton #2 site.

In December 1996, PNM assessed the vertical extent of contamination remaining beneath the former PNM drip pit. Groundwater was encountered at 28 feet, with approximately 2 inches of free phase hydrocarbons observed in the bailer upon sampling. The initial groundwater sample from this boring (completed as MW-2) contained 3,840 ppb benzene and 20,620 ppb total BTEX. Free product thickness in MW-2 accumulated to 4.41 feet in January 1998 (see Table 1).

PNM has continued to monitor groundwater and recover free product at the Hampton 4M site in accordance with your letter of August 27, 1997. Analytical results for groundwater sampling are reported in Table 1. PNM and Burlington have installed a total of eight monitoring wells and one temporary well at this site. PNM also performed extensive test augering along the wash in November 1997 to determine the downgradient extent of groundwater contamination.

A groundwater potentiometric surface map is provided for January 1998. As shown on the map, groundwater flow is down-canyon towards the northwest. The hydraulic gradient is fairly steep and subparallel to the topographic gradient at approximately 0.10. This is a high energy environment, where contamination will move relatively quickly downgradient from the site of release. This is corroborated by

the extent to which dissolved phase contamination is detected along the wash. The furthest downgradient monitoring well installed to date, MW-7, contains 780 ppb benzene and 5226 ppb total BTEX. Only MW-5 exceeds proposed remediation reference concentrations when comparing downgradient water quality to water quality (e.g., TPW-2 and MW-8) upgradient of PNM equipment.

Hydrographs and contaminant trends with time are provided for each well in Attachment A. The graphs provided for monitoring wells MW-2 and MW-6 do not reflect the presence of free product.

The privately-owned EB well is located cross-gradient (north-northeast). No hydrocarbon constituents above the 0.2 ppb detection limit have been detected in this well.

PNM installed a free product recovery well, MW-6, in November 1997 and initiated free product recovery in January 1998. Initial free product thickness in MW-6 was 4.71 feet on January 12, 1998. Approximately 470 gallons of free product were recovered from MW-6, with an accompanying 2 foot drop in free product thickness, between January 12 and March 18, 1998. Attachment B provides a figure demonstrating free product thickness decrease over the course of free product recovery.

II. Burlington Document Review

PNM reviewed the documents listed below concerning contamination at the Hampton 4M site, submitted to NMOCD by Burlington.

- Burlington Resources, 1998, Hampton 4M - Groundwater Contamination (Status Report); Unit Letter N, Section 13, Township 30N, Range 11W

- Burlington Resources, 1997, Data Summary: Hampton 4M Production Location

Following our review of these documents and our field records for site investigation and remediation data, we are concerned that upgradient source removal is not complete and continuing sources of hydrocarbons will continue to affect downgradient areas, including not only the well pad, but a significant volume of offsite groundwater. Relevant soil and groundwater data collected by both PNM and Burlington is compiled in Table 1. Figure 1 provides a site map of the well pad, equipment, and general vicinity surrounding the site.

- Burlington states they have removed contaminated soils to a depth of 15 feet in the deepest areas of their source area excavation. Sampling of temporary well borings TPW-05 and -07 by Burlington detected significant contamination in the 15 to 16-foot interval. Thus, excavating the source area only to 15 feet at the deepest location leaves documented contamination in place to act as a continuing source to areas downgradient.

- While total BTEX concentrations in MW-4 did decrease as stated by Burlington, concentrations of the most mobile and most toxic constituent, benzene, increased following remediation activities conducted by Burlington. PNM does not agree with the statement that the decrease in total BTEX concentrations in the quarter immediately following excavation points to the success of source removal activities; additional monitoring is needed.

- Monitoring well MW-8 was installed by PNM as an additional well downgradient of the Burlington source area, and upgradient of the former PNM pit. This well detected soil contamination at depths of 14 to 20 feet below grade; groundwater was visibly contaminated by sheen and high dissolved phase contamination.

- Temporary well TPW-02 was installed by Burlington at a location upgradient of the former PNM pit. This temporary monitoring well encountered free product on installation and significant soil contamination at a depth of 25 to 26 feet. Free product is not likely to migrate upgradient in an

environment where both the topographic and groundwater flow gradients are as steep as 0.10. Thus, the contamination at TPW-02 likely originated from upgradient sources.

- **If NMOCD considers MW-8 and TPW-02 as upgradient wells for the purposes of establishing remediation reference concentrations for PNM, the upgradient reference concentrations related to contamination caused by PNM are as follows:**

Free phase as indicated by TPW-02 (accumulation) and MW-8 (sheen)		
Benzene	**=**	**6,410 ppb**
Toluene	**=**	**17,301 ppb**
Ethylbenzene	**=**	**693 ppb**
Xylenes (total)	**=**	**9,397 ppb**
BTEX	**=**	**33,801 ppb**

Our conclusions relative to the effectiveness of remedial actions undertaken by Burlington are as follows:

- Continuing sources of free phase, sorbed, and dissolved hydrocarbons remain in Burlington source areas and areas immediately downgradient of their facilities.

- These continuing sources will continue to migrate downgradient in the absence of significant containment and/or remediation, beyond the activities documented by Burlington to date.

III. Free Phase Hydrocarbon Discharge

With regard to the presence and remediation of free product beneath the well pad, this site has had numerous problems associated with equipment operations, including separators throwing fluids and inadequate tankage to handle fluids discharged. Even if PNM has in the past provided dehydration, PNM, by contract with producers, is not responsible for free product. Further, PNM has not provided dehydration at this site since June 30, 1995, when the sale of the gathering system to Williams Field Services (WFS) was concluded. Free product belongs to the producers, even when it is discharged under conditions of system upset. Therefore, free product contamination, regardless of where it occurs, is not the responsibility of PNM, but of the producer.

PNM detected over 4.5 feet of free product in MW-2 and MW-6 in January 1998. In response to NMOCD concerns, PNM installed and continues to operate a single free product recovery well, MW-6. Approximately 450 gallons of free phase were recovered from January 12, 1998 through March 17, 1998. Free product thicknesses as measured in monitoring wells MW-2 and -6 have declined approximately 2 feet since the inception of free product recovery. As the product is not the result of PNM operations prior to June 30, 1995, PNM has placed Burlington and Williams Field Services on notice that PNM will be seeking cost recovery from the responsible party for actions concerning free product and groundwater investigation and remediation activities performed to date at this site.

The presence of significant free phase in the subsurface is also the most likely cause of dissolved phase groundwater contamination detected at this site. Burlington, PNM, and NMOCD are aware of continuing hydrocarbon surface discharges in the area of the hydrocarbon seep along the northwestern area of the well pad. This seep continues to visibly impact soils and dissolved phase groundwater from monitoring wells sampled along the wash. As PNM did not discharge free product at this site, PNM maintains it is not the responsible party for groundwater contamination associated with this ongoing hydrocarbon seep.

If you have any questions related to the proposed activities for the Hampton 4M site or other project-related activities, please contact me at 505.241.2974.

Sincerely,

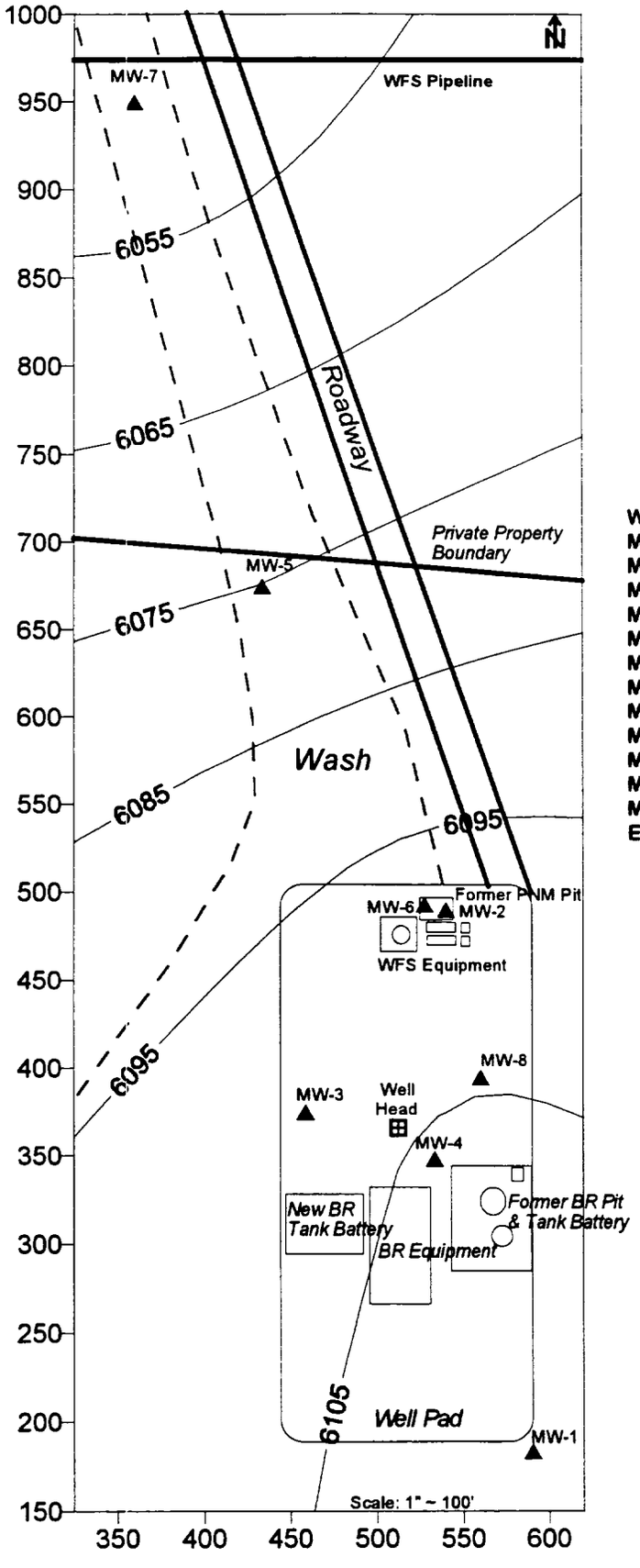
Maureen Gannon

Maureen Gannon
Project Manager

cc: Roger Anderson, NMOCD
Ed Haseley, Burlington Resources
Ingrid Deklau, Williams Field Services
Colin Adams, PNM
Denny Foust, NMOCD - Aztec

Figure 1
Hampton 4M site map & analytical results (ppb)
(January,1998)

△
EB - Private Well
(Not to Scale)



Well #	Date	B	T	E	X
MW-1	10/30/97	2.4	2.3	<0.2	1.1
MW-1	1/12/98	4.3	3.3	0.2	1
MW-2	1/12/98	4.41 feet of product			
MW-3	1/31/97	<0.2	<0.2	<0.2	<0.2
MW-3	1/12/98	<0.2	<0.2	<0.2	<0.2
MW-4	1/31/97	811.7	1420.5	31.0	388.1
MW-4	1/12/98	1251	6	81	24
MW-5	10/29/97	5934	10024	709	8188
MW-5	1/12/98	7521	11213	779	8436
MW-6	1/12/98	4.71 feet of product			
MW-7	1/12/98	780	246	258	3942
MW-8	1/12/98	6410	17301	693	9397
EB-Well	11/25/97	<0.2	<0.2	<0.2	<0.2

Ham210map.srf rev.2/13/98

Table 1: SUMMARY OF ANALYTICAL RESULTS

GROUNDWATER MONITORING DATA - collected by PNM, except as noted

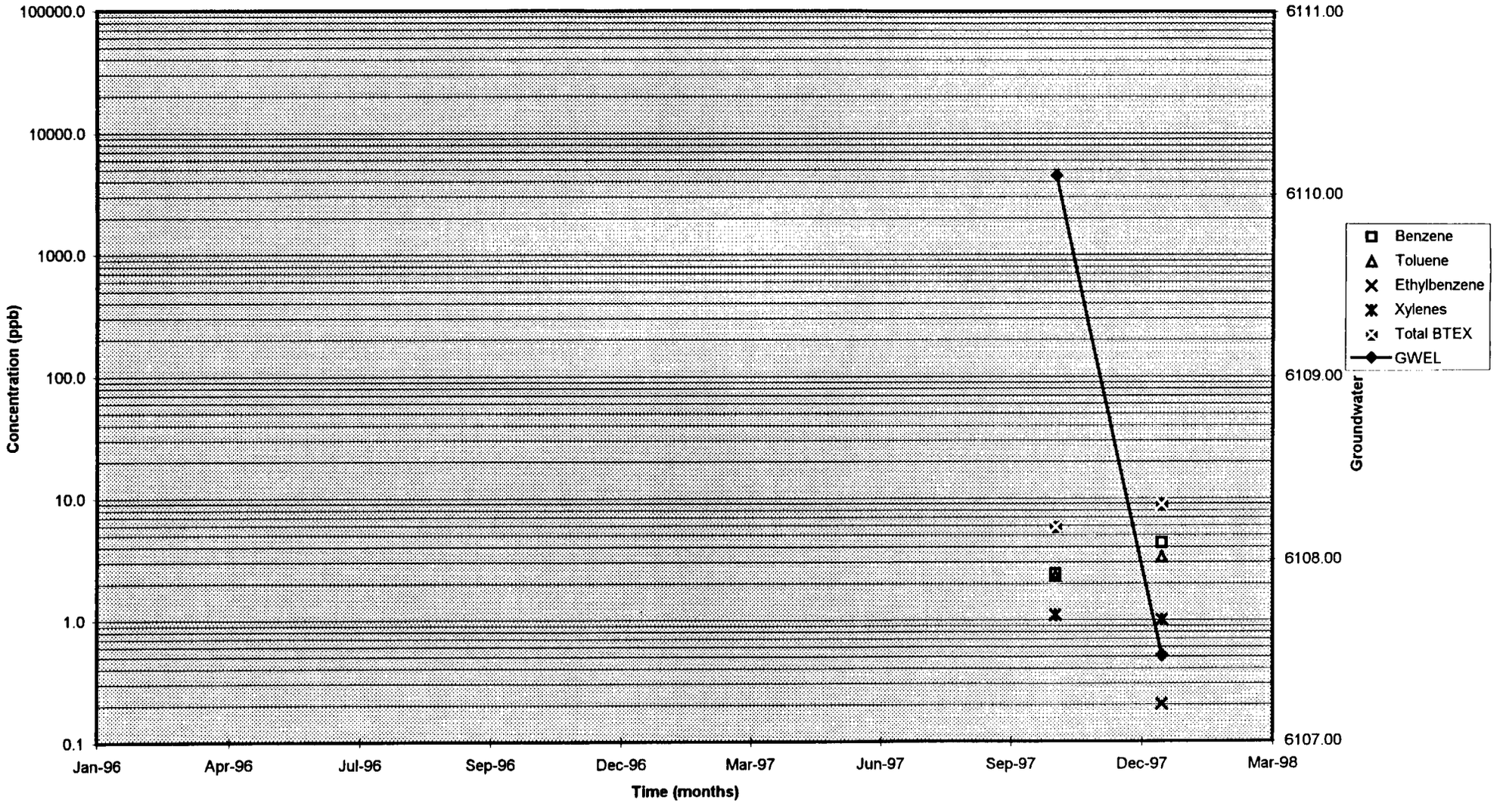
Well	Date Sampled	GWEL (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)
MW-1	10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--
Upgradient well	01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--
MW-2	01/04/96	6097.88	NA	NA	NA	NA	NA	4.40
PNM drip pit well	12/16/96	NM	3840.0	7960.0	896.0	7920.0	20616.0	NM
	08/27/97	6097.87	NA	NA	NA	NA	NA	4.75
	10/29/97	6098.08	NA	NA	NA	NA	NA	4.58
	01/12/98	6098.10	NA	NA	NA	NA	NA	4.41
MW-3	1/4/96	6101.06	NA	NA	NA	NA	NA	--
Up & cross-gradient to PNM	1/31/97	NM	<0.2	<0.2	<0.2	<0.2	<0.2	--
	5/5/97	NM	NA	NA	NA	NA	NA	--
Burlington	10/29/97	6101.19	<0.2	<0.2	<0.2	<0.2	<0.2	--
	1/12/98	6101.11	<0.2	<0.2	<0.2	<0.2	<0.2	--
MW-4	1/4/96	6106.16	NA	NA	NA	NA	NA	--
Upgradient PNM; downgradient Burlington	1/31/97		811.7	1420.5	31.0	388.1	2651.3	--
Burlington	5/1/97		1162.0	1797.0	41.0	486.0	3486.0	--
	8/27/97	6106.87	NA	NA	NA	NA	NA	--
	10/29/97	6106.73	NA	NA	NA	NA	NA	--
	1/12/98	6105.88	1251.0	6.0	82.0	24.0	1363.0	--
MW-5	10/29/97		5934.0	10024.0	709.0	8188.0	24855.0	--
Downgradient along wash	1/12/98	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--
MW-6	11/12/97	6098.08	NA	NA	NA	NA	NA	4.80
PNM drip pit/product recovery	1/12/98	6097.43	NA	NA	NA	NA	NA	4.71
MW-7	1/12/98	6047.12	780.0	246.0	258.0	3942.0	5226.0	--
Downgradient along wash; adj pipeline								
MW-8	1/12/98	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen
Upgradient PNM; downgradient Burlington								
EB WELL	11/25/97	DTW=68.	<0.2	<0.2	<0.2	<0.2	<0.2	--
Downgradient private well								

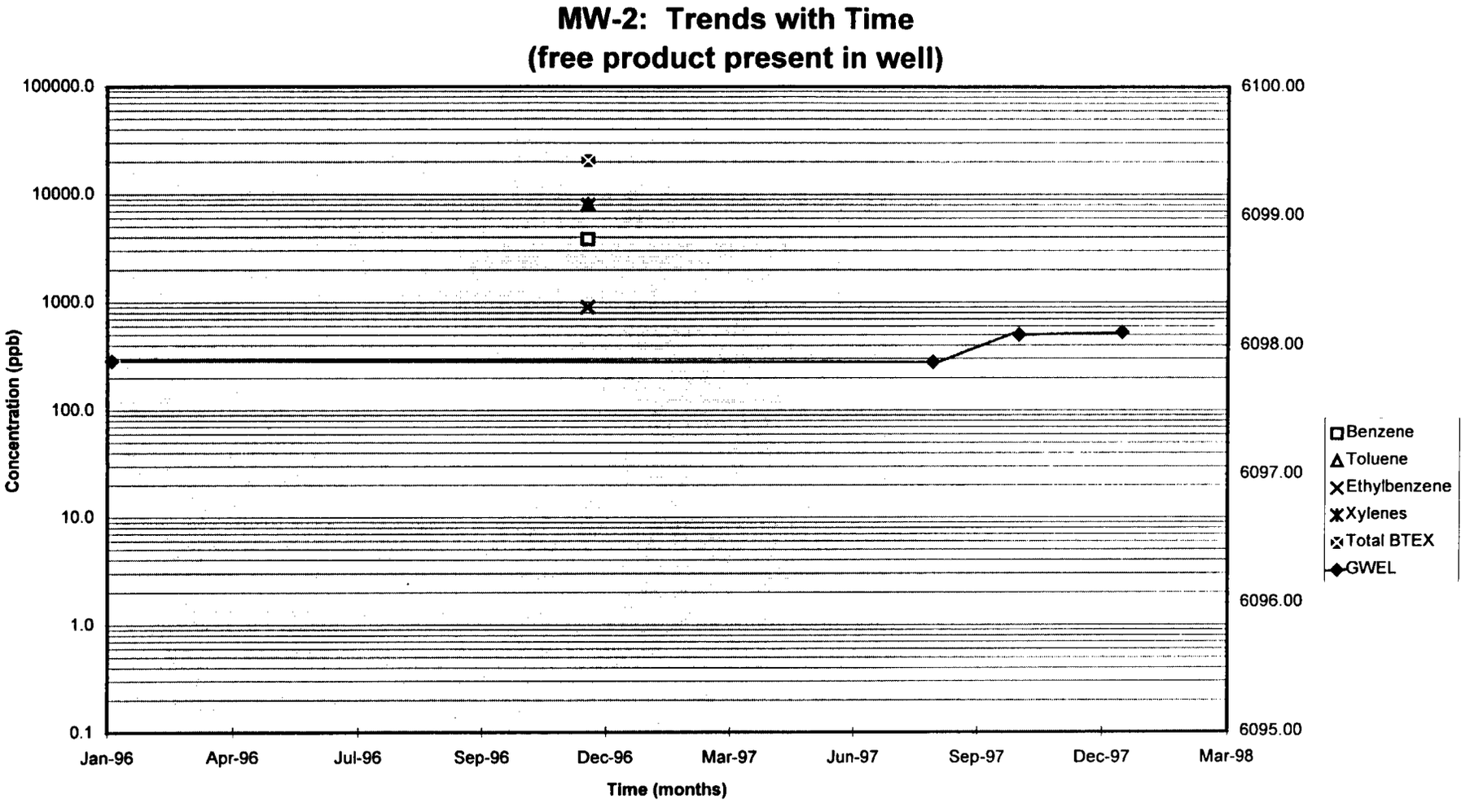
Sample	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
Burlington Temporary Monitoring Well Sampling									
TPW-01	Water	6/5/97		20.0	<1	<1	<1	20.0	NA
	Soil		25-26'	<1	<1	<1	<1	<1	<10
TPW-02	Water	6/5/97	Product	NA	NA	NA	NA	NA	NA
	Soil		25-26'	2000.0	4600.0	14000.0	39000.0	59600.0	600.0
TPW-03	Water	6/5/97	Dry	NA	NA	NA	NA	NA	NA
	Soil	6/5/97	25-26	<1	<1	<1	<1	<1	25
TPW-04	Water	6/6/97		2000.0	3100.0	57.0	810.0	5967.0	NA
	Soil	6/6/97	20-21.5'	28.0	3.4	76.0	40.0	147.4	52
TPW-05	Water	6/6/97		5800.0	460.0	16000.0	7000.0	29260.0	NA
	Soil	6/6/97	15-16'	4000.0	10000.0	4500.0	28000.0	46500.0	61
TPW-06	Water	6/6/97		1600.0	3400.0	48.0	690.0	5738.0	NA
	Soil	6/6/97	16-16.5'	<1	<1	2.8	4.8	7.6	11
TPW-07	Water	6/6/97		5300.0	18000.0	620.0	9300.0	33220.0	NA
	Soil	6/6/97	15-16'	7000.0	74000.0	20000.0	170000.0	271000.0	250
PNM Test Holes along Wash									**PID (ppm)**
TH-1	Soil	11/11/97	12.7'	NA	NA	NA	NA	NA	1412
TH-2	Soil	11/11/97	14.4'	NA	NA	NA	NA	NA	1357
TH-3	Soil	11/11/97	16.5'	NA	NA	NA	NA	NA	0
TH-4	Soil	11/11/97	15'	NA	NA	NA	NA	NA	279
TH-5	Soil	11/11/97	14.5'	NA	NA	NA	NA	NA	1211
TH-6	Soil	11/11/97	16'	NA	NA	NA	NA	NA	0
TH-7 (temporary well)	Water	11/11/97	NA	2171.0	4185.0	190.0	2856.0	170000.0	279
TH-8	Soil	11/12/97	14'	NA	NA	NA	NA	NA	0
Sample from Burlington Excavation									
Groundwater	Water	2/11/98	15'	1800	1700	<25	1420	4920	NA

Attachment A

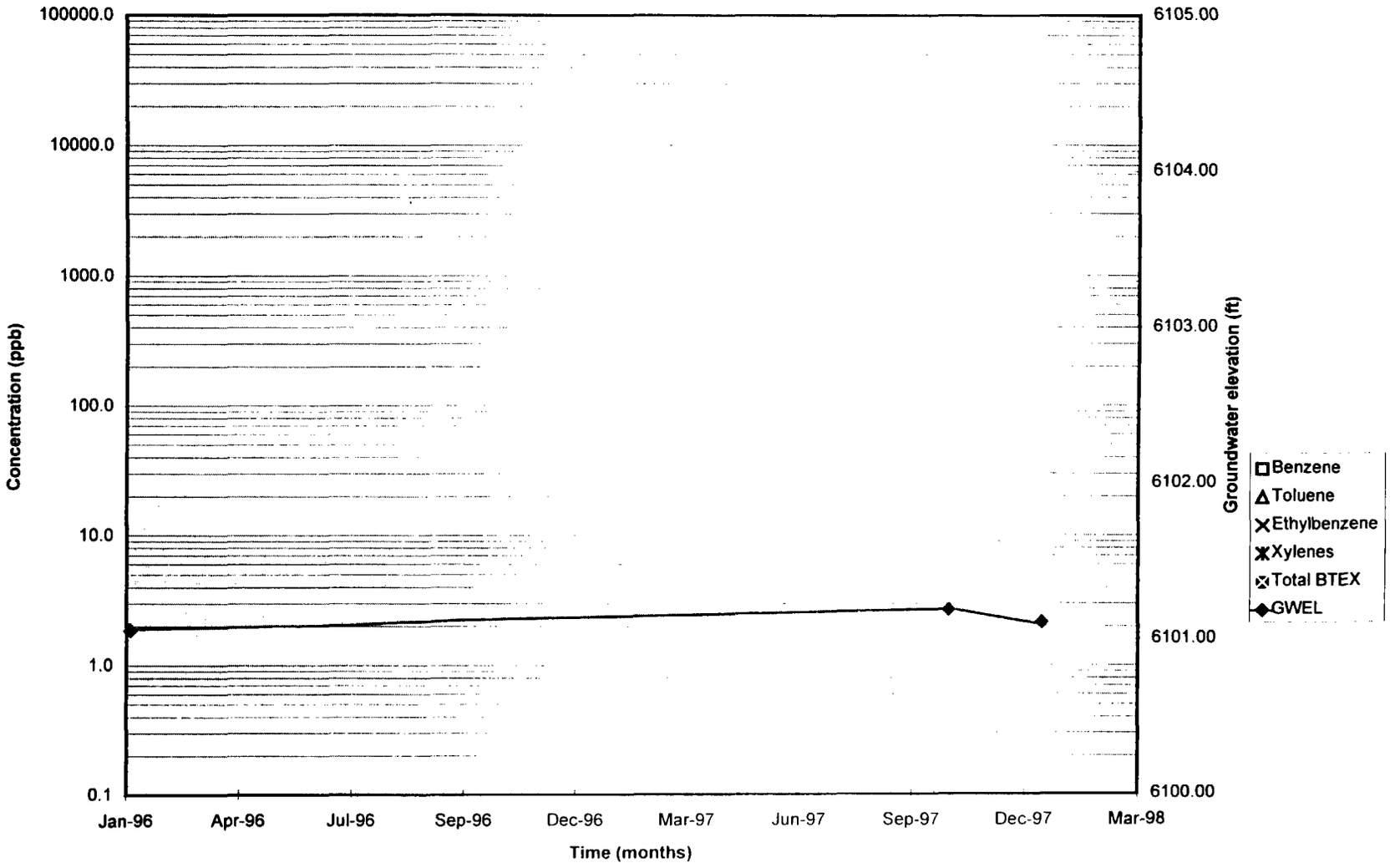
Hydrographs and Concentrations versus Time

MW-1: Trends with Time

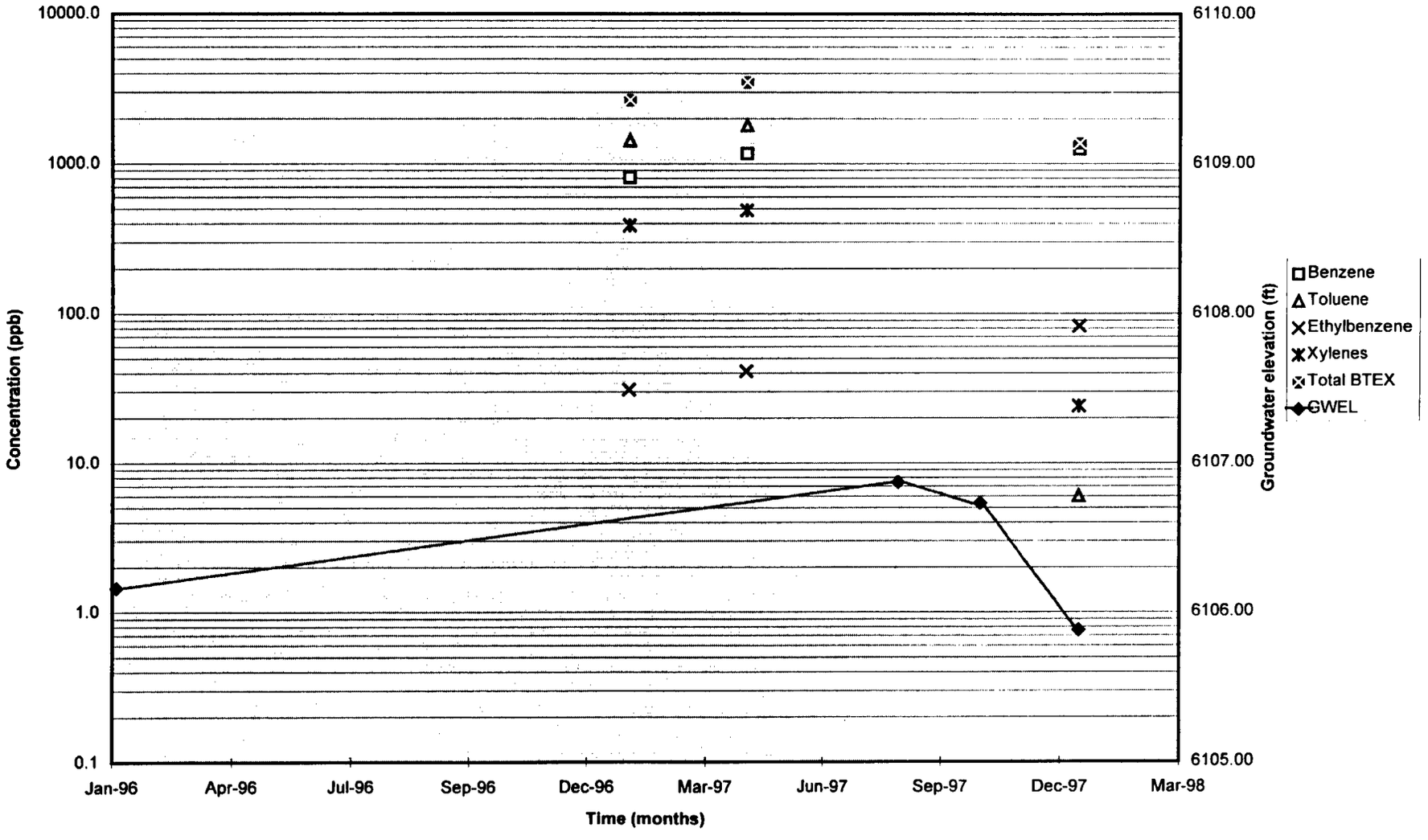



MW-2: Trends with Time
(free product present in well)
100000.0
10000.0
1000.0
100.0
10.0
1.0
0.1
Concentration (ppb)
6100.00
6099.00
6098.00
6097.00
6096.00
6095.00
Jan-96
Apr-96
Jul-96
Sep-96
Dec-96
Mar-97
Jun-97
Sep-97
Dec-97
Mar-98
Time (months)
Benzene
Toluene
Ethylbenzene
Xylenes
Total BTEX
GWEL

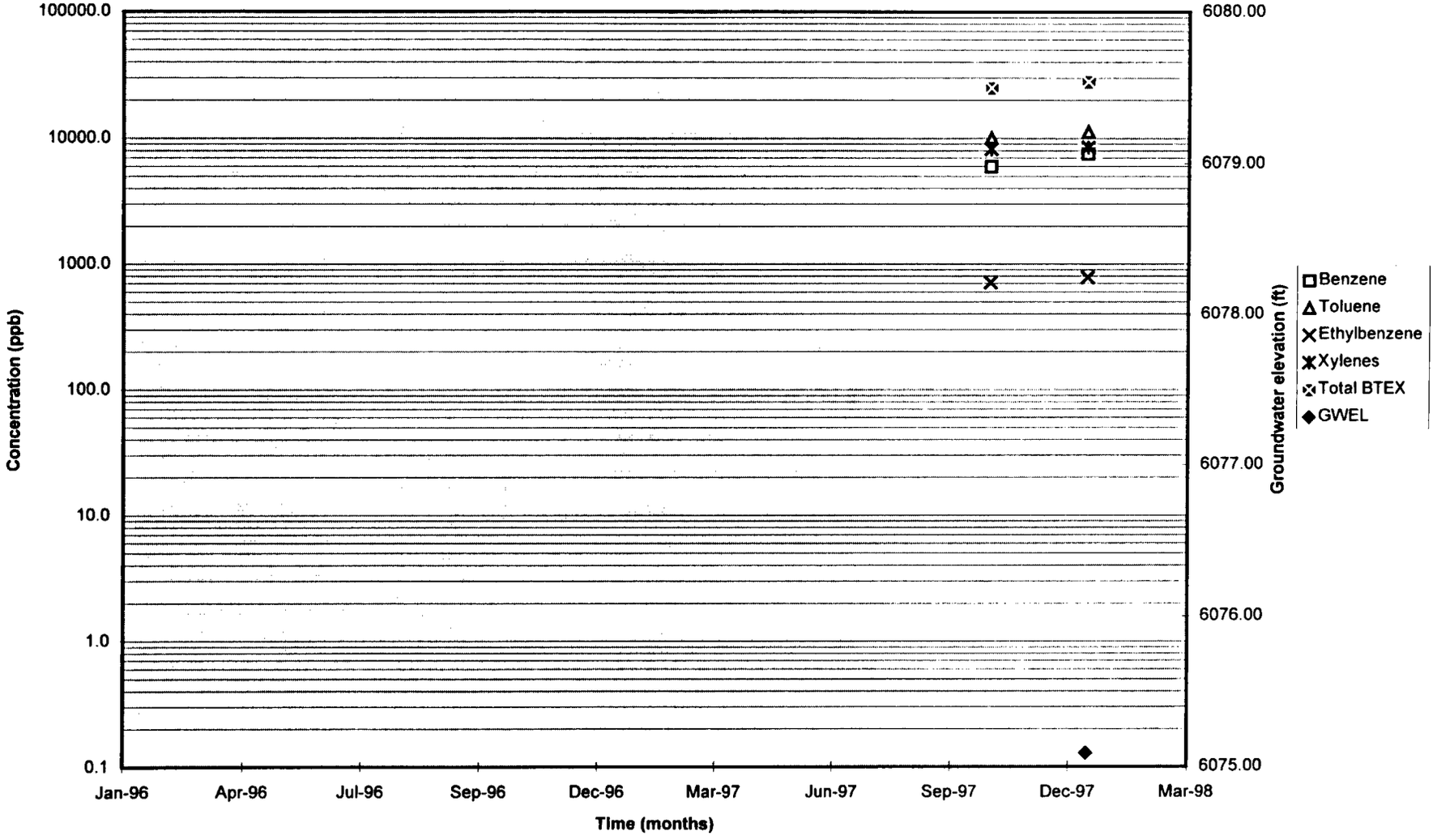
MW-3: Trends with Time



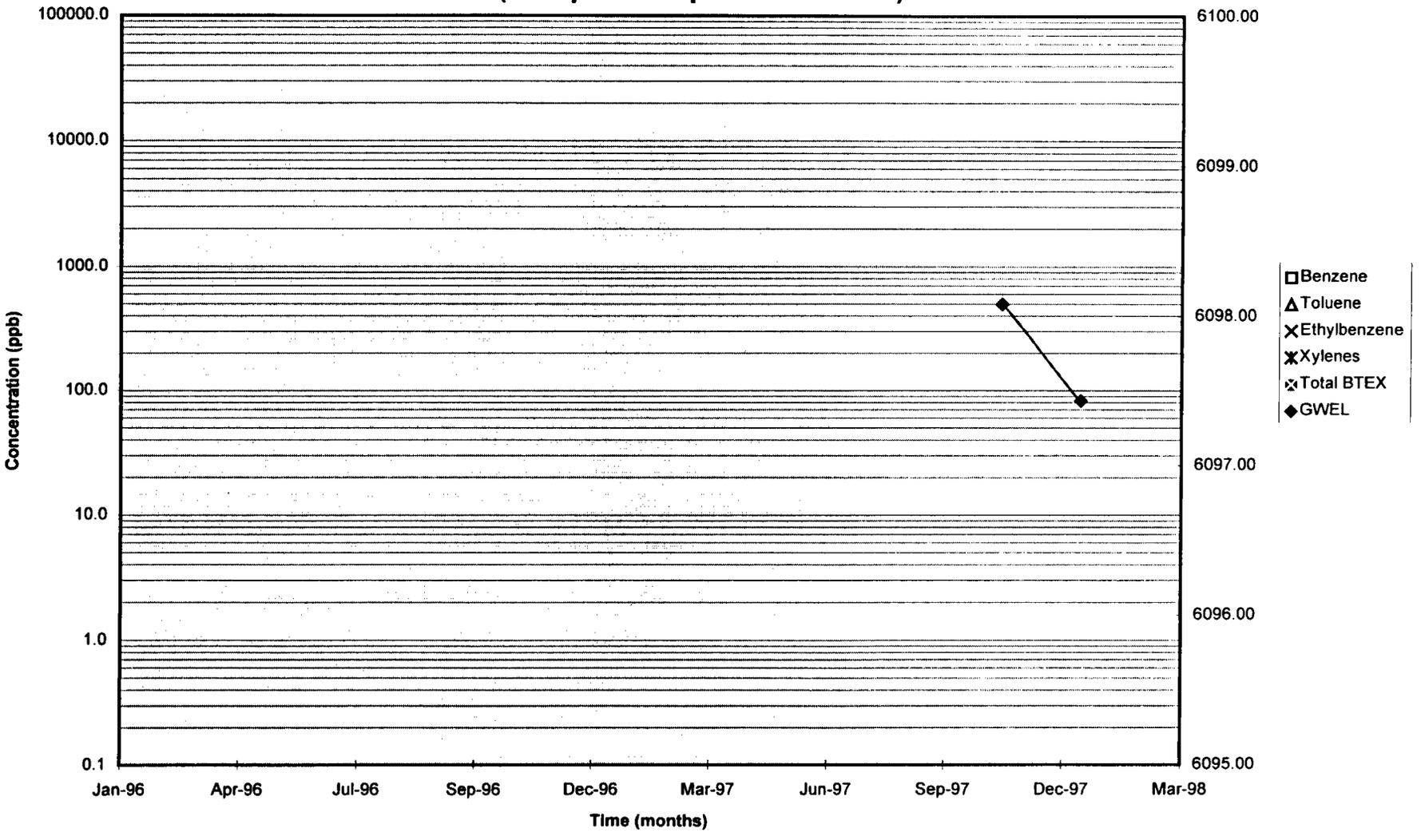
MW-4: Trends with Time



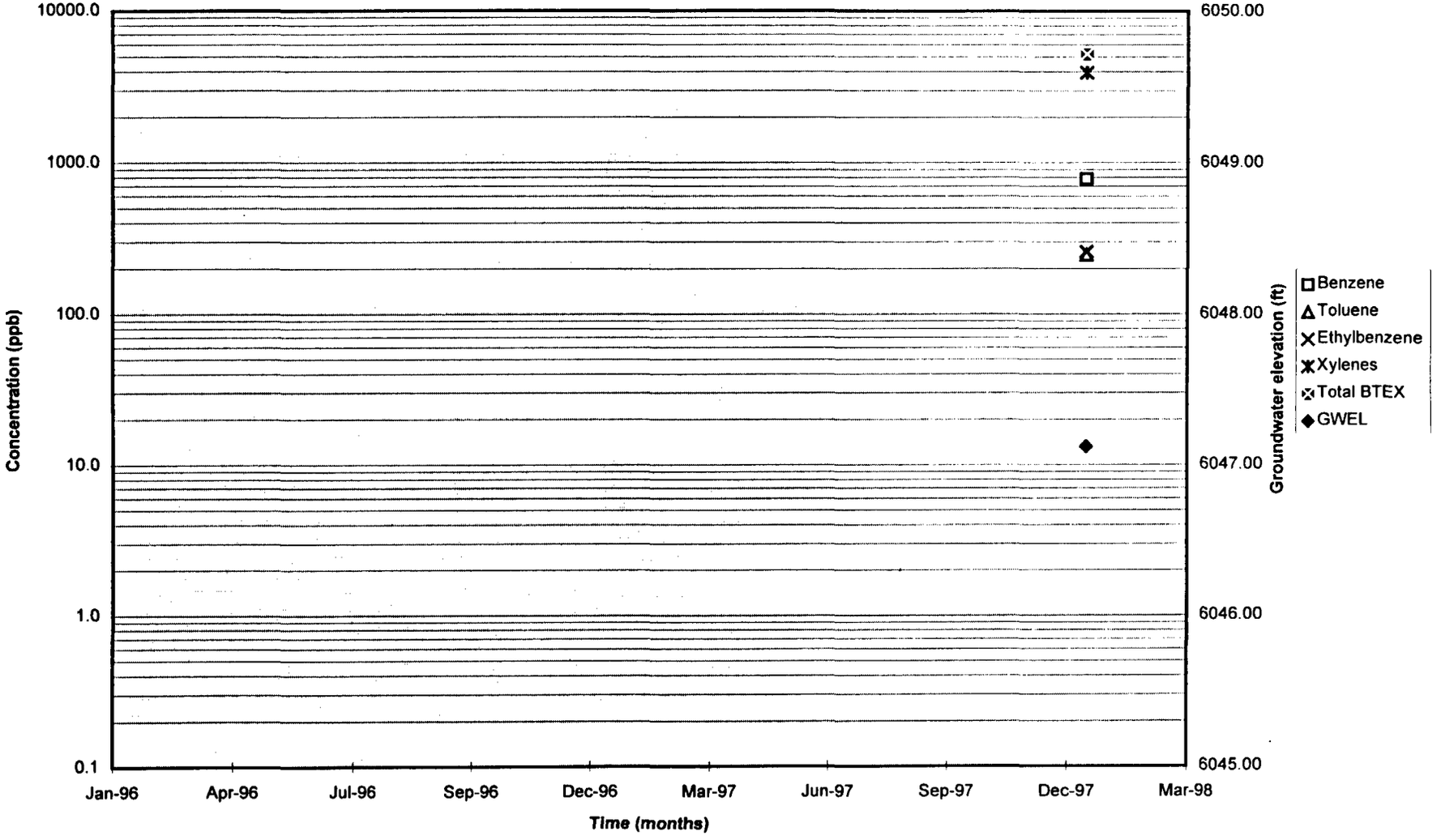
MW-5: Trends with Time



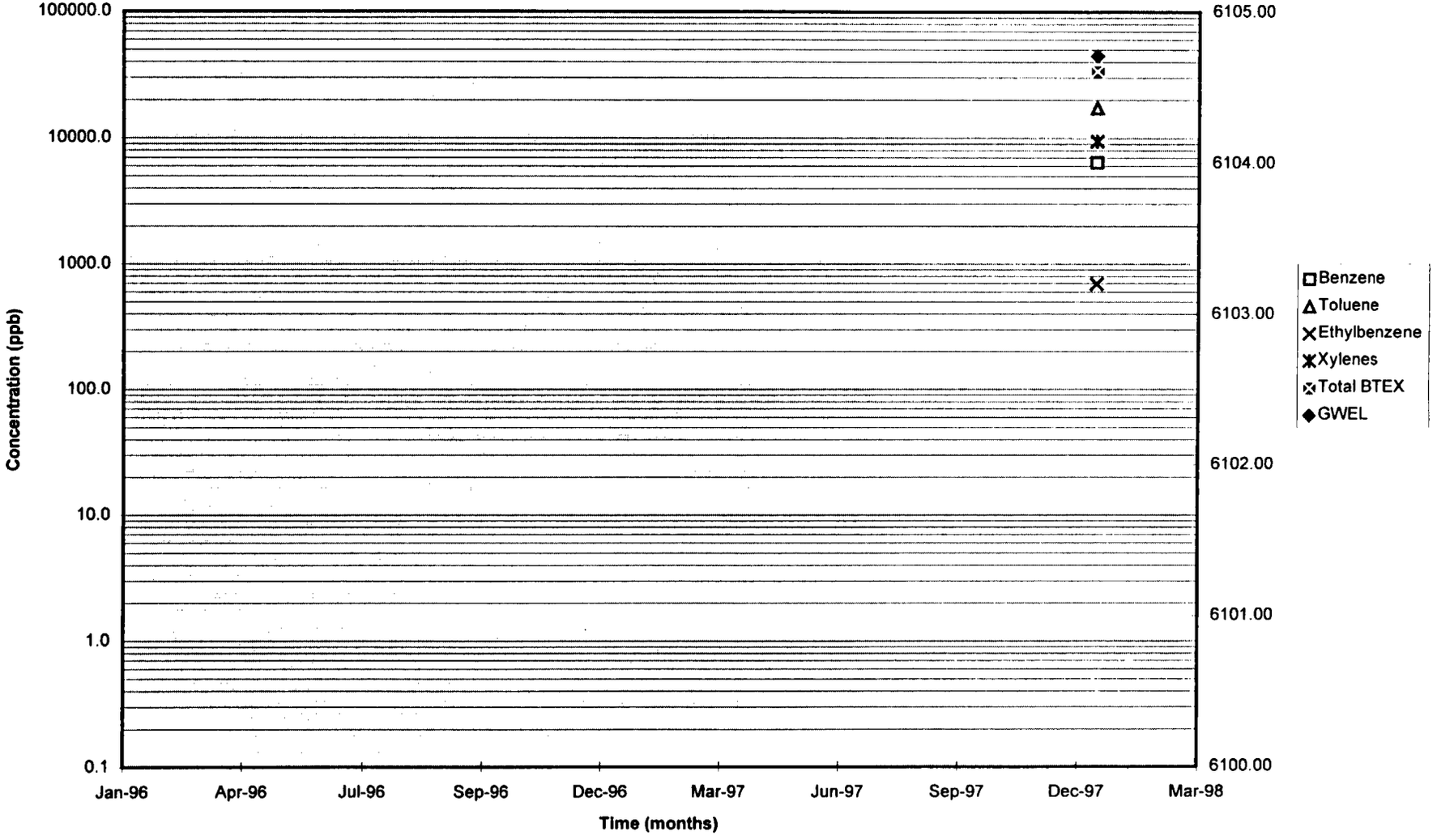
MW-6: Trends with Time
(free product present in well)



MW-7: Trends with Time



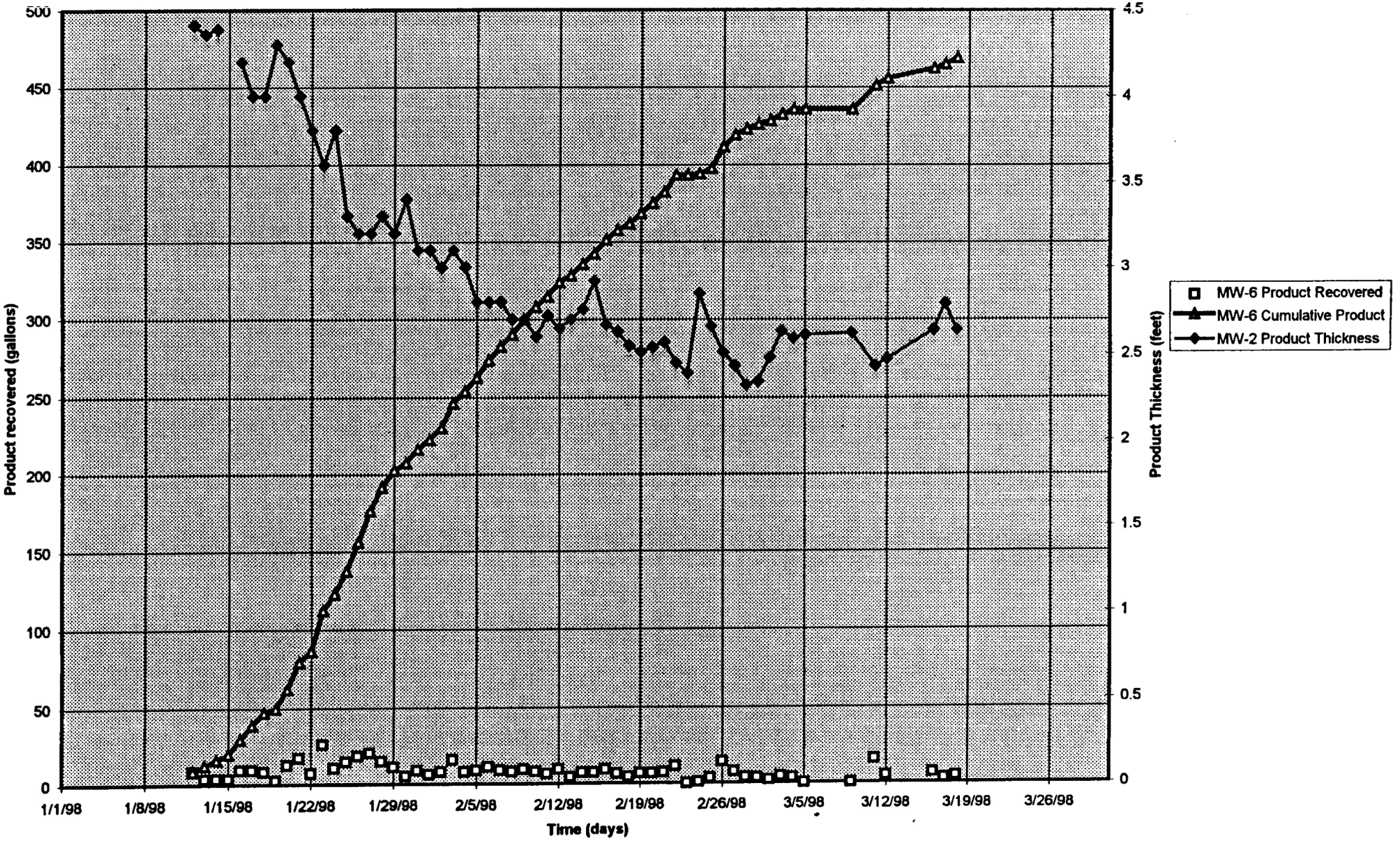
MW-8: Trends with Time



Attachment B

Free Product Recovery Response

Hampton 4M Free Product Recovery



HAMPTON 4M

DATE	TIME	PUMP TIME SET	CYCLES / DAY	PUMPING TIME TOTAL	NITROGEN PRESSURE	NITROGEN TANK LEVEL	DRUM LEVEL	MW #2 PRODUCT LEVEL	MW #2 WATER LEVEL	
1/16/98	1303	5 min.	3	2 Hr. 10 min	58	675	-	20.78	25.04	4.
1/17/98	1019	5 min.	3	2Hr. 32 min	58	775	5 3/4"	20.98	25.04	4.
1/18/98	1529	5 min.	3	2Hr. 53 min	58	275	11 1/2"	20.96	24.96	4.
1/19/98	1323	5 min.	3	3 Hr. 3 m.	58	58	15 1/2"	20.69	25.04	4
1/20/98	1454	5 min.	3	3 Hr. 30 min	50	750	17"	20.83	25.06	4.
1/21/98	0734	Cont.	1	4 Hr. 23 min	50	550	24 1/2"	20.93	24.97	4.
1/22/98	1344	10 min.	3	5 Hr. 17 min	50	400	5 1/4"	21.00	24.88	3.
1/23/98	1418	10 min.	6	7 Hr. 33 min	50	50	14"	21.11	24.74	3.
1/24/98	2356	20 min	6	6 Hr. 51 min	50	2175	16 1/2"	20.97	24.78	3.
1/25/98	1408	10 min.	6	9 Hr. 03 min	50	1875	25 1/4"	21.18	24.50	3.
1/26/98	1330	10 min.	6	10 Hr. 55 min	50	1625	11 1/4"	21.20	24.43	3.
1/27/98	1431	10 min.	6	12 Hr. 07 min	50	1375	23 1/2"	21.16	24.39	3.
1/28/98	1320	10 min	6	16 Hr. 48 min	50	600	6"	20.09	24.40	3.
1/29/98	1924	10 min	6	18 Hr. 10 min	50	325	12 3/4"	21.11	24.21	3.
1/30/98	1525	10 min	6	19 Hr. 02 min	50	150	12 3/4"	21.05	24.48	3
1/31/98	1150	10 min	6	20 Hr. 06 min	60	2275	18"	21.17	24.27	3
2/1/98	1143	10 min	12	22 Hr. 12 min	60	1875	21 3/4"	21.19	24.29	3.
2/2/98	1517	10 min	6	23 Hr. 13 min	60	1600	26 1/2"	21.25	24.25	3
2/3/98	1516	10 min	6	24 Hrs. 15 min	60	1410	9 1/2"	21.10	24.20	3.
2/4/98	1315	10 min	6	25 Hrs. 18 min	60	1120	14 1/4"	21.09	24.23	3
2/5/98	1303	10 min	6	26 Hrs. 14 min	60	875	19 1/2"	21.27	24.13	
2/6/98	1518	5 min	12	27 Hrs. 27 min	60	600	24 1/4"	21.25	24.10	
2/7/98	1121	5 min	12	29 Hrs. 21 min	60	375	5 1/4"	21.26	24.10	
2/8/98	1522	5 min	12	30 Hrs. 07 min	0	0	10"	21.24	23.98	
2/9/98	1615	5 min	12	31 Hrs. 17 min	55	2325	15 3/4"	21.21	24.00	
2/10/98	1611	5 min	12	32 Hrs. 21 min	55	2110	20 1/2"	21.36	24.00	
2/11/98	1350	5 min	12	33 Hrs. 21 min	55	1875	24 1/2"	21.23	23.95	
2/12/98	1718	5 min	12	34 Hrs. 30 min	55	1625	5 3/4"	21.30	23.95	
2/13/98	1603	5 min	6	34 Hrs. 56 min	55	1500	8 1/4"	21.22	23.92	
2/14/98	1623	5 min	6	35 Hr. 59 min	55	1225	12 1/2"	21.19	23.95	

HAMPTON 4M

DATE	TIME	PUMP TIME SET	CYCLES / DAY	PUMPING TIME TOTAL	NITROGEN PRESSURE	NITROGEN TANK LEVEL	DRUM LEVEL	MW #2 PRODUCT LEVEL	MW #2 WATER LEVEL
2/17/98	1529	5 min	12	37 Hrs 03 min	50	990	16 3/4"	21.08	24.00
2/16/98	1413	5 min	12	38 Hrs 19 min	55	675	22 1/4"	21.26	23.93
2/17/98	1740	5 min	12	39 Hrs 22 min	55	450	26"	21.26	23.89
2/18/98	1344	5 min	12	40 Hrs 14 min	55	2475	2 1/2"	21.32	23.87
2/19/98	1717	5 min	12	41 Hrs 27 min	55	2075	6 1/2"	21.34	23.85
2/20/98	1418	5 min	12	42 Hrs 25 min	55	1775	10 1/2"	21.26	23.82
2/21/98	1631	5 min	12	43 Hrs 33 min	55	1500	14 3/4"	21.30	23.87
2/22/98	1645	Change 6 min 5 min	6 6	43 Hrs 45 min 44 Hrs 01 min	55	1275	21 1/2"	21.35	23.80
2/23/98	1607	5	6	44 Hrs 38 min	55	1175	19 1/2	21.36	23.75
2/24/98	1601	5	6	50 Hrs 05 min	0	0	32.0	21.10	23.95
2/25/98	1429	5	12	50 Hrs 57 min	60	2150	24.0	21.24	23.90
2/26/98	1512	5	12	51 Hrs 54 min	58	1650	32.1/2	21.29	23.80
2/27/98	1543	5	12	52 Hrs 56 min	50	1100	4 1/2	21.35	23.78
2/28/98	1604	5	12	53 Hrs 57 min	50	480	6 3/4"	21.41	23.73
3/1/98	1105	5	12	54 Hrs 17 min	0	0	8 3/4"	21.41	23.75
3/2/98	1131 1643	5	12	55 Hrs 38 min	50	2525 1300	10"	21.32	23.80
3/3/98	1711	Cont	1	55 Hrs 52 min	50	1150	12 1/2"	21.25	2388
3/4/98							14 1/2"	21.29	23.88
3/5/98								21.29	23.90
3/9/98	1707	5	12	56 Hrs 56 min	50	900		21.38	24.00
3/11/98	1730	5	12	59 Hrs 00 min	50	200	23 3/4"	21.38	23.81
3/12/98	1604	5	12	59 Hrs.	50	2700	26 1/2"	21.34	23.81
3/16/98	1610 0700	5	12	62 Hrs 36 min	0	0	4"	21.31	23.95
3/17/98	0732	5	12/6	63 Hrs 40 min	50	2700 1850	7 1/2"	21.26	24.05
3/18/98	1823	—	—	67 Hrs 14 min	50	1600	10"	21.36	24.02

20 60
14 42
15 min

24.53
24.06
0.47

1.25

24.10
21.38
2.72

PUBLIC SERVICE COMPANY OF NEW MEXICO

DEPARTMENT

PROJECT	FILE	SHEET
Hampton 4M		OF
COMPONENT	BY	DATE
Product removed (gallons) from mw-6		
	CHECKED	DATE

5.0 gal. in November

12 - 8.50 gal.
13 - 3.75 gal.
14 - 3.75 gal.
15 - 3.80 gal.
16 - 9.55 gal.
17 - 9.55 gal.
18 - 8.30 gal
19 - 2.49 gal.
20 - 12.45 gal.
21 - 17.72 gal.
22 - 7.00 gal. Total 86.86 gal. +5
23 - 20.26 gal " 112.14 gal
24 - 10.65 gal.
25 - 14.53 gal.
26 - 18.68 gal.
27 - 20.34 gal. Total 174.34 gal
28 - 14.96 gal
29 - 11.21 gal Total 187.55 gal
30 - 5.00 gal.
31 - 8.72 gal. Total 201.27 gal
1 - 6.23 gal.
2 7.89 gal.
3 15.77 gal. Total 231.16 gal
4 7.89 gal
5 8.72 gal.
6 11.21 gal. Total 258.98 gal
7 - 8.72 gal.
8 - 7.89 gal.
9 - 9.55 gal
10 - 7.89 gal Total 293.02 gal.
299.64
11 - 6.64 gal
12 - 9.55 gal
13 - 4.15 gal
14 - 7.04 gal
15 - 7.04 gal

Feb. 16 - 9.13
17 - 6.23
18 - 4.15
19 - 6.64 - 353.6
20 - 6.64
21 - 7.06
22 - 11.21 - 378.54
23 - 0
24 - 0.83
25 - 3.32
26 - 14.11 - 396.80
27 - 7.47
28 - 3.74
March - 3.32 - 411.33 gal
2 - 2.08
3 - 3.32
4 - 4.15
11 - 15.36
12 - 4.57
16 - 6.64
17 - 5.81 - 453.26 gal
18 - 4.15

PNM 9

Attachment C

Analytical Laboratory Data

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

February 24, 1998

Maureen Gannon
PNM Gas Services
Alevardo Square, Mail Stop 0408
Albuquerque, NM 87401
TEL: (505) 241-2974
FAX (505) 241-2340

RE: Hampton 4M Burlington Excavation Order No.: 9802007

Dear Maureen Gannon,

On Site Technologies, LTD. received 1 sample on 2/11/98 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC-PID (SW8021A)

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

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

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *24-Feb-98*

Client:	PNM Gas Services	**Client Sample Info:**	Hampton 4M
Work Order:	9802007	**Client Sample ID:**	9802111400; Burlington Excava
Lab ID:	9802007-01A **Matrix:** AQUEOUS	**Collection Date:**	2/11/98 2:00:00 PM
Project:	Hampton 4M Burlington Excavation	**COC#:**	7174

Parameter	Result	Limit	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC-PID		**SW8021A**				Analyst: **DC**
Benzene	1800	25		µg/L	50	2/17/98
Toluene	1700	25		µg/L	50	2/17/98
Ethylbenzene	ND	25		µg/L	50	2/17/98
m,p-Xylene	1200	50		µg/L	50	2/17/98
o-Xylene	220	25		µg/L	50	2/17/98
Surr: Fluorobenzene	99.6	70-130		%REC	50	2/17/98
Surr: 1,4-Difluorobenzene	101.2	70-130		%REC	50	2/17/98
Surr: 4-Bromochlorobenzene	100.6	70-130		%REC	50	2/17/98

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

P.O. BOX 2606 • FARMINGTON, NM 87499

On Site Technologies, LTD.

Date: *24-Feb-98*

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1 W** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **71**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1481	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
o-Xylene	ND	0.5									
Toluene	.0621	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: *24-Feb-98*

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **9802002-06A MS** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **91**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18890	50	4000	15090	95.0%	57	128				
Ethylbenzene	4625	50	4000	489.6	103.4%	78	107				
m,p-Xylene	12080	100	8000	4068	100.2%	67	118				
o-Xylene	5186	50	4000	1043	103.6%	78	107				
Toluene	5121	50	4000	1055	101.7%	74	116				

Sample ID: **9802002-06A MSD** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **92**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19120	50	4000	15090	100.9%	57	128	18890	1.2%	12	
Ethylbenzene	4687	50	4000	489.6	104.9%	78	107	4625	1.3%	11	
m,p-Xylene	12240	100	8000	4068	102.1%	67	118	12080	1.3%	10	
o-Xylene	5283	50	4000	1043	106.0%	78	107	5186	1.9%	14	
Toluene	5195	50	4000	1055	103.5%	74	116	5121	1.4%	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: *24-Feb-98*

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **73**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43.06	0.5	40	0.1481	107.3%	84	114				
Ethylbenzene	45.72	0.5	40	0	114.3%	86	118				
m,p-Xylene	87.09	1	80	0	108.9%	50	150				
o-Xylene	44.73	0.5	40	0	111.8%	49	147				
Toluene	44.06	0.5	40	0.0621	110.0%	87	120				

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: *24-Feb-98*

CLIENT: PNM Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV2 QC0529/30** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **81**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.26	0.5	20	0	106.3%	85	115				
Ethylbenzene	21.77	0.5	20	0	108.8%	85	115				
m,p-Xylene	42.35	1	40	0	105.9%	85	115				
o-Xylene	22.08	0.5	20	0	110.4%	85	115				
Toluene	21.94	0.5	20	0	109.7%	85	115				
1,4-Difluorobenzene	100.6	0	100	0	100.7%	70	130				
4-Bromochlorobenzene	96.82	0	100	0	96.8%	70	130				
Fluorobenzene	99.99	0	100	0	100.0%	70	130				

Sample ID: **CCV2 QC0529/30** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **72**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.01	0.5	20	0	100.0%	85	115				
Ethylbenzene	21.19	0.5	20	0	105.9%	85	115				
m,p-Xylene	39.98	1	40	0	99.9%	85	115				
o-Xylene	20.82	0.5	20	0	104.1%	85	115				
Toluene	20.3	0.5	20	0	101.5%	85	115				
1,4-Difluorobenzene	101.8	0	100	0	101.8%	70	130				
4-Bromochlorobenzene	99.27	0	100	0	99.3%	70	130				
Fluorobenzene	99.75	0	100	0	99.8%	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 Gas Services
Work Order: 9802007
Project: Hampton 4M Burlington Excavation

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 QC0529/30** Batch ID: **GC-1_980217** Test Code: **SW8021A** Units: **µg/L** Analysis Date: **2/17/98** Prep Date:

Client ID: **9802007** Run ID: **GC-1_980217A** SeqNo: **94**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.56	0.5	20	0	102.8%	85	115				
Ethylbenzene	21.76	0.5	20	0	108.8%	85	115				
m,p-Xylene	40.95	1	40	0	102.4%	85	115				
o-Xylene	21.29	0.5	20	0	106.4%	85	115				
Toluene	20.93	0.5	20	0	104.6%	85	115				
1,4-Difluorobenzene	101.2	0	100	0	101.2%	70	130				
4-Bromochlorobenzene	95.23	0	100	0	95.2%	70	130				
Fluorobenzene	99.96	0	100	0	100.0%	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

7174

CHAIN OF CUSTODY RECORD

Date: 2/11/98

Page: 1 of 1

ON SITE TECHNOLOGIES, LTD.

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

Purchase Order No.:		Job No.	
SEND INVOICE TO	Name	Denver Bearden	
	Company	PNM Gas Services	Dept. 324-3763
	Address	603 W. Elm Street	
	City, State, Zip	Farmington, NM 87401	

REPORT RESULTS TO	Name	Maureen Gannon	Title
	Company	PNM Gas Services	
	Mailing Address	Alverado Square, Mail Stop 0408	
	City, State, Zip	Albuquerque, NM 87158	
	Telephone No.	505-848-2974	Telefax No.

Sampling Location: Hampton 4M Burlington Excav

Sampler: M.S.

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX 8021	LAB ID
990211/400 Burlington Excav			H2O	HCl	2	X	71627-01A

ANALYSIS REQUESTED

Relinquished by:	Date/Time 2/11/98 1600	Received by:	Date/Time 2/11/98 1600
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment: Hand Delivered

Authorized by: _____ Date 2/11/98

(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:
			Results to be sent to both parties.

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

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17304*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121030; MW-1***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	10:30
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	4.3	ug/L	0.2	ug/L
Toluene	3.3	ug/L	0.2	ug/L
Ethylbenzene	0.2	ug/L	0.2	ug/L
m,p-Xylene	0.7	ug/L	0.2	ug/L
o-Xylene	0.3	ug/L	0.2	ug/L
TOTAL	8.8	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	26-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample ID.:	*17304*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121030; MW-1***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	10:30
Analyzed by:	HR	Date:	26-Jan-98		

Laboratory Analysis

Parameter		Results as Received	Unit of Measure		Results as Received	Unit of Measure	
Cations							
Sodium	*Na*	112	mg/L		4.87	me/L	
Calcium	*Ca*	444	mg/L		22.16	me/L	
Magnesium	*Mg*	210	mg/L		17.28	me/L	
Potassium	*K*	8.3	mg/L		0.21	me/L	
Anions							
Chloride	*Cl*	9	mg/L		0.26	me/L	
Sulfate	*SO4*	2202	mg/L		45.84	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	2	mg/L		0.03	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		2987	mg/L				
Total Dissolved Solids Dried @ 180 C		3242	mg/L				
pH		4.62					
Conductivity @ 25 C		2960	uS/cm				
Total Hardness as CaCO3		1973	mg/L				

Cation-Anion Balance

1.61 *Difference Cation-Anion, me/L*

90.65 *Total Cation-Anion, me/L*

1.8 *% Difference Cation-Anion*

Comments

Approved by:

Date: 1/30/98

OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17305*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121100; MW-3***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	11:00
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	ND	ug/L	0.2	ug/L
Toluene	ND	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	ND	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17306*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121130; MW-4***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	11:30
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	1251	ug/L	2	ug/L
Toluene	6	ug/L	2	ug/L
Ethylbenzene	81	ug/L	2	ug/L
m,p-Xylene	24	ug/L	2	ug/L
o-Xylene	ND	ug/L	2	ug/L
TOTAL	1361	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17307*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121200; MW-5***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	12:00
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	7521	ug/L	20	ug/L
Toluene	11213	ug/L	20	ug/L
Ethylbenzene	779	ug/L	20	ug/L
m,p-Xylene	6762	ug/L	20	ug/L
o-Xylene	1674	ug/L	20	ug/L
TOTAL	27950	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17308*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121230; MW-7***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	12:30
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	780	ug/L	20	ug/L
Toluene	246	ug/L	20	ug/L
Ethylbenzene	258	ug/L	20	ug/L
m,p-Xylene	3204	ug/L	20	ug/L
o-Xylene	738	ug/L	20	ug/L
TOTAL	5227	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17309*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121300; MW-8***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	13:00
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	6410	ug/L	20	ug/L
Toluene	17301	ug/L	20	ug/L
Ethylbenzene	693	ug/L	20	ug/L
m,p-Xylene	7612	ug/L	20	ug/L
o-Xylene	1785	ug/L	20	ug/L
TOTAL	33801	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	26-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample ID.:	*17309*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121300; MW-8***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	13:00
Analyzed by:	HR	Date:	26-Jan-98		

Laboratory Analysis

Parameter		Results as Received	Unit of Measure		Results as Received	Unit of Measure	
Cations							
Sodium	*Na*	108	mg/L		4.70	me/L	
Calcium	*Ca*	456	mg/L		22.76	me/L	
Magnesium	*Mg*	236	mg/L		19.42	me/L	
Potassium	*K*	20.9	mg/L		0.53	me/L	
Anions							
Chloride	*Cl*	30	mg/L		0.83	me/L	
Sulfate	*SO4*	2215	mg/L		46.12	me/L	
Carbonate	*CO3 as CaCO3*	<1	mg/L		<0.01	me/L	
Bicarbonate	*HCO3 as CaCO3*	73	mg/L		1.20	me/L	
Hydroxide	*OH as CaCO3*	<1	mg/L		<0.01	me/L	
Total Dissolved Solids Calculated, Sum of Cation/Anion		3139	mg/L				
Total Dissolved Solids Dried @ 180 C		3424	mg/L				
pH		6.21					
Conductivity @ 25 C		2950	uS/cm				
Total Hardness as CaCO3		2110	mg/L				

Cation-Anion Balance

0.74 *Difference Cation-Anion. me/L*

95.55 *Total Cation-Anion. me/L*

0.8 *% Difference Cation-Anion*

Comments

Approved by:

Date: 1/30/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	23-Jan-98
Company:	*PNM Gas Services*	COC No.:	*7086*
Address:	*603 W. Elm*	Sample No.:	*17310*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9801121330; MW-9***				
Sampled by:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	13:30
Analyzed by:	DC	Date:	21-Jan-98		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	1252	ug/L	2	ug/L
Toluene	7	ug/L	2	ug/L
Ethylbenzene	80	ug/L	2	ug/L
m,p-Xylene	23	ug/L	2	ug/L
o-Xylene	ND	ug/L	2	ug/L
TOTAL	1362	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 1/23/98

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 21-Jan-98

Internal QC No.: 0559-STD
Surrogate QC No.: 0567-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	*Result*	*Unit of Measure*
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	*Unit of Measure*	*True Value*	*Analyzed Value*	*RPD*	*Limit*
Benzene	ppb	30.0	30.6	2	15%
Toluene	ppb	30.0	30.8	3	15%
Ethylbenzene	ppb	30.0	31.4	5	15%
m,p-Xylene	ppb	60.0	59.7	0	15%
o-Xylene	ppb	30.0	31.1	4	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*RPD*	*Limit*
Benzene	102	92	(39-150)	2	20%
Toluene	108	105	(46-148)	2	20%
Ethylbenzene	108	105	(32-160)	3	20%
m,p-Xylene	104	102	(35-145)	3	20%
o-Xylene	110	107	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*	*Laboratory Identification*	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)		*Limit Percent Recovered*	(70-130)	
17304-7086	101		*17310-7086*	100	
17305-7086	102				
17306-7086	100				
17307-7086	100				
17308-7086	101				
17309-7086	101			1/26/98	1/23/98

S1: *Flourobenzene*

RECEIVED FEB 1 2 1998

Mountain States Analytical, Inc.

The Quality Solution

February 6, 1998

Mr. David Cox
On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Reference:
Project: Hampton 4M
MSAI Group: 19520

Dear Mr. Cox:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

9801121030 MW-1 (Diss) 9801121300 MW-8 (Diss)

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen
Project Manager

Corporate Office
1645 West 2200 South Salt Lake City, Utah 84119
801-973-0050 • 800-973-6724(MSAI) • FAX 801-972-6278

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Hampton 4M

Sample ID: 9801121030 MW-1 (Diss)
Matrix: Waste Water

MSAI Sample: 74841
MSAI Group: 19520
Date Reported: 02/06/98
Discard Date: 03/08/98
Date Submitted: 01/30/98
Date Sampled: 01/12/98
Collected by: MG
Purchase Order: 7086
Project No.:

Test	Analysis	Results as Received	Units	Method Detection Limit
0001M	**Special Instructions, Metals Method: SPECIAL INST MSAI	Batch. W59		
0259B	Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0001
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. W059		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. W001		
0401	Prep for HAA, w/ww, 7062/7742 Method: SW-846 7062/7742	Batch. W60		
1451	Selenium by HAA, w/ww, 7742 Method: SW-846 7742	ND	mg/l	0.002
7245	Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.04
7246	Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.008	mg/l	0.003
7249	Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.004
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.010
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.

MSAI Sample: 74841
MSAI Group: 19520

Sample ID: 9801121030 MW-1 (Diss)

Test	Analysis	Results as Received	Units	Method Detection Limit
7266	Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.005
0939	Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.
612 E Murray Drive
Farmington, NM 87401

Attn: Mr. David Cox
Project: Hampton 4M

Sample ID: 9801121300 MW-8 (Diss)
Matrix: Waste Water

MSAI Sample: 74842
MSAI Group: 19520
Date Reported: 02/06/98
Discard Date: 03/08/98
Date Submitted: 01/30/98
Date Sampled: 01/12/98
Collected by: MG
Purchase Order: 7086
Project No.:

Test	Analysis	Results as Received	Units	Method Detection Limit
0259B	Mercury by CVAA, w/ww, 7470 Method: SW-846 7470	ND	mg/l	0.0001
0392I	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. W059		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. W001		
0401	Prep for HAA, w/ww, 7062/7742 Method: SW-846 7062/7742	Batch. W60		
1451	Selenium by HAA, w/ww, 7742 Method: SW-846 7742	ND	mg/l	0.002
7245	Arsenic by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.04
7246	Barium by ICP, w/ww, 6010A Method: SW-846 6010A	0.014	mg/l	0.003
7249	Cadmium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.004
7251	Chromium by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.010
7255	Lead by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.050
7266	Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l	0.005

Mountain States Analytical, Inc.
The Quality Solution

On Site Technologies, Ltd.

MSAI Sample: 74842
MSAI Group: 19520

Sample ID: 9801121300 MW-8 (Diss)

Test	Analysis	Results as Received	Units	Method Detection Limit
0939	Sample Filtering, ww, MSAI Method: IN HOUSE MSAI	Complete		

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

02/06/98
15:55:12
Group: 19523

Analysis Batch Number: 0259B-02/03/98-114 -1
Test Identification : 0259B-Mercury by CVAA, w/ww, 7470 Sequence : 8259 -1
Number of Samples : 4
Batch Data-Date/Time : 02/04/98 / 11:19:01

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
19477-74729	Mercury	-0.0900	0.1000
PBW1-001-2	Mercury	-0.0900	0.1000
19477-74729-3	Mercury	-0.0900	0.1000

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
19527-74856	Mercury	2.0000	-0.1800	1.8900	103.5	80.0	120.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMI
19527-74856	Mercury	2.0000	-0.1800	1.9000	104.0	80.0	120.0	0.5	20.

L ICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
19527-74856	Mercury	-0.1800	-0.1800	0.0	20.0	1.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
19477-74730	Mercury	2.5000	2.5000	100.0	80.0	120.0
LCSW-001-2	Mercury	2.5000	2.5000	100.0	80.0	120.0
19477-74730-3	Mercury	2.5000	2.5000	100.0	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
CCV-	Mercury	3.0000	2.8800	96.0	90.0	110.0
CCV--2	Mercury	5.0000	4.8900	97.8	80.0	120.0
CCV--3	Mercury	5.0000	4.7800	95.6	80.0	120.0
CCV--4	Mercury	5.0000	4.7700	95.4	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
CCB-	Mercury	-0.0300	0.1000
CCB-	Mercury	-0.0100	0.1000
CCB-	Mercury	0.0800	0.1000
CCB-	Mercury	0.0700	0.1000

Groups & Samples

19477-74728 19477-74729 19477-74730 19520-74841 19520-74842 19523-74848 19527-74856

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

02/06/98
15:55:16
Group: 19520

Analysis Batch Number: 1451 -02/02/98-061 -1
Test Identification : 1451 -Selenium by HAA, W/WW, 7742 Sequence : DAAA033
Number of Samples : 2
Batch Data-Date/Time : 02/02/98 / 20:38:44

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW-060	Selenium	ND	0.0050

SPIKE

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
19520-74841	Selenium	0.0400	0.0010	0.0436	106.5	75.0	125.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMI
19520-74841	Selenium	0.0400	0.0010	0.0393	95.8	75.0	125.0	10.4	20.

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
20-74841	Selenium	0.0010	0.0007	35.3(11)	20.0	2.00

CONTROL

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW-060	Selenium	0.0384	0.0400	96.0	75.0	125.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Selenium	0.0500	0.0533	106.6	80.0	120.0
CCV1--2	Selenium	0.0500	0.0534	106.8	80.0	120.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Selenium	0.0001	0.0050
CCB1-	Selenium	0.0003	0.0050

---------- Result Footnotes ----------

) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples

19520-74841 19520-74842

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

02/06/98
15:55:21
Group: 19523

Analysis Batch Number: ICPWA-02/03/98-001 -4
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 4
Batch Data-Date/Time : 02/04/98 / 07:42:35

Sequence : DATC034

BLANK#	ANALYTE	CONC FOUND #	CONC LIMIT
PBW1-059	Silver	0.0010	0.0060
	Arsenic	0.0019	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0017	0.0100
	Iron	ND	0.2000
	Molybdenum	ND	0.0300
	Nickel	ND	0.0300
	Lead	0.0119	0.0400
	Selenium	0.0069	0.0700

SPIKE

LE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
19523-74848	Silver	0.0500	0.0000	0.0479	95.8	80.0	120.0
	Arsenic	2.0000	0.0017	1.9432	97.1	80.0	120.0
	Barium	2.0000	0.2139	2.1351	96.1	80.0	120.0
	Cadmium	0.0500	0.0002	0.0516	102.8	80.0	120.0
	Chromium	0.2000	0.0017	0.2019	100.1	80.0	120.0
	Iron	1.0000	0.2537	1.2570	100.3	80.0	120.0
	Molybdenum	0.5000	0.0037	0.5063	100.5	80.0	120.0
	Nickel	0.5000	-0.0015	0.4943	99.2	80.0	120.0
	Lead	0.5000	-0.0106	0.5096	104.0	80.0	120.0
	Selenium	2.0000	0.0102	1.9405	96.5	80.0	120.0

MSD

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER	QC LIMITS UPPER	RPD #	LIMI
19523-74848	Silver	0.0500	0.0000	0.0495	99.0	80.0	120.0	3.3	20.
	Arsenic	2.0000	0.0017	1.9992	99.9	80.0	120.0	2.8	20.
	Barium	2.0000	0.2139	2.1773	98.2	80.0	120.0	2.0	20.
	Cadmium	0.0500	0.0002	0.0506	100.8	80.0	120.0	2.0	20.
	Chromium	0.2000	0.0017	0.2042	101.3	80.0	120.0	1.1	20.
	Iron	1.0000	0.2537	1.2820	102.8	80.0	120.0	2.0	20.
	Molybdenum	0.5000	0.0037	0.5201	103.3	80.0	120.0	2.7	20.
	Nickel	0.5000	-0.0015	0.4993	100.2	80.0	120.0	1.0	20.
	Lead	0.5000	-0.0106	0.5027	102.7	80.0	120.0	1.4	20.
	Selenium	2.0000	0.0102	2.0087	99.9	80.0	120.0	3.5	20.

DUPLICATE

SAMPLE#	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION
19523-74848	Silver	0.0000	0.0000	0.0	20.0	1.00
	Arsenic	0.0017	0.0121	150.7(11)	20.0	1.00
	Barium	0.2139	0.2118	1.0	20.0	1.00
	Cadmium	0.0002	0.0001	66.7(11)	20.0	1.00
	Chromium	0.0017	0.0000	200.0(11)	20.0	1.00
	Iron	0.2537	0.2477	2.4	20.0	1.00
	Molybdenum	0.0037	0.0000	200.0(11)	20.0	1.00
	Nickel	-0.0015	0.0000	200.0(11)	20.0	1.00
	Lead	-0.0106	0.0074	1125.0(11)	20.0	1.00
	Selenium	0.0102	0.0136	28.6(11)	20.0	1.00

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICPWA-02/03/98-001 -4
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 4
Batch Data-Date/Time : 02/04/98 / 07:42:35

Sequence : DATC034

CONTROL SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
LCSW-059	Silver	0.0521	0.0500	104.2	80.0	120.0
	Arsenic	2.0127	2.0000	100.6	80.0	120.0
	Barium	1.9239	2.0000	96.2	80.0	120.0
	Cadmium	0.0557	0.0500	111.4	80.0	120.0
	Chromium	0.2081	0.2000	104.1	80.0	120.0
	Iron	1.0343	1.0000	103.4	80.0	120.0
	Molybdenum	0.5225	0.5000	104.5	80.0	120.0
	Nickel	0.5137	0.5000	102.7	80.0	120.0
	Lead	0.5514	0.5000	110.3	80.0	120.0
	Selenium	2.0482	2.0000	102.4	80.0	120.0

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
ICV-	Silver	0.4000	0.3789	94.7	90.0	110.0
	Arsenic	1.6000	1.5838	99.0	90.0	110.0
	Barium	4.0000	3.8169	95.4	90.0	110.0
	Cadmium	4.0000	3.9563	98.9	90.0	110.0
	Chromium	4.0000	4.0024	100.1	90.0	110.0
	Iron	4.0000	4.0909	102.3	90.0	110.0
	Molybdenum	20.0000	19.4749	97.4	90.0	110.0
	Nickel	8.0000	7.9267	99.1	90.0	110.0
	Lead	20.0000	19.2317	96.2	90.0	110.0
	Selenium	1.6000	1.5514	97.0	90.0	110.0
CCV1--2	Silver	0.4000	0.3724	93.1	90.0	110.0
	Arsenic	1.6000	1.5616	97.6	90.0	110.0
	Barium	4.0000	3.7455	93.6	90.0	110.0
	Cadmium	4.0000	3.9347	98.4	90.0	110.0
	Chromium	4.0000	3.9560	98.9	90.0	110.0
	Iron	4.0000	4.1056	102.6	90.0	110.0
	Molybdenum	20.0000	19.2108	96.1	90.0	110.0
	Nickel	8.0000	7.8528	98.2	90.0	110.0
	Lead	20.0000	19.0628	95.3	90.0	110.0
	Selenium	1.6000	1.5385	96.2	90.0	110.0
CCV2--3	Silver	0.4000	0.3825	95.6	90.0	110.0
	Arsenic	1.6000	1.5837	99.0	90.0	110.0
	Barium	4.0000	3.7675	94.2	90.0	110.0
	Cadmium	4.0000	3.9612	99.0	90.0	110.0
	Chromium	4.0000	3.9819	99.5	90.0	110.0
	Iron	4.0000	4.1693	104.2	90.0	110.0
	Molybdenum	20.0000	19.3837	96.9	90.0	110.0
	Nickel	8.0000	7.8818	98.5	90.0	110.0
	Lead	20.0000	19.4674	97.3	90.0	110.0
	Selenium	1.6000	1.5373	96.1	90.0	110.0
CCV3--4	Silver	0.4000	0.3834	95.9	90.0	110.0
	Arsenic	1.6000	1.5810	98.8	90.0	110.0
	Barium	4.0000	3.7692	94.2	90.0	110.0
	Cadmium	4.0000	3.9638	99.1	90.0	110.0
	Chromium	4.0000	3.9899	99.7	90.0	110.0
	Iron	4.0000	4.1877	104.7	90.0	110.0

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

Analysis Batch Number: ICPWA-02/03/98-001 -4
Test Identification : ICPWA-*Metals by ICP
Number of Samples : 4
Batch Data-Date/Time : 02/04/98 / 07:42:35

Sequence : DATC034

CCV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS LOWER	QC LIMITS UPPER
CCV3--4	Molybdenum	20.0000	19.3755	96.9	90.0	110.0
	Nickel	8.0000	7.9553	99.4	90.0	110.0
	Lead	20.0000	19.4548	97.3	90.0	110.0
	Selenium	1.6000	1.4923	93.3	90.0	110.0

CCB#	ANALYTE	CONC FOUND #	CONC LIMIT
ICB-	Silver	ND	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	0.0027	0.0040
	Chromium	0.0034	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0182	0.0300
	Nickel	0.0067	0.0300
	Lead	0.0279	0.0400
	Selenium	0.0466	0.0700
CCB1-	Silver	0.0015	0.0060
	Arsenic	ND	0.0300
	Barium	ND	0.0030
	Cadmium	0.0026	0.0040
	Chromium	0.0015	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0164	0.0300
	Nickel	ND	0.0300
	Lead	0.0017	0.0400
	Selenium	0.0310	0.0700
CCB2-	Silver	0.0038	0.0060
	Arsenic	0.0042	0.0300
	Barium	ND	0.0030
	Cadmium	0.0026	0.0040
	Chromium	0.0020	0.0100
	Iron	0.0081	0.2000
	Molybdenum	0.0111	0.0300
	Nickel	0.0016	0.0300
	Lead	ND	0.0400
	Selenium	0.0200	0.0700
CCB3-	Silver	ND	0.0060
	Arsenic	0.0031	0.0300
	Barium	ND	0.0030
	Cadmium	ND	0.0040
	Chromium	0.0010	0.0100
	Iron	ND	0.2000
	Molybdenum	0.0119	0.0300
	Nickel	ND	0.0300
	Lead	0.0060	0.0400
	Selenium	0.0111	0.0700

Mountain States Analytical, Inc.
Daily QC Batching Data
Data Released for Reporting

02/06/98
15:55:27
Group: 19523

Analysis Batch Number: ICPWA-02/03/98-001 -4
Test Identification : ICPWA-*Metals by ICP Sequence : DATC034
Number of Samples : 4
Batch Data-Date/Time : 02/04/98 / 07:42:35

---------- Result Footnotes ----------
(11) - The duplicate results cannot be evaluated because both results are <MDL.

Groups & Samples			
19494-74776	19520-74841	19520-74842	19523-74848

(A-C)

ON SITE TECHNOLOGIES, LTD.

CHAIN OF CUSTODY RECORD

6837

Date: 1/29/98

Page 1 of 1

657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Purchase Order No.: 7086 | Job No.

SEND INVOICE TO
Name: ACCOUNTS REC.
Company: ON SITE | Dept.
Address:
City, State, Zip:

REPORT RESULTS TO
Name: DAVID COX | Title:
Company: ON SITE TECH
Mailing Address:
City, State, Zip:
Telephone No.: 505 325-2432 | Telefax No.: 325-6256

Sampling Location: HAMPTON 4M

Sampler: MG/MS

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: WQCC METALS DISSOLVED	LAB ID
9801121030 ; MW-1	1/12/98	1030	WW	cool	1	✓	7304-7086
9801121300 ; MW-8	1/12/98	1300	WW	cool	1	✓	7309-7086

Relinquished by: [signature] Date/Time 1/29/98 1600
Relinquished by: Date/Time
Relinquished by: Date/Time

Received by: W. Sawyer Date/Time 01/30/98 1045
Received by: Date/Time
Received by: Date/Time

Method of Shipment:

Authorized by: [signature] (Client Signature Must Accompany Request) Date 1/29/98

Rush: FIVE DAY (X) 24-48 Hours 1/29/98 | 10 Working Days

Special Instructions: NOT FILTERED YET

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

7086

ON SITE TECHNOLOGIES, LTD.

CHAIN OF CUSTODY RECORD

Date: 1/12/97 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.:

SEND INVOICE TO
- Name: Denver Bearden
- Company: PNM Gas Services — Dept. 324-3763
- Address: 603 W. Elm Street
- City, State, Zip: Farmington, NM 87401

REPORT RESULTS TO
- Name: Maureen Gannon — Title:
- Company: PNM Gas Services
- Mailing Address: Alverado Square, Mail Stop 0408
- City, State, Zip: Albuquerque, NM 87158
- Telephone No.: 505-848-2974 — Telefax No.:

Sampling Location: Hampton 4M

Sampler: MS. MG. RDRB.

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION		SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX 8020	Major - Cation Anion Balance	Metals WQCC	LAB ID
980112 1030	MW-1	1/12/98	1030	H2O	HCL		X	X	X	17304-7086
980112 1100	MW-3	↓		↓	↓		X			17305
980112 1130	MW-4						X			17306
980112 1200	MW-5						X			17307
980112 1230	MW-7						X			17308
980112 1300	MW-8						X	X	X	17309
980112 1330	MW-9						X			17310

Relinquished by: [signature]	Date/Time 1/13/98 1430	Received by: [signature]	Date/Time 1/13/98 1430
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 | Special Instructions: Results to be sent to both parties.

Authorized by: Mark Sikelianos Date 1/13/97
(Client Signature Must Accompany Request)

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	17-Nov-97
Company:	*PNM Gas Services*	COC No.:	*7083*
Address:	*603 W. Elm*	Sample No.:	*16818*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9711111330; TH-7***				
Sampled by:	MS	Date:	11-Nov-97	Time:	13:30
Analyzed by:	DC	Date:	13-Nov-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	2171	ug/L	10	ug/L
Toluene	4185	ug/L	10	ug/L
Ethylbenzene	190	ug/L	10	ug/L
m,p-Xylene	2225	ug/L	10	ug/L
o-Xylene	631	ug/L	10	ug/L
TOTAL	9402	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 11/17/97

American Environmental Network, Inc.

AEN I.D. 711365

December 18, 1997

PUBLIC SERVICE COMPANY
ALVARADO SQUARE-MS0408
ALBUQUERQUE, NM 87158

Project Name HAMPTON 4M
Project Number (none)

Attention: GANNON MAUREEN

On 11/26/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

On December 3, 1997, the client notified the laboratory which cations and which anions should be analyzed. The list is attached to the COC.

EPA Method 8020 was performed by AEN(NM), Inc., Albuquerque, NM.

All other analyses were performed by AEN(FL), Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (505) 344-4413

CLIENT	: PUBLIC SERVICE COMPANY	AEN I.D.	: 711365
PROJECT #	: (none)	DATE RECEIVED	: 11/26/97
PROJECT NAME	: HAMPTON 4M	REPORT DATE	: 12/18/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	9711251200	AQ	11/25/97

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : PUBLIC SERVICE COMPANY AEN I.D.: 711365
PROJECT # : (none)
PROJECT NAME : HAMPTON 4M

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9711251200	AQUEOUS	11/15/97	NA	11/25/97	1

PARAMETER	DET. LIMIT	UNITS	01
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 105
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 711365
BLANK I. D.	: 112597	DATE EXTRACTED	: NA
CLIENT	: PUBLIC SERVICE COMPANY	DATE ANALYZED	: 11/25/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: HAMPTON 4M		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		101
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX (EPA 8020)	AEN I.D.	: 711365
BLANK I. D.	: 112697	DATE EXRACTED	: NA
CLIENT	: PUBLIC SERVICE COMPANY	DATE ANALYZED	: 11/26/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: HAMPTON 4M		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 104
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX (EPA 8020)		
MSMSD #	: 711361-03	AEN I.D.	: 711365
CLIENT	: PUBLIC SERVICE COMPANY	DATE EXTRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 11/25/97
PROJECT NAME	: HAMPTON 4M	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMIT
BENZENE	<0.5	10.0	9.7	97	10.1	101	4	(80 - 120)	20
TOLUENE	<0.5	10.0	9.6	96	10.0	100	4	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	10.2	102	10.6	106	4	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	31.1	104	32.4	108	4	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 11/26/97 PAGE 1 OF 1

AEN LAB I.D. 7115365

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:	Gannon, Maureen
COMPANY:	PNM
ADDRESS:	Alvarado Square MS 0408 87158
PHONE:	505 241-2018
FAX:	505 241-2340
BILL TO:	Same
COMPANY:	
ADDRESS:	

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
971125 1200 EB well	11/25/97	1200	H2O	7115

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE MTBE (8020) 8020	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: Meter Cation/Anion	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	# of containers
				X											X						3

PROJECT INFORMATION

PROJ. NO.:

PROJ. NAME: Hampton 4M

P.O. NO.:

SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐ ★

Will FAX
Cation/Anion List
Dec 1, 1997

RELINQUISHED BY: 1

Signature: Time: 10:30

Printed Name: Mark S. Williams Date: 11/26/97

Company: PNM

RECEIVED BY:

Signature: Time:

Printed Name: Date:

Company:

RELINQUISHED BY: 2

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY: LAB

DISTRIBUTION White, Canary - AEN Pink - ORIGINATOR

MARK CALLED AT 9:20 AM 12-3-97 AND REQUESTED CATIONS/ANIONS TO INCLUDE :

CATIONS: Na, Ca, Mg, K

ANIONS: Cl, SO4, CARBONATE/BICARBONATE, HYDROXIDE, TDS, pH, CONDUCTIVITY, TOTAL HARDNESS

& CAT./ANION % DIFFERENCE.

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: TOTAL ALKALINITY
Matrix: WATER
QC Level: II

Lab ID: 001 Sample Date/Time: 25-NOV-97 1200
Client Sample Id: 711365-01 Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B)	MG/L	160	1		ASW046	JL
PH (150.1)	UNITS	7.3	NA	R4	PHW251	JL
BICARBONATE, CACO3 (2330B)	MG/L	160	1		NONE	DPH
CARBONATE, CACO3 (2330B)	MG/L	ND	1		NONE	DPH
CARBON DIOXIDE, FREE AS CACO3	MG/L	16	1		NONE	DPH
HYDROXIDE (2330B) AS CACO3	MG/L	ND	1		NONE	DPH

Comments:

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: TOTAL ALKALINITY

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	ALKALINITY, TOTAL (2320B)	MG/L	160
	PH (150.1)	UNITS	7.3
	BICARBONATE, CACO3 (2330B)	MG/L	160
	CARBON DIOXIDE, FREE AS CACO3	MG/L	16

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: Group of Single Wetchem

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	WET CHEM

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Wetchem
Matrix: WATER
QC Level: II

Lab ID: 001
Client Sample Id: 711365-01
Sample Date/Time: 25-NOV-97 1200
Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	MG/L	29	1		CIW116	RB
CONDUCTIVITY (120.1/2510 B)	UMH/CM	5000	1		CDW026	ED
SULFATE (375.4)	MG/L	3000	1000	+	SEW094	JL
TOTAL DISSOLVED SOLIDS (160.1)	MG/L	4100	5	R4	TDW069	ED

Comments:

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Wetchem

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CHLORIDE (325.3)	MG/L	29
	CONDUCTIVITY (120.1/2510 B)	UMH/CM	5000
	SULFATE (375.4)	MG/L	3000
	TOTAL DISSOLVED SOLIDS (160.1)	MG/L	4100

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: Group of Single Metals

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Metals
Matrix: WATER
QC Level: II

Lab Id: 001 Sample Date/Time: 25-NOV-97 1200
Client Sample Id: 711365-01 Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM (200.7)	MG/L	400	1		I0W291	JR
POTASSIUM (200.7)	MG/L	6	2		X0W291	JR
MAGNESIUM (200.7)	MG/L	19	0.2		J0W291	JR
SODIUM (200.7)	MG/L	880	1	+	10W291	JR

Comments:

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: Group of Single Metals

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CALCIUM (200.7)	MG/L	400
	POTASSIUM (200.7)	MG/L	6
	MAGNESIUM (200.7)	MG/L	19
	SODIUM (200.7)	MG/L	880

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: HARDNESS

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: HARDNESS
Matrix: WATER
QC Level: II

Lab Id: 001 Sample Date/Time: 25-NOV-97 1200
Client Sample Id: 711365-01 Received Date: 04-DEC-97

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM, HARDNESS (200.7)	MG/L	990	2		I0W291	JR
MAGNESIUM, HARDNESS (200.7)	MG/L	78	0.8		J0W291	JR
TOTAL HARDNESS	MG/L	1100	NA		NONE	JR

Comments:

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Method Report Summary"

Accession Number: 711653
Client: AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number: 711365
Project Name: PNM
Project Location: HAMPTON 4N
Test: HARDNESS

Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CALCIUM, HARDNESS (200.7)	MG/L	990
	MAGNESIUM, HARDNESS (200.7)	MG/L	78
	TOTAL HARDNESS	MG/L	1100

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Rd Pensacola, FL 32514 (850) 474-1001

Data Qualifiers for Final Report

AEN-Pensacola Inorganic/Organic

@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)
+	Elevated reporting limit due to dilution into calibration range
•	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)
#	Elevated reporting limit due to insufficient sample size
D	Diluted out
J5	The reported value is quantitated as a TIC; therefore, it is estimated
ND = Not Detected	N/S = Not Submitted N/A = Not Applicable

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected.
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank.
I	Surrogate recovery limits have been exceeded
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate.

AFCEE Projects (under CAPP) and All Other (AEN-PN) Projects/Sites for Inorganic/Organic Parameters

J4	(For positive results) Temperature limits exceeded (≤2°C or ≥ 6°C)
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation
R1	(For nondetects) Temperature limits exceeded (≤2°C or ≥ 6°C)
R2	Improper preservation, no preservative present in sample upon receipt
R3	Improper preservation, incorrect preservative present in sample upon receipt
R4	Holding time exceeded
R5	Collection requirements not met, improper container used for sample
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
F	< RL and > laboratory MDL
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL
(AFCEE description)	The analyte was found in the associated blank, as well as in the sample

ICR Projects Inorganic/Organic

A	Acceptable
R6	Rejected

Examples: ICR Flags

R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified

R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit.

CLP and CLP-like Projects

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

IDL = Laboratory Instrument Detection Limit
MDL = Laboratory Method Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)
CLP CRDL = CLP Contract Required Detection Limit (these limits are listed in the EPA CLP Statement of Work or SOW)
CLP CRQL = CLP Contract Required Quantitation Limit (these limits are listed in the EPA CLP Statement of Work or SOW)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative).

AEN-Pensacola uses the most current promulgated methods contained in the reference manuals.

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Quality Control Report

Analysis: TOTAL ALKALINITY

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	WET CHEM

"WetChem Quality Control Report"

Parameter:	ALKALINITY	PH
Batch Id:	ASW046	PHW251
Blank Result:	<1	N/A
Anal. Method:	2320B	150.1
Prep. Method:	N/A	N/A
Analysis Date:	04-DEC-97	04-DEC-97
Prep. Date:	04-DEC-97	04-DEC-97
Sample Duplication		
Sample Dup:	711550-2	711654-1
Rept Limit:	<1	N/A
Sample Result:	99.6	5.92
Dup Result:	99.9	5.92
Sample RPD:	0	0
Max RPD:	4	0.12
Dry Weight%	N/A	N/A
Matrix Spike		
Sample Spiked:	711550-2	N/A
Rept Limit:	<1	N/A
Sample Result:	99.6	
Spiked Result:	127.0	
Spike Added:	25.0	
% Recovery:	110	
% Rec Limits:	77-122	
Dry Weight%	N/A	
ICV		
ICV Result:	244	10.09
True Result:	250	10.00
% Recovery:	98	101
% Rec Limits:	90-110	90-110
LCS		
LCS Result:		6.87
True Result:		6.87
% Recovery:		100
% Rec Limits:		96-104

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE (DILUTION PRIOR DIGESTION AND/OR ANALYSIS).
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX (DILUTION PRIOR TO DIGESTION AND/OR ANALYSIS).
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = REPORTING LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH	= DOLLY P. HWANG	RB	= REBECCA BROWN	JL	= JANET LECLEAR
MM	= MIKE MCKENZIE	ED	= ESTHER DANTIN	CR	= CYNTHIA ROBERTS
PLD	= PAULA L. DOUGHTY	LV	= LASSANDRA VON APPEN	JTZ	= JONATHAN T. ZIENTARSKI
RH	= RICKY HAGENDORFER	MG	= MARY GUTIERREZ	AB	= AMY BRADLEY
NK	= NIKKI KILBURN				

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Quality Control Report

Analysis: Group of Single Wetchem

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	WET CHEM

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"WetChem Quality Control Report"

Parameter:	CHLORIDE	CONDUCT'Y	SULFATE	TDS
Batch Id:	CIW116	CDW026	SEW094	TDW069
Blank Result:	<1	<1	<10	<5
Anal. Method:	325.3	120.1	375.4	160.1
Prep. Method:	N/A	N/A	N/A	N/A
Analysis Date:	03-DEC-97	12-DEC-97	08-DEC-97	09-DEC-97
Prep. Date:	03-DEC-97	12-DEC-97	08-DEC-97	08-DEC-97
Sample Duplication				
Sample Dup:	711631-2	711653-1	711603-1	711653-1
Rept Limit:	<1	<1	<10	<5
Sample Result:	12.8	4990	<10	4120
Dup Result:	12.6	4980	<10	4068
Sample RPD:	2	0	N/C	1
Max RPD:	6	2	10	15
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	711631-2	N/A	711603-1	N/A
Rept Limit:	<1	N/A	<10	N/A
Sample Result:	12.8		<10	
Spiked Result:	70.2		21.1	
Spike Added:	55.0		20.0	
% Recovery:	104		106	
% Rec Limits:	88-113		64-150	
Dry Weight%	N/A		N/A	
ICV				
ICV Result:	98.1		20.1	
True Result:	100		20.0	
% Recovery:	98		101	
% Rec Limits:	90-110		90-110	
LCS				
LCS Result:		1426		310
True Result:		1412		293
% Recovery:		101		106
% Rec Limits:		98-102		77-122

"Quality Control Comments"

Batch Id:	Comments:
CIW116	711654-1; 711653-1 WAS ADDED TO BATCH ON 4-DEC-97
TDW069	712058-1,2,3,4,5,6; 712059-1,2,3,4,5,6,7,8,9,10 WERE ADDED TO BATCH
TDW069	ON 10-DEC-97

----- Common Footnotes WetChem -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DISTILLATION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DISTILLATION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE (DILUTION PRIOR DIGESTION AND/OR ANALYSIS).
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX (DILUTION PRIOR TO DIGESTION AND/OR ANALYSIS).
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= SAMPLE AND / OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL". SAMPLE IS NON-HOMOGENEOUS.
(*) = REPORTING LIMITS RAISED DUE TO CLP METHOD NOT REQUIRING A CONCENTRATION STEP FOR CN
(CA) = SEE CORRECTIVE ACTIONS FORM.
**= MATRIX INTERFERENCE
SW-846, 3rd Edition, latest EPA-approved edition.
EPA 600/4-79-020, Revised March 1983.
STANDARD METHODS, For the Examination of Water and Wastewater, latest EPA-approved edition
NIOSH Manual of Analytical Methods, 4th Edition.
ANNUAL BOOK OF ASTM STANDARDS, VOLUMES 11.01 and 11.02, latest EPA-approved edition.
METHODS FOR THE DETERMINATION OF INORGANIC SUBSTANCES IN ENVIRONMENTAL SAMPLES, EPA600/R-93/100, AUGUST 1993
METHODS FOR SOIL ANALYSIS, PART 2, CHEMICAL AND MICROBILOGICAL PROPERTIES, 2ND EDITION.
AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE.

1. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
2. PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
3. FLASHPOINT. FLASHPOINT PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION).
RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

DPH	= DOLLY P. HWANG	RB	= REBECCA BROWN	JL	= JANET LECLEAR
MM	= MIKE MCKENZIE	ED	= ESTHER DANTIN	CR	= CYNTHIA ROBERTS
PLD	= PAULA L. DOUGHTY	LV	= LASSANDRA VON APPEN	JTZ	= JONATHAN T. ZIENTARSKI
RH	= RICKY HAGENDORFER	MG	= MARY GUTIERREZ	AB	= AMY BRADLEY
NK	= NIKKI KILBURN				

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Quality Control Report

Analysis: Group of Single Metals

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

"Metals Quality Control Report"

Parameter:	CALCIUM	POTASSIUM	MAGNESIUM	SODIUM
Batch Id:	I0W291	X0W291	J0W291	10W291
Blank Result:	<1	<2	<0.2	<0.2
Anal. Method:	200.7	200.7	200.7	200.7
Prep. Method:	200.7	200.7	200.7	200.7
Analysis Date:	09-DEC-97	11-DEC-97	11-DEC-97	11-DEC-97
Prep. Date:	08-DEC-97	08-DEC-97	08-DEC-97	08-DEC-97
Sample Duplication				
Sample Dup:	711410-2	711410-2	711410-2	711410-2
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	23	22	21	23
Dup Result:	23	22	21	23
Sample RPD:	0	0	0	0
Max RPD:	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A
Matrix Spike				
Sample Spiked:	711410-2	711410-2	711410-2	711410-2
Rept Limit:	<1	<2	<0.2	<0.2
Sample Result:	3	<2	0.8	3.0
Spiked Result:	23	22	21	23
Spike Added:	20	20	20	20
% Recovery:	100	110	101	100
% Rec Limits:	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A
ICV				
ICV Result:	24	26	25	24
True Result:	25	25	25	25
% Recovery:	96	104	100	96
% Rec Limits:	95-105	95-105	95-105	95-105
LCS				
LCS Result:	20	21	20	20
True Result:	20	20	20	20
% Recovery:	100	105	100	100
% Rec Limits:	80-120	80-120	80-120	80-120

"Quality Control Comments"

Batch Id:	Comments:
I0W291	ANALYST: JR
I0W291	The results reported under 'Sample Duplication' are the MS/MSD.
X0W291	ANALYST: JR
X0W291	The results reported under 'Sample Duplication' are the MS/MSD.
J0W291	ANALYST: JR
J0W291	The results reported under 'Sample Duplication' are the MS/MSD.
10W291	ANALYST: JR
10W291	The results reported under 'Sample Duplication' are the MS/MSD.

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW THE REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X THE REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= THE RELATIVE PERCENT DIFFERENCE (RPD) EXCEEDS THE AEN CONTROL LIMIT AND IS "OUT OF CONTROL; DUE TO A NON-HOMOGENEOUS SAMPLE MATRIX.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
REPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS. (NOT ADJUSTED FOR DRY WEIGHT).

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
JR = JOHN REED
LV = LASSANDRA VON APPEN

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Quality Control Report

Analysis: HARDNESS

Accession:	711653
Client:	AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC.
Project Number:	711365
Project Name:	PNM
Project Location:	HAMPTON 4N
Department:	METALS

AMERICAN ENVIRONMENTAL NETWORK 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Metals Quality Control Report"

Parameter:	CALCIUM	MAGNESIUM
Batch Id:	I0W291	J0W291
Blank Result:	<1	<0.2
Anal. Method:	200.7	200.7
Prep. Method:	200.7	200.7
Analysis Date:	09-DEC-97	11-DEC-97
Prep. Date:	08-DEC-97	08-DEC-97
Sample Duplication		
Sample Dup:	711410-2	711410-2
Rept Limit:	<1	<0.2
Sample Result:	23	21
Dup Result:	23	21
Sample RPD:	0	0
Max RPD:	20	20
Dry Weight%	N/A	N/A
Matrix Spike		
Sample Spiked:	711410-2	711410-2
Rept Limit:	<1	<0.2
Sample Result:	3	0.8
Spiked Result:	23	21
Spike Added:	20	20
% Recovery:	100	101
% Rec Limits:	75-125	75-125
Dry Weight%	N/A	N/A
ICV		
ICV Result:	24	25
True Result:	25	25
% Recovery:	96	100
% Rec Limits:	95-105	95-105
LCS		
LCS Result:	20	20
True Result:	20	20
% Recovery:	100	100
% Rec Limits:	80-120	80-120

"Quality Control Comments"

Batch Id:	Comments:
I0W291	ANALYST: JR
I0W291	The results reported under 'Sample Duplication' are the MS/MSD.
J0W291	ANALYST: JR
J0W291	The results reported under 'Sample Duplication' are the MS/MSD.

----- Common Footnotes Metals -----

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW THE REPORTING LIMIT; THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED.
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X THE REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT OR BELOW AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
# = ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X AEN REPORTING LIMIT AND THE ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE AEN REPORTING LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE REPORTING LIMIT. HOWEVER, THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= THE RELATIVE PERCENT DIFFERENCE (RPD) EXCEEDS THE AEN CONTROL LIMIT AND IS "OUT OF CONTROL; DUE TO A NON-HOMOGENEOUS SAMPLE MATRIX.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.

FROM QUALITY CONTROL REPORT:
RPD= RELATIVE PERCENT DEVIATION.
REPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS RUN BASIS. (NOT ADJUSTED FOR DRY WEIGHT).

SW-846, 3rd Edition, latest revision.
EPA 600/4-79-020, Revised March 1983.
NIOSH Manual of Analytical Methods, 4th Edition.
Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.
Methods For the Determination of Metals in Environmental Samples - Supplement I, EPA 600/R-94-111, May 1994.

GJ = GARY JACOBS
JLH = JAMES L. HERED
JR = JOHN REED
LV = LASSANDRA VON APPEN

American Environmental Network of Florida
PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 711 653 Date Received: 12-4-97

1. Was there a Chain of Custody? (Yes) No*
2. Was Chain of Custody properly filled out and relinquished? (Yes) No*
3. Were samples received cold? (Yes) No* N/A (Criteria: 2° - 6°C: AEN-SOP 1055)
4. Were all samples properly labeled and identified? (Yes) No*
5. Did samples require splitting? Yes* No
   Req By: PM Client Other*
6. Were samples received in proper containers for analysis requested? (Yes) No*
7. Were all sample containers received intact? (Yes) No*
8. Were samples checked for preservative? *(Check pH of all H_2O requiring preservative except VOA vials that require zero headspace)*+ Yes No* (N/A)
9. Is there sufficient volume for analysis requested? (Yes) No*
10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040) ~~Yes~~ (No*) PKE 12/4/97
11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* (No) N/A
12. If sent, were matrix spike bottles returned? Yes No* (N/A)
13. Was Project Manager notified of problems? (initials:______) Yes No* (N/A)

Airbill Number(s): 329 4596986

Shipped By: FEDEX

Cooler Number(s): N/S Client Cooler

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 5° CCK 6
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

10. PH, Conductivity and TDS were received out of hold time. PKE 12/4/97.

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: J. Webb **Date:** 12-4-97 **Logged By:** PKE **Date:** 12/4/97

♣ *Note all Out-of-Control and/or questionable events on Comment Section of this form.*

♦ *Note who requested the splitting of samples on the Comment Section of this form.*

\+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

WORD\BLANKS\SAMPCTRL.WBP.DOC October 8, 1997

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 11/26/97 PAGE: 1 OF 1

AEN LAB #: 71163

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Gannon, Maureen

COMPANY: PNM

ADDRESS: Alvarado Square MS 0408 87158

PHONE: 505 241-2018

FAX: 505 241-2340

BILL TO: Same

COMPANY:

ADDRESS:

CUSTOMER SAMPLE ID	DATE	TIME	MATRIX	LAB ID
971125 1200 EB well	11/25/97	1200	H2O	

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020) 8020	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry: Major Cation/Anion	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:
				X											X					

PROJECT INFORMATION

PROJ. NO.:

PROJ. NAME: Hampton 4M

P.O. NO.:

SHIPPED VIA:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐ ★

Will Fax Cation/Anion List Dec 1, 1997

RELINQUISHED BY:

Signature: Time: 10:30

Printed Name: Mark Sikkema Date: 11/26/97

Company: PNM

RELINQUISHED BY:

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY:

Signature: Time:

Printed Name: Date:

Company:

RECEIVED BY:

Signature Time

Printed Name Date

Company:

DISTRIBUTION: White - Client; Canary - AEN; Pink - ORIGINATOR

4/1/96 AEN.frm - American Environmental Network (NM), Inc. - 2709-D Pan American Freeway NE - Albuquerque, New Mexico 87107

American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody 711653

DATE: ..... PAGE ... OF ...

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER:

Kim McNeill

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
711365-01	11-25	12:00	AQ	1

ANALYSIS REQUEST

Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)	TOX	TOC	Gen Chemistry	Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)	TO-14	Gross Alpha/Beta	NUMBER OF CONTAINERS
			X			X													

RCRA Metals by TCLP (1311): Cations: Na, Ca, Mg, K
Gen Chemistry: Anions: Cl, SO4, Alk as CaCO3, TDS, pH, Conductivity, Total Phenolics

PROJECT INFORMATION

PROJECT NUMBER: ~~PNM~~ 711365
PROJECT NAME: PNM
QC LEVEL: SID IV
QC REQUIRED: MS MSD BLANK
TAT STANDARD RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

DUE DATE: _____
RUSH SURCHARGE: _____
CLIENT DISCOUNT: _____
SPECIAL CERTIFICATION REQUIRED: ☐ YES ☐ NO

See Also Attachment
Cat/Anion % Difference

SAMPLES SENT TO:

SAN DIEGO	
N.C.	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	
ILL	

RELINQUISHED BY: 1.
Signature: Time: 1700
Printed Name: Brian Rice Date: 12-3-97
Company: Albuquerque NM

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature Time 12/4/97
Printed Name Date
Company AEN

RECEIVED BY: (LAB) 2.
Signature: Time: 0807
Printed Name: R. ELSPERMAN Date: 12/4/97
Company: AEN FL

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 481-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777

RECHECKED BY: .....

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	5-Dec-97
Company:	*PNM Gas Services*	COC No.:	*7087*
Address:	*603 W. Elm*	Sample No.:	*16982*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - EB Well***				
Project Location:	***9711251200***				
Sampled by:	MG/MS	Date:	25-Nov-97	Time:	12:00
Analyzed by:	DC	Date:	4-Dec-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	ND	ug/L	0.2	ug/L
Toluene	ND	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	ND	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 12/5/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 4-Dec-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	*Result*	*Unit of Measure*
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	*Unit of Measure*	*True Value*	*Analyzed Value*	*RPD*	*Limit*
Benzene	ppb	20.0	20.4	2	15%
Toluene	ppb	20.0	21.1	5	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	41.1	3	15%
o-Xylene	ppb	20.0	21.0	5	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*RPD*	*Limit*
Benzene	94	87	(39-150)	4	20%
Toluene	99	95	(46-148)	4	20%
Ethylbenzene	99	92	(32-160)	4	20%
m,p-Xylene	100	93	(35-145)	4	20%
o-Xylene	100	95	(35-145)	4	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*	*Laboratory Identification*	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)		*Limit Percent Recovered*	(70-130)	
16982-7087	94				
				JM	(m)
				12/8/97	12/5/97

S1: Flourobenzene

7087

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

Date: 11/25/97

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.	
SEND INVOICE TO	Name	Denver Bearden	
	Company	PNM Gas Services	Dept. 324-3763
	Address	603 W. Elm Street	
	City, State, Zip	Farmington, NM 87401	

REPORT RESULTS TO	Name	Maureen Gannon	Title
	Company	PNM Gas Services	
	Mailing Address	Alverado Square, Mail Stop 0408	
	City, State, Zip	Albuquerque, NM 87158	
	Telephone No.	505-848-2974	Telefax No.

Sampling Location: ~~Bloomfield~~ HG EB WELL

Sampler: HGannon / MSkeens

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX/BOLD	MAJOR CATIONS/ANIONS	LAB ID
971125 1200 EB WELL	11/25/97	1200	H2O	HCl	3	X	X	16982-7087
							@ 12/5/97 NO SAMPLE SUBMITTED	

Relinquished by: HGannon	Date/Time 11/25/97	Received by:	Date/Time 11/25/97 1526
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: HGannon Date 11-25-97
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:
			Results to be sent to both parties.

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	17-Nov-97
Company:	*PNM Gas Services*	COC No.:	*7083*
Address:	*603 W. Elm*	Sample No.:	*16818*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hampton 4M***				
Project Location:	***9711111330; TH-7***				
Sampled by:	MS	Date:	11-Nov-97	Time:	13:30
Analyzed by:	DC	Date:	13-Nov-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	2171	ug/L	10	ug/L
Toluene	4185	ug/L	10	ug/L
Ethylbenzene	190	ug/L	10	ug/L
m,p-Xylene	2225	ug/L	10	ug/L
o-Xylene	631	ug/L	10	ug/L
TOTAL	9402	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 11/17/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 13-Nov-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	*Result*	*Unit of Measure*
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	*Unit of Measure*	*True Value*	*Analyzed Value*	*RPD*	*Limit*
Benzene	ppb	20.0	20.0	0	15%
Toluene	ppb	20.0	20.7	4	15%
Ethylbenzene	ppb	20.0	20.8	4	15%
m,p-Xylene	ppb	40.0	39.7	1	15%
o-Xylene	ppb	20.0	20.8	4	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*RPD*	*Limit*
Benzene	89	93	(39-150)	2	20%
Toluene	88	94	(46-148)	2	20%
Ethylbenzene	96	98	(32-160)	2	20%
m,p-Xylene	91	94	(35-145)	2	20%
o-Xylene	93	96	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*	*Laboratory Identification*	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)		*Limit Percent Recovered*	(70-130)	
16818-7083	95				
				YHR	(DC)
				11/24/97	11/17/97

S1: Flourobenzene

7083

CHAIN OF CUSTODY RECORD

Date: 11/11/97

Page: 1 of 1

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

Purchase Order No.: | Job No.

SEND INVOICE TO

Name	Denver Bearden	
Company	PNM Gas Services	Dept. 324-3763
Address	603 W. Elm Street	
City, State, Zip	Farmington, NM 87401	

REPORT RESULTS TO

Name	Maureen Gannon	Title	
Company	PNM Gas Services		
Mailing Address	Alverado Square, Mail Stop 0408		
City, State, Zip	Albuquerque, NM 87158		
Telephone No.	505-848-2974	Telefax No.	

Sampling Location: Hampton 4M

Sampler: Mark Sikkiano

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX 8020	LAB ID
9711111330 TH-7	11/11/97		H2O	HCl	2	X	16818-7083

Relinquished by:	Date/Time 11/11/97 1430	Received by:	Date/Time 11/11/97 1430
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date 11/11/97

(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:
			Results to be sent to both parties.

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	5-Dec-97
Company:	*PNM Gas Services*	COC No.:	*7087*
Address:	*603 W. Elm*	Sample No.:	*16982*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - EB Well***				
Project Location:	***9711251200***				
Sampled by:	MG/MS	Date:	25-Nov-97	Time:	12:00
Analyzed by:	DC	Date:	4-Dec-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	ND	ug/L	0.2	ug/L
Toluene	ND	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	ND	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	ND	ug/L		

ND - Not Detected at Limit of Quantitation

Method - *SW-846 E.P.A Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved By:

Date: 12/5/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 4-Dec-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	20.4	2	15%
Toluene	ppb	20.0	21.1	5	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	41.1	3	15%
o-Xylene	ppb	20.0	21.0	5	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	94	87	(39-150)	4	20%
Toluene	99	95	(46-148)	4	20%
Ethylbenzene	99	92	(32-160)	4	20%
m,p-Xylene	100	93	(35-145)	4	20%
o-Xylene	100	95	(35-145)	4	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16982-7087	94				
					(BA)
					12/5/97

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	5-Nov-97
Company:	*PNM Gas Services*	COC No.:	*7080*
Address:	*603 W. Elm*	Sample No.:	*16700*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hamptom 4M***				
Project Location:	***9710301030; MW-1***				
Sampled by:	MS	Date:	30-Oct-97	Time:	10:30
Analyzed by:	HR	Date:	4-Nov-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	2.4	ug/L	0.2	ug/L
Toluene	2.3	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	1.1	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	5.8	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 11/5/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 4-Nov-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	RPD	Limit
Benzene	ppb	20.0	20.7	4	15%
Toluene	ppb	20.0	21.3	6	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	40.3	1	15%
o-Xylene	ppb	20.0	21.1	5	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	Limit
Benzene	92	86	(39-150)	3	20%
Toluene	96	87	(46-148)	3	20%
Ethylbenzene	97	92	(32-160)	4	20%
m,p-Xylene	94	88	(35-145)	4	20%
o-Xylene	95	92	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16699-7080	95				
16700-7080	95				
					(NL)
					11/5/97

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	5-Nov-97
Company:	*PNM Gas Services*	COC No.:	*7080*
Address:	*603 W. Elm*	Sample No.:	*16700*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hamptom 4M***				
Project Location:	***9710301030; MW-1***				
Sampled by:	MS	Date:	30-Oct-97	Time:	10:30
Analyzed by:	HR	Date:	4-Nov-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	2.4	ug/L	0.2	ug/L
Toluene	2.3	ug/L	0.2	ug/L
Ethylbenzene	ND	ug/L	0.2	ug/L
m,p-Xylene	1.1	ug/L	0.2	ug/L
o-Xylene	ND	ug/L	0.2	ug/L
TOTAL	5.8	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By: *Date:* 11/5/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	5-Nov-97
Company:	*PNM Gas Services*	COC No.:	*7080*
Address:	*603 W. Elm*	Sample No.:	*16699*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hamptom 4M***				
Project Location:	***9710291400; MW-5***				
Sampled by:	MS	Date:	29-Oct-97	Time:	14:00
Analyzed by:	HR	Date:	4-Nov-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	5934	ug/L	20	ug/L
Toluene	10024	ug/L	20	ug/L
Ethylbenzene	709	ug/L	20	ug/L
m,p-Xylene	6451	ug/L	20	ug/L
o-Xylene	1737	ug/L	20	ug/L
TOTAL	24855	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:

Date: 11/5/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 4-Nov-97

Internal QC No.: 0559-STD
Surrogate QC No.: 0556-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	*Result*	*Unit of Measure*
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	*Unit of Measure*	*True Value*	*Analyzed Value*	*RPD*	*Limit*
Benzene	ppb	20.0	20.7	4	15%
Toluene	ppb	20.0	21.3	6	15%
Ethylbenzene	ppb	20.0	21.2	6	15%
m,p-Xylene	ppb	40.0	40.3	1	15%
o-Xylene	ppb	20.0	21.1	5	15%

Matrix Spike

Parameter	*1- Percent Recovered*	*2 - Percent Recovered*	*Limit*	*RPD*	*Limit*
Benzene	92	86	(39-150)	3	20%
Toluene	96	87	(46-148)	3	20%
Ethylbenzene	97	92	(32-160)	4	20%
m,p-Xylene	94	88	(35-145)	4	20%
o-Xylene	95	92	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	*S1 Percent Recovered*	*S2 Percent Recovered*	*Laboratory Identification*	*S1 Percent Recovered*	*S2 Percent Recovered*
Limit Percent Recovered	(70-130)		*Limit Percent Recovered*	(70-130)	
16699-7080	95				
16700-7080	95				
					(NC)
					11/5/97

S1: Flourobenzene

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Denver Bearden*	Date:	5-Nov-97
Company:	*PNM Gas Services*	COC No.:	*7080*
Address:	*603 W. Elm*	Sample No.:	*16699*
City, State:	*Farmington, NM 87401*	Job No.:	*2-1000*

Project Name:	***PNM Gas Services - Hamptom 4M***				
Project Location:	***9710291400; MW-5***				
Sampled by:	MS	Date:	29-Oct-97	Time:	14:00
Analyzed by:	HR	Date:	4-Nov-97		
Sample Matrix:	*Liquid*				

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene	5934	ug/L	20	ug/L
Toluene	10024	ug/L	20	ug/L
Ethylbenzene	709	ug/L	20	ug/L
m,p-Xylene	6451	ug/L	20	ug/L
o-Xylene	1737	ug/L	20	ug/L
TOTAL	24855	ug/L		

ND - Not Detected at Limit of Quantitation

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

Approved By:
Date: 11/5/97