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REPORTS

DATE:

2000

BURLINGTON RESOURCES

SAN JUAN DIVISION
March 27, 2001

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OIL CONSERVATION DIVISION

Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

RE: 2000 Annual Groundwater Investigation and Remediation Reports
San Juan Basin, New Mexico

Dear Mr. Olson:

As required in Burlington Resources' approved Groundwater Investigation and Remediation Plan dated August, 1998, enclosed are the 2000 annual reports for Burlington's groundwater impact sites in the San Juan Basin. Separate reports are enclosed for the following locations:

Cozzens B#1
Fogelson #4-1
Hampton #4M
Johnson Federal #4 Metering Station
Standard Oil Com. #1
Taylor Com. #2A
Maddox Com 1A

If you have questions or additional information is needed, please contact me at (505) 326-9537.

Sincerely,

Gregg Wurtz
Sr. Environmental Representative

Attachments - Groundwater Investigation and Remediation Reports

cc: Denny Foust - NMOCD Aztec
Bruce Gantner - BR
WFS - Mark Harvey (Cozzens B#1, Hampton #4M)
EPFS - Scott Pope (Fogelson #4-1, Johnson Fed. #4, Standard Oil Com.#1)
Facility and Correspondence Files

BURLINGTON RESOURCES 2000 ANNUAL GROUNDWATER REPORT

Hampton #4M

SITE DETAILS

Location: Unit Letter N, Section 13, Township 30N, Range 11W; San Juan County, New Mexico
Land Type: Federal

PREVIOUS ACTIVITIES

PNM conducted limited excavation (approximately 60 cubic yards) of impacted soil underneath their former earthen pit and installed groundwater monitoring wells and a product recovery well.

Burlington Resources (BR) excavated impacted soil down to groundwater depth underneath our former area of operation and installed groundwater monitoring wells. During November 1998, BR began excavation of additional impacted soils to a depth of approximately 27 feet from under and around PNM's former earthen pit. Approximately 77 cubic yards of additional soils were also removed from BR's excavation in the southeast part of the location.

1999 ACTIVITIES

BR continued excavation work at the Hampton #4M location, continuing south from PNM's area of operation toward BR's area of operation. Impacted soils were excavated until all apparent source materials had been removed. Prior to backfilling, 30 barrels of Oxy-1 chemical was applied to the bottom and sides of the excavation to stimulate bioremediation. BR also installed a monitoring well (MW-13) in the vicinity of the former MW-4 and downgradient of BR's original excavation under the former tank battery. Details on these activities can be found in the status report submitted to the OCD on September 16, 1999.

BR installed three additional monitoring wells (MW-14,15,16) on the Hampton #4M location. BR also attempted to install two downgradient offsite wells, but both wells hit "auger refusal" prior to contacting any groundwater. Details on these wells and attempts can be found in the status reports submitted to the OCD on October 28, 1999 and January 11, 2000.

The OCD sampled the groundwater seep to the northwest side of the well pad on April 14, 1999. The analytical results show that benzene is present in concentrations in excess of New Mexico Water Quality Control Commission groundwater standards.

Groundwater sampling from monitoring well (MW-14) revealed a level of free phase hydrocarbons in the extreme southeast part of location.

2000 ACTIVITIES

Activities completed in 2000 included additional excavation, quarterly well monitoring, and PNMs transfer of environmental responsibility and ownership to Williams Field Services (WFS).

The excavation remediation work proposed in the April 12, 2000 letter to OCD was completed as planned. The excavation was located in the extreme southeast corner of the location adjacent to areas excavated in 1997 and 1998 and within the former tank battery location. The excavation activities were driven by the detection of free phase hydrocarbons in the monitoring well MW-14 installed in the southeast corner on October 1999. The monitoring wells MW-13 and MW-14 were destroyed during the excavation work and will be replaced with one well in a similar location as MW-14. The excavation was completed down to groundwater and approximately 120 cu. yds. were removed. Impacted soils were excavated until all apparent source materials had been removed. The contaminated soils were land farmed off location on a BR location within the same lease. The bottom of the excavation was ended into approximately 2 feet of dry non-contaminated blue green shale that appears to be the confining layer for the catchment basin encompassing the Hampton location. This current excavation work should represent the last remaining area to be excavated and no further excavation is planned or necessary at this time. The excavation has remained open to allow seepage of any potential free product that was detected in the ground water well MW-14 and to promote volatilization of the excavated area. To date, no measurable thickness of hydrocarbons has been detected on the surface of the approximately 1 foot of water in the bottom of the excavation. A sample will be collected of the water in the excavation in 2001 and analyzed for BTEX constituents.

Quarterly monitoring was performed for the first two quarters of 2000. The ground water results are provided in Attachment 1 and the analytical data for 2000 is also attached. The ground water monitoring for the last two quarters of 2000 was missed related to a miscommunication with consultants and the transfer of monitoring activities from PNM and BR. The first quarter groundwater samples have been collected for 2001 and the consultant has been given clear instructions regarding the sampling frequency and number of wells to be sampled for 2001. The upgradient well MW-1 was not sampled because it has demonstrated non-detect concentrations for four consecutive quarters and there is no potential source of contamination upgradient.

A summary of groundwater analytical data is presented in Attachment 1. A site diagram is presented as Attachment 2. An aerial photograph, which is from PNM's OCD exhibit, is also included as Attachment 3 for a better reference of scale.

CONCLUSIONS

Burlington Resources has been in discussion with WFS to assure proper assessment and closure of this site. Currently, BR is managing the sampling and analysis activities with a cost sharing agreement with WFS.

The source of contamination appears to be defined and is originating from two areas related to BR and WFS historical operations. A considerable amount of work and effort has been performed by BR to excavate areas of contamination and prevent the migration of contamination away from the site. The excavation work appears to have been very effective in reducing or eliminating the free phase hydrocarbons. The horizontal extent of the ground water contamination appears to start at the Hampton 4M location and then is confined to a narrow flow path in the bottom of the canyon. The furthest

downgradient well MW-11 has not detected contamination exceeding the New Mexico Water Quality Control Commissions ground water standards. Vertically the clay unit that forms the sides and basement of the canyon confines the contamination. The auger refusal encountered on the two downgradient offsite monitoring well attempts in 1999 support the theory that the groundwater is located in a relatively narrow band generally following the surface drainage.

The ground water regime at the location appears to be typical for the San Jan Basin and the arid southwest. The hydrogeology consists of an unconfined aquifer comprised of fine eolian and alluvial sands and silts overlying an impermeable clay unit that forms the sides and basement of the small canyon. The clay unit acts as an impermeable catchment that collects and concentrates meteoric water filtering through the overlying sediments. This ground water travels as bed flow along a narrow band following the ephemeral wash that drains the basin.

The water supply for local residents is supplied by the City of Aztec and no domestic wells were identified in the area adjacent to the site. The formations in this area typically do not produce a quality of water acceptable for domestic, livestock or irrigation use, nor do they produce sufficient quantities to be considered aquifers.

Groundwater from MW-15, near BR's separator, was clean indicating the separator pit is not a source of contamination.

RECOMMENDATIONS

- BR recommends continuing a quarterly monitoring program and passive natural remediation approach to adequately remediate the dissolved hydrocarbons in the groundwater and any remaining trace amounts of soil hydrocarbon contamination. Constituents of concern in the wells downgradient of the location (i.e., MW-5, TMW-1, MW-7, and MW-11) located in the wash and wells MW-16 and the new replacement for MW-14 will be tracked closely for detection of trends.
- Burlington Resources will continue quarterly sampling at this site including the seep if sufficient water is available.
- BR plans to apply a potassium permanganate solution to the excavation to enhance the degradation of the hydrocarbons remaining in the exposed excavated soil and passively treat insitu the soils and ground water down gradient from the excavation.
- BR plans to back fill the excavation with clean fill to a level above the potentiometric surface and complete the backfilling with clean excavated soils that were land farmed.
- BR will replace the monitoring well MW-14
- BR proposes to stop sampling the upgradient well MW-1. No constituents of concern have been detected in 4 consecutive quarters and no upgradient source of contamination is present.

Attachments: Attachment 1 - Groundwater Sampling Results Summary
Attachment 2 - Site Diagram
Attachment 3 - Aerial Photo

Attachment 1

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Burlington Resource Hampton 4m Groundwater Monitoring Summary 2000

Well	Surveyed MP Elev. (ft,msl)	Sample Notes	Date Sampled	GW Elev. (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	2-MP (ug/L)
MW-1			10/30/97	6110.10	2.4	2.3	<0.2	1.1	5.8	--	
Upgradient well			01/12/98	6107.47	4.3	3.3	0.2	1.0	8.8	--	
	6149.42		04/14/98	6107.52	1.0	1.3	<0.5	<0.5	2.3	--	
			07/01/98	6107.13	1.3	1.0	<0.5	3.7	6.0	--	42.0
			10/05/98	6106.09	<1.0	<1.0	<1.0	<3.0	<6.0	--	
			11/09/98	6107.40	NA	NA	NA	NA	NA	--	
			01/27/99	6107.51	0.8	0.9	<0.5	<1.5	1.7	--	
			05/05/99	6106.76	NA	NA	NA	NA	NA	--	
			07/12/99	6106.55	1.1	0.5	<0.5	<0.5	1.6	--	
			08/17/99	6106.47	NA	NA	NA	NA	NA	--	
			10/21/99	6106.60	NA	NA	NA	NA	NA	--	
			01/27/00	6106.39	no sample collected						
			06/13/00	6106.39	no sample collected						
MW-2			12/16/96	NM	3840.0	7960.0	896.0	7920.0	20616.0	NM	
PNM drip pit well			02/04/97	NC	NA	NA	NA	NA	NA	4.40	
	6122.23		08/27/97	NC	NA	NA	NA	NA	NA	4.75	
			10/29/97	NC	NA	NA	NA	NA	NA	4.58	
			01/12/98	NC	NA	NA	NA	NA	NA	4.41	
			04/14/98	NC	NA	NA	NA	NA	NA	2.59	
			07/01/98	NC	NA	NA	NA	NA	NA	2.25	
			10/05/98	NC	NA	NA	NA	NA	NA	2.01	
			11/09/98	NC	NA	NA	NA	NA	NA	2.15	
			Well destroyed during Burlington excavation								
MW-3			1/31/1997	NM	<0.2	<0.2	<0.2	<0.2	<0.2	--	
Up & cross-gradient to PNM			2/4/1997	6101.06	NA	NA	NA	NA	NA	--	
	6121.49		5/5/1997	NM	NA	NA	NA	NA	NA	--	
		(Burlington)	10/29/1997	6101.19	<0.2	<0.2	<0.2	<0.2	<0.2	--	
			1/12/1998	6101.11	<0.2	<0.2	<0.2	<0.2	<0.2	--	
			4/14/1998	6100.97	<0.5	<0.5	<0.5	<0.5	<0.5	--	
			7/1/1998	6101.14	0.03 JB	0.05 JB	<0.5	<0.5	0.08 JB	--	<30.0
			10/5/1998	6100.57	<1.0	<1.0	<1.0	<3.0	<6.0	--	
			11/9/1998	6100.89	<1.0	<1.0	<1.0	<3.0	<6.0	--	
			Well destroyed during Burlington excavation								
MW-4			1/31/1997	NM	811.7	1420.5	31.0	388.1	2651.3	--	
Upgradient PNM; downgradient Burlington			2/4/1997	6106.16	NA	NA	NA	NA	NA	--	
		(Burlington)	5/1/1997	NM	1162.0	1797.0	41.0	486.0	3486.0	--	
	6123.105		8/27/1997	6106.87	NA	NA	NA	NA	NA	--	
			10/29/1997	6106.73	NA	NA	NA	NA	NA	--	
			1/12/1998	6105.88	1251.0	6.0	82.0	24.0	1363.0	--	
			4/14/1998	6105.93	1100.0	7.2	28.0	12.0	1147.2	--	
			7/1/1998	6106.14	1400.0	50.0	120.0	124.0	1694.0	--	10.0 J
			10/5/1998	NC	NA	NA	NA	NA	NA	0.63	
			11/9/1998	NC	NA	NA	NA	NA	NA	0.26	
			1/27/1999	NC	NA	NA	NA	NA	NA	0.40	
			Well destroyed during Burlington excavation								
MW-5			10/29/1997	6075.23	5934.0	10024.0	709.0	8188.0	24855.0	--	
Downgradient along wash			1/12/1998	6075.09	7521.0	11213.0	779.0	8436.0	27949.0	--	
	6090.825		4/14/1998	6075.33	7000.0	11000.0	720.0	7800.0	26520.0	--	
			7/1/1998	6075.43	6500.0	10000.0	780.0	7500.0	24780.0	--	800.0
			10/5/1998	6074.48	6800.0	8400.0	740.0	6900.0	22840.0	--	
			11/9/1998	6074.89	6200.0	8200.0	670.0	6500.0	21570.0	--	
			1/27/1999	6074.87	6400.0	8900.0	660.0	6700.0	22660.0	--	
			5/5/1999	6075.23	6800.0	9800.0	900.0	7800.0	25300.0	--	
		(Burlington)	5/26/1999	NR	6600.0	10000.0	650.0	8100.0	25350.0	--	
			7/12/1999	6075.60	6300.0	10000.0	750.0	8800.0	25850.0	--	
			8/17/1999	6076.23	5400.0	9800.0	670.0	7500.0	23370.0	Sheen	
		(Eco. Split)	8/17/1999	6076.23	5900.0	8900.0	500.0	6200.0	21500.0	Sheen	
		(prelim.)	10/21/1999	6076.17	5200.0	9600.0	650.0	6900.0	22350.0	Sheen	
			1/27/2000	6076.10	4700.0	10000.0	680.0	7400.0	22780.0	sewer/black	
			6/13/2000	6076.12	8400.0	19000.0	1700.0	22000.0	51100.0	sheen	
TMW-1 TEMP WELL IN WASH BETWEEN MW5 AND 7											
			1/27/2000	18.09 dtw	930.0	1400.0	350.0	6700.0	9380.0		
			6/13/2000	17.44 dtw	2400.0	3400.0	550.0	9100.0	15450.0	Film	
MW-6			11/12/1997	NC	NA	NA	NA	NA	NA	4.80	
PNM drip pit/product recovery			1/12/1998	NC	NA	NA	NA	NA	NA	4.71	
	6124.87		4/14/1998	NM	NA	NA	NA	NA	NA	pumping	
			7/1/1998	NC	NA	NA	NA	NA	NA	pumping	
			10/5/1998	NC	NA	NA	NA	NA	NA	pumping	
			11/9/1998	NC	NA	NA	NA	NA	NA	2.27	
			Well destroyed during Burlington excavation								

ANALYTICAL RESULTS SUMMARY - Hampton 4M

Well	Surveyed MP Elev. (ft,msl)	Sample Notes	Date Sampled	GW Elev. (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	2-MP (ug/L)
MW-7			1/12/1998	6047.12	780.0	246.0	258.0	3942.0	5226.0	--	
Downgradient along wash; adj pipeline			04/14/98	6047.09	820.0	340.0	190.0	2450.0	3800.0	--	
	6066.91		07/01/98	6047.03	950.0	440.0	200.0	3020.0	4610.0	--	200.0
			10/05/98	6046.77	1600.0	930.0	180.0	1530.0	4240.0	--	
			11/09/98	6046.77	1800.0	1000.0	160.0	1240.0	4200.0	--	
			01/27/99	6046.77	2100.0	1000.0	160.0	1050.0	4310.0	--	
			05/05/99	6046.44	210.0	2.9	30.0	147.0	389.9	--	
	(Burlington)		05/26/99	NR	190.0	7.4	32.0	150.0	379.4	--	
			7/12/1999	6046.04	130.0	7.2	22.0	101.3	260.5	--	
			8/17/1999	6046.61	NA	NA	NA	NA	NA	--	
	(prelim.)		10/21/1999	6047.47	260.0	11.0	15.0	89.0	375.0	--	
			01/27/00	6047.65	670.0	580.0	54.0	680.0	1984.0		
			06/17/00	6047.87	420.0	1100.0	75.0	1400.0	2995.0		
MW-8			1/12/1998	6104.71	6410.0	17301.0	693.0	9397.0	33801.0	Sheen	
Upgradient PNM; downgradient Burlington			4/14/1998	6104.41	NA	NA	NA	NA	NA	0.37	
	6122.971		7/1/1998	6105.14	NA	NA	NA	NA	NA	0.37	
			10/5/1998	6104.54	NA	NA	NA	NA	NA	0.13	
			11/9/1998	6104.77	NA	NA	NA	NA	NA	0.02	
			Well destroyed during Burlington excavation								
MW-9			7/1/1998	6100.12	12.0	0.2	0.6	1.3	14.1	--	<30.0
Upgradient PNM, crossgradient Burlington			10/5/1998	6100.03	16.0	<1.0	1.1	2.1	19.2	--	
	6122.515		11/9/1998	6100.40	12.0	<1.0	<1.0	<3.0	12.0	--	
			1/27/1999	6099.23	0.8	<0.5	<0.5	2.2	3.0	--	
			5/5/1999	6099.92	73.0	<0.5	2.2	1.6	76.8	--	
			5/26/1999	6100.07	120.0	<0.5	2.5	1.8	124.3	--	
		(Burlington)	5/26/1999	NR	120.0	<0.5	1.6	0.8	122.4	--	
			7/12/1999	6100.18	140.0	<0.5	1.5	<0.5	141.5	--	
		(prelim.)	8/17/1999	6100.92	290.0	<0.5	0.6	<1.5	290.6	--	
		(prelim.)	10/21/1999	6100.73	320.0	<0.5	0.6	<1.5	320.0	Sheen	
			1/27/2000	6100.62	130.0	nd	nd	nd	130.0		
			6/13/2000	6100.54	<0.5	1.9	<0.5	2.5	4.4		
MW-10			7/1/1998	NC	NA	NA	NA	NA	NA	2.00	
Upgradient PNM, downgradient Burlington			10/5/1998	NC	NA	NA	NA	NA	NA	1.91	
	6122.5		11/9/1998	NC	NA	NA	NA	NA	NA	2.10	
			Well destroyed during Burlington excavation								
MW-11			1/27/1999	5958.60	<0.5	2.5	0.7	13.1	16.3	--	
Downgradient well - 1800', near road			5/5/1999	5958.65	<0.5	<0.5	<0.5	<1.5	0.0	--	
	6015.75	(Burlington)	5/26/1999	NR	0.8	1.7	<0.5	1.1	3.6	--	
			7/12/1999	5958.27	NA	NA	NA	NA	NA	--	
			8/17/1999	5958.62	NA	NA	NA	NA	NA	--	
	(prelim.)		10/21/1999	5958.90	<0.5	<0.5	<0.5	<1.5	<3.0	--	
			1/27/2000	5959.10	<0.5	<0.5	<0.5	<0.5	<0.5		
			6/13/2000	5959.21	<0.5	<0.5	<0.5	0.9	0.9		
MW-12 (new source well @ MW-6)			5/5/1999		790.0	840.0	260.0	2880.0	4770.0	--	
SOIL sample TPH (ppm)	2350		5/5/1999		1200	13000	5100	68000	87300.0	--	
	6109.02		5/26/1999	6099.45	1900	820	200	1720	4640.0	Sheen	
		(Burlington)	5/26/1999		1800	640	160	1600	4200.0	--	
			7/12/1999	6099.63	4500	760	400	3100	8760.0	Sheen	
		(duplicate)	7/12/1999		4600	730	390	3080	8800.0	Sheen	
			8/17/1999	6100.56	4800	5000	320	3390	13510.0	Sheen	
		(Eco. Split)	8/17/1999	6100.56	5900	6100	390	4100	16490.0	Sheen	
		(prelim.)	10/21/1999	6100.17	5600	650	540	2890	9680.0	Sheen	
			1/27/2000	6070.49	4100	550	430	2379	7459.0		
			6/13/2000	6085.43	5000	1300	490	2700	9490.0		
MW-13	6122.76		5/26/1999	--	1800.0	25.0	12.0	35.3	1872.3	--	
BROG well between pit & MW-4		(Burlington)	5/26/1999	--	2100	22	8.8	29	2159.8	--	
			7/12/1999	6104.3	2100	14	9.9	10.9	2134.8	--	
			8/17/1999	6104.7	1900	<10	<10	<30	1900.0	--	
		(prelim.)	10/21/1999	6104.71	1600	<10	<10	<30	1600.0		
			1/27/2000	6104.44	1600	2.2	1.5	0.5	1604.2		
			6/13/2000	6104.59	730	<2.5	<2.5	<2.5	730.0		
MW-14		--	10/21/1999	--	not sampled - 2 feet of free product					1.92	
BROG well near TPW07			depth to water 22.14, depth to product 20.22 (no datum surveyed yet)								
			1/27/2000	Not sampled 2.5 feet free product	depth to water 22.90			depth to product 20.40			
			6/13/2000	Not sampled 2.16 feet product	Depth to water 22.51			depth to product 22.51			
MW-15		(prelim.)	10/21/1999	--	<0.5	1.2	<0.5	1.5	2.7	--	
BROG well near separator pit			depth to water 17.84 (no datum surveyed yet)								
			1/27/2000		<0.5	<0.5	<0.5	<0.5	0.0		
			depth to water 18.36 (no survey data available)								
			6/13/2000	0	<0.5	<0.5	<0.5	<0.5	<0.5		
			18.08 DTW								
MW-16		(prelim.)	10/21/1999	--	220.0	300.0	5.4	142.0	667.4	--	
Recovery well near excavation		(Burlington)	10/21/1999	--	214.0	268.0	4.0	151.0	637.0	--	
			depth to water 14.93 (no datum surveyed yet)								
			1/27/2000		1600	170	56	225	2051.0		
			depth to water 24.22 (no survey data available				Note stick up added to well in 2000				
			6/13/2000	24.16 DTW	8700	430	680	2200	12010.0		
TMP-1			11/11/1997	NM	2171.0	4185.0	190.0	2856.0	9402.0	--	
	11		7/1/1998	6057.61	2000.0	4300.0	180.0	2700.0	9180.0	--	80.0
	MP = 6076.48		11/9/1998	NM	980.0	1900.0	84.0	1540.0	4504.0	--	

ANALYTICAL RESULTS SUMMARY - Hampton 4M

Well	Surveyed MP Elev. (ft,msl)	Sample Notes	Date Sampled	GW Elev. (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	2-MP (ug/L)
		(prelim.)	10/21/1999	6058.11	1000.0	3100.0	410.0	9700.0	14210.0		
EB WELL			11/25/1997	5959.74	<0.2	<0.2	<0.2	<0.2	<0.2	--	
Downgradient private well			10/21/1999	5960.93							
MP =	6028.64										
Burlington Excavation	Surface Water		2/11/1998	15'	1800	1700	<25	1420	4920	rainbow	
	Surface Water		7/1/1998	6106.26	10.0	0.4	0.1	1.5	12.0	rainbow	<30.0
	Surface Water		11/9/1998	NM	2.9	16.0	<1	18.1	37.0	--	
	Soil - @ water		7/1/1998	NM	36000.0	560000.0	100000.0	1430000.0	2126000.0	--	
Hydrocarbon Seep	Surface Water		7/1/1998	6098.72	1.6	0.7	0.6	0.36	3.26	rainbow	6.0 J
			4/14/1999		40.0	2.2	2.1	19.00	63.30	rainbow	
		(prelim.)	10/21/1999		65.0	230.0	11.0	434.00	740.00		

ANALYTICAL RESULTS SUMMARY - Hampton 4M

Well	Surveyed MP Elev. (ft,msl)	Sample Notes	Date Sampled	GW Elev. (ft,msl)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Product Thickness (ft)	2-MP (ug/L)

Burlington Temporary Monitoring Well Sampling

Sample	Matrix	Date Sampled	Depth (ft)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	Total BTEX (ppb)	TPH (mg/Kg)	PID (ppm)
TPW-01	Water	6/5/1997		20.0	<1	<1	<1	20.0	NA	0
	Soil		25-26'	<1	<1	<1	<1	<1	<10	
TPW-02	Water	6/5/1997	Product	NA	NA	NA	NA	NA	NA	187
	Soil		25-26'	2000.0	4600.0	14000.0	39000.0	59600.0	600.0	
TPW-03	Water	6/5/1997	Dry	NA	NA	NA	NA	NA	NA	0
	Soil	6/5/1997	25-26	<1	<1	<1	<1	<1	25	
TPW-04	Water	6/6/1997		2000.0	3100.0	57.0	810.0	5967.0	NA	33
	Soil	6/6/1997	20-21.5'	28.0	3.4	76.0	40.0	147.4	52	
TPW-05	Water	6/6/1997		5800.0	460.0	16000.0	7000.0	29260.0	NA	470
	Soil	6/6/1997	15-16'	4000.0	10000.0	4500.0	28000.0	46500.0	61	
TPW-06	Water	6/6/1997		1600.0	3400.0	48.0	690.0	5738.0	NA	61
	Soil	6/6/1997	16-16.5'	<1	<1	2.8	4.8	7.6	11	
TPW-07	Water	6/6/1997		5300.0	18000.0	620.0	9300.0	33220.0	NA	948
	Soil	6/6/1997	15-16'	7000.0	74000.0	20000.0	170000.0	271000.0	250	
Burlington Profile Borings										
SB-1 (near BROG excavation)	Soil	10/8/1998	15-16'	335	697	181	1808	3021	26.4	1555
SB-2 (near PNM former pit)	Soil	10/8/1998	15'	1950	9960	2460	22590	36960	194	>2000
PNM Test Holes along Wash										**PID (ppm)**
TH-1	Soil	11/11/1997	12.7'	NA	NA	NA	NA	NA	1412	
TH-2	Soil	11/11/1997	14.4'	NA	NA	NA	NA	NA	1357	
TH-3	Soil	11/11/1997	16.5'	NA	NA	NA	NA	NA	0	
TH-4	Soil	11/11/1997	15'	NA	NA	NA	NA	NA	279	
TH-5	Soil	11/11/1997	14.5'	NA	NA	NA	NA	NA	1211	
TH-6	Soil	11/11/1997	16'	NA	NA	NA	NA	NA	0	
TH-7 (temporary well)	Water	11/11/1997	NA	2171.0	4185.0	190.0	2856.0	170000.0	279	
TH-8	Soil	11/12/1997	14'	NA	NA	NA	NA	NA	0	

Notes: All wells sampled byPNM unless otherwise noted in the "Sample Notes" column.
J = Analyte detected below Practical Quantitation Limit
B = Analyte detected in the associated Method Blank
NM = Not measured
NA = Not analyzed
NC = Not Calculated (product)

ON SITE TECHNOLOGIES, LTD.

OFF: (505) 325-5667 LAB: (505) 325-1556

February 15, 2000

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

RE: Hampton 4M Order No.: 0001032

Dear Maureen Gannon,

On Site Technologies, LTD. received 10 samples on 1/27/2000 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC/PID (SW8021B)

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

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

Sincerely,

David Cox

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD. **Date:** *15-Feb-00*

CLIENT: PNM - Public Service Company of NM
Project: Hampton 4M
Lab Order: 0001032

CASE NARRATIVE

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

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

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

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- *TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT* -

OFF: (505) 325-5667

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001270906; MW-5
Lab ID:	0001032-01A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 9:06:00 AM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: DM
Benzene	4700	50		µg/L	100	1/28/2000
Toluene	10000	50		µg/L	100	1/28/2000
Ethylbenzene	680	50		µg/L	100	1/28/2000
m,p-Xylene	5900	100		µg/L	100	1/28/2000
o-Xylene	1500	50		µg/L	100	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667 LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001270941; MW-9
Lab ID:	0001032-02A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 9:41:00 AM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	130	0.5		µg/L	1	2/3/2000
Toluene	ND	0.5		µg/L	1	2/3/2000
Ethylbenzene	ND	0.5		µg/L	1	2/3/2000
m,p-Xylene	ND	1		µg/L	1	2/3/2000
o-Xylene	ND	0.5		µg/L	1	2/3/2000

Qualifiers:

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

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271015; MW-13
Lab ID:	0001032-03A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 10:15:00 AM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	1600	10		µg/L	20	1/28/2000
Toluene	2.2	0.5		µg/L	1	2/3/2000
Ethylbenzene	1.5	0.5		µg/L	1	2/3/2000
m,p-Xylene	ND	1		µg/L	1	2/3/2000
o-Xylene	0.5	0.5		µg/L	1	2/3/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271042; MW-15
Lab ID:	0001032-04A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 10:42:00 AM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	ND	0.5		µg/L	1	1/28/2000
Toluene	ND	0.5		µg/L	1	1/28/2000
Ethylbenzene	ND	0.5		µg/L	1	1/28/2000
m,p-Xylene	ND	1		µg/L	1	1/28/2000
o-Xylene	ND	0.5		µg/L	1	1/28/2000

Qualifiers:

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

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ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271115; MW-16
Lab ID:	0001032-05A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 11:15:00 AM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	1600	10		µg/L	20	2/3/2000
Toluene	170	2.5		µg/L	5	1/28/2000
Ethylbenzene	56	2.5		µg/L	5	1/28/2000
m,p-Xylene	210	5		µg/L	5	1/28/2000
o-Xylene	15	2.5		µg/L	5	1/28/2000

Qualifiers:

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

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ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271200; MW-12
Lab ID:	0001032-06A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 12:00:00 PM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	4100	25		µg/L	50	1/28/2000
Toluene	550	25		µg/L	50	1/28/2000
Ethylbenzene	430	25		µg/L	50	1/28/2000
m,p-Xylene	2300	50		µg/L	50	1/28/2000
o-Xylene	79	25		µg/L	50	1/28/2000

Qualifiers:

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

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ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271221; MW-7
Lab ID:	0001032-07A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 12:21:00 PM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	670	2.5		µg/L	5	1/28/2000
Toluene	580	2.5		µg/L	5	1/28/2000
Ethylbenzene	54	2.5		µg/L	5	1/28/2000
m,p-Xylene	420	5		µg/L	5	1/28/2000
o-Xylene	260	2.5		µg/L	5	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271342; MW-17
Lab ID:	0001032-10A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 1:42:00 PM
Project:	Hampton 4M	**COC Record:**	7862

Duplicate of MW-12

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	4100	25		µg/L	50	1/28/2000
Toluene	580	25		µg/L	50	1/28/2000
Ethylbenzene	430	25		µg/L	50	1/28/2000
m,p-Xylene	2000	50		µg/L	50	1/28/2000
o-Xylene	84	25		µg/L	50	1/28/2000

Qualifiers:

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

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271233; TMW-1
Lab ID:	0001032-08A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 12:33:00 PM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	930	50		µg/L	100	1/28/2000
Toluene	1400	50		µg/L	100	1/28/2000
Ethylbenzene	350	50		µg/L	100	1/28/2000
m,p-Xylene	5200	100		µg/L	100	1/28/2000
o-Xylene	1500	50		µg/L	100	1/28/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667 LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *15-Feb-00*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Hampton 4M
Work Order:	0001032	**Client Sample ID:**	0001271312; MW-11
Lab ID:	0001032-09A **Matrix:** AQUEOUS	**Collection Date:**	1/27/2000 1:12:00 PM
Project:	Hampton 4M	**COC Record:**	7862

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: DM
Benzene	ND	0.5		µg/L	1	1/28/2000
Toluene	ND	0.5		µg/L	1	1/28/2000
Ethylbenzene	ND	0.5		µg/L	1	1/28/2000
m,p-Xylene	ND	1		µg/L	1	1/28/2000
o-Xylene	ND	0.5		µg/L	1	1/28/2000

Qualifiers:

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

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PHILIP ENVIRONMENTAL

Well Number MW-15 ☐ Development ☒ Purging

Serial No. WDPD:

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800252/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 24.66 TOR
Initial Depth to Water (feet) 18.08 TOR
Height of Water Column in Well (feet) 6.58
Diameter (inches): Well 2" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	6.58	1.07 x 3	3.22
Gravel Pack			
Drilling Fluids			
Total			3.22

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

IN PIT ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6/13/00	1007		X				1	1			18.2	4.48	4020		CLOUDY, BROWN
"	1010		X				1	2			17.5	4.37	4050		"
"	1015		X				1	3			16.6	4.31	3850		"
"	1017		X				.5	3.5			16.5	4.32	3770		"

Circle the date and time that the development criteria are met.

Comments (In notes, record calibration time and pH)
Cal 1000 7.0 and 10.0, temp 21.5 Sampled for BTEX at 1024

Developer's Signature(s) Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-09 ☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Project Name HAMPTON SAMPLING Project Manager B. THOMPSON Project No. 62800252/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 32.60 TOR
Initial Depth to Water (feet) 21.97 TOR
Height of Water Column in Well (feet) 10.63
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	10.63	1.73x3	5.20
Gravel Pack			
Drilling Fluids			
Total			5.20

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

IN PIT ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6/13/00	1050		X				1	1			19.8	6.62	2480		CLOUDY, BROWN
"	1054		X				1	2			19.6	6.59	2440		"
"	1105		X				1	3			20.4	6.64	2530		"
"	1108		X				1	4			18.7	6.64	2400		"
"	1111		X				1	5			21.7	6.61	2600		"
"	1112		X				.5	5.5			22.7	6.60	3600		"

Circle the date and time that the development criteria are met.

Comments Cal Cond. to 9.95 at 1038. Sampled for BTEX at 1120

Developer's Signature(s) [signature] Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW13 ☐ Development ☒ Purging

Serial No. WDPD-

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800252/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO. - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 24.55 TOR
Initial Depth to Water (feet) 18.17 TOR
Height of Water Column in Well (feet) 6.38
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	6.38	1.04	3.12
Gravel Pack			
Drilling Fluids			
Total			3.12

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

IN PIT ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/l)	Comments
6/13/00	11:42		X				1	1			22.0°	6.65	3490		slight turbity, grayish white
"	11:48		X				1	2			20.9°	6.67	3320		slight turbity, whitish gray
"	11:51		X				1	3			18.3°	6.68	3220		med. turbity, cloudy gray
"	11:53		X				1	4			17.6°	6.76	3210		med. turbity, cloudy gray

Circle the date and time that the development criteria are met.

Comments Sampled for BTEX at 1157.

Developer's Signature(s) Jean Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-16 ☐ Development ☒ Purging

Serial No. WDPD-

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 2

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800252/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 29.72' TOR
Initial Depth to Water (feet) 24.16 TOR
Height of Water Column in Well (feet) 5.56
Diameter (inches): Well 4 Gravel Pack ____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	5.56	3.63×3	10.9
Gravel Pack			
Drilling Fluids			
Total			10.9

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

ON GROUND ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6-13-00	12:29		X				1	1			22.9	6.81	3990		clear, 1-2% fine particulate black flakes, biologic odor
6-13-00	12:34		X				1	2			19.4	6.80	3710		clear, biological odor minor gray tint
"			X				1	3			18.2	6.78	3660		clear, biological odor minor gray tint
"			X				1	4			18.3	6.79	3670		clear → slightly turbid, v. light gray color
"			X				1	5			18.0	6.81	3730		slightly turbid, med gray, odor/B.O
"			X				1	6			17.7	6.90	3690		slightly turbid, med gray, odor/B.O

Circle the date and time that the development criteria are met.

Comments Page 1 of 2

Developer's Signature(s) G. Wurtz G. Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-16 ☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800282/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 29.72' TOR
Initial Depth to Water (feet) 24.16' TOR
Height of Water Column in Well (feet) 5.56
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	5.56	3 6 3 x 3	10.9
Gravel Pack			
Drilling Fluids			
Total			10.9

Instruments

	Serial No. (If applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6-13-00	1303		K				1	7							dry

Circle the date and time that the development criteria are met.

Comments Well bailed dry after 6-7 gallons, waited 5 min. and collected sample. Samples collected for BTEX 1308. 1300

Developer's Signature(s) G. Wurtz / J Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-12

☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Page 1 of 1

Project Name HAMPTON SAMPLING

Project Manager R. THOMPSON

Project No. 62800252/263

Client Company BURLINGTON / PNM

Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1

Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal

☒ Stabilization of Indicator Parameters

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 34.38 TOR

Initial Depth to Water (feet) 23.59 TOR

Height of Water Column in Well (feet) 10.79

Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	10.79	1.76 x 3	5.28
Gravel Pack			
Drilling Fluids			
Total			5.28

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Methods of Development

Pump: ☐ Centrifugal ☐ Submersible ☐ Peristaltic

Bailer: ☒ Bottom Valve ☐ Double Check Valve ☐ Stainless-steel Kemmerer

☐ Other

Water Disposal

IN PIT ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
								5							

Circle the date and time that the development criteria are met.

Comments NO PARAMATERS TAKEN, SOME PRODUCT IN WELL. WATER IS BLACK WITH HC ODOR. SAMPLED FOR BTEX AT 1340.

Developer's Signature(s) [signature] Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-05

☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Serial No. WDPD-

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 628 00252/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO. - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 20.90' TOR
Initial Depth to Water (feet) 14.70' TOR
Height of Water Column in Well (feet) 6.20'
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	6.2	1.01×3	3.04
Gravel Pack			
Drilling Fluids			
Total			3.04

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

IN PIT ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments

Circle the date and time that the development criteria are met.

Comments PRODUCT IN WELL; NO PARAMATERS TAKEN. WATER IS BLACK WITH HC ODOR + SHEEN SEWAGE + SAMPLED FOR BTEX AT 1359

Developer's Signature(s) Jean Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-07 ☐ Development ☒ Purging

Serial No. WOPD-

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 628002252/253

Client Company BURLINGTON/PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE # 1 Site Address RURAL SAN JUAN CO.

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 21.17 TOR
Initial Depth to Water (feet) 19.04 TOR
Height of Water Column in Well (feet) 2.13
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	2.13	0.35 x 3	1.04
Gravel Pack			
Drilling Fluids			
Total			

Instruments

	Serial No. (If applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

ON GROUND ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/l)	Comments
6/13/00	1451		X				0.25	0.25			24.2	6.43	4870		GREY TO CLEAR WITH STRONG SEPTIC ODOR, BLACK PARTICLES
"	1452		X				0.25	0.50			19.8	6.39	4540		FLOATING.
"	1453		X				0.25	0.75			18.6	6.40	4400		"
"	1454		X				0.25	1.00			18.0	6.43	4410		NOT MANY BUCKETS/ATORS
"	1455		X				0.25	1.25			17.5	6.42	4370		"

Circle the date and time that the development criteria are met.

Comments Sampled for btex at 1456.

Developer's Signature(s) Jean Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number Tm W-1 TMP-1 new

Serial No. WDPD-

☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800252/253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO. - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal

☒ Stabilization of Indicator Parameters

☐ Other _____

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 19.64 TOR

Initial Depth to Water (feet) 17.44 TOR

Height of Water Column in Well (feet) 2.2

Diameter (inches): Well 2 Gravel Pack ____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	2.2	0.36 x 3	1.08
Gravel Pack			
Drilling Fluids			
Total			1.08

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC

☐ Other _____

Water Disposal

IN PIT ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments

Circle the date and time that the development criteria are met.

Comments WATER IS CLEAR WITH HC ODOR WELL BAILED DRY AT 0.25 gal ~~SA~~ LET WELL (10 MIN) RECOVER AND SAMPLED FOR BTEX AT 1506 PRODUCT IN WELL; NO PARAMETERS TAKEN.

Developer's Signature(s) Jan Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-11

☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Page 1 of 1

Project Name HAMPTON SAMPLING

Project Manager R. THOMPSON

Project No. 62500252/253

Client Company BURLINGTON RESOURCES / PNM

Phase.Task No. 0301

Site Name HAMPTON #4M

Site Address RURAL SAN JUAN CO. (AZTEC)

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 71.45 TOR
Initial Depth to Water (feet) 56.54 TOR
Height of Water Column in Well (feet) 14.91
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	14.91	2.43 x 3	7.3
Gravel Pack			
Drilling Fluids			
Total			7.3

Instruments

	Serial No. (if applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

ON GROUND ON SITE

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6/13/00	1525		X				1.5	1.5			21.1	6.41	2750		CLEAR - LIGHT BROWN, NO ODOR
"	1529		X				1.5	3			19.8	6.48	2660		CLEARER
"	1532		X				1.5	4.5			19.7	6.41	2660		"
"	1537		X				1.5	6			18.8	6.48	2590		CLOUDY, LT. BROWN
"	1542		X				1.5	7.5			20.5	6.65	2670		CLOUDY, LT. BROWN

Circle the date and time that the development criteria are met.

Comments Sampled for BTEX at 1546. USED 3 LOCKS

Developer's Signature(s) Jason Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-01 PNM ☐ Development ☒ Purging

Serial No. WDPD-

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800252 /253

Client Company BURLINGTON / PNM Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 47.54 TOR
Initial Depth to Water (feet) 43.03 TOC
Height of Water Column in Well (feet) 4.51
Diameter (inches): Well 2" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing			N/A
Gravel Pack			
Drilling Fluids			
Total			

Instruments

	Serial No. (If applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

N/A

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments

Circle the date and time that the development criteria are met.

Comments GREG WURTZ (BP), ROY BURNHAM (PNM), RON DEDRICK (PNM) ~~PRESENT~~

THIS HAS BEEN CLEAN FOUR QUARTERS; NO SAMPLES TAKEN

Developer's Signature(s) J. M. Wagner Date 6/13/00 Reviewer RT Date 6/19/00

PHILIP ENVIRONMENTAL

Well Number MW-14 ☐ Development ☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Project Name HAMPTON SAMPLING Project Manager R. THOMPSON Project No. 62800252/253

Client Company BURLINGTON / PNR Phase.Task No. 0301

Site Name HAMPTON #4M BOREHOLE #1 Site Address RURAL SAN JUAN CO - AZTEC

Development Criteria

☒ (3) to 5 Casing Volumes of Water Removal
☒ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) N/A
Initial Depth to Water (feet)
Height of Water Column in Well (feet)
Diameter (inches): Well Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			
Gravel Pack			
Drilling Fluids			
Total			

Instruments

	Serial No. (If applicable)
☒ pH Meter	HYDAC
☐ DO Monitor	
☒ Conductivity Meter	HYDAC
☒ Temperature Meter	HYDAC
☐ Other	

Water Disposal

~~☒~~ pit on site

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments

Circle the date and time that the development criteria are met.

Comments Product in well, no Sampling done. Levels taken: 20.35' TO PRODUCT 22.51' TO WATER = 2.16' PRODUCT

Developer's Signature(s) Jean Wagnon Date 6/13/00 Reviewer RT Date 6/19/00

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **006058**
June 19, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name HAMPTON SAMPLING
Project Number 62800253

Attention: ROBERT THOMPSON

On 06/15/00 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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: jt

Enclosure

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006058
PROJECT #	: 62800253	DATE RECEIVED	: 06/15/00
PROJECT NAME	: HAMPTON SAMPLING	REPORT DATE	: 06/19/00

PIN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	HAMPTON #4M TM-W1	AQUEOUS	06/13/00
02	HAMPTON #4M MW-05	AQUEOUS	06/13/00
03	HAMPTON #4M MW-07	AQUEOUS	06/13/00
04	HAMPTON #4M MW-09	AQUEOUS	06/13/00
05	HAMPTON #4M MW-11	AQUEOUS	06/13/00
06	HAMPTON #4M MW-12	AQUEOUS	06/13/00
07	HAMPTON #4M MW-13	AQUEOUS	06/13/00
08	HAMPTON #4M MW-15	AQUEOUS	06/13/00
09	HAMPTON #4M MW-16	AQUEOUS	06/13/00

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800253
PROJECT NAME : HAMPTON SAMPLING

PINNACLE I.D.: 006058

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	HAMPTON #4M TM-W1	AQUEOUS	06/13/00	NA	06/15/00	100
02	HAMPTON #4M MW-05	AQUEOUS	06/13/00	NA	06/15/00	100
03	HAMPTON #4M MW-07	AQUEOUS	06/13/00	NA	06/15/00	100

PARAMETER	DET. LIMIT	UNITS	HAMPTON #4M TM-W1	HAMPTON #4M MW-05	HAMPTON #4M MW-07
BENZENE	0.5	**UG/L**	**2400**	**8400**	**420**
TOLUENE	0.5	**UG/L**	**3400**	**19000**	**1100**
ETHYLBENZENE	0.5	**UG/L**	**550**	**1700**	**75**
TOTAL XYLENES	0.5	**UG/L**	**9100**	**22000**	**1400**
SURROGATE:					
BROMOFLUOROBENZENE (%)			118	115	98
SURROGATE LIMITS	(80 - 120)				

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800253
PROJECT NAME : HAMPTON SAMPLING

PINNACLE I.D.: 006058

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	HAMPTON #4M MW-09	AQUEOUS	06/13/00	NA	06/15/00	1
05	HAMPTON #4M MW-11	AQUEOUS	06/13/00	NA	06/15/00	1
06	HAMPTON #4M MW-12	AQUEOUS	06/13/00	NA	06/15/00	100

PARAMETER	DET. LIMIT	UNITS	HAMPTON #4M MW-09	HAMPTON #4M MW-11	HAMPTON #4M MW-12
BENZENE	0.5	**UG/L**	< 0.5	< 0.5	**5000**
TOLUENE	0.5	**UG/L**	**1.9**	< 0.5	**1300**
ETHYLBENZENE	0.5	**UG/L**	< 0.5	< 0.5	**490**
TOTAL XYLENES	0.5	**UG/L**	**2.5**	**0.9**	**2700**

SURROGATE:				
BROMOFLUOROBENZENE (%)		103	103	108
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800253
PROJECT NAME : HAMPTON SAMPLING

PINNACLE I.D.: 006058

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	HAMPTON #4M MW-13	AQUEOUS	06/13/00	NA	06/15/00	5
08	HAMPTON #4M MW-15	AQUEOUS	06/13/00	NA	06/15/00	1
09	HAMPTON #4M MW-16	AQUEOUS	06/13/00	NA	06/15/00	50

PARAMETER	DET. LIMIT	UNITS	HAMPTON #4M MW-13	HAMPTON #4M MW-15	HAMPTON #4M MW-16
BENZENE	0.5	**UG/L**	**730**	< 0.5	**8700**
TOLUENE	0.5	**UG/L**	< 2.5	< 0.5	**430**
ETHYLBENZENE	0.5	**UG/L**	< 2.5	< 0.5	**680**
TOTAL XYLENES	0.5	**UG/L**	< 2.5	< 0.5	**2200**

SURROGATE:				
BROMOFLUOROBENZENE (%)		97	99	114
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 006058
BLANK I. D.	: 061500	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/15/00
PROJECT #	: 62800253	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: HAMPTON SAMPLING		

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 (%)		107
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 006058-05	PINNACLE I.D.	: 006058
CLIENT	: PHILIP ENVIRONMENTAL	DATE EXTRACTED	: NA
PROJECT #	: 62800253	DATE ANALYZED	: 06/15/00
PROJECT NAME	: HAMPTON SAMPLING	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	18.2	91	17.9	90	2	(80 - 120)	20
TOLUENE	<0.5	20.0	19.9	100	20.0	100	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.2	101	20.3	102	0	(80 - 120)	20
TOTAL XYLENES	**0.9**	60.0	61.6	101	61.7	101	0	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

006058

Chain of Custody Record

PHILIP ENVIRONMENTAL

4000 Monroe Road
Farmington, NM 87401
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2574

Project Name HAMPTON SAMPLING
Project Number 62800253 Phase . Task 0301
Samplers J. WAGNON
Laboratory Name PINNACLE LABS
Location ALBUQUERQUE, NM

Sample Number (and depth)	Date	Time	Matrix	Total Number of Bottles	Type of Analysis and Bottle: BTEX 8021	Comments
HAMPTON #4M TM-W1	6/13/00	1506	H20	2	X	-01
HAMPTON #4M MW-05	6/13/00	1359	H20	2	X	-02
HAMPTON #4M MW-07	6/13/00	1456	H20	2	X	-03
HAMPTON #4M MW-09	6/13/00	1120	H20	2	X	-04
HAMPTON #4M MW-11	6/13/00	1546	H20	2	X	-05
HAMPTON #4M MW-12	6/13/00	1340	H20	2	X	-06
HAMPTON #4M MW-13	6/13/00	1157	H20	2	X	-07
HAMPTON #4M MW-15	6/13/00	1024	H20	2	X	-08
HAMPTON #4M MW-16	6/13/00	1300	H20	2	X	-09

Relinquished by:

Signature	Date	Time
Juan Wagnon	6/14/00	1140

Received By:

Signature	Date	Time
[signature]	6/15/00	9:22

Samples Iced: ☒ Yes ☐ No

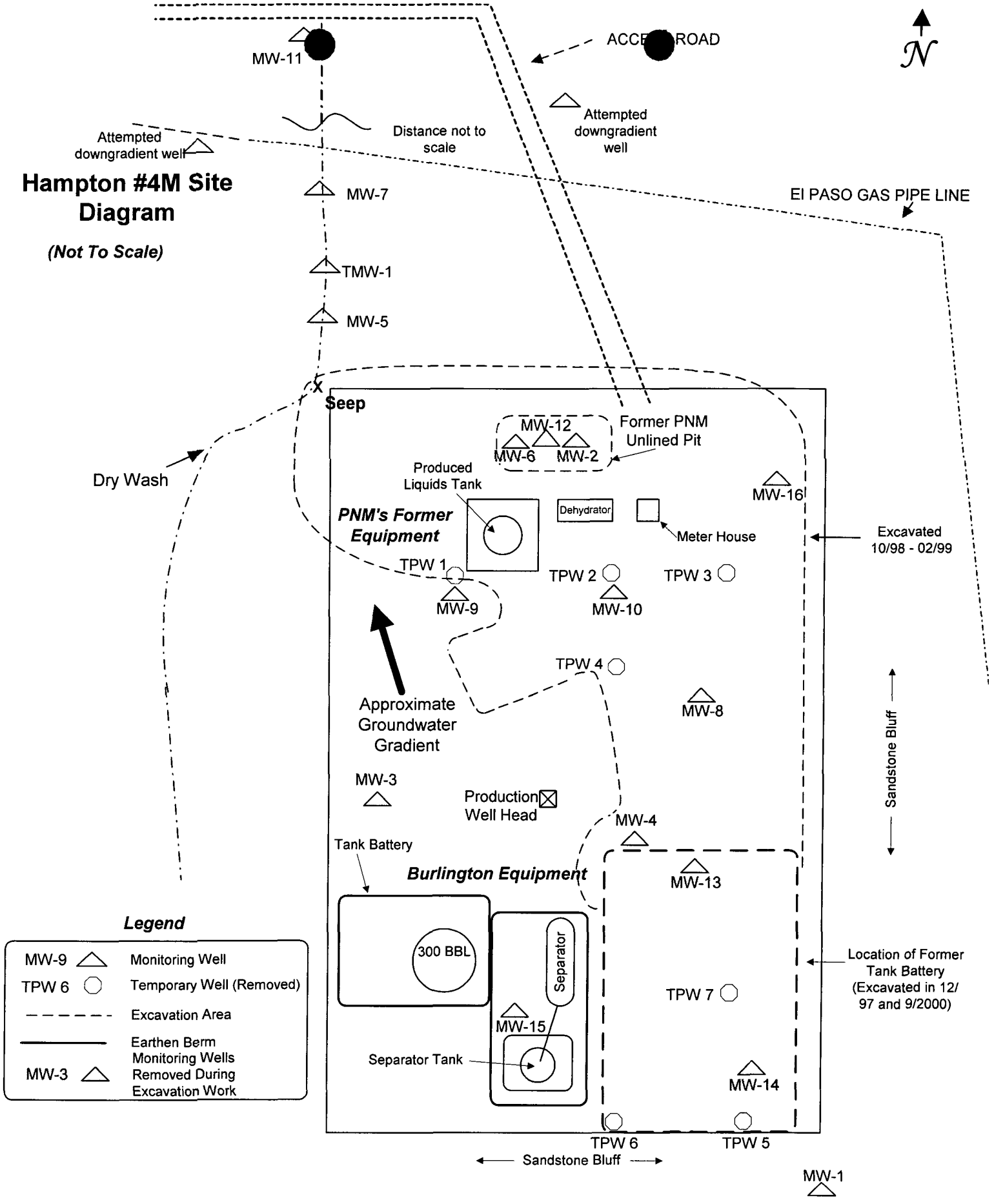
Preservatives (ONLY for Water Samples)
- ☐ Cyanide ..... Sodium hyroxide (NaOH)
- ☒ Volatile Organic Analysis ..... Hydrochloric acid (HCl)
- ☐ Metals ..... Nitric acid (HNO_3)
- ☐ TPH (418.1) ..... Sulfuric acid (H_2SO_4)
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

Carrier: GREYHOUND LINES
Airbill No. GLI1606918511

Shipping and Lab Notes:
16°C Still cool
13.9 hm

Attachment 2

SITE DIAGRAM



Revised 3/22/00

Attachment 3

AERIAL PHOTO

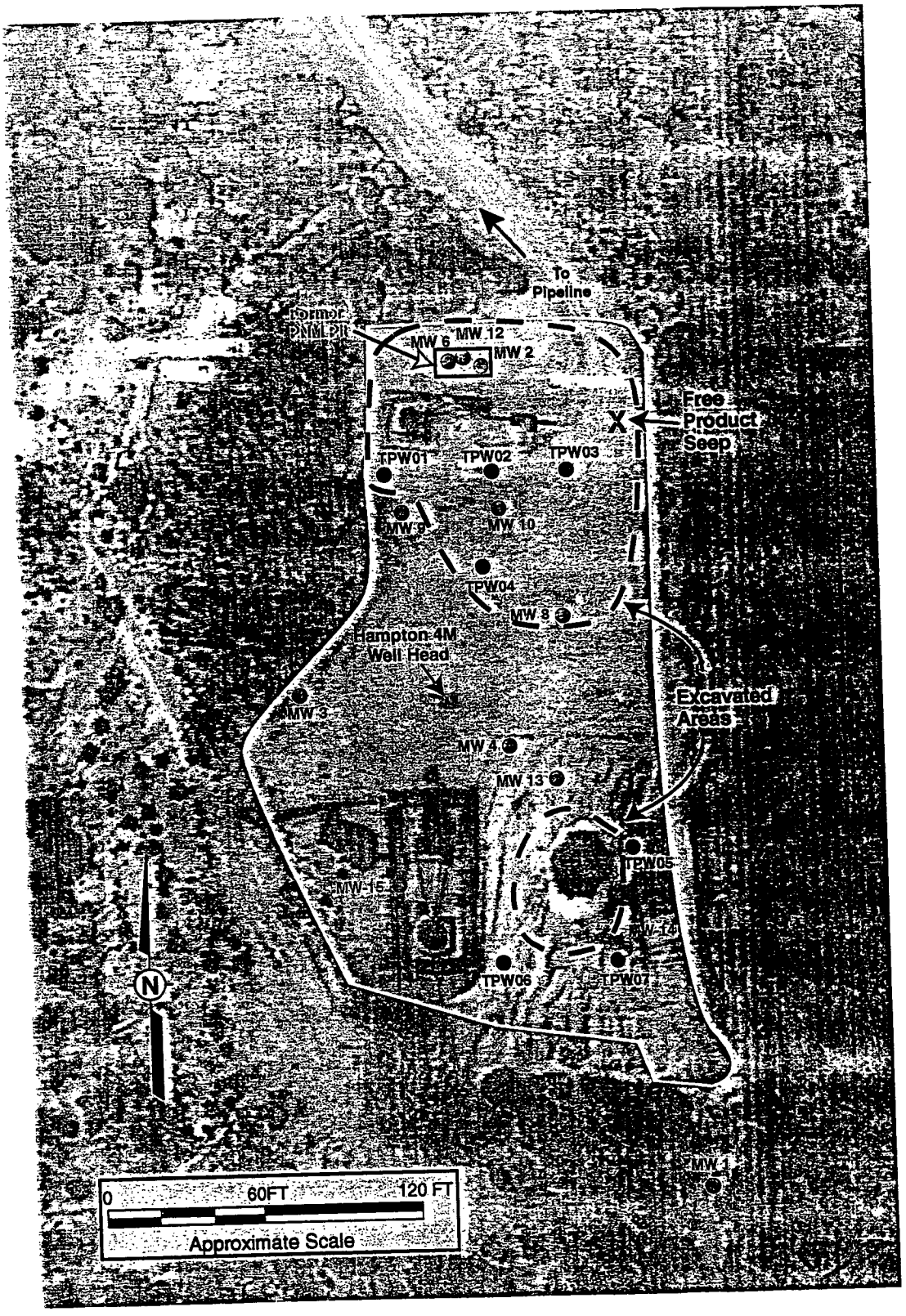


Figure 1: Hampton 4M Site Map (Monitor Well Locations)