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



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

2

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,

maurinGamm-

Maureen Gannon Project Manager

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



Ŵ MW-7 WFS Pipeline \ Roadway Private Property Boundary MW-5 650-Wash 6<sup>085</sup> MW-6 MW-2 IM Pi WFS Equipment ecos MW-8 Well Head MW-3 ∕м₩-4 ⊖Former BR Pit & Tank Battery New BR Tank Battery BR Equipment 250-Well Pad 200-/MW-1 100' Scale: 1" ~ 

Well #	Date	B	т	Ε	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 fee	t of produ	ct	
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 fee	t of produ	ct	
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

Δ

EB - Private Well (Not to Scale)

Ham210map.srf rev.2/13/98

## Table 1: SUMMARY OF ANALYTICAL RESULTS

### GROUNDWATER MONITORING DATA - collected by PNM, except as noted

		-							Product
		Date	GWEL	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Thickness
Well		Sampled	(ft,msl)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ft)
		40/20/07	6440.40						
MVV-1		10/30/97	6107.47	2.4	2.3	<0.2	1.1	5.8	-
Opgradient weil		01/12/96	0107.47	4.5	3.3	0.2	1.0	0.0	-
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 PNN	1	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; downgrad	lient 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 and propreader recover	ery	1/12/98	6097.43	NA	NA	NA	NA	NA	4.71
104/7		4/40/00	6047 40	700.0		050.0		5000 0	
MW-/		1/12/98	6047.12	780.0	245.0	258.0	3942.0	5226.0	
Downgradient along wash;	adi pipeline								
104/ 0		1/10/09	6104 71	6410.0	17201 0	602.0	0207.0	22904 0	Chase
Lingradient DNM: downaras	tient Burlington	1/12/30	0104.71	0410.0	17301.0	093.0	9397.0	33001.0	Sneen
Opgradient Pinni, downgrad	ment burnington								
ER WELL		11/25/97	88=WTO	<0.2	<0.2	<0.2	<0.2	<0.2	
		11/20/01	D111-00.	-0.2	-0.2	<b>NU.2</b>	<b>NU.2</b>	-0.2	-
Downgradient private well									
Downgradient private well									
Downgradient private well		Date	Depth	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	ТРН
Downgradient private well Sample	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
Downgradient private well Sample	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
Downgradient private well Sample Burlington Temporary Monito	Matrix pring Well Samp	Date Sampled Iling	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
Downgradient private well Sample Burlington Temporary Monito	Matrix pring Well Samp	Date Sampled bling	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)
Downgradient private well Sample Burlington Temporary Monito TPW-01	Matrix oring Well Samp Water	Date Sampled bling 6/5/97	Depth (ft)	Benzene (ppb) 20.0	Toluene (ppb) <1	Ethylbenzene (ppb) <1	Xylenes (ppb) <1	Total BTEX (ppb) 20.0	TPH (mg/Kg) NA
Downgradient private well Sample Burlington Temporary Monito TPW-01	Matrix pring Well Samp Water Soil	Date Sampled bling 6/5/97	Depth (ft) 25-26'	Benzene (ppb) 20.0 <1	Toluene (ppb) <1 <1	Ethylbenzene (ppb) <1 <1	Xylenes (ppb) <1 <1	Total BTEX (ppb) 20.0 <1	TPH (mg/Kg) NA <10
Downgradient private well Sample Burlington Temporary Monito TPW-01	Matrix pring Well Samp Water Soil	Date Sampled bling 6/5/97	Depth (ft) 25-26'	Benzene (ppb) 20.0 <1	Toluene (ppb) <1 <1	Ethylbenzene (ppb) <1 <1	Xylenes (ppb) <1 <1	Total BTEX (ppb) 20.0 <1	<b>TPH</b> (mg/Kg) NA <10
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02	Matrix oring Well Samp Water Soil Water	Date Sampled bling 6/5/97 6/5/97	Depth (ft) 25-26' Product	Benzene (ppb) 20.0 <1 NA	Toluene (ppb) <1 <1 NA	Ethylbenzene (ppb) <1 <1 NA	Xylenes (ppb) <1 <1 NA	Total BTEX (ppb) 20.0 <1 NA	TPH (mg/Kg) NA <10 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02	Matrix oring Well Samp Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97	Depth (ft) 25-26' Product 25-26'	Benzene (ppb) 20.0 <1 NA 2000.0	Toluene (ppb) <1 <1 NA 4600.0	Ethylbenzene (ppb) <1 <1 NA 14000.0	Xylenes (ppb) <1 <1 NA 39000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0	TPH (mg/Kg) NA <10 NA 600.0
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02	Matrix oring Well Samp Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97	Depth (ft) 25-26' Product 25-26'	Benzene (ppb) 20.0 <1 NA 2000.0	Toluene (ppb) <1 <1 <1 NA 4600.0	Ethylbenzene (ppb) <1 <1 NA 14000.0	Xylenes (ppb) <1 <1 NA 39000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0	TPH (mg/Kg) NA <10 NA 600.0
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03	Matrix oring Well Samp Water Soil Water Soil Vater	Date Sampled bling 6/5/97 6/5/97 6/5/97	Depth (ft) 25-26' Product 25-26' Dry	Benzene (ppb) 20.0 <1 NA 2000.0 NA	Toluene (ppb) <1 <1 NA 4600.0 NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA	Xylenes (ppb) <1 <1 NA 39000.0 NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA	TPH (mg/Kg) NA <10 NA 600.0 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03	Matrix vring Well Samp Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/5/97	Depth (ft) 25-26' Product 25-26' Dry 25-26	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1	Toluene (ppb) <1 <1 NA 4600.0 NA <1	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1	Xylenes (ppb) <1 <1 NA 39000.0 NA <1	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1	TPH (mg/Kg) NA <10 NA 600.0 NA 25
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03	Matrix oring Well Samp Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/5/97	Depth (ft) 25-26' Product 25-26' Dry 25-26	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1	TPH (mg/Kg) NA <10 NA 600.0 NA 25
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04	Matrix oring Well Samp Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 34	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76 0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04	Matrix oring Well Samp Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05	Matrix water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0	Ethylbenzene (ppb) <1 <1 ×1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0	Xylenes (ppb) <1 <1 39000.0 NA <1 810.0 40.0 7000.0 28000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46550.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05	Matrix oring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled 6/5/97 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 61
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06	Matrix oring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0	Ethylbenzene (ppb) <1 14000.0 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06	Matrix pring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0 <1	Ethylbenzene (ppb) <1 14000.0 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06	Matrix wing Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0 <1	Ethylbenzene (ppb) <1 14000.0 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 48.0 2.8	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 11
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06 TPW-06	Matrix bring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0 <1 18000.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8 620.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 61 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06 TPW-07	Matrix bring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3400.0 3400.0 <1 18000.0 74000.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8 620.0 20000.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06 TPW-07	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3400.0 3400.0 <1 18000.0 74000.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8 620.0 20000.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06 TPW-07 PNM Test Holes along Wash	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3400.0 3400.0 <1 18000.0 74000.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 48.0 2.8 620.0 20000.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 51 NA 51 NA 51 NA 51 NA 51 NA 51 NA 51 NA 51 NA 51 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 50 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA 10 NA NA 10 NA NA NA NA NA NA NA NA NA NA NA NA NA
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-05 TPW-06 TPW-07 PNM Test Holes along Wash TH-1	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 15-16' 12.7'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3400.0 3400.0 <1 18000.0 74000.0	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8 620.0 2.8 620.0 2.0000.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 5 NA 5
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-05 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 15-16' 12.7' 14.4'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3400.0 3400.0 <1 18000.0 74000.0 NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 48.0 2.8 620.0 2.8 620.0 2.0000.0	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 52 NA 61 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 52 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 53 NA 5 NA 5
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3	Matrix wing Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26 Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 15-16' 12.7' 14.4' 16.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 <1 18000.0 74000.0 74000.0 NA NA NA	Ethylbenzene (ppb) <pre></pre>	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 61 NA 250 PID (ppm) 1412 1357 0
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4	Matrix wing Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 15-16' 12.7' 14.4' 16.5' 15'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA	Toluene (ppb) <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0 <1 18000.0 74000.0 NA NA NA NA	Ethylbenzene (ppb) <pre></pre>	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 250 NA 61 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 602.7 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 NA 81 N 81 N
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4 TH-5	Matrix wing Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 12.7' 14.4' 16.5' 15' 15' 14.5'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA	Toluene (ppb) <1 <1 <1 NA 4600.0 NA 460.0 10000.0 3400.0 <1 18000.0 74000.0 NA NA NA NA NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 48.0 2.8 620.0 20000.0 NA NA NA NA NA NA	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 61 NA 61 NA 61 NA 250 PID (ppm) 1412 1357 0 279 1211
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4 TH-5 TH-6	Matrix wing Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 12.7' 14.4' 16.5' 15' 14.5' 16'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA NA	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0 <1 18000.0 74000.0 NA NA NA NA NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8 620.0 2.8 620.0 2.0000.0 NA NA NA NA NA NA NA NA	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 170000.0 NA NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 51 NA 61 NA 61 NA 61 NA 61 NA 250 PID (ppm) 1412 1357 0 279 1211 0
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4 TH-5 TH-6 TH-7 (temporary well)	Matrix bring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 12.7' 14.4' 16.5' 15' 14.5' 16' NA	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA NA NA NA NA	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3.4 460.0 10000.0 3400.0 <1 18000.0 74000.0 NA NA NA NA NA NA NA NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 2.8 620.0 2.0000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA NA NA NA NA NA NA NA NA NA S36.0 0	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA NA NA NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 250 PID (ppm) 1412 1357 0 279 21211 0 0 279
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4 TH-5 TH-6 TH-7 (temporary well) TH-8	Matrix bring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 12.7' 14.4' 16.5' 15' 14.5' 15' 14.5' 16' NA 14'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Toluene (ppb) <1 <1 <1 NA 4600.0 NA <1 3100.0 3400.0 3400.0 3400.0 74000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 76.0 16000.0 4500.0 48.0 2.8 620.0 20000.0 48.0 2.8 620.0 20000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 61 NA 61 NA 61 NA 61 NA 52 NA 61 NA 61 NA 52 NA 61 NA 52 NA 61 NA 60 250 NA 60 279 0 279 0 0
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-06 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4 TH-5 TH-6 TH-7 (temporary well) TH-8	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 12.7' 14.4' 16.5' 15' 14.5' 16' NA 14'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Toluene (ppb) <1 <1 <1 NA 4500.0 NA <1 3100.0 3400.0 3400.0 74000.0 74000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 4500.0 48.0 2.8 620.0 20000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Xylenes (ppb) <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 61 NA 61 NA 61 NA 61 NA 52 NA 61 NA 52 NA 61 NA 52 NA 61 NA 52 NA 60 250 NA 60 250 NA 60 279 0 279 0 0
Downgradient private well Sample Burlington Temporary Monito TPW-01 TPW-02 TPW-03 TPW-04 TPW-04 TPW-05 TPW-05 TPW-06 TPW-07 PNM Test Holes along Wash TH-1 TH-2 TH-3 TH-4 TH-5 TH-6 TH-7 (temporary well) TH-8 Sample from Burlington Exc.	Matrix wring Well Samp Water Soil Water Soil Water Soil Water Soil Water Soil Water Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil	Date Sampled bling 6/5/97 6/5/97 6/5/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 6/6/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97 11/11/97	Depth (ft) 25-26' Product 25-26' Dry 25-26 20-21.5' 15-16' 16-16.5' 15-16' 12.7' 14.4' 16.5' 15' 14.5' 16' NA 14'	Benzene (ppb) 20.0 <1 NA 2000.0 NA <1 2000.0 28.0 5800.0 4000.0 1600.0 <1 5300.0 7000.0 NA NA NA NA NA NA NA NA	Toluene (ppb) <1 <1 <1 NA 4500.0 NA <1 3100.0 3400.0 3400.0 10000.0 3400.0 74000.0 NA NA NA NA NA NA NA NA	Ethylbenzene (ppb) <1 <1 NA 14000.0 NA <1 57.0 76.0 16000.0 4500.0 48.0 2.8 620.0 20000.0 NA NA NA NA NA NA NA NA NA	Xylenes (ppb) <1 <1 <1 NA 39000.0 NA <1 810.0 40.0 7000.0 28000.0 690.0 4.8 9300.0 170000.0 170000.0 NA NA NA NA NA NA NA NA NA	Total BTEX (ppb) 20.0 <1 NA 59600.0 NA <1 5967.0 147.4 29260.0 46500.0 5738.0 7.6 33220.0 271000.0 NA NA NA NA NA NA NA NA NA NA NA NA NA	TPH (mg/Kg) NA <10 NA 600.0 NA 25 NA 52 NA 52 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 60 .0 NA 60.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 600.0 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 600.0 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 61 NA 60 NA 61 NA 60 NA 60 NA 60 NA 60 NA 60 NA 60 NA 60 NA 80 NA 60 N 80 NA 60 N 80 N 80 N 80 N 80 N 80 N 80 N 80 N

# Attachment A

Hydrographs and Concentrations versus Time

.



**MW-1: Trends with Time** 



**MW-3:** Trends with Time



(ddq) notation (ppb)



MW-4: Trends with Time

(ddq) notration (ppb)



MW-5: Trends with Time

(dqq) notrettenco



(dqq) notertration (ppb)



(dqq) notertration (ppb)

MW-7: Trends with Time



Concentration (ppb)

MW-8: Trends with Time

# Attachment B

Free Product Recovery Response

۹



# Hampton 4M Free Product Recovery

# HAMPTON 4M

.

٠

ì

.

,

DATE	TIME		CYCLES	PUMPING		NITROGEN TANK LEVEL	DRUM LEVEL	MW #2 PRODUCT	MW #2 WATER LEVEL	
16/78	<i>j3</i> 03	5 min	3	2 H- IDMin	58	675	æ	20.78	25.04	4.
·/shs	1619	50	3	2Hr. 32min	58	+75	53/4"	20,98	25.04	4.
1/15/98	1527	Smin.	3	2Hr. 53 min	58	275	11 1/2 "	20,96	24.96	4
119/8	1323	5 min.	3	3 Hr. 3 m	53	58	15 12°	30.69	25.04	¥
'betes	H54	5 min .	3	3 Hr. 30min	50	750	17."	20.83	2.5.04	4
1-17	Uizy	Cent	<u> </u>	+Hr. 23,114	50	550	24/2	20.93	24.47	¥.
1/22/12	1344	10 min .	3	5Hm 17min	50	400	514"	21.00	34.88	P
525/12	1418	10 min .	4	pH-s33 min	50	50	14 "	21.11	24.74	<b>B</b> .
1 1/28	316	26 min	6	AHr Jani	50	2175	16/2	20,97	24.78	₽. 
1/25/98	1153	10mi	6	9HUJYME	50	1875	2574"	21.18	24.50	
1/240 ki	1330	10 min.	6	10H- 55me	50	1625	11 /4 "	21.20	24.43	P.
2/27/2	1431	10 min.	6	121-07min	50	1375	23 1/2"	21.16	24.39	₽
128m	1320	10 min	ÚĮ.	16A+ 48	50	600	6	20.09	24.40	Ľ.
1/2/92		10 m. 2	6	18 Ar 10 -	50	325	1234	21.11	24.31	L.
130/78	625	10 min	6	19Hr. 02mi.	.50	150	12-7/4"	21,05	24.48	4
<i>[]</i>	1150	10 min	6	20 the Olemia	60	2275	18 "	21,17	24.27	ľ
Pin	1143	10 min	12	224v 12m	60	1875	213/4	21.19	24.27	ľ
-40	15/7	10 m.i.	4.	23H. Bui	60	1600	2612	21.25	24.25	ľ
"190	1516	10 min	6	St Hay 1500	60	1410	9 1/2"	21.10	24.20	T T
2/4/98	315	10 ~~~~~	4	25Hris18-	68	1120	14 /4 "	21.09	24.23	Ĩ
2/5/7	1303	10 min	6	Kettris 1 gmin	60	875	19 1/2 "	21,27	24,13	ļ
2/6/m	ISIB	5.n	12	27 Hrs 27mi	60	600	24 /4"	21,25	24.10	ļ
Phil	121	5 mi	12	28 1 - 2 2 2	60	375	<u>5 4"</u>	21.26	24.10	
18/98	1522	5 min	12	BOHrson	0	0	10"	21.24	23.98	_
7/7/95	1615	5 min	12	BIHrist 7m	· 55 ·	2325	15 34"	21.21	24.00	_
21dg	91411	15 min	12	321-521m.	55	<i><b>A</b></i> 110	20%	21.36	24.00	
11/19	81350	リントー	12	334-,212.	55	1875	24 1/2 "	21.23	23.95	_
7/a/g	917/8	5	12	34Hrs 30m	\$ 55	1625	54"	21.30	23.95	_
=/13kg	9 1603	5 mi	186	34 Aus Sta	55	1500	8 14 "	21,22	23.92	
714/2	1623	5min	6	354-159~	55	1225	12 12 "	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
2/19/98	1529	5 min	12	37H-03-	50 CEE	990	16.3/4	21.08	34.00
714	1413	5-in	12	38Hrs 19mm	J5	675	22 1/1"	21.26	23.93
2/17/98	1740	5mm	12	39 Hrszani	55	450	2642	21,26	23.89 4
70/78	1344	5m2	12	40 Hrs Igni	55	2475	2/2 "	21.32	23.87
2 Alaz	117	5min	12	41 Hrs 27m==	55	2075	6/2"	21.34	23.85
2098	1418	5mi	12	#2Hrs25min	55	1775	10 1/2"	21,24	23.82
7-198	1631	5 min	12	+BHrossin	- 55	1500	143/4"	21.30	23.87
<u>7-29</u> 8	1443		6	Hit is the min	55	1375	210 1/2 "	21.35	23.80
1249	1607	5	4	44Hm38~	55	1175	19 1/2	21.36	23.75
124/4	1601	ప	6	Ditter Som	8	6	32.0	21.10	23.95
2/27/	129	5	12	50 Hr. 5 min	60	2150	24.0	21.24	23.90
126 hz	1512	5	12	51His Stan	58	1650	32.12	21.29	23.20
<u>121/q</u>	1543	5	12,	RH-Slimi	50	1100	4 1/2	2135	23.78
1878	lacef	5	12.	54tris 67mi	50	400	634	21.41	23.73
7/190	1165	5	12	544+317mi	0-	سن ا	8 3/4"	21.41	23.75
1998	1643	5	12	55th-38-	50	1300	10 "	21.32	23.80
3/78	<u>71(</u>	Contraction	Jac .	55Hog Sai	50	1150	12/2"	21.25	2388
B/4 /2	<u> </u>				·		141/2"	21.29	23.88 2
~~ <u>/9</u>	<b></b>							21.29	23.90 3
19/98	1707	FR5	12	56456~~	50	900		21.38	24.00
411/78	1230	- ত	12:	59Hrs 0000	50	200	23 3/4 "	21.38	23.81
Plat	1604	5	12	STHrs.	50	2700	264	21.34	23-81
116-199	0700	5	12	62H+336~	-o-	.0-	4 "	21.31	23.95
1750	10732	. 5	12/6	63Hrstan	50	1850	7%"	21.26	24.05
TIS A	183			CHHrs 14148	50	1600	10 "	71,36	24.02 -
	<u> </u>		1					[	
<b></b>	ļ	· · · · ·	· ·					ļ	
	<u> </u>	<u> </u>	ļ			-		ļ	·
					· ·			1	
1	10	60		24.53		4	4.10		
چ ا	4	42		x 4,00		-	21.35	۰ <b>.</b>	
	•	1-		J. 7 J	1.25		12.1		

20 60 14 42

1.25



14' 7 **1**1. PUBLIC SERVICE COMPANY OF NEW MEXICO DEPARTMENT FILE SMEET HAmpton 4M DATE Product removed (gallous) from mw-6 CHECKED DATE 5.0 gol. in NovenBer Feb. 14-9,13 12 - 8.50 gul. 13 - 3.75 god. 17 - 4,23 14 - 3.75 gol. 18-4,15 15 - 3.80 gol. 19-6,64 - 353.6. 16 - 9.55 gol. 20 - 6.64 17 - 9.55 g.01. 21 - 7.06 18 - 8.30 gm 22-11.21 - 378.54 19 - 2.49901. 23 - 5 2 - 12.45 gol. 24 - 0.83 25 - 3,32 21 - 17.72 gol. 22 - 7.00 gol. 23 - 20.25 sol Total 86.86 gal. +5 26-14.11-396.80 27 - 7.47 112.14 901 28 - 3.74 24 - 10,65 AA. MANGLI -3.32 - 411.33 TB 25 - 14,53 gml. 2-208 26 - 18.68 gr. . 176.34 gal Total 27 - 20.34 - 1. 3-3.329 28 · 14.96 901 4-4.154 29 - 11,21 - ml 11-15.36 Total 187.559A 30 - 5.00 gn (. 3 - 8.72 gn 1. 12-4.57 14-6.64 201.27 gp Fer - 6.23 gal. 17-5.81 - 453.26 90 2 7.89 gal. 18-4.15 3 15.779Al. 231.16 901 Total 4 7.89501 5 8.72 gal. Total 258.98981 6 11.219Al. 7-8.72gol. 8 - 7.89 g. nl. 4-955901 293.02 9 Al. 299.44 10-7.89-01 11-6.64 91-1 12-9.55-941 13-4/15 941 1- - 7.04 gr ( 15-7.06 qual

# Attachment C

# Analytical Laboratory Data

.



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



LAB: (505) 325-1556

## ANALYTICAL REPORT

Date: 24-Feb-98

Client:	PNM Gas Servic	es	Cli	ent Sample Info:	Hampton 4M	[
Work Order:	9802007		C	lient Sample ID:	9802111400;	Burlington Excava
Lab ID:	9802007-01A	Matrix: AQUEOUS	5	<b>Collection Date:</b>	2/11/98 2:00	:00 PM
Project:	Hampton 4M Bu	rlington Excavation		COC#:	7174	
Parameter		Result	Limit Qual	Units	DF Da	te Analyzed

AROMATIC VOLATILES BY GC-PID	S	W8021A			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	<b>120</b> 0	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

1 of 1

CLIENT: Vork Order:	PNM Gas Services 9802007							ÓC	AMMUS	<b>IRV</b>	REPO	RŢ
Project:	Hampton 4M Burlington Excavation	ų								Ň	ethod B	ank
Sample ID: MB1 W	Batch ID: GC-1_980217	Test Code: SW80	021A	Units: µg/L		Analys	is Date: 2/1	7/98	Pre	p Date:		
Client ID: Analyte	9802007 Result	Run ID: GC-1. POI SPI	980217A K value	SPK Ref Val	%RFC	SeqNo	Hight im		al %RI	a Ca	on imit	
					2		ß		5			
Benzene	.1481	0.5										<del>.</del> ,
Ethylbenzene	QN	0.5										
n.p-Xylene	QN	-										
o-Xylene	ND	0.5										
	.0621	0.5										-
Toluene												,
Toluene												

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits
 R PD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technolog	ies, LTD.								Da	ite: 24-Feb-	98
CLIENT: PNM G	as Services							QC SUN	AMAR	Y REPO	RT
Work Urder: 980200									Samul	e Matriv S	niba
Project: Hampto	n 4M Burlington Excavati	on							idimo		bive
Sample ID: 9802002-06A MS	Batch ID: GC-1_980217	Test Code:	SW8021A	Units: µg/L		Analysis	Date: 2/17/	86	Prep Da	ite:	
Client ID:	9802007	Run ID:	GC-1_980217	4		SeqNo:	91				
Analyte	Result	Pal	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 MSI	D Batch ID: GC-1_980217	Test Code:	SW8021A	Units: Jug/L		Analysis	Date: 2/17/9	86	Prep Da	te:	
Client ID:	9802007	Run ID:	GC-1_980217.	Æ		SeqNo:	92				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19120	20	4000	15090	100.9%	57	128	18890	1.2%	12	
Ethytbenzene	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	

ND - Not Detected at the Reporting I jimit J - Analyte detected below quantitation limits

Qualifiers:

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

1 *fe* 1

						(a) LID.	site i ecnnologie
QC SUMMARY Laboratory Control S					ioi	s Services 1 4M Burlington Excavati	NT: PNM Gas Order: 9802007 et: Hampton
ysis Date: 2/17/98 Prep Dat Vo: 73	Analys SegNo		Units: µg/L	SW8021A GC-1 980217A	Test Code: 8	Batch ID: GC-1_980217 9802007	e ID: LCS WATER D:
nit HighLimit RPD Ref Val %RPD	EC LowLimi	%REC	SPK Ref Val	SPK value	POL	Result	
34 114	3% 84	107.3%	0.1481	40	0.5	43.06	er.
36 118	3% B£	114.3%	0	40	0.5	45.72	snzene
50 150	<b>3% 5</b> C	108.9%	0	80	-	87.09	lene
19 147	3% 45	111.8%	0	40	0.5	44.73	Э
37 120	97 87	110.0%	0.0621	40	0.5	44.06	е

Qualifiers: ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologi	ies, LTD.								D	ite: 24-Feb	-98
CLIENT: PNM G	as Services							QC SUN	<b>1</b> MAR	Y REP(	<b>JRT</b>
Project: Hampto	n 4M Burlington Excavat	ion					Continu	iing Calibratio	n Verific	ation Sta	ndard
Sample ID: CCV2 QC0529/30	Batch ID: GC-1_980217	Test Code:	SW8021A	Units: µg/L		Analysis	Date: 2/17/	86	Prep Da	ate:	
Client ID:	9802007	Run ID:	GC-1_980217	A.		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	<b>-</b> .	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%	20	130				
4-Bromochlorobenzene	96.82	0	100	0	96.8%	02	130				
Fluorobenzene	66.66	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 Da	te:	
Client ID:	9802007	Run ID:	GC-1_980217	4		SeqNo:	72				
Analyte	Result	Par	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	-	40	0	6.99%	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	<b>99.3</b> %	20	130				
Fluorobenzene	99.75	0	100	0	<b>99.8%</b>	20	130				

S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Date: 24-Fob.08

J - Analyte detected below quantitation limits ND - Not Detected at the Reporting Limit

Qualifiers:

CLIENT: Work Orden	PNM Gas	Services							QC SUN	IMAR	Y REPO	<b>JRT</b>
Project:	9002007 Hampton	4M Burlington Excavati	uo					Continu	ing Calibratio	l Vcrifi	ation Star	ıdard
Sample ID: CCV3 QC	C0529/30	Batch ID: GC-1_980217	Test Code:	SW8021A	Units: µg/L		Analysis	Date: 2/17/	86	Prep D	ite:	
Client ID:		9802007	Run ID:	GC-1_980217			SeqNo:	94				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		20.56	0.5	50	0	102.8%	85	115				
Ethylbenzene		21.76	0.5	20	0	108.8%	85	115				
m,p-Xylene		40.95	-	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%	20	130				
4-Bromochlorobenzen	ər	95.23	0	100	0	95.2%	20	130				
Fluorobenzene		<b>36.96</b>	0	100	0	100.0%	20	130				

-

Qualifiers: NID - 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

<b>ON SITE</b>	CHAIN	N OF C	US1 <sup>a</sup>		<b>Y</b> 1 <sub>j</sub> 8	E C	ORD	Page	_	7174	
TECHNOLOGIES, LTD.	612 E. Murphy Dr. • LAB: (505) 3	P.O. Box 2606 • Fai 25-5667 • FAX: (50	mington, NN 5) 325-6256	87499							
Purchase Order No.:	Job No.			0.	Name		Maureen G8	nonn	Title		<b></b>
LI Name Denver	Bearden			TR TR	Company		PNM Gas S	ervices			<b></b>
Z Company PNM Ga	Is Services	Dept. 324-3763			Mailing A	ddress	Alverado So	quare, Ma	il Stop 0408		-
S V Address 603 W. E	Elm Street			ISE BB	City, State	9, Zip	Albuquerqu	e, NM 87	158		<b></b> -
City, State, Zip FarmIng	gton, NM 87401			18 	Telephone	9 No.	505-848-297	4	Telefax No.		<del></del>
Sampling Location: L Configuration 4M Bur	·husha Exav			s. J(			ANALY	SIS REQ	UESTED		·
				ner Br c	$\left[\right]$	ert					
Sampler: M. S.				lumb istro:	+~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- 					
SAMPLE IDENTIFICA	ATION	SAMPLE DATE I TIME	MATRIX PRE	1 1 0	X 40°						<b>.</b>
						Ł		+	+	111-11111	
IN OCTINFORL	rsisa Exter									110000	
					-			+			
					+						-
								-			
								-			
C					+			-			
					   	Ţ		-		Times /11 kic 11.	
N/ 2-2 . An neusinbullion			115 100		- An n						
Relinquished by:		Date/Time		Receive	d by: (				Date/	Time	
Relinquished by:		Date/Time		Receive	d by:				Date/	Time	
Method of Shipment: $\bigcap   _{G_{O,C}}$	Lelwr N			Rush		24-48 Hot	ITS 10 Wo	irking Day	rs Special Ins	structions:	
Authorized by:	Date	2/11/2							Res to	ults to be sent both parties.	
(Client Signature Must Act	company Request)			<u> </u>							
	Z	A Share White . On She	V-A-A-A	Dink - Remote	Coltantod	Clant					



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden		Date:	23-Jan-98	
Company:	PNM Gas	Services		COC No.:	7086
Address:	603 W. I	Elm		Sample No.:	17304
City, State:	Farmingt	on, NM 87401	Job No.:	2-1 <b>00</b> 0	
Project Nam	ne:	PNM Gas Services	- Hampton 4M	,	
Project Loca	ation:	9801121030; MI	N-1		
Sampled by: MS/MG/RD/RB		MS/MG/RD/RB	Date:	12-Jan-98 Time:	10:30
Analyzed by	y:	DC	Date:	21-Jan-98	
Sample Mat	trix:	Liquid			

	Results as	Unit of	Limit of	Unit of	
Parameter	Received		Quantitation	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: 78



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 Nar	ne: PNM Gas Services -	Hampton 4M	
Destant	0004404000 1000	•	

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

		Results as	Unit of	Results as	Unit of	
Parameter		Received	Measure	Received	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	ĸ	8.3	mg/L	0.21	me/L	
Anions						
Chloride	Сі	9	mg/L	0.26	me/L	
Sulfate	S04	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	QH as CaCO3	<1	mg/L.	< 0.01	me/L	
Total Dissolv Calculated, Sur	ed Solids m of Cation/Anion	2987	mg/L	Cation-Ani	on Balance	_
Total Dissolved Solids				1.61	Difference Cati	on-Anion. me/L
Dried @ 180 C		3242	mg/L	90.65 Total Cation-Anion, me/L		nion, me/L
				1.8	3 % Difference C	ation-Anion
pH		4.62				
Conductivity	@ 25 C	2960	uS/cm	Comn	ents	_
Total Hardne	ss as CaCO3	1973	mg/L			

Approved by: 1/2/98 Date:



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden		Date:	23-Jan-98	
Company:	PNM Gas	Services		COC No.:	7086
Address:	603 W. El	m		Sample No.:	17305
City, State: Farmington, NM 87401				Job No.:	2-1000
Project Nam	ne:	PNM Gas Services	- Hampton 4M	,	
Project Loca	ation:	9801121100; M	N-3		
Sampled by	:	MS/MG/RD/RB	Date:	12-Jan-98 Time:	11:00
Analyzed by	/:	DC	Date:	21-Jan-98	
Sample Mat	trix:	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: 123/98



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden			Date:	23-Jan-98
Company:	PNM Ga	s Services		COC No.:	7086
Address:	603 W.	Elm		Sample No.:	17306
City, State: Farmington, NM 87401				Job No.:	2-1000
Project Nan	ne:	PNM Gas Services	- Hampton 4M	1	
Project Loc	ation:	9801121130; M	N-4		
Sampled by: MS/M		MS/MG/RD/RB	Date:	12-Jan-98 Time:	11:30
Analyzed b	y:	DC	Date:	21-Jan-98	
Sample Ma	trix:	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:



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden			Date:	23-Jan-98
Company:	PNM Gas	Services		COC No.:	7086
Address:	603 W. E.	lm		Sample No.:	17307
City, State: Farmington, NM 87401				Job No.:	2-1000
Project Nam	ne:	PNM Gas Services	- Hampton 4M		
Project Loca	ation:	9801121200; M	W-5		
Sampled by: MS/MG/RD/RB		MS/MG/RD/RB	Date:	12-Jan-98 Time:	12:00
Analyzed by	/:	DC	Date:	21-Jan-98	
Sample Mat	trix:	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: 78



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden			Date:	23-Jan-98
Company:	PNM Gas	s Services		COC No.:	7086
Address:	603 W. I	Elm		Sample No.:	17308
City, State: Farmington, NM 87401				Job No.:	2-1000
Project Nam	ne:	PNM Gas Services	- Hampton 4M	,	
Project Loca	ation:	9801121230; M	N-7		
Sampled by: MS/M		MS/MG/RD/RB	Date:	12-Jan-98 Time:	12:30
Analyzed by	y:	DC	Date:	21-Jan-98	
Sample Mat	trix:	Liquid			

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
			Cuultitudion	
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
70	DTAL 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

•



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden		Date:	23-Jan-98	
Company:	PNM Gas	s Services		COC No.:	7086
Address:	Address: 603 W. Elm		Sample No.:	17309	
City, State:	Farmingt	on, NM 87401		Job No.:	2-1000
Project Name: PNM Gas Services - Hampton 4M		,			
Project Loca	ation:	9801121300; MV	N-8		
Sampled by		MS/MG/RD/RB	Date:	12-Jan-98 Time:	13:00
Analyzed by	y:	DC	Date:	21-Jan-98	
Sample Mat	trix:	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_
ΤΟΤΑΙ	33801	ug/L		

ND - Not Detected at Limit of Quantitation

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

HR



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bea	rden			Date:	26-Jan-98
Company:	PNM Gas S	ervices			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		ampton 4M				
Project Loca	ation:	9801121300; MW-8				
Sampled by	:	MS/MG/RD/RB	Date:	12-Jan-98	Time:	13:00

## Laboratory Analysis

26-Jan-98

Date:

		Results as	Unit of	Results as	Unit of	
Parameter		Received	Measure	Received	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	ĸ	20.9	mg/L	0.53	me/L	
Anions						
Chloride	- <i>cı</i>	30	mg/L	0.83	me/L	
Sulfate	S04	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 Dissolve	ed Solids	2120			Belever	
Total Dissolu	n or Cation/Anion	3135			Difference Cation	Anion mall
Dried @ 180 C	eo 30//05	3424	mg/L	95.55	Total Cation-Anion	n. me/L
				0.8 % Difference Cation-Anior		on-Anion
ρH		6.21				
Conductivity	@ 25 C	2950	uS/cm	Comm	enis	
Total Hardne	ss as CaCO3	2110	mg/L	]		

Approved by: Date: 1/30/98

P.O. BOX 2606 • FARMINGTON, NM 87499



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver Bearden		Date:	23-Jan-98	
Company:	PNM Gas	s Services		COC No.:	7086
Address:	603 W.	Elm		Sample No.:	17310
City, State: Farmington, NM 87401			Job No.:	2-1000	
Project Nam	ne:	PNM Gas Services	- Hampton 4M	1	
Project Loca	ation:	9801121330; MV	N-9		
Sampled by	:	MS/MG/RD/RB	Date:	12-Jan-98 Time:	13:30
Analyzed by	/:	DC	Date:	21-Jan-98	
Sample Mat	trix:	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
τοται	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

P.O. BOX 2606 • FARMINGTON, NM 87499



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

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

**Calibration Check** 

	Unit of	True	Analyzėd		
Parameter	Measure	Value	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	<b>60</b> .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

	S1	\$2		S1	S2
	Percent	Percent		Percent	Percent
Laboratory Identification	Recovered	Recovered	Laboratory Identification	Recovered	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			JUR	(DE)
17309-7086	101			1/26/98	1/23/98

S1: Flourobenzene

## P.O. BOX 2606 • FARMINGTON, NM 87499



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



Eputowest States (2) marg S023 Bayonne (porang, Taxas, 17) (p DS1-000-2310 + 74 × 151-10) (e+ nor) (preveniĝino por

Mountain	States	Analy	ytical,	Inc.

On Site Technologies Ind	The Quality Solution	MSAI Sample:	74841
612 E Murray Dudy		MSAI Group:	19520
Brund and a starting brive		Date Reported:	02/06/98
Farmington, NM 87401		Discard Date:	03/08/98
		Date Submitted:	01/30/98
Actn: Mr. David Cox		Date Sampled:	01/12/98
Project: Hampton 4M		Collected by:	MG
		Purchase Order:	7086
Matrix: Waste Water		Project No.:	

r. 6 5

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
03921	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



<u>Corporate Office</u> 1645 West 2200 South, Salt Lake City, Utah 84119 801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278 e-mail: service@msailabs.com Southwest States Region 6223 Bayonne, Spring, Texas 77389 281-320-2842 • FAX 281-320-0989 e-mail: gbrewer@msailabs.com

ANE ENVITOE 11 - (-) 20115



ATABILY ITCE IN 5(C) 0 (0 LAS

	S S S	Analytical Inc		Page	2
On Sa	mple ID: 3801121030 MW-1 (Diss)	The Quality Solution	MSAI Sample: MSAI Group:	74841 19520	
Test	Analysis	Results as Received	Units	Method Detecti Limit	l .on :
7266	Silver by ICP, w/ww, 6010A Method: SW-846 6010A	ND	mg/l		0.005
0939	Sample Filtering, ww, MSAI	Complete			

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:

, als Ma

Rolf E. Larsen Project Manager



<u>Corporate Office</u> 1645 West 2200 South, Salt Lake City, Utah 84119 801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278 e-mail: service@msailabs.com <u>Southwest States Region</u> 6223 Bayonne, Spring, Texas 77389 281-320-2842 • FAX 281-320-0989 e-mail: gbrewer@msailabs.com



Mountain States Analytical, Inc.

The Quality Solution	MSAI Sample:	74842
On Site Technologies, Ltd.	MSAI Group:	19520
612 E Murray Drive	Date Reported:	02/06/98
Farmington, NM 87401	Discard Date:	03/08/98
	Date Submitted:	01/30/98
Attn: Mr. David Cox	Date Sampled:	01/12/98
Project: Hampton 4M	Collected by:	MG
	Purchase Order:	7086
Sample ID: 9801121300 MW-8 (Diss)	Project No.:	
Matrix: Waste Water		

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
03921	Flame/ICP Prep, w/ww, 3005A Method: SW-846 3005A	Batch. w059		
0392M	Mercury Prep CVAA, w/ww, 7470 Method: SW-846 7470	Batch. WOO1		
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

ality Service

<u>Corporate Office</u> 1645 West 2200 South, Salt Lake City, Utah 84119 801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278 e-mail: service@msailabs.com Southwest States Region 6223 Bayonne, Spring, Texas 77389 281-320-2842 • FAX 281-320-0989 e-mail: gbrewer@msailabs.com

A 10/21/10/2113 10 01010



	Mountain States	Analytical, Inc.		Page 2
On	Site Technologies, Ltd.	The Quality Solution	MSAI Sample:	74842
Sa	mple ID: 9801121300 MW-8 (Diss)		MSAI Group:	19520
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:

La 1 Rolf E. Larsen Project Manager

CATAGINY IL GAINING SIOLAP

Quality Service

<u>Corporate Office</u> 1645 West 2200 South, Salt Lake City, Utah 84119 801-973-0050 • 1-800-973-6724(MSAI) • FAX 801-972-6278 e-mail: service@msailabs.com Southwest States Region 6223 Bayonne, Spring, Texas 77389 281-320-2842 • FAX 281-320-0989 e-mail: gbrewer@msailabs.com



Sequence : 8259 -1

.

Analysis Batch Number: 0259B-02/03/98-114 -1 Test Identification : 0259B-Mercury by CVAA, w/ww, 7470 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						90	LIMITS		
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>% REC #</u>	LOWES		R	
19527-74856	Mercury	2.0000	-0.1800	1.8900	103.5	80.0	120.0		
MSD						QC L	IMITS		
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	<u> %REC2 #</u>	LOWER	UPPER	<u></u>	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	<u>RPD</u> #	LIMIT	DILUTION
19527-74856	Mercury	-0.1800	-0.1800	0.0	20.0	1.00

CONTROL					QC LIMITS
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	<u>% REC #</u>	LOWER 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

				QC L	IMITS	
<u>CCV #</u>	ANALYTE	TRUE_VALUE	BATCH READ	<u>% REC #</u>	LOWER	UPPER
CCV-	Mercury	3.0000	2.8800	96.0	<b>90</b> .0	110.0
CCV2	Mercury	5.0000	4.8900	97.8	80.0	120.0
CCV3	Mercury	5.0000	4.7800	95.6	80.0	120.0
CCV4	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

Sequence : DAAA033

.

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

BLANK#	ANALYTE	CONC FOUND	<u> </u>	LIMIT					
PBW-060	Selenium	ND		0.0050					
SPIKE						90	LIMITS		
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPI	KE % REC #	LOWE	R UPPEI	2	
19520-74841	Selenium	0.0400	0.0010	0.04	36 106.5	75.0	125.0		
MSD						QC L	IMITS		
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT	2 %REC2 #	LOWER	UPPER	RPD #	LIMI
19520-74841	Selenium	0.0400	0.0010	0.03	93 95.8	75.0	125.0	10.4	20.
DUPLICATE									
S*MPLE#	ANALYTE	RESULT 1	RESULT_2	<u>RPD</u> #	LIMIT DILUT	ION			
20-74841	Selenium	0.0010	0.0007	35.3(11)	20.0 2.	.00			
CONTROL					QC LIMITS				
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	<u>% REC #</u>	LOWER UPPER				
LCSW-060	Selenium	0.0384	0.0400	96.0	75.0 125.0				
				QC LI	MITS				
CCV #	ANALYTE	TRUE VALUE	BATCH READ	<u>% REC #</u>	LOWER UPPER				
ICV-	Selenium	0.0500	0.0533	106.6	80.0 120.0				
CCV12	Selenium	0.0500	0.0534	106.8	80.0 120.0				
CCB#	ANALYTE		<u> #</u> <u>conc</u>	LIMIT					
I CB -	Selenium	0.0001	1	0.0050					
CCB1-	Selenium	0.0003	5	0.0050					

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

7 - The duplicate results cannot be evaluated because both results are <MDL.</p>

Groups & Samples

.

19520-74841 19520-74842

Sequence : DATC034

02/06/98 15:55:21 Group: 19522

•

QC LIMITS

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

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						QC J	LIMITS
<u>LE#</u>	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>% REC #</u>	LOWER	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	<b>80.</b> 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	<b>80.</b> 0	120.0
	Iron	1.0000	0.2537	1.2570	100.3	<b>80.</b> 0	120.0
	Molybdenum	0.5000	0.0037	0.5063	100.5	<b>80.</b> 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	<u>%REC2</u> #	LOWER	UPPER	RPD #	LIME
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	<b>80.</b> 0	120.0	2.8	20.
	Barium	2.0000	0.2139	2.1773	98.2	80.0	120.0	2.0	20.
	Cadmíum	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	20.1
	Iron	1.0000	0.2537	1.2820	102.8	80.0	120.0	2.0	20.0
	Molybdenum	0.5000	0.0037	0.5201	103.3	80.0	120.0	2.7	20.0
	Nickel	0.5000	-0.0015	0.4993	100.2	80.0	120.0	1.0	20.0
	Lead	0.5000	-0.0106	0.5027	102.7	80.0	120.0	1.4	20.1
	Selenium	2.0000	0.0102	2.0087	99.9	<b>80</b> .0	120.0	3.5	20.0
	Lead Selenium	0.5000	-0.0106 0.0102	0.5027 2.0087	102.7 99.9	<b>80.</b> 0	120.0 120.0	1.4 3.5	20.0 20.0

DUPL	ICATE	

SAMPLE#	ANALYTE		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
	Cadimium	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

Sequence : DATC034

•

Analysis Batch Number: ICPWA-02/03/98-001 -4 Test Identification : ICPWA-\*Metals by ICP Number of Samples : 4 Batch Data-Date/Time : C2/04/98 / 07:42:35

CONTROL QC LIMITS SAMPLE# CONC FOUND CONC KNOWN ANALYTE LOWER UPPER <u>% REC #</u> LCSW-059 Silver 0.0521 0.0500 104.2 80.0 120.0 Arsenic 2.0127 100.6 80.0 120.0 2.0000 Barium 1.9239 2.0000 96.2 80.0 120.0 Cadmium 0.0557 80.0 120.0 0.0500 111.4 Chromium 0.2081 0.2000 80.0 120.0 104.1 Iron 1.0343 1.0000 80.0 120.0 103.4 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

				QC	LIMITS
CCV #	ANALYTE	TRUE VALUE	BATCH READ	<u>% REC #</u>	LOWER 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	<b>98</b> .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
CCV12	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
CCV23	Silver	0.4000	0.3825	95.6	<b>90.</b> 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
	Cadmíum	4.0000	3.9612	<b>99.</b> 0	<b>90.</b> 0 110.0
	Chromium	4.0000	3.9819	99.5	<b>90.</b> 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	<b>96.</b> 1	90.0 110.0
CCV34	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

•

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

			90	LIMITS
<u>ccv #</u>	ANALYTE	TRUE VALUE	BATCH READ % REC #	LOWER UPPER
CCV34	Molybdenum	20.0000	19.3755 96.9	90.0 110.0
	Nickel	8.0000	7.9553 99.4	<b>90.</b> 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	
	Cadm1um	ND	0.0040	
	Chrom sum	0.0010	0.0100	
	iron	ND	0.2000	
	Molybdenum	0.0119	0.0300	
	NICKEL	ND	0.0300	
		0.0060	0.0400	
	Selenium	0.0111	0.0700	

•

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

Result Footnotes

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

Groups	8	Samples		
19494-7	477	6 19520-74841	19520-74842	19523-74848

	CH. JN OF CUSTO	λQC	REC JRD	6837
ÓN SITE	Date: _	1	29/78	Page /
TECHNOLOGIES, LTD. 657 W. Maple • LAB: (505	· P. O. Box 2606 • Farmington NM 87499 5) 325-5667 • FAX: (505) 325-6256	-	-	
Purchase Order No: 7086 Job No.			Name DAVIO COX	Trite
Name Accurits NEC.		TR ST S	Company Ox1 SITE TE	<i>t+</i> 2
DUC Company CAL SITE	Dept.		Mailing Address	
E Address		IS3I 38	City, State, Zip	
City, State, Zip		3	Telephone No. 505 325-2432	Telefax No. 325-625
Sampling Location:			ANAL YSIS I	REQUESTED
HAMPTON 4M		iers Iers		
Sampler: MS/MS		edmuk vistno:	1 2 2 2 X V.	
SAMPLE IDENTIFICATION	SAMPLE MATRIX PRES.	2 1	13 2 4 m m	
7801121030 : MM-1	1/2/40 1030 MW COUL	-		1324-7086
2401112m . 1.1 . K	1/1 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2 /2	-		780E-602-E1
		+ - +		
Relinninisched by:	Date/Time 1/29/16 (602)	Receiv	ed by: (1) Sarue	Date/Time U/41/12 IOYS
Relinquished by:	Date/Time	Receiv	ed by:	Date/Time
Relinquished by:	Date/Time	Receiv	ed by:	Date/Time
Method of Shipment:		Rush	24-48 Hours 10 Working	g Days Special Instructions:
	Date 1/21/58		<pre></pre>	YET .
Client Signature Must Accompany Req	(tsent	$\mathbf{\mathbf{b}}$		
	Distribution White - On Site Yellow - LAB	Pink Sa	mptor Goldenrod - Client	

	CHAIN OF	CUST	QDΥ	REC	ORD	000/	
ON SILE		Date: _	<u>-6/ er/</u>		Page:	01	
TECHNOLOGIES, LTD.	E. Murphy Dr. • P.O. Box 2606 • LAB: (505) 325-5667 • FAX: (	Farmington, NM 81 (505) 325-6256	499				
<sup>o</sup> urchase Order No.:	Job No.		0 Nam		Maureen Gannon	Title	<b></b>
Mame Denver Bearden			<b>ТЯ</b> Г 2.	pany	PNM Gas Services		Т
Z C Company PNM Gas Services	Dept. 324-3	763	09 1.11	ng Address	Alverado Square, Mali	Stop 0408	T
S 2 T Address 603 W. Eim Street			<sub>2</sub> รั าร: 3ช	State, Zip	Albuquerque, NM 8715	89	
City. State, Zip Farmington, NM 87	7401		<b>R</b> Telep	hone No.	505-848-2974	Telefax No.	T
sampling Location:					ANALVSIS RECUT	-sten	
Hampton 4M			r of r of	1.1.			
iampler: MS. N.G. R.D.R.B.			istno:	Re No.			
SAMPLE IDENTIFICATION	SAMPLE DATE   TIME	MATRIX PRES.	× 1 ~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	/ / / k		
TECII21030 MW-1	55-1 H8/21/1	Han Her		XX		Trant- trant	
780112 1100 MW-3						17305	J
9401121130 MW-4			×			17200	
78012 1200 MW-S			×			17207	
9301 12 1330 MW-7			×			802211	Т
7801121300 MW-8			×	× ×		17309	<b>-</b> T
TE 01 12 1330 MW-1	<b>→</b>	$ \uparrow $	×			01211	
			_				
							-1
							<u>1 1</u>
0 - C							<u> </u>
elinquished by: The Day	Date/Time //	142 1420 1420	Received by:	1 N		Date/Time 1/13/5/18 / Y	क्षे
elinquished by:	Date/Time		Received by:	( )		Date/Time	-
slinquished by:	Date/Time		Received by:			Date/Time	_
ethod of Shipment:			Rush	24-48 Ho	urs 10 Working Days	Special Instructions:	
uthorized by: <u>Mark Sills Itanas</u> (Client Signature Must Accompany Reg	Date 1//3/57			<u> </u>		Results to be sent to both parties.	
							٦



LAB: (505) 325-1556

# ANALYTICAL REPORT

Attn:	Denver I	Searden		Date:	17-Nov-97
Company:	PINM Ga	s Services		COC No.:	7083
Address:	603 W.	Elm		Sample No.;	16818
City, State	: Farming	ton, NM 87401		Job No.:	2-1000
Project Nar	me:	PNM Gas Ser	rices - Hampton 4M		
Project Loc	ation:	9711111330;	TH-7		
Sampled by	y:	MS	Date:	11-Nov-97 Time:	13:30
Analyzed b	y:	DC	Date:	13-Nov-97	
Sample Ma	trix:	Liquid			

	Results as	Unit of	Limit of	Unit of
Parameter	Received	Measure	Quantitation	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 Aromanic Volarile Organics by Gas Chromatography

Approved By: 197 Date

P.O. BOX 2606 • FARMINGTON, NM 87499 - TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

<u>American Environmental Network, Inc.</u>

AEN I.D. 711365

December 18, 1997

PUBLIC SERVICE COMPANYALVARADO SQUARE-MS0408ALBUQUERQUE,NM87158

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 clata, 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

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

•

•

# GAS CHROMOTOGRAPHY RESULTS

.

.

.

TEST		: BTEX (EPA 802	0)				
CLIENT		: PUBLIC SERVI	CE COMPAN	Y		AEN I.D.	: 711365
PROJECT #	Ł	: (none)					
PROJECT		: HAMPTON 4M					
SAMPLE				DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
21	9711251200		AQUEOUS	11/15/97	NA	11/25/97	1
PARAMETE	R	DET. LIMIT		UNITS	01 ·		
BENZENE		0.5		UG/L	< 0.5		
TOLUENE		0.5		UG/L	< 0.5		
ETHYLBEN	ZENE	0.5		UG/L	< 0.5		
TOTAL XYL	ENES	0.5		UG/L	< 0.5		
SURROGAT		= (%)			105		
SURROGAT	TE LIMITS	(80 - 120)			105		

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		
ENZENE	UG/L	<0.5	
TOLUENE	UG/L	<0.5	
ÉTHYLBENZÉNE	UG/L	<0.5	
TOTAL XYLENES	UG/L	<0.5	
SURROGATE LIMITS: CHEMIST NOTES: N/A	( 80 - 120 )	104	

#### GAS CHROMOTOGRAPHY QUALITY CONTROL MSMSD

TEST	: BTEX (EPA 8	3020)							
MSMSD #	: 711361-03				AEN I.D.	:	711365		
CLIENT	: PUBLIC SER	: PUBLIC SERVICE COMPANY					:	NA	
PROJECT #	: (none)		DATE ANAL	YZED	:	11/25/97			
PROJECT NAME : HAMPTON 4M					SAMPLE M	ATRIX	:	AQUEOUS	
					UNITS			UG/L	
	SAMPLE	CONC	SPIKED	%	DUP	DUP		REC	RPC
PARAMETER	RESULT	SPIKE	SAMPLE	REC	SPIKE	% REC	RPD	LIMITS	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

.

— X 100

.

## CHEMIST NOTES: N/A

% Recovery =

(Spike Sample Result - Sample Result)

----- X 100

Spike Concentration

(Sample Result - Duplicate Result)

RPD (Relative Percent Difference) =

Average Result

(American Environmental Network (NIVI), Inc. CHAIN OF CUSTUDY

In the second	RCRA Metals (8) RCRA Metals by TCLP (Method 1311) Metals:											Langerie.2	Time	Date.					
のないである	Priority Pollutant Metals (13) Target Analyte List Metals (23)											ILINQUISHED B	ature	ted Name.		. Anora			
D. Maure D. Land D. Maure D. Land Barth Mark Mark Mark Mark Mark Mark Mark Mark	Base/Neutral/Acid       McDs       McD       McD       McD         Petroleum       Hydrocarbons       (418.1)       TRPH         (MOD 8015)       Gasoline/BTEX & MTBE       Mc0       Mc0         Petroleum       Hydrocarbons       (418.1)       TRPH         (MOD 8015)       Gasoline/BTEX & MTBE       Mc0       Mc0         BTXE       MTBE<(Mc0												(RUSH) [1] 24hr [1] 72hr [1] 1 WEEK (NORMAL) X Signature K Inte	CERTIFICATION REQUIRED: [] NM [] SDWA [] OTHER Printed Name: Date: Printed I	METHANOL PRESERVATION []		WITFAN Signature Time Time	Dec 1, 1997 Printed Name: Date:	Company:
PROJECT MANAGER: Can Do	COMPANY: PNM ADDRESS: ALLALADA PHONE: Ses 241 FAX: Ses 241 BILL TO: Sene COMPANY: ADDRESS:												PROJ. NO.:	PROJ. NAME: Handle , 4 M	P.O. NO.:	SHIPPED VIA:			
		PROLECT MANAGER:       COMPANY:         PROLECT MANAGER:       COMPANY:	Plouger       Metals:         Metals:       Metals:         Metal:       Metal:         Metal:       Metal:	Радистимися:         Аладая:           Полестимися:         Сомранк:           Полестиве:         Сомранк:           Полестимися:         Сомранк:           Полестиве:         Сомона           Полестиве:         Сомо	Полестимися:         Астол. Манала           Провестимися:         СомРану         Полестимися:           Полестимися:         Полестимися:         Полестимися:           Полестимися:         Полестив:         Полестив:           Полестив:         Полестив:         П	Полестимилаяния         Полестимилаяния           Полестимилаяния         Полестимилаяния           Полестимилаяния         Соммахи           Полестимилаяния         Полестимилаяния           Полестимилаяния         Полестичести           Полестимилаяния         Полестичести           Полестимилаяния         Полестимилаяния           Полестимилаяния         Полестичести           Полестимилаяния         Полестичести           Полестимилаяния         Полестимилаяния           Полестимилаяния         Полестимилаяния           Полестимилаяния         Полестимилаяния           Полестимилаяния         Полестичести           Полестичести         Полести           Полести         Полестичести           Полести         Полести           Полести         Полести           Полести         Полести           Полести         Полести           Полест	Protect MANGER:       CANDA MAUGER:         PROJECT MANGER:       Company:         PUN       DORANY:         PUN       DORANY:         PUN       DUN         ALLACEAD       MAN         BORRANY:       PUN         ANN:       TX:         PUN       ALLACEAD         ANN:       TX:         PUN       ALLACEAD         ANN:       TX:         PUN       ALLACEAD         PUN       ALLACEAD         PUN       ALLACEAD         PUN       PUN         PUN       PUN	Protect MANGER:     Protect MANGER:       Protect MANGER:     Protect MANGER:       Protect MANGER:     Protect MANGER:       Protect MANGER:     Protect MANGER:       Protect Mander:     Protect Mander:       Protect Mander:     Protect Mander:	7004ECT MANAGEH.       7704ECT MANAGEH.         7704ECT MANAGEH.       771         7704ECT MANAGEH.       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771         771       771	Подстанила:         Подстанила:           Подстанила:	Радикт         Аладиан           Сомими:         Сомими:           Сомими:         Ромими:           Оринами:         Ромими:           Аладиан         Аладиан           Аладиан	Product     Product       Product     Product	PRODECT MUNDER:         Contram:           COMPANY:         PNM           COMPANY:         PNM           COMPANY:         PNM           COMPANY:         PNM           Mail Locale         Same Size           Mail Locale         Same Size           PNM         PNM           PNM </td <td>PROLECT WANGER:         Coloreanty         Private           CORPANY:         PNIM         All Lorvado         Signal           CORPANY:         All Lorvado         Signal         All Lorvado           All Lorvado         Signal         RTL         DioRess         All Lorvado           All Lorvado         Signal         RTL         DioRess         All Lorvado         Signal           All Lorvado         Signal         RTL         Signal         RTL         Signal         RTL           All Lorvado         Signal         Signal         Signal         Signal         RTL         Signal         RTL         Signal         Signal</td> <td>PROLECT MANAGER:         CANTON Manual           PROLECT MANAGER:         Convension           COMPANY:         D/M           All Labradia         Mill Labradia           All Labradia         So S 2 2 411-2018           All Labradia         So Labradia           All Labradia         So Labradia           All Labradia         All Labradia           All Labradia<td>PROLECT MANAGER:         CATADA         Mail           PROLECT MANAGER:         PUIM         DORES         MAL Lot LOB         Suprementary         Mal Lot Lob         Mal Lot Lob         Mal Lob         Mal</td><td>PROLECT WANGER:         COMPANY:         PARAME           COMPANY:         PAINA         COMPANY:         PAINA           COMPANY:         PAINA         COMPANY:         PAINA           COMPANY:         PAINA         AUTA-Lackade         Status           AUTA-Lackade         Status         PAINA         AUTA-Lackade         AUTA-Lackade           AUTA-CALL         So S         2 2 4 41 - 20 18         PAINA         AUTA-Lackade         AUTA-Lackde         AUTA-Lackade         AUTA-Lackade<!--</td--><td>PROLECT MANAGER.         COMPANY.           PROLECT MANAGER.         Company.           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           RODRES         ALL Ant Data           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.         Reviewable Action (Action 13).           REVIEW         Company.         Company.         Reviewable Action (Action 13).           REVIEW         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).</td><td>PRODECT WMMLGER:         Company:         Mutual State           CORPANY:         Thu And Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           Number         Sol Salut         Mutual Sale         State         Mutual Sale           Number         Sol Sale         Sulu         Mutual Sale         Mutual Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale</td></td></td>	PROLECT WANGER:         Coloreanty         Private           CORPANY:         PNIM         All Lorvado         Signal           CORPANY:         All Lorvado         Signal         All Lorvado           All Lorvado         Signal         RTL         DioRess         All Lorvado           All Lorvado         Signal         RTL         DioRess         All Lorvado         Signal           All Lorvado         Signal         RTL         Signal         RTL         Signal         RTL           All Lorvado         Signal         Signal         Signal         Signal         RTL         Signal         RTL         Signal         Signal	PROLECT MANAGER:         CANTON Manual           PROLECT MANAGER:         Convension           COMPANY:         D/M           All Labradia         Mill Labradia           All Labradia         So S 2 2 411-2018           All Labradia         So Labradia           All Labradia         So Labradia           All Labradia         All Labradia           All Labradia <td>PROLECT MANAGER:         CATADA         Mail           PROLECT MANAGER:         PUIM         DORES         MAL Lot LOB         Suprementary         Mal Lot Lob         Mal Lot Lob         Mal Lob         Mal</td> <td>PROLECT WANGER:         COMPANY:         PARAME           COMPANY:         PAINA         COMPANY:         PAINA           COMPANY:         PAINA         COMPANY:         PAINA           COMPANY:         PAINA         AUTA-Lackade         Status           AUTA-Lackade         Status         PAINA         AUTA-Lackade         AUTA-Lackade           AUTA-CALL         So S         2 2 4 41 - 20 18         PAINA         AUTA-Lackade         AUTA-Lackde         AUTA-Lackade         AUTA-Lackade<!--</td--><td>PROLECT MANAGER.         COMPANY.           PROLECT MANAGER.         Company.           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           RODRES         ALL Ant Data           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.         Reviewable Action (Action 13).           REVIEW         Company.         Company.         Reviewable Action (Action 13).           REVIEW         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).</td><td>PRODECT WMMLGER:         Company:         Mutual State           CORPANY:         Thu And Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           Number         Sol Salut         Mutual Sale         State         Mutual Sale           Number         Sol Sale         Sulu         Mutual Sale         Mutual Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale</td></td>	PROLECT MANAGER:         CATADA         Mail           PROLECT MANAGER:         PUIM         DORES         MAL Lot LOB         Suprementary         Mal Lot Lob         Mal Lot Lob         Mal	PROLECT WANGER:         COMPANY:         PARAME           COMPANY:         PAINA         COMPANY:         PAINA           COMPANY:         PAINA         COMPANY:         PAINA           COMPANY:         PAINA         AUTA-Lackade         Status           AUTA-Lackade         Status         PAINA         AUTA-Lackade         AUTA-Lackade           AUTA-CALL         So S         2 2 4 41 - 20 18         PAINA         AUTA-Lackade         AUTA-Lackde         AUTA-Lackade         AUTA-Lackade </td <td>PROLECT MANAGER.         COMPANY.           PROLECT MANAGER.         Company.           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           RODRES         ALL Ant Data           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.         Reviewable Action (Action 13).           REVIEW         Company.         Company.         Reviewable Action (Action 13).           REVIEW         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).</td> <td>PRODECT WMMLGER:         Company:         Mutual State           CORPANY:         Thu And Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           Number         Sol Salut         Mutual Sale         State         Mutual Sale           Number         Sol Sale         Sulu         Mutual Sale         Mutual Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale</td>	PROLECT MANAGER.         COMPANY.           PROLECT MANAGER.         Company.           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           COMPANY.         PAIN           RODRES         ALL Ant Data           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.           REVIEW         Company.         Reviewable Action (Action 13).           REVIEW         Company.         Company.         Reviewable Action (Action 13).           REVIEW         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Reviewable Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).           Roman Action (Action 13).         Reviewable Action (Action 13).         Reviewable Action (Action 13).	PRODECT WMMLGER:         Company:         Mutual State           CORPANY:         Thu And Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           CORPANY:         Mutual Sale         State         Mutual Sale         Mutual Sale           Number         Sol Salut         Mutual Sale         State         Mutual Sale           Number         Sol Sale         Sulu         Mutual Sale         Mutual Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale         Sol Sale         Sol Sale         Sol Sale           Number         Sol Sale         Sol Sale

4/1/96 AEN Inc : American Environmental Network (NM), Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 8/107 

DISTRIBUTION While, Canary - AEN Pink - ORIGINATOR

----

~

CATIONS: Na, Ca, Mg, K

...

- ANIONS: CI, SO4, CARBONATE/BICARBONATE, HYDROXIDE, TDS, pH, CONDUCTIVITY, TOTAL HARDNESS
  - & CAT./ANION % DIFFERENCE.

[0) Page 1 Date 12-Dec-97

•

.

# "FINAL REPORT FORMAT - SINGLE"

Accession: Client: Project Number: Project Name: Project Location: Test: Matrix: QC Level:	711653 AMERICAN 711365 PNM HAMPTON TOTAL AI WATER II	ENVIRONMENTA 4N KALINITY	AL NETWORK	(NEW ME	XICO) INC	2.		
Lab ID: ( Client Sample Id: '	001 711365-0	)1		Sample Receiv	e Date/Tin ved Date:	ne:	25-NOV-97 04-DEC-97	1200
Parameters:		Units:	Results:	Rpt	Lmts:	Q:	Batch:	Analyst:
ALKALINITY, TOTAL (2320B) PH (150.1) BICARBONATE, CACO3 (2330B)		MG/L UNITS MG/L	160 7.3 160	1 NA 1		R4	ASW046 PHW251 NONE	JL JL DPH
CARBONATE, CACO3 (2 CARBON DIOXIDE EPI	2330B)	MG/L	ND	ī			NONE	DPH
CACO3		MG/L	16	1			NONE	DPH
CACO3	AS	MG/L	ND	1			NONE	DPH

Comments:

-

-•

•

.

-

~

.

.

[0] Page 2
Date 12-Dec-97

#### "Method Report Summary"

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

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

Analysis Report

Analysis: Group of Single Wetchem

.

-

~

•

.

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

[0) Page 1 Date 12-Dec-97

•

# "FINAL REPORT FORMAT - SINGLE"

Accession: Client: Project Number: Project Name: Project Location: Test: Matrix: QC Level:	711653 AMERICAN 711365 PNM HAMPTON Group of WATER II	N ENVIRONMENTA 4N 5 Single Wetch	AL NETWORK (N 3em	EW MEXICO) INC	2.		
Lab ID: Client Sample Id:	001 711365-0	)1	2 F	Sample Date/Tin Received Date:	ne:	25-NOV-97 04-DEC-97	1200
Parameters:		Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
CHLORIDE (325.3)	1 /0510	MG/L	29	1		CIW116	RB
B) SULFATE (375.4)	1/2510	UMH/CM MG/L	5000 3000	1 1000	+	CDW026 SEW094	ED JL
(160.1)	202	MG/L	4100	5	R4	TDW069	ED

Comments:

-

..

•

-

[0) Page 2 Date 12-Dec-97

"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

•

-

~

.

•

•

Parameter:	Unit:	Result:
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

•

Analysis Report

.

•

Analysis: Group of Single Metals

•

-

~

-

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

[0) Page 1 Date 16-Dec-97

.

#### "FINAL REPORT FORMAT - SINGLE"

Accession: Client: 711653 AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) INC. 711365 Project Number: Project Name: PNM Project Location: HAMPTON 4N Group of Single Metals WATER Test: Matrix: 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) MAGNESIUM (200.7) 6 19 MG/L 2 X0W291 JR MG/L 0.2 J0W291 JR SODIUM (200.7) MG/L 880 10W291 JR 1 +

Comments:

-

~

•

[0) Page 2 Date 16-Dec-97

#### "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:

.

7	11	13	6	5	-	0	1
---	----	----	---	---	---	---	---

-

~

.

CALCIUM (200.7)MG/L400POTASSIUM (200.7)MG/L6MAGNESIUM (200.7)MG/L19SODIUM (200.7)MG/L880

•

Analysis Report

.

•

Analysis: HARDNESS

.

-

-•

.

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

[0) Page 1 Date 16-Dec-97

•

# "FINAL REPORT FORMAT - SINGLE"

Accession: Client: Project Number: Project Name: Project Location: Test: Matrix: QC Level:	711653 AMERICAN 711365 PNM HAMPTON 4 HARDNESS WATER II	ENVIRONMENTAL	NETWORK (	NEW MEXICO) :	INC.		
Lab Id: Client Sample Id:	001 711365-01			Sample Date/ Received Date	Time: e:	25-NOV-97 04-DEC-97	1200
Parameters:	υ	Jnits: R	esults:	Rpt Lmts:	Q:	Batch:	Analyst:
CALCIUM, HARDNESS (200.7) MAGNESTUM HARDNES	M	1G/L 9	90	2		I0W291	JR
(200.7) TOTAL HARDNESS	M M	1G/L 7 1G/L 1	'8 .100	0.8 NA		J0W291 NONE	JR JR

Comments:

-

مر

•

•

	"Method Report Summary"		[0) Page 2 Date 16-Dec-97
Accession Number: Client: Project Number: Project Name: Project Location: Test:	711653 AMERICAN ENVIRONMENTAL NETWORK (NEW MEXICO) 711365 PNM HAMPTON 4N HARDNESS	INC.	
Client Sample Id:	Parameter:	Unit:	Result:
711365-01	CALCIUM, HARDNESS (200.7) MAGNESIUM, HARDNESS (200.7) TOTAL HARDNESS	MG/L MG/L MG/L	990 78 1100

.

-

•

•
#### **Data Qualifiers for Final Report**

AEN-Pensacola inorgan	ic/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 Inorgan	<u>c/Organic</u>
VI	

11	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
Ĩ	The reported value is < Laboratory RL and > laboratory MDL
UI	The reported value is $\leq$ 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.
1	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 ( $\leq 2^{\circ}$ C or $\geq 6^{\circ}$ C)
J (AFCEE description)	The analyte was positively	identified, the quantitation is an estimation
RI	(For nondetects)	Temperature limits exceeded ( $\leq 2^{\circ}C$ or $\geq 6^{\circ}C$ )
R2	Improper preservation, no	preservative present in sample upon receipt
R3	Improper preservation, inc	prrect preservative present in sample upon receipt
R4	Holding time exceeded	
R5	Collection requirements no	ot 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 MD	L
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 a	for but not detected. The associated numerical value is at or below the MDL
(AFCEE description)	The analyte was found in t	he 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 Contrac: 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.

word\forms\flags\ksh revised 10/13/97

Quality Control Report

Analysis: TOTAL ALKALINITY

.

-

~

•

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

.

.

•

{0) Page 1
Date 12-Dec-97

"WetChem Quality Control Report"

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

.

-

--

[0) Page 2 Date 12-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 = REACTIVET = TOTAL 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) AND/OR ANALYSIS) = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX (DILUTION PRIOR TO DIGESTION 6 AND/OR ANALYSIS) = ANALYTICAL (POST DIGESTION) SPIKE. Ρ I = DUPLICATE INJECTION. & = AUTOMATED F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.N/C+ = NOT CALCULABLE 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".
(\*) = REPORTING LIMITS RAISED DUE TO CLP METHOD NOT REOUIRING A CONCENTRAT. (\*) = 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 EDITI AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE. 2ND EDITION. COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
 PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
 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. HWANGRB = REBECCA BROWNJL = JANET LECLEARMM = MIKE MCKENZIEED = ESTHER DANTINCR = CYNTHIA ROBERTSPLD = PAULA L. DOUGHTYLV = LASSANDRA VON APPEN JTZ = JONATHAN T. ZIENTARSKIRH = RICKY HAGENDORFERMG = MARY GUTIERREZAB = AMY BRADLEYNK = NIKKI KILBURNFor the second second

...

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

.

٠

.

Quality Control Report

Analysis: Group of Single Wetchem

•

-

---

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

.

-

.

(0) Page 1 Date 12-Dec-97

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

-

-

-•

-

.

.

•

-

~

[0) Page 2 Date 12-Dec-97

"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

[0) I	Page 3
Date	12-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 = REACTIVET = TOTAL
- 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)

- AND/OR ANALYSIS)
- ø = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX (DILUTION PRIOR TO DIGESTION AND/OR ANALYSIS). P = ANALYTICAL (POST DIGESTION) SPIKE.
- = DUPLICATE INJECTION. I
- = AUTOMATED

- & = 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 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".
  (\*) = REPORTING LIMITS RAISED DUE TO CLP METHOD NOT REOUIRING A CONCENTRAT
- (\*) = 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 EDITI AEN-PN USES THE MOST CURRENT PROMULGATED METHODS FROM THE REFERENCES LISTED ABOVE. 2ND EDITION.

- COLIFORM. COLIFORM PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE LOGARITHM OF COLONIES PER 100 MLS OF SAMPLE ON DUPLICATE PLATES.
   PH. PH PRECISION IS MEASURED BY THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE ANALYSIS.
   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	Ŧ	DOLLY P. HWANG	•	RB	=	REBECCA BROWN	JL
MM	=	MIKE MCKENZIE		ED	=	ESTHER DANTIN	CR

- PLD = PAULA L. DOUGHTY LV = LASSANDRA VON APPEN JTZ = JONATHAN T. ZIENTARSKI RH = RICKY HAGENDORFER MG = MARY GUTIERREZ AB = AMY BRADLEY NK = NIKKI KILBURN

...

- = JANET LECLEAR = CYNTHIA ROBERTS

Quality Control Report

Analysis: Group of Single Metals

.

•

-

-

•

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

•

•

[0) Page 1 Date 16-Dec-97

Parameter: Batch Id: Blank Result: Anal. Method: Prep. Method: Analysis Date: Prep. Date:	CALCIUM IOW291 <1 200.7 200.7 09-DEC-97 08-DEC-97	"Metals On POTASSIUM X0W291 <2 200.7 200.7 11-DEC-97 08-DEC-97	MAGNESIUM JOW291 <0.2 200.7 200.7 11-DEC-97 08-DEC-97	col Report" SODIUM 10W291 <0.2 200.7 200.7 11-DEC-97 08-DEC-97
Sample Dup	lication			
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 Spi	ke			
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

•

-

--

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

.

----

-

-

•

[0) Page 2 Date 16-Dec-97

.

"Quality Control Comments"

Batch Id: Comments:

٠

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.

[0) Page 3
Date 16-Dec-97

----- 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 = REACTIVEТ = TOTAL 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) TO ANALYSIS) @ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO DIGESTION) Ρ = 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 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 JACOBSJR = JOHN REEDJLH = JAMES L. HEREDLV = LASSANDRA VON APPEN

Quality Control Report

Analysis: HARDNESS

•

-

~

.

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

•

.

•

[0) Page 1 Date 16-Dec-97

Parameter: Batch Id: Blank Result: Anal. Method: Prep. Method: Analysis Date: Prep. Date:	CALCIUM 10W291 <1 200.7 200.7 09-DEC-97 08-DEC-97	"Metals Qu MAGNESIUM J0W291 <0.2 200.7 200.7 11-DEC-97 08-DEC-97	ality	Control	Report"
Sample Dupl	ication				
Sample Dup: Rept Limit:	711410-2 <1	711410-2 <0.2			
Sample Result: Dup Result: Sample RPD: Max RPD: Dry Weight%	23 23 0 20 N/A	21 21 0 20 N/A			
Matrix Spi	ce				
Sample Spiked: Rept Limit:	711410-2 <1	711410-2 <0.2			
Sample Result: Spiked Result: Spike Added: % Recovery: % Rec Limits: Dry Weight%	3 23 20 100 75-125 N/A	0.8 21 20 101 75-125 N/A			
ICV					
ICV Result: True Result: % Recovery: % Rec Limits:	24 25 96 95-105	25 25 100 95-105			
LCS					
LCS Result: True Result: % Recovery: % Rec Limits:	20 20 100 80-120	20 20 100 80-120			

•

-

--

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

[0) Page 2 Date 16-Dec-97

"Quality Control Comments"

Batch Id: Comments:

IOW291ANALYST: JRIOW291The results reported under 'Sample Duplication' are the MS/MSD.JOW291ANALYST: JRJOW291The results reported under 'Sample Duplication' are the MS/MSD.

.

-

....

.

[0) Page 3 Date 16-Dec-97

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

-•

# American Environmental Network of Florida PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 7/1 65 3		Date Received: <u>12-4-97</u>
1. Was there a Chain of Custody? Yes No*		8. Were samples checked for Yes No <sup>4</sup> N/A preservative? (Check pH of all H <sub>2</sub> O requiring preservative except VOA vials that
2. Was Chain of Custody properly Ves No*		9. Is there sufficient volume for (es) No <sup>4</sup> analysis requested?
3. Were samples received cold? (Yes) No <sup>+</sup> (Criteria: 2° - 6°C: AEN-SOP	N/A	10. Were samples received within Holding Time? (REFER TO AEN-SOP 1040)
4. Were all samples properly (Yes) No* labeled and identified?		11. Is Headspace visible > ¼" in Yes* No N/A diameter in VOA vials?* If any
5. Did samples require splitting? Yes* No Req By: PM Client Other*		headspace is evident, comment in out-of-control section.
6. Were samples received in proper containers for analysis		12. If sent, were matrix spike Yes No <sup>+</sup> N/A bottles returned?
<ul> <li>requested?</li> <li>7. Were all sample containers received intact?</li> </ul>		13. Was Project Manager notified Yes No* N/A of problems? (initials:)
Airbill Number(s): <u>329 4596 986</u> Cooler Number(s): <u>N/S</u>	>	Shipped By: <u>TEVEX</u> Shipping Charges: <u>N/A</u>
Cooler Weight(s):	<u> </u>	Cooler Temp(s) (°C): 50 COK 6
Out of Control Events and Inspection Com	iments:	
10. PH, Conductivity and time. RE 12/4/87.	705	were received out of hold
······································	·	······································
·····		(Use back of PSIFFOR additional notes and comments )
Inspected By: J. Webb Date: 12	-4-97	Logged By: 11 Date: 12/4/97
Note all Out-of-Control and/or questionable events on Comm.	ent 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, %" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-ofcontrol (AEN-SOP 938, section 2.2.12).

	1	Metals by TCLP (Method 1311)
		(8) 21519M
12.2		Analyte List Metals (23)
11		(C1) pictoM technilog :
2		
		al Chemistry: Mele Cetion An
39.22		
		Putral/Acid Compounds C.C.MS (625/8270)
	E	(0518/519) səpi
	0	des/PCB (608/8080)
22	C	
$\sum_{i=1}^{n}$	Ð	
	1	2M/25 (0358) 22i05070
	E	3 Organics (624/8240) GC/MS
	N.	clear Aromatics (610/8310)
	1	EDBUT / DBUP
<b>O</b> <sup>b</sup>		
5-	111	
	5.1	ated Hydrocarbons (601/8010)
AGI N		(hori20108/0508) 803 & 203/38010/5hort)
		Chlorinated Aromatics (602/8020)
<b>H</b> 2		0708 (020) 3010
U-		
<b>ट</b> ्र		(0208/108/1 381/ 381/ 381/ 381/ 381/ 381/ 381/ 3
		Gent & Surge & Trap
<b>5</b>		3015) Diesel/Direct/Inject
• •	0.10	um Hydrocarbons (418.1) HART (1.814)
·ن	0 	· · · · · · · · · · · · · · · · · · ·
ndi Big		
- nnio		
Ϋ́		
v.		
~ ~	1 4	1         \
r <i>rk (N</i> asant Hills		BS D
<i>vork (N</i> Pleasant Hill	Hauces	88 01 01 01
<i>ttwork (N</i> • Pleasant Hills	Maures	87158 87158 340 340
V <i>etwork (N</i> 1d • Pleasant Hills	Agures	31158 22-18 2340
l Network (N Mand • Pleasant Hill:	on Maures	541000 - 2018 - 2018 - 2340
t <i>al Network (</i> Portland • Pleasant Hill:	Maures	a Square B 87158 A1-2018 A1-2018 A1-2340
ntal Network (N • Ponland • Pleasant Hill	Mon Maures	da Square 408 87158 241-2018 241-2018
<i>nental Network (N</i> Ja • Portland • Pleasant Hill:	Conton Maires	M redo Square 241-2018 241-2018 241-2340
nmental Network (N	Connon Maires	NM bredo Square 5 241-2018 5 241-2018 5 241-2340 orre 7/10
commental Network (N ensacola • Pontand • Pleasant Hill:	: Connon Maures	PNM 1Varado Square NS 0408 87158 05 241-2018 05 241-2018 50me 716
vironmental Network (N • Pensacola • Pontland • Pleasant Hill	ER: CENCON Mailter	PNM Allarada Square MS 0408 87158 Sos 241-2018 Sos 241-2018 Same 716
nvironmental Network (N × • Pensacola • Portland • Pleasant Hill:	AGER: CENCON Mailter	PNM Albredo Squere MS 0408 87158 MS 0408 87158 Ses 241-2018 Some 716
Environmental Network (N Jonix • Pensacola • Pontand • Pleasant Hill	ANAGER: Cannon Maures	PNM Allarado Square MS 0408 87158 MS 0408 87158 Sos 241-22018 Some 716
n Environmental Network (N Phoenix • Pensacola • Pontand • Pleasant Hill:	T MANAGER: CONCON MOULES	NN: PNM BS: Allarada Square MS ayda Square So S 2yl-2al8 Sone 716 Some 716
can Environmental Network (N • Phoenix • Pensacola • Pontand • Pleasant Hill:	ECT MANAGER: Can non Mayres	MPANY: PNM MESS: Allbrodo Square MS OHOB 87158 MS OHOB 87158 MS OHOB 87158 MS OHOB 87158 MS OHOB 10 10 MPANY: SQME 711-2018 Sois 241-2018 MPANY: SQME 716
rican Environmental Network (N 19 • Phoenix • Pensacola • Portland • Pleasant Hill	OJECT MANAGER: Cannon Maures	COMPANY: 'PNM ADDRESS: AIVarada Square ADDRESS: MS 04 08 87158 MS 04 08 87158 Soloress: Solore 716 Soloress: Solore 716
1erican Environmental Network (N erque • Phoenix • Pensacola • Portand • Pleasant Hill	PROJECT MANAGER: Cannon , Mailter	COMPANY: 'P.N.M. ADDRESS: Allarada Square M.S. 04.08 87158 PHONE: Se 5. 241-2018 FAX: So:5. 241-2018 BILL TO: Some 716 BILL TO: Some 716 COMPANY: Some 716
American Environmental Network (N uquerque • Phoenix • Pensacola • Pontand • Pleasant Hill	PROJECT MANAGER: Can Don , Maires	COMPANY: PNM ADDRESS: ALVArada Square ADDRESS: ALVArada Square AS 04 08 87158 MS 04 08 87158 MS 04 08 87158 AS 241-2018 FAX: Sois 241-2018 BILL TO: Some 716 COMPANY: Some 716
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills	PROJECT MANAGER: Can Don . Maires	COMPANY: PNM ADDRESS: AIVacada Square ADDRESS: AIVacada Square PHONE: So S 241-2018 FAX: So S 241-2018 BILL TO: Sone 716 COMPANY: Same 716
-American Environmental Network (N Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hill	PROJECT MANAGER: Can Don , Mauces	COMPANY: 'P.N.M. ADDRESS: Allarada Square ADDRESS: Allarada Square M.S. ay allaral FAX: So:S. 2y 1-2018 FAX: So:S. 2y 1-2018

..

		1.1		÷	1.4.4		密										1					-1				
						SIEISW	╂╌╸																			2
	4		(1151 001		יו עם צובו	SM AHJH	+																			•
					(8) 5121	SM AHJH	+										ŝ.	أنبية	e e							Ċ
an china chi Maria	5		(5	(S) SIEIOW		SUA 190161	┼─									$\left  \right $	A C	-				( T				:
				(CI) slats	Intant Me		+										Ĩ							1		• •
							1-										<b>a</b>	0	lame		÷					c
6					· · ·		$\uparrow$									$\square$	N.	Jature	led N		updu	1.11)		() ( ) ( ) ( )		
		S"	04 100 AS)	Jels M.	ynemistry,	General C	ト	ł				Ì				$\square$	H.	δī S	Prin	2	3				200 A	;
			•				T	1								$\square$				2			İ			
			(0228/929) SW	CD spunod	ImoD bioAV	entus Mases										$\square$	X	30	-							
				(09	518/S19) <sup>(</sup>	-lerbicides												ö		77						5
		Ā		(0808/8	PCB (60	sebioirse											X.	ame	ale	=			:au	ate:		
E		E C					Ι										<b>U</b>	<b>-</b>		¥			-			
		2	SW	560) GC/I	8) soinse	volatile Or											SHE		۸.	7	~					
~			SW/DD	24/8240)	ganics (6	O slitslo		<u> </u>									ino.	$\mathcal{Q}$		N.	<u>ک</u>	11		ame		
6-			(015)	8/013) soi	IsmonA 1	olynucles	1_										<b>NDE</b>	1	N N	Å	5	÷.,	ature	ed N	hued	
ō				1 08CP	E08 []	204	1_	1		<u> </u>		<b></b>	<b></b>	ļ			H	Sign	Pin P	Ma	E S S		Sign	Pcint	Con	1
							1	<b> </b>	1	<b> </b>	<u> </u>	<b> </b>	ļ	ļ			鑁	~								1
Š		á,	(0108/10	)) snotre	Hydrocs	Shlorinated	<u>'</u>	↓	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ļ	ļ		15	3								
ບັ			(hod2/0108/0	EDB (8020	E/EDC &	8TM/X3T8	1_	_	_	<u> </u>		<u> </u>	_		_	$\downarrow$	<u>110</u>	AMA								5
			(602/8020) s	Aromatic	(occo) or	BTEX & CI		<u>_</u>	<u> </u>		_	<u> </u>		<u> </u>	┨		E B	Z		İ			5			ć
0~			250	- %		TXFMT	¥	4_	┼─	<u> </u>	╄		┨	<b> </b>		+	ĤŚ		£				J			
Z			(0208/910	TRE (Mar	AST 44	Elections	4-	┼		–	╂──	╂	╂	╂	┼─	+	<b>E</b>		HO		Į		C	ſ		-
A						5 (3108/	4-	╉─	╋	+	╞─	+	╋╌	┼	┼╌	╉╌┥	10 10						20	5		ł
<del>ا</del> بر			100	Direcvirie	กอรอเต (ด	108.00%	╅╴	╆╌	┼─	┼──	┼╌	╂──	┼──		┼─	┽╾┥	ĒD	×	٨N			7	Ă	-		
U	с П		H9HT (1.8	317) SUOQ	Hydrocar	mualona		┼╴	┼╌	+	┼─	┼──	╉╾╸	┼──	┼─	+	<b>BIN</b>	Ň	) SDV			1	2	- 1		
J.	6													3.92			E C E	ō	U		A	=	4.0	ີ , ໄ		
In Sidm												,					l SI	Ŀ Ŀ	WN			5	ີ ເ ເ	à		
Solution 1												1.2					No		ā			ک	$\sim$			
Z.				-   (	1 /		12.17							1			IV	ц Ц	Ë	S	E C					
< ₹		4			a l			3									Î	8	Ind	AV A	N N					
And		4	N N		S)		ğ—	+	┼╌	+	┼─	┼─	┼─	┼╾	┼╌	┿─	Ĕ		N RE	ESE	ľ.					Č.
V01 Pleas		र्व	5	~	#	·		3		1						1	NO C		ATIO	۲ ۲	NTS					, <u>1</u>
ett.		Y	400	34	A			1_	$\perp$	<u> </u>	1	4_	4	1	+-		16			HAN	WE N					1
		d	Æ	àra	Υſ					}				1			L H H	EUS)	CEA	L I	l S					
al		g												}			1	ş		†	1		-			
nt.		3	4	2 2				]-	┼╌	+-	┼╌	╉─	╉─╴	╉━╴	╋	+-										
ne sola		N	I I I I		री		2	3									Ĭ		5	·					1	
1111 Disac	Г		237	NN	SI			1									Ī		Ē	7						
irc		Ë	A A A	NN.				ź									<b>B</b>		;	4		1				ċ
		<b>B</b>						퀴									N.	HHH H	0							
E		MAN	نن⊰		ž	ŝ		4				1							H			1. [-]				
an da		5	PAN	ij	ÖN	JES		E									<b>N</b>		Ň		NA N					
ric.		빙		AX:	ON ILL	iqq		-										N N		Ş	DEC				-	Ū.
ne		ä		<u> </u>	0		1. 1. 1.											PRC	PBC				۰ ر. 	- - -		i i
R				من أحمد ال					مەربى															, ,	~~~~	
J ₹						E	<u> </u>	•	, <b>c</b> E	(6)	1,5	M	λ	. I <del>.</del>	ГЗ	Idl	VUC	NI VI	M	4U	a S	IHT		13 3	243	DI

Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 ·	SPECIAL CENTIFICATION REQUIRED: []YES []NO	nush sunchange: Sew	DUE DATE:			(X: REQUIRED. MS MSD BLANK RECE	INTA	MUDECT HAME: ALM CHMI	PRUJECI HUMBER: ALAN 7-11365 TOTA	PROJECT INFORMATION	•				X1-1 4-11 10 - Coll+	THZE CI HAC ho	SAMPLE ID DATE TIME	Kim McNeill	CLIENT PROJECT MANAGER:	COMPANY: 'American Environment ADDRESS: 2709-D Pan American Freeway, Albuquerque, NM 87107	NETWORK PROJECT MANAGER: KIMBERLY D. McI	American Environmental Net Albuqueique, New Mexico
• Sealle (20/ 9-8335 • P	at/Anion 6		Alter Atte		NUMBER	EIVED GOOD COND./COLL	C17	IN OF CUSTODY SEALS	AL NUMBER OF CONTAINE	SAMPLE RECEI							MATRIX LAB ID			.al Network	NEILL	work
ensacola (904) 474-1001 • Porti	DiFference		- hund		PHOENIX	PORTLAND	PENSACOL	RENTON	RS SAN DIEGO	T SAMPLES S						X	Me Me RC		PP L RCR Metals	ist A by TCLP (1311) ~; Na, Ca, Mg, K		nterlab Chai
and (503) 684-04/ \ \buqu	Comparity		Printed Na	Signature	RECE	Abuquerq	N X Delor	Finled Na	Signalure	ENT TO: RELIN						X	TO TO Ge An Oil	X C Iore and	emistr	Y D. SQI, AIK GAP, TDS M. Conductivity, total Maril Se	NA §	n of Custo
ierque (505) 344-3777			ame: Date:	Time:	IVED BY:	ue Nre	Mac 12-2-18	amen. Date: - 47	Time 700	QUISHED BY: 1.							BC CC Pe He Bai Vo Po	D D sticic rbicio se/Ne latile	ies/PC des (6 eutral A Organ	CB (608/8080) 15/8150) cid Compounds GC/MS (625/8270) nics GC/MS (624/8240) Aromatics (610/8310)	ALYSIS REQUEST	dy 7/1653 DATE:
	Company: AENFL	R.ELSPERMON 171717	Printed Name: Date: /7 //1/07	Signalyre: Of Imme: 0807	RECEIVED BY: (LAB) 2.		Company	Printed Hamp & Dott	Signature line 14197	RELINQUISHED BY: 2.							82 82 TC Gr	40 (1 70 (1 )-14 0SS /	CLP CLP Alcha/	1311) ZHE 1311) Beta CONTAINERS		PAGE OF

RECHECKED BY .....

•

.

••

1

--



LAB: (505) 325-1556

## ANALYTICAL REPORT

Attn:	Denver I	Bearden		Date:	5-Dec-97
Company:	PNM Ga	s Services		COC No.:	7087
Address:	603 W.	Elm		Sample No.:	16982
City, State:	: Farming	ton, NM 87401		Job No.:	2-1000
Project Nar	ne:	PNM Gas Servi	ces - EB Well		
Project Loc	ation:	9711251200			
Sampled by	<b>/</b> :	MG/MS	Date:	25-Nov-97 Time:	12:00
Analyzed b	y:	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

<del>.</del>....

Approved By: 15/97 Date:

-

-



LAB: (505) 325-1556

**QUALITY ASSURANCE REPORT** 

for EPA Method 8020

Date Analyzed: 4-Dec-97

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

Method Blank

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

**Calibration Check** 

	Unit of	True	Analyzed		
Parameter	Measure	Value	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
Renzena		07	(20.150)		20%
Denzene	94	87	(39-150)	4	20%
loluene	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

	S1	<b>S</b> 2		S1	<b>S2</b>
	Percent	Percent		Percent	Percent
Laboratory Identification	Recovered	Recovered	Laboratory Identification	Recovered	Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16982-7087	94				
				TIM	(n)
	T			128,97	12/5/97

+..... n

S1: Flourobenzene

	, ,	CHAII	N OF (	SUS	TOL	X	BEC	ORD	7087	
	ON SITE		, , ,	Ŏ	le:	125 9	1	Pag	e:	
TECHI		2 E. Murphy Dr. • LAB: (505)	• P.O. Box 2606 • F 325-5667 • FAX: (5	armington, 505) 325-62	NM 87499 56	i				
Purchase	Order No.:	Job No.			0.	Name		Maureen Gannon	Title	
E	Name Denver Bearden				18 18 18	Comp	Buy	PNM Gas Services		Γ
0 DICI ND	Company PNM Gas Service	es	Dept. 324-37(	63	09 7 JI	Mailing	) Address	Alverado Square, M	all Stop 0408	
	Address 603 W. Elm Stree	at a			IS3 38	City, S	tate, Zip	Albuquerque, NM 8	158	
11	City, State, Zip Farmington, NM	87401			В	Teleph	one No.	505-848-2974	Telefax No.	
Sampling	Location:	a			j(			ANALYSIS REC	UESTED	
	Official and		Nert		91 C		1.01			Τ
Sampler:	HGaunar/MSU	ulionas			dmul ietno:		232			
	SAMPLE IDENTIFICATION		SAMPLE DATE TIME	MATRIX	RES.	2	ATTEN A			Τ
	111251200 EB WELL		11/25/91 120	C H2O	<u> </u>	×	X		1 16982 -	3
							8			
					_		NO SA	The suburt	Ê	Τ
	والمواجب والمحاور المحاور والمحاور والمحاور والمحاور والمحاور والمحاور والمحاور والمحاوي والمحاول		_							T
										T
										Ţ- ]
										T
elinouish	dbv: H.L.		Date/Time	1.500	Receiv				Date/Time 11/5/47-1	Ē
			Date/Time	1.1.1.71						3
elinquish	od by:		Date/Time		Receiv	ved by:			Date/Time	1
ethod of	Shipment:				Rush		24-48 Ho	urs 10 Working Da	ys Special Instructions:	
uthorize	d by: Will u u.W. (Client Signature <u>Must</u> Accompany <sup>F</sup>	Date	1-25-4	1					Results to be sent to both parties.	
		ć	12 C 2 11 1 1 1 1 1							

-- -

.



LAB: (505) 325-1556

## ANALYTICAL REPORT

Attn:	Denver B	learden		Date:	17-Nov-97
Company:	PNM Gas	Services		COC No.:	7 <b>08</b> 3
Address:	603 W. I	Elm		Sample No.:	16818
City, State:	Farmingt	on, NM 87401		Job No.:	2-1000
Project Nam	ne:	PNM Gas Se	rvices - Hampton 4M		
Project Loca	ation:	971111133	0; TH-7		
Sampled by	:	MS	Date:	11-Nov-97 Time:	13:30
Analyzed by	/:	DC	Date:	13-Nov-97	
Sample Mat	trix:	Liquid			

	Results as	Unit of	Limit of	Unit of
Parameter	Received	Measure	Quantitation	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: 17-197 Date:



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

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

**Calibration Check** 

	Unit of	True	Analyzed			
Parameter	Measure	Value	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%	

M	latrix	Spi	ike

	1- Percent	2 - Percent			
Parameter	Recovered	Recovered	Limit	RPD	Limit
					<u> </u>
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

	S1	S2		\$1	S2
	Percent	Percent		Percent	Percent
Laboratory Identification	Recovered	Recovered	Laboratory Identification	Recovered	Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16818-7083	95				
				Tohr	(re)
				11/24/97	IVAA

\$1: Flourobenzene

There is a Braining of

ON SITE CH.	AIN OF C			× 2 8 8	COR	۵	age:	of	
TECHNOLOGIES, LTD. 612 E. Mup	phy Dr. • P.O. Box 2606 • Fi B: (505) 325-5667 • FAX: (5	armington, NM 87 05) 325-6256	/499						
Purchase Order No.: Job	b No.		0.	Vame	Maur	een Gannon	Title		
Name Denver Bearden			18 L S.	Company	MNA	Gas Service	8		
Company PNM Gas Services	Dept. 324-376	3	09 1.1	Mailing Addre	iss Alver	ado Square,	Mail Stop 04	408	
H Address 603 W. Elm Street			าร: เสย	City, State, ZI	p Albu	tuerque, NM	87158		
City, State, Zip Farmington, NM 87401			เม	Fetephone No	). <b>5</b> 05-8	48-2974	Telefax I	Ö	
sampling Location:			s. J(			ANALYSIS R	EQUESTED		
			Br c						
sampler: Mark Sikelianes			istro:	Betil					
SAMPI E IDENTIFICATION	SAMPLE	MATRIX PRES	C V	R.S					LABID
	DATE TIME								600 C
971111330 TH-7	11/14M	Ho Hel	d	X					6818 - 1083
		-		_					
//									v 2/4 v4 .1 .
alinquished by: 73.07 //	Date/Time	071 1430 1430	Receive	Ä	Ķ		₽	ate/ I me	
inquished by:	Date/Time		Receive	d by:	-			ate/Time	
vlinquished by:	Date/Time		Receive	d by:				ate/Time	
sthod of Shipment:			Hush	24	48 Hours	10 Working	Days Specia	I Instruct	ons:
thread hur The	Date 11 /11 / 9	7						Results to both	to be sent parties.
Client Signature Must Accompany Request)	()								-



LAB: (505) 325-1556

02

1.

::

: : :, : :

ì

:

. .

. .

.

:•

## ANALYTICAL REPORT

Attn:	Denver Bea	rden	• •	Date	: 5-Dec-97
Company:	PNM Gas S	ervices	1	COC No.	: 7087
Address:	603 W. Eln	7	ť	Sample No.	: 16982
City, State:	Farmington	, NM 87401	•	Job No.	: 2-1000
Project Name	6:	PNM Gas Services -	: EB Well		
Project Loca	tion:	9711251200			
Sampled by:		MG/MS	Date:	25-Nov-97 Time:	12:00
Analyzed by	:	DC	Date:	4-Dec-97	
Sample Matr	rix:	Liquid			
الوغيوب بسيد الكرسارد			1		

Parameter		Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Renzene		ND		0.2	11 <i>0/</i> 1
Toluene		ND	· Up/L	0.2	<u>ug/L</u>
Ethylbenzene		ND	: ug/1.	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/1,		

ND - Not Detected at Limit of Quantitation

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

Approved By: Date: 197-

:

:

;



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.:	<b>0529/30-</b> QC

Method Blank

	;		Unit of	ĺ
Parameter	:	Result	Measure	
Average Amount of All Analytes in Blank	;	< 0.2	ppb	ļ

Unit of Measure	True Value	Analyzod Value	RPD	Limit
ppb	20.0	20.4	2	15%
ррб	20.0	21.1	5	15%
ppb	20.0	21.2	6	15%
ppb	40.0	41.1	3	15%
ppb	20.0	21.0	5	15%
	Unit of Meesure ppb ppb ppb ppb ppb	Unit of Measure         True Value           ppb         20.0           ppb         20.0	Unit of Messure         True         Analyzed           ppb         20.0         20.4           ppb         20.0         21.1           ppb         20.0         21.2           ppb         40.0         41.1           ppb         20.0         21.0	Unit of Measure         True         Analyzed           ppb         20.0         20.4         2           ppb         20.0         21.1         5           ppb         20.0         21.2         6           ppb         40.0         41.1         3           ppb         20.0         21.0         5

:

Matrix	Spike		:		
Perameter	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		•		
Leboratory 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				
			1		
					6
					12/5/97

S1: Flourobenzene

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY Demand

ł

; •• ,

; · ·

.

•

· • • • •

•••

ĩ.

2

:

 $\mathbf{i}$ 

11

; : ; : ; :



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 87	401		•	Job No.:	2-1000

Project Name:	PNM Gas Serv	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:	Liquíd						

Parameter		Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
Benzene		2.4	ug/I,	0.2	ug/1.
Toluene		2.3	Ug/L	0.2	ug/l,
Ethylbenzene	1	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-816 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography

i

Approved By: Date: 11/5/97

•



LAB: (505) 325-1556

:

:::

: 1

## 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
 Unit of

 Perameter
 Result
 Measure

 Average Amount of All Analytes in Blank
 <0.2</td>
 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		ррь	40.0	40.3	1	15%
o-Xylene		ppb	20.0	21.1	5	15%

#### Matrix Spike

1- Percent	2 - Percent			
Recovered	Recovered	Limit	RPD	Limit
92	86	(39-150)	3	20%
96	87	(46-148)	3	20%
97	92	(32-160)	4	20%
94	88	(35-145)	4	20%
95	92	(35-145)	2	20%
	1- Percent Recovered 92 96 97 94 95	1- Percent         2 - Percent           Recovered         Recovered           92         86           96         87           97         92           94         88           95         92	1- Percent         2 - Percent           Recovered         Limit           92         86         (39-150)           96         87         (46-148)           97         92         (32-160)           94         88         (35-145)           95         92         (35-145)	1- Percent         2 - Percent         RPD           Recovered         Limit         RPD           92         86         (39-150)         3           96         87         (46-148)         3           97         92         (32-160)         4           94         88         (35-145)         4           95         92         (35-145)         2

#### Surrogete Recoveríes

	51	\$2		51	<b>S2</b>
	Percent	Percent		Percent	Percent
Laboratory Identification	Recovered	Aucovered	Leboratory Identification	Recovered	Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16699-7080	95				
16700-7080	95				
					(n)
					11/5/97

S1: Flourobenzene

.

•

OFF: (505) 325-5667



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 8	7401	•	Job No.:	2-1000
Project Nan	ne: 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			

		Results as	Unit of	Limit of	Unit of
Parameter	;	Received	Measure	Quantitation	Measure
Benzene		2.4	ug/I,	0.2	ug/L.
Toluene		2.3	Ug/L	0.2	ug/l,
Ethylbenzene	1	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 80204 Aromatic Volatile Organics by Gas Chromatography

Approved By: Date: 11/5/97

.

P.O. BOX 2606 • FARMINGTON, NM 87499

.

P.03

÷.,

•

: :



LAB: (505) 325-1556

P.02

## ANALYTICAL REPORT

Attn:	Denver B	earden		Date:	5-Nov-97
Company:	PNM Gas	Services		COC No .:	7080
Address:	603 W. E	im j		Sample No.:	16699
City, State:	Fermingto	on, NM 87401		Job No.:	2-1000
Project Nam	ne:	PNM Gas Ser	vices - Hamptom 4M		
Project Loca	ation:	9710291400	; MW-5		
Sampled by	:	MS	Date:	29-Oct-97 Time:	14:00
Analyzed by	/:	HR .	Date:	4-Nov-97	
Sample Mat	trix:	Liquid			

Parameter		Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
	:			1	
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
				1	
	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: 5/97

**TECHNOLOGIES, LTD** 

OFF: (505) 325-5667

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

		Unit of
Parameter	Result	Measure
Average Amount of All Analytes in Blank	<0.2	ррЬ

Calibration Chack

	• :	Unit of	True	Analyzod		
Parameter		Measure	Value	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		ррю	40.0	40.3	1	15%
o-Xylene		рро	20.0	21.1	5	15%

## Matrix Spike

	1- Percent	2 - Percent			
Parameter	Recovered	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%

#### Surrogete Recoveries

	51	<b>S</b> 2		\$1	<b>\$2</b>
	Percent	Percent		Percent	Percent
Leboratory Identification	Recovered	Recovered	Laboratory Identification	Recovered	Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
16699-7080	95				
16700-7080	95				
					(ne)
					11/5/97

S1: Flourobenzene

ł

## P.O. BOX 2606 • FARMINGTON, NM 87499

::: ::: ::: :::

· :·

: ;

۔ بر م



LAB: (505) 325-1556

## ANALYTICAL REPORT

Attn:	Denver B	learden		Date:	5-Nov-97
Company:	PNM Gas	Services		COC No.:	7080
Address:	603 W. I	Elm		Sample No.:	16699
City, State:	Farmingt	on, NM 87401		Job No.:	2-1000
Project Nam	ne:	PNM Gas Ser	vices - Hamptom 4M		
Project Loca	ation:	9710291400;	: MW-5		
Sampled by	:	MS	Date:	29-Oct-97 Time:	14:00
Analyzed by	/:	HR	Date:	4-Nov-97	
Sample Mat	rix:	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