

3R - 305

REPORTS

DATE:

May 17, 2002



Environmental Services
187 County Road 4980
Bloomfield, NM 87413
505-632-4409 Phone
505-632-4405 Fax

May 17, 2002

RECEIVED

MAY 29 2002

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Mr. Bill Freeman
Environmental Specialist
Navajo Nation Environmental Protection Agency, UIC
P.O. Box 1999
Shiprock, New Mexico 87420

RE: BLANCO WASH DRIP PIT REMEDIATION AND CLOSURE REPORT

Dear Mr. Freeman:

Enclosed please find information on remediation and closure activities associated with the unlined surface impoundment located at the Blanco Wash Drip site (see Figure 1). Public Service Company of New Mexico (PNM) formerly owned the site and initiated closure activities on June 18, 1998. The site later became an asset of Williams upon purchase of Gas Company of New Mexico (GCNM) from PNM. Upon expiration of PNM's retained environmental liabilities associated with the site, Williams agreed to complete necessary closure work. As such, the enclosed documentation reflects activities of both PNM and Williams.

Site History

Excavation of petroleum-hydrocarbon impacted soil beneath the unlined surface impoundment began on June 18, 1998. A total of 380 cubic yards of contaminated soil was removed. Approximately 180 cubic yards of the material was landfarmed on site, with the remaining material landfarmed on the nearby Bolack B#5 location. The excavation was reportedly terminated at a depth of 16-feet, where ground water was encountered. A ground water sample from the excavation was not collected.

Soil samples from the excavation walls and floor contained TPH at 1100 mg/kg and 720 mg/kg, respectively. These TPH levels were in excess of the NMOCD recommended cleanup standard of 100 mg/kg for this site. Still, further excavation of impacted soil was not possible due to concerns over encroachment on existing infrastructure. Sometime after July 28, 1998 the excavation was backfilled with the landfarmed soil. Documents describing contaminant source removal and landfarming activities are included as Exhibit A.

On February 2, 1999, a soil boring was advanced near the center of the former pit to a depth of 25-feet. Ground water was encountered at a depth of 18-feet and the boring was completed as a monitoring well. A water sample from the well collected on the same day contained benzene at 70 ug/l, which was in excess of the NMWQCC standard of 10 ug/l. A letter notifying the NMOCD of ground water contamination at the site was submitted on March 3, 1999. Notification to Mr. James Walker of USEPA Region 9 was provided in a March 16, 1999 letter.

To evaluate the magnitude and extent of ground water contamination, three additional monitoring wells were installed on April 6, 1999. Subsequent hydrogeological investigations indicated that natural attenuation processes would result in remediation of residual soil and ground water contamination. A quarterly ground water sampling program was initiated in April 1999 to monitor natural attenuation. Copies of drill logs and monitoring well construction diagrams are included as Exhibit B.

Site Hydrogeology

The Blanco Wash Drip is located in Unit J, Section 31, Township 27N, Range 8W of San Juan County, New Mexico (Figure 1). Immediately adjacent and to the west of the site is Blanco Canyon, which is occupied by a broad, north-draining wash. The wash joins Largo Canyon at a point 7-miles above the Largo's intersection with the San Juan River. The site is underlain by an unknown thickness of primarily very fine to fine, tan, unconsolidated sand. Drill logs indicate the presence of a thin zone of gray, sandy clay near the 16-foot depth with fine to medium sand below.

Groundwater in the unconsolidated sediments is unconfined and water level elevations vary seasonally. Depths to ground water range from approximately 15 to 18-feet below ground level. A hydrograph for the monitoring period is included in Exhibit B. Ground water flows to the north consistent with the local hydraulic gradient and is parallel to the drainage direction of Blanco Canyon. Potentiometric surface maps are included in Exhibit B. Hydraulic conductivities of the sediments are likely on the order of 10^{-3} to 10^{-1} cm/sec.

Monitoring Results

Concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) were analyzed in water samples collected quarterly from April 1999 through March 2002. Of the four wells in the monitoring network, only well MW-2, located in the former source area, contained concentrations in excess of NMWQCC and USEPA standards. A summary of the analytical data and copies of the laboratory analytical reports are included as Exhibit C.

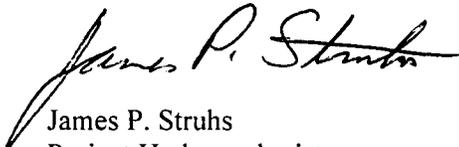
Natural attenuation processes active at the site resulted in a steady decrease in BTEX over the three-year monitoring period. The initial concentration of total BTEX in well MW-2 was 284.2 ug/L. A little over one-year later, in June 2000, the total BTEX concentration was reduced to 52 ug/L. For the last four quarters of monitoring, BTEX compounds were not detected in any of the ground water samples.

Summary

The unlined surface impoundment at the Blanco Wash Drip was addressed consistent with NMOCD Order 7940-C and with the guidelines pertaining to the remediation of unlined surface impoundments. The work included the removal of hydrocarbon-impacted soils and an evaluation of ground water impacted by the historical operation of the impoundment. A network of ground water monitoring wells was installed and ground water analyses showed that a small BTEX plume existed in the vicinity of the former pit location. Natural attenuation of the BTEX compounds resulted in contaminant degradation to concentrations less than USEPA and NMWQCC MCLs.

Based on current site conditions, Williams requests approval for closure of the Blanco Wash Drip site. Following receipt of your closure approval we will plug and abandon the monitoring wells in accordance with applicable regulations. Williams appreciates your time in reviewing this site closure request. If you have any questions or require any additional information, please contact me at 505-632-4457.

Respectfully,



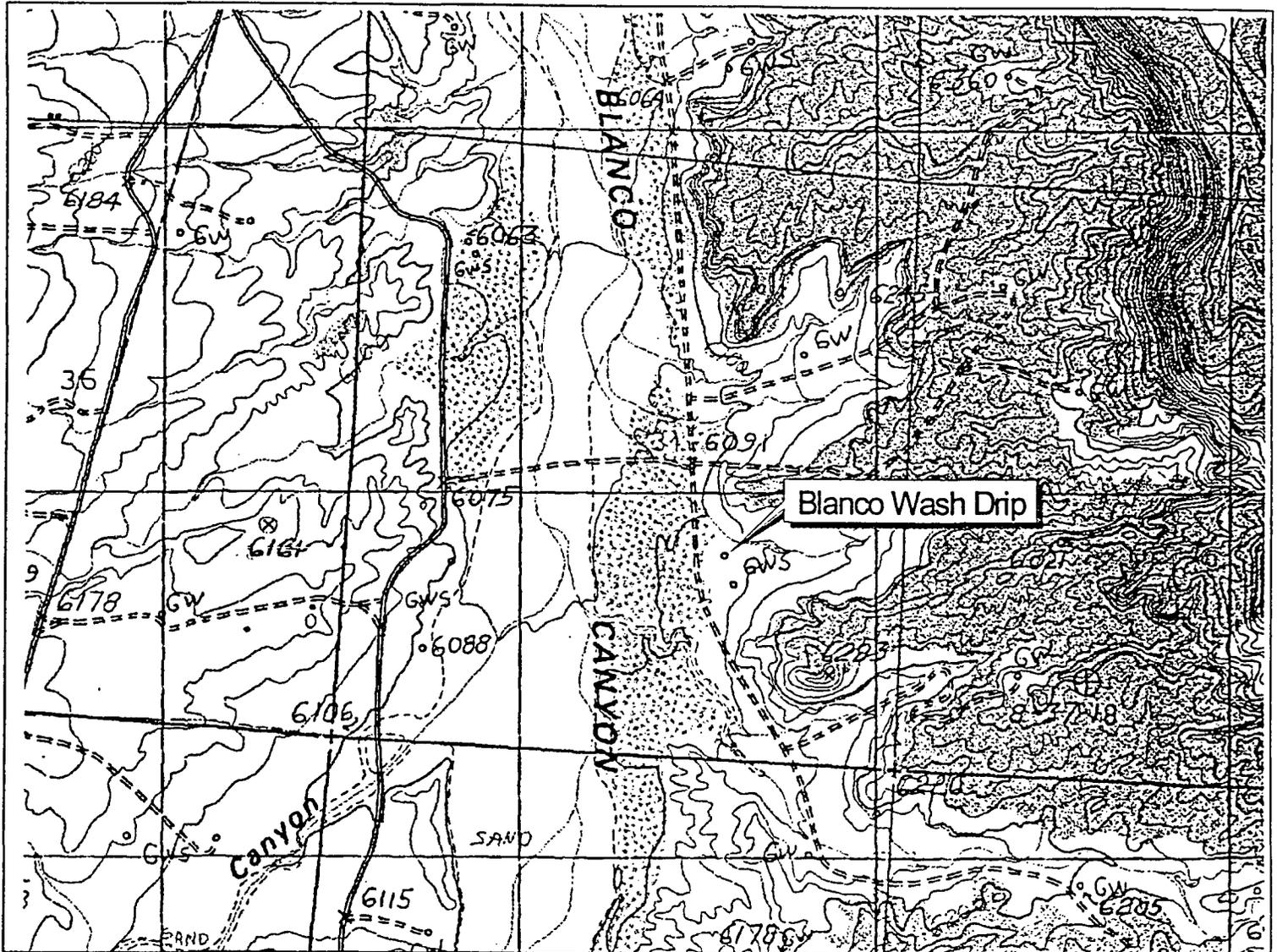
James P. Struhs
Project Hydrogeologist

Enclosures

- c: Mr. Denny Faust, NMOCD, Aztec
Mr. William Olson, NMOCD, Santa Fe
Mr. James Walker, USEPA Region 9



Figure 1
Blanco Wash Drip
Twn. 27N Rng. 8W Sec. 31 Unit J



Fresno Canyon, NM Quadrangle

0 1000 2000 3000 4000 5000 6000 Feet

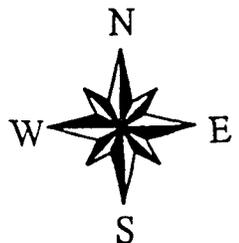


EXHIBIT A

Pit Remediation and Closure Report
Blanco Wash Drip

District I
P O Box 1980, Hobbs, NM

State of New Mexico
Energy, Minerals and Natural Resources Department

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

District II
Drawer DD, Artesia, NM 88221

OIL CONSERVATION DIVISION

District III
1000 Rio Brazos Rd, Aztec, NM 87410

2040 South Pacheco Street
Santa Fe, New Mexico 87505

PIT REMEDIATION AND CLOSURE REPORT

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

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Blanco Wash Drip

Location: Unit: J Sec. 31 T. 27 N R. 8 W County San Juan

Pit Type: Separator Dehydrator Other Drip Blowdown

Land Type: BLM X State Fee Other

Pit Location: Pit dimensions: length 18' width 18' depth 3'

(Attach diagram) Reference: wellhead other Drip Blowdown River

Footage from reference: 8'

Direction from reference: 15 Degrees ~~East~~ North ~~West~~ ~~South~~

Depth to Ground Water: Less than 50 feet (20 points)
50 feet to 99 feet (10 points)
Greater than 100 feet (0 points) 0

Wellhead Protection Area: Yes (20 points)
No (0 points) 0

Distance to Surface Water: Less than 200 feet (20 points)
200 feet to 1,000 feet (10 points)
Greater than 1,000 feet (0 points) 20

RANKING SCORE (TOTAL POINTS): 20

Date Remediation Started: 6-18-98 Date Completed: 6-18-98

Remediation Method: Excavation X Approx. Cubic Yard 379.25

(Check all appropriate sections)

Landfarmed X Amount Landfarmed (cubic yds) 379.25

Other _____

Remediation Location: Onsite _____ Offsite Natural was put on ROW
(i.e., landfarmed onsite, name and location of offsite facility) Custom Block P# 51571-011-8W

Backfill Material Location: _____

General Description of Remedial Action:

Removed contaminated material from all four walls and bottom
material was "formed" until it met perimeter and then put back in
excavation.

Final excavation dimensions: 32'(N+S) X 20'(E+W) X 16'(D)

Ground Water Encountered: No Yes Depth _____

Final Pit Closure Sampling: Sample Location All four walls (composite) and a
bottom

(if multiple samples, attach sample result and diagram of sample locations and depths.) Sample depth 16' - 15'

Sample date 6-18-98 Sample time wall - 1425
bottom - 1405

Sample Results

Benzene (ppm) 570

Total BTEX (ppm) 11.73

Field headspace (ppm) _____

TPH 720 Method FO15

Vertical Extent (ft) > 16' Risk Assessment form attached Yes No

Ground Water Sample: Yes No (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND MY BELIEF

DATE 6-20-98
SIGNATURE Ray Haston

PRINTED NAME AND TITLE Denver-Bearden Ray Haston
Administrator III Env. Tech III

Excavation Work Sheet

Date		Vertical Extent			
6-18-98 @ 0715		16'			
Well Name	Operator	S	T	R	UI
Blanco Wash Drip	Williams	31	27N	8W	J
Pit Dimensions at Start		Excavation Dimensions at End			
19' X 18' X 3'		32'(N+S) X 20'(E+W) X 16'(D)			
Excavated Cu. Yds.	Overburden Cu. Yds.	Spoil Cu. Yds.			
379.25	0	379.25			

32 X 20 X
10240
27

PIT PID READINGS						
Feet	Center	Soil Type	N. Wall	S. Wall	E. Wall	W. Wall
3'	1522	sand	2.2			186
6'	226	sand/silt	690		703	690
9'		sand/silt			267	
12'	1038	sand/silt	429		450	322
15'	871	sand/silt	87	778		
18 1/2'	592	sand/silt		307	431	99
21'						

Composite Sample #: Bottom 9806181405 Walls 9806181425		
Location	Depth	PID Reading
North Wall	15'	46
South Wall	14'	148
East Wall	15'	230
West Wall	15'	32
Pit Bottom	16'	244

Land Farm Location: Pipe line right of way south of pit (across road) and on Block B⁵ (J) 31-27N-8W Cross Timbers

Back Fill Location: N/A

Comments: Pit was not from the start the north and east walls cleaned up well - the south and west walls were bordered by a road (south) and a main transmission line (west). There was no more room to the north + east because of end of right of way and dry washes



ANALYTICAL REPORT

Date: 24-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9806076	Client Sample ID:	9806181405; Bottom
Lab ID:	9806076-01A	Matrix:	SOIL
Project:	Blanco Wash Drip	Collection Date:	6/18/98 2:05:00 PM
		COC Record:	5241

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	720	25		mg/Kg	1	6/24/98
BTEX		SW8020A				Analyst: HR
Benzene	510	100		µg/Kg	100	6/19/98
Toluene	720	200		µg/Kg	100	6/19/98
Ethylbenzene	1300	100		µg/Kg	100	6/19/98
m,p-Xylene	7500	200		µg/Kg	100	6/19/98
o-Xylene	1700	100		µg/Kg	100	6/19/98

11.730

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



ANALYTICAL REPORT

Date: 24-Jun-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9806076	Client Sample ID:	9806181425; Walls
Lab ID:	9806076-02A	Matrix:	SOIL
Project:	Blanco Wash Drip	Collection Date:	6/18/98 2:25:00 PM
		COC Record:	5241

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS						
		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	1100	25		mg/Kg	1	6/24/98
BTEX						Analyst: HR
		SW8020A				
Benzene	ND	100		µg/Kg	100	6/19/98
Toluene	ND	200		µg/Kg	100	6/19/98
Ethylbenzene	1200	100		µg/Kg	100	6/19/98
m,p-Xylene	5700	200		µg/Kg	100	6/19/98
o-Xylene	2500	100		µg/Kg	100	6/19/98
	<u>9400</u>					

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip LF
Work Order:	9807058	Client Sample ID:	9807200930: 6pt. Comp.
Lab ID:	9807058-02A	Matrix:	SOIL
Project:	PNM Pit Remediation	Collection Date:	7/20/98 9:30:00 AM
		COC Record:	7389

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	440	25		mg/Kg	1	7/23/98

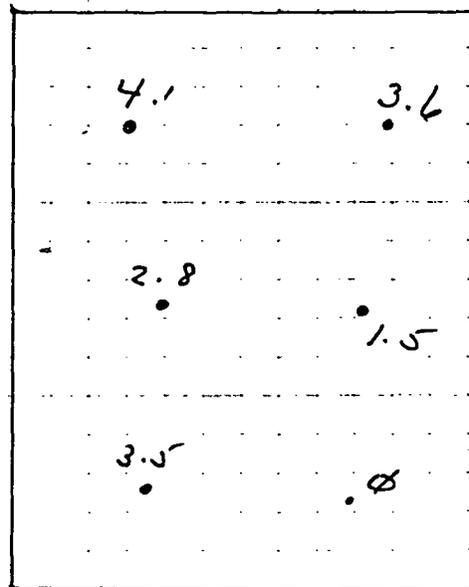
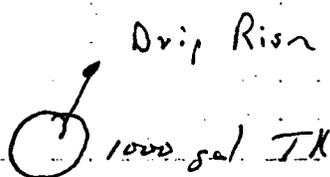
Qualifiers:

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

Blanco Wash Drip
WFS
Sec 31, 27N, 8W, T

7/20/98

Land farm: On location



9807200930

180 yards
2"-12" depth

soil vapor head space = 12.1 ppm

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 28-Jul-98

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip LF
Work Order:	9807058	Client Sample ID:	9807201000; 6pt. Comp.
Lab ID:	9807058-03A	Matrix:	SOIL
Project:	PNM Pit Remediation	Collection Date:	7/20/98 10:00:00 AM
		COC Record:	7389

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C10-C28	680	25		mg/Kg	1	7/23/98

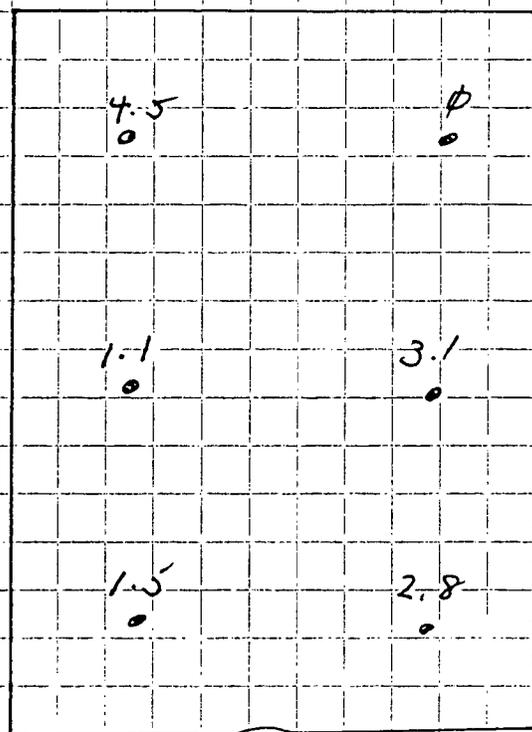
Qualifiers:

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

Blanco Wash Drip
WFS
Sec. 31, 27N, 8W, T

7/20/98

Land Farm: Bolack B #5
Cross Timbers
Sec. 31, 27N, 8W, T



9807201000
200 yards
2"-12" depth

Soil vapor headspace = 5.0 ppm

EXHIBIT B

Hydrogeological Documents
Blanco Wash Drip

MONITORING WELL INSTALLATION RECORD

Philip Services Corporation
 4000 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

Borehole # 2
 Well # 1
 Page 1 of 1

Project Name PNM Vertical Extent
 Project Number 20731 Phase 6002
 Project Location BLANCO WASH DRIP

Elevation _____
 Well Location L: J S: 31 T: 27N R: 8W
 GWL Depth _____
 Installed By K. Padilla

On-Site Geologist Cecil Irby
 Personnel On-Site K. Padilla, A. Werito
 Contractors On-Site _____
 Client Personnel On-Site G. Cook

Date/Time Started 4/12/99
 Date/Time Completed 4/12/99

Depths in Reference to Ground Surface			Diagram		
Item	Material	Depth (feet)			
Top of Protective Casing	4"x5" WELL PROT.	+4'		Top of Protective Casing	-4'
Bottom of Protective Casing	4"x5" WELL PROT.	1'		Top of Riser	-3'
Top of Permanent Borehole Casing	2" PVC	+3'		Ground Surface	0
Bottom of Permanent Borehole Casing	2" PVC	25'			
Top of Concrete	READY MIX	0			
Bottom of Concrete	READY MIX	2'			
Top of Grout	HOLE PLUG	2'			
Bottom of Grout	HOLE PLUG	16'			
Top of Well Riser	2" PVC	+3'			
Bottom of Well Riser	2" PVC	10'			
Top of Well Screen	2" PVC	10'			
Bottom of Well Screen	2" PVC	25'			
Top of Peltonite Seal	HOLE PLUG	6'		Top of Seal	6'
Bottom of Peltonite Seal	HOLE PLUG	8'		Top of Gravel Pack	8'
Top of Gravel Pack	10-20 SILICA SAND	8'		Top of Screen	10'
Bottom of Gravel Pack	10-20 SILICA SAND	25'			
Top of Natural Cave-In					
Bottom of Natural Cave-In					
Top of Groundwater				Bottom of Screen	25'
Total Depth of Borehole		25'		Bottom of Borehole	25'

Comments: _____

Geologist Signature Cecil Irby

RECORD OF SUBSURFACE EVALUATION

Philip Services Corporation

4000 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

MW-1

Borehole # 2
 Well # 1
 Page 1 of 1

Project Name PNM Vertical Extent
 Project Number 20731 Phase 6003
 Project Location Blanco Wash Drip

Elevation _____
 Borehole Location L: J S: 31 T: 27N R: 8W
 GWL Depth 12.5
 Logged By C. Irby
 Drilled By K. Padilla
 Date Started 4-6-99
 Date Completed 4-6-99

On-Site Geologist C. Irby
 Personnel On-Site K. Padilla, D. Padilla
 Contractors On-Site Philip Services Corporation
 Client Personnel On-Site G. Cook
 Drilling Method 4 1/4 ID HSA
 Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	SH	S	
0				Drill to 10' Sample every 5' From wash-drip UF - 1/2" tan Sand, unconsolidated Tan sandstone, etc.						9.39 44
10	1	13"		Tan sand above						50% 54/0 49/0
15	2	7"		Tan sand above UF - 1/2" tan Sand, unconsolidated Tan sandstone, etc.						50% 54/0 49/0
20										10.39 44
25										
30										
35										
40										

Comments:

Geologist Signature C. Irby

MONITORING WELL INSTALLATION RECORD

Phillip Environmental Services Corp.
 4000 Marroc Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

Borehole # 1
 Well # 1
 Page 1 of 1

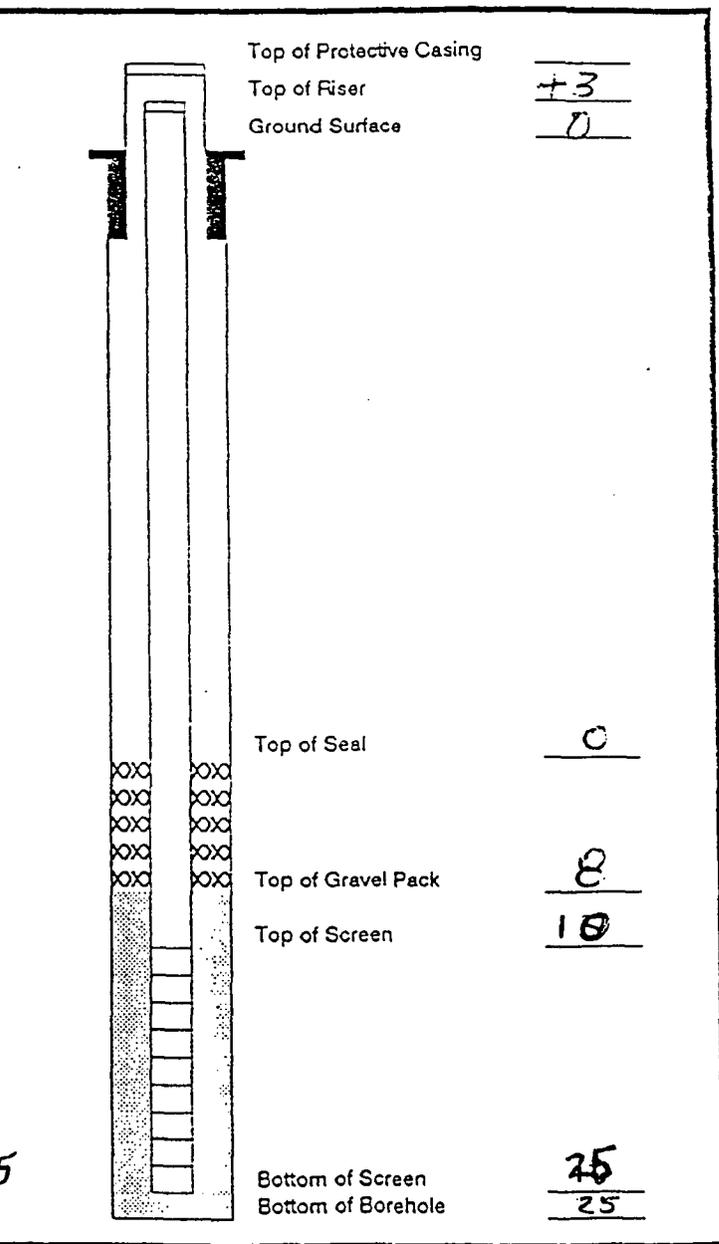
Project Name PNM VERTICAL EXTENT

Project Number 20731 Phase 0001.77
 Project Location BIANCO WASH DRI

On-Site Geologist H BRADBURY
 Personnel On-Site K PADILLA, D Padilla, WEE
 Contractors On-Site _____
 Client Personnel On-Site GARY COOK

Elevation _____
 Well Location _____
 GWL Depth _____
 Installed By K PADILLA
H BRADBURY
 Date/Time Started 2/2/99 1100hrs.
 Date/Time Completed _____

Depths in Reference to Ground Surface		
Item	Material	Depth
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		0
Top of Grout		
Bottom of Grout		
Top of Well Riser		0
Bottom of Well Riser		10
Top of Well Screen	2" PVC	10'
Bottom of Well Screen	2" PVC	25'
Top of Peltonite Seal		0'
Bottom of Peltonite Seal		8'
Top of Gravel Pack		8'
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		19.65
Total Depth of Borehole		25'



Top of Protective Casing _____
 Top of Riser +3
 Ground Surface 0
 Top of Seal 0
 Top of Gravel Pack 8
 Top of Screen 10
 Bottom of Screen 25
 Bottom of Borehole 25

Comments: _____

Geologist Signature Holly Bradbury

RECORD OF SUBSURFACE EXPLORATION

PHILIP SERVICES CORP.

4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH- 1
Well # _____
Page 1 of 1

Project Number 20731 Phase 6001.77
Project Name PNM Vertical Extent
Project Location BIANCO WASH DRIP

Source well (MIU-2)

Elevation _____
Borehole Location LTR: J S. 31 T: 27 R: 8
GWL Depth _____
Drilled By K. PADILLA
Well Logged By H. BRADBURY
Date Started 2/2/99
Date Completed 2/2/99

Drilling Method 4 1/4 ID HSA
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	S/HS	
0										BZ=Breathing Zone BH=Borehole S/HS=Sample/Headspace
5										
10										
15				EXCAVATION SAMPLE COLLECTED AT 16'						
20	1	20-21		CLAY LAYER UPPER 2" LT BR SAND, FINE SAND LOOSE, WET			.1	51	5/7	1036 hrs
25	2									hrs
30										
35										
40										

A 8.2

Comments: HIT GW at 18' bgs SET WELL NO SAMPLE COLLECTED AS PER CLIENT REQUEST

Geologist Signature Holly Bradbury

MONITORING WELL INSTALLATION RECORD

Philip Services Corporation
 4000 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

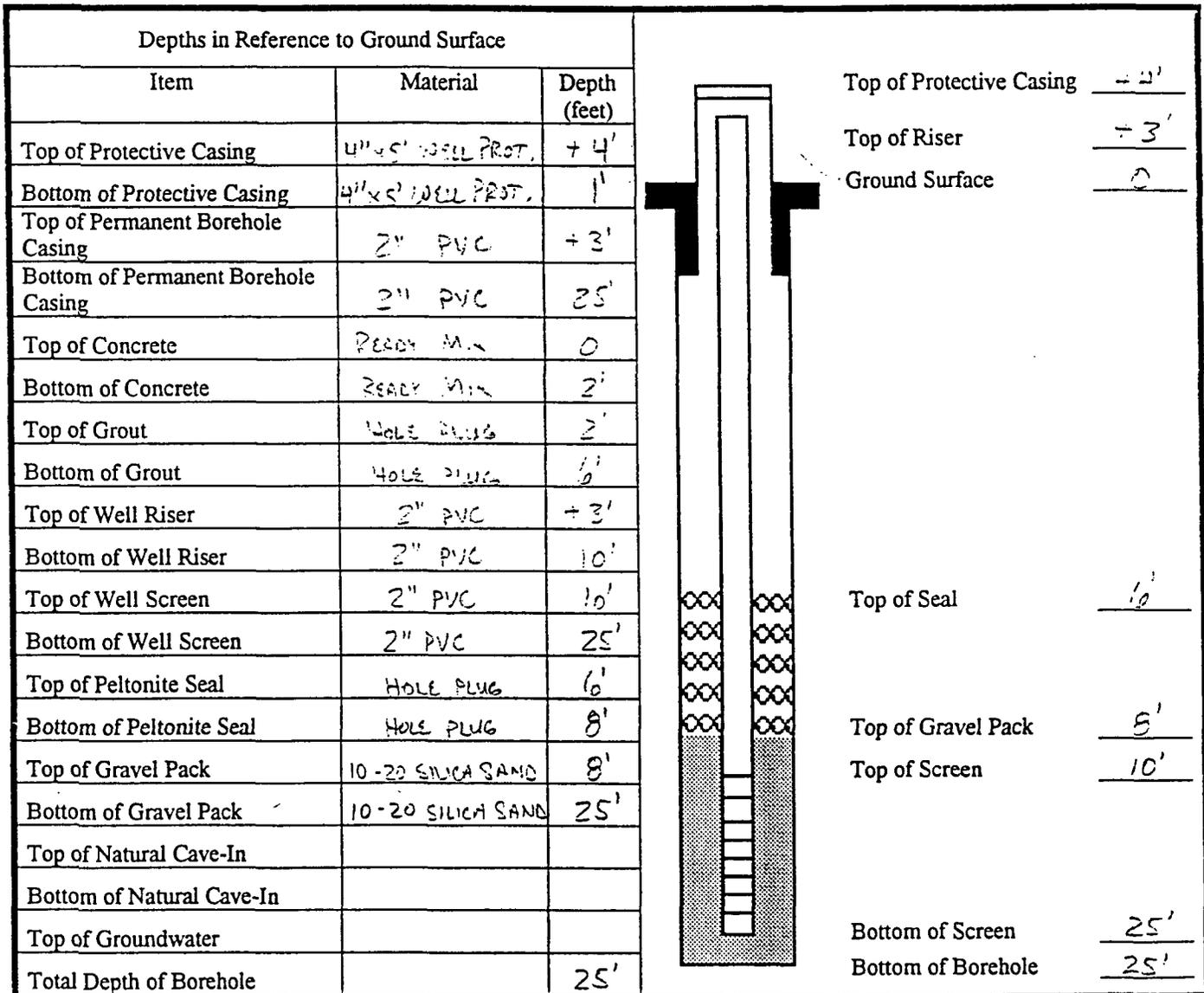
MW-3
 Borehole # 3
 Well # 3
 Page 1 of 1

Project Name PNM Vertical Extent
 Project Number 20731 Phase 6002
 Project Location Blanco Wash Drip

Elevation _____
 Well Location L: J S: 31 T: 27N R: 8W
 GWL Depth _____
 Installed By K. Padilla

On-Site Geologist Cecil Irby
 Personnel On-Site K. Padilla, A. Werito
 Contractors On-Site _____
 Client Personnel On-Site G. Cook

Date/Time Started 4/6/99
 Date/Time Completed 4/6/99



Comments: _____

Geologist Signature Cecil Irby

RECORD OF SUBSURFACE F ORATION

11W-2

Philip Services Corporation

4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # 3
Well # 3
Page 1 of 1

Project Name PNM Vertical Extent
Project Number 20731 Phase 6003
Project Location Blanco Wash Drip

Elevation _____
Borehole Location L: J S: 31 T: 27N R: 8W
GWL Depth _____
Logged By C. Irby
Drilled By K. Padilla
Date Started 4-6-99
Date Completed 4-6-99

On-Site Geologist C. Irby
Personnel On-Site K. Padilla, D. Padilla
Contractors On-Site Pym / G. Cook
Client Personnel On-Site G. Cook
Drilling Method 4 1/4 ID HSA
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	9H	S	
0				Begin sampling 2' 0" & sample every 5' per Gary Cook instructions			0			BC = 3 SS = 0 HS = Head Space 25 3.5m 11:11 AM
5										
10				Tan F - 1/3 Disconsolidated sands						BC = 3 SS / 0
15				Tan F - midgen Unconsolidated Siltstone / Disconsolidated sands						BC = 8 SS / MA
20										
25										
30										
35										
40										

Comments:

Geologist Signature

C. Irby

MONITORING WELL INSTAL. ON RECORD

Philip Services Corporation
 4000 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

MW-4
 Borehole # 4
 Well # 4
 Page 2 of 2

Project Name PNM Vertical Extent
 Project Number 20731 Phase 6002
 Project Location Blanco Wash Drip

Elevation _____
 Well Location L: J S: 31 T: 27N R: 8W
 GWL Depth _____
 Installed By K. Padilla

On-Site Geologist Cecil Irby
 Personnel On-Site K. Padilla, A. Werito
 Contractors On-Site _____
 Client Personnel On-Site G. Cook

Date/Time Started 4/6/99
 Date/Time Completed 4/6/99

Depths in Reference to Ground Surface			Diagram		
Item	Material	Depth (feet)			
Top of Protective Casing	4" x 5" WELL PROT.	+4'		Top of Protective Casing	+4'
Bottom of Protective Casing	4" x 5" WELL PROT.	1'		Top of Riser	+3'
Top of Permanent Borehole Casing	2" PVC	+3'		Ground Surface	0
Bottom of Permanent Borehole Casing	2" PVC	25'			
Top of Concrete	READY MIX	0			
Bottom of Concrete	READY MIX	2'			
Top of Grout	HOLE PLUG	2'			
Bottom of Grout	HOLE PLUG	6'			
Top of Well Riser	2" PVC	+3'			
Bottom of Well Riser	2" PVC	10'			
Top of Well Screen	2" PVC	10'			
Bottom of Well Screen	2" PVC	25'			
Top of Peltonite Seal	HOLE PLUG	6'		Top of Seal	12'
Bottom of Peltonite Seal	HOLE PLUG	8'		Top of Gravel Pack	8'
Top of Gravel Pack	10-20 SILICA SAND	8'		Top of Screen	10'
Bottom of Gravel Pack	10-20 SILICA SAND	25'			
Top of Natural Cave-In					
Bottom of Natural Cave-In					
Top of Groundwater				Bottom of Screen	25'
Total Depth of Borehole		25'		Bottom of Borehole	25'

Comments: _____

Geologist Signature Cecil Irby

RECORD OF SUBSURFACE EXPLORATION

Philip Services Corporation

4000 Monroe Road
 Farmington, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

Borehole # 4
 Well # 4
 Page 1 of 2

Project Name PNM Vertical Extent
 Project Number 20731 Phase 6003
 Project Location Well #2 Rincón Wash Drift

Elevation _____
 Borehole Location L: J S: 6 T: 30N R: 8W
 GWL Depth _____
 Logged By C. Irby
 Drilled By K. Padilla
 Date Started 4-6-99
 Date Completed 4-6-99

On-Site Geologist C. Irby
 Personnel On-Site K. Padilla, D. Padilla
 Contractors On-Site PNM IW Services
 Client Personnel On-Site G. Cook
 Drilling Method 4 1/4 ID HSA
 Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	SH	S	
0				Begin sampling of Intervals 5' Per Gary Cook						Begin 12:24 BC - 2 SS 1 HSA Head 5000
5										
10		19"		VF-R Sand						BC - 8 SS 1
15		10"		12' As Above then 2' coarse sand clay (high fines) then 2' med sand unconsolidated & somewhat sand						BC - 6 SS 1 0.5 Finish 12:47
20										
25										
30										
35										
40										

Comments:

Geologist Signature C. Irby

Figure 2. Blanco Wash Drip
 Hydrograph for Period Q2/1999 - Q2/2001
 (Elevation vs. Time)

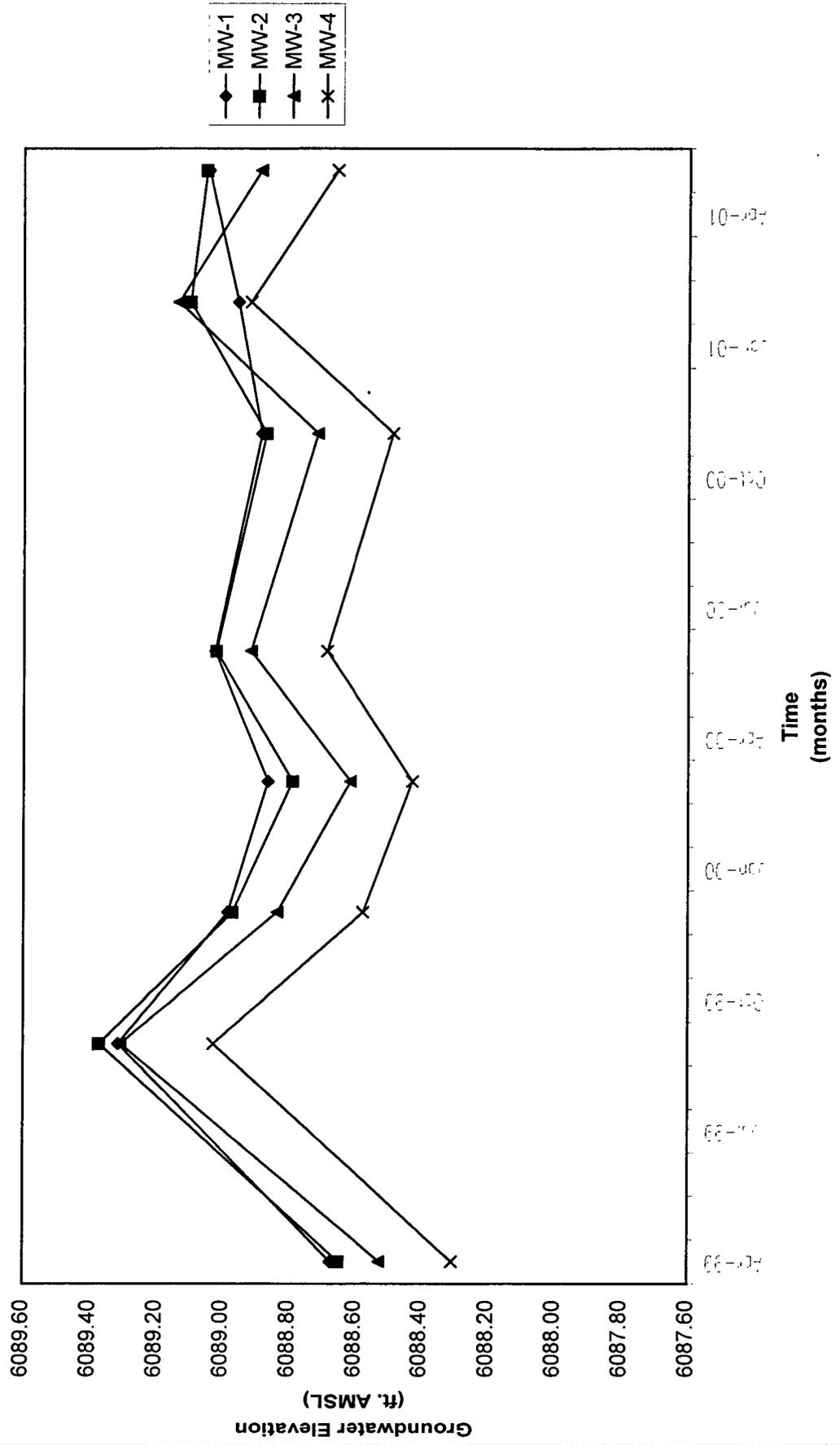


Figure 3.
Blanco Wash Drip -
Groundwater Contour Map
(April 28, 1999)

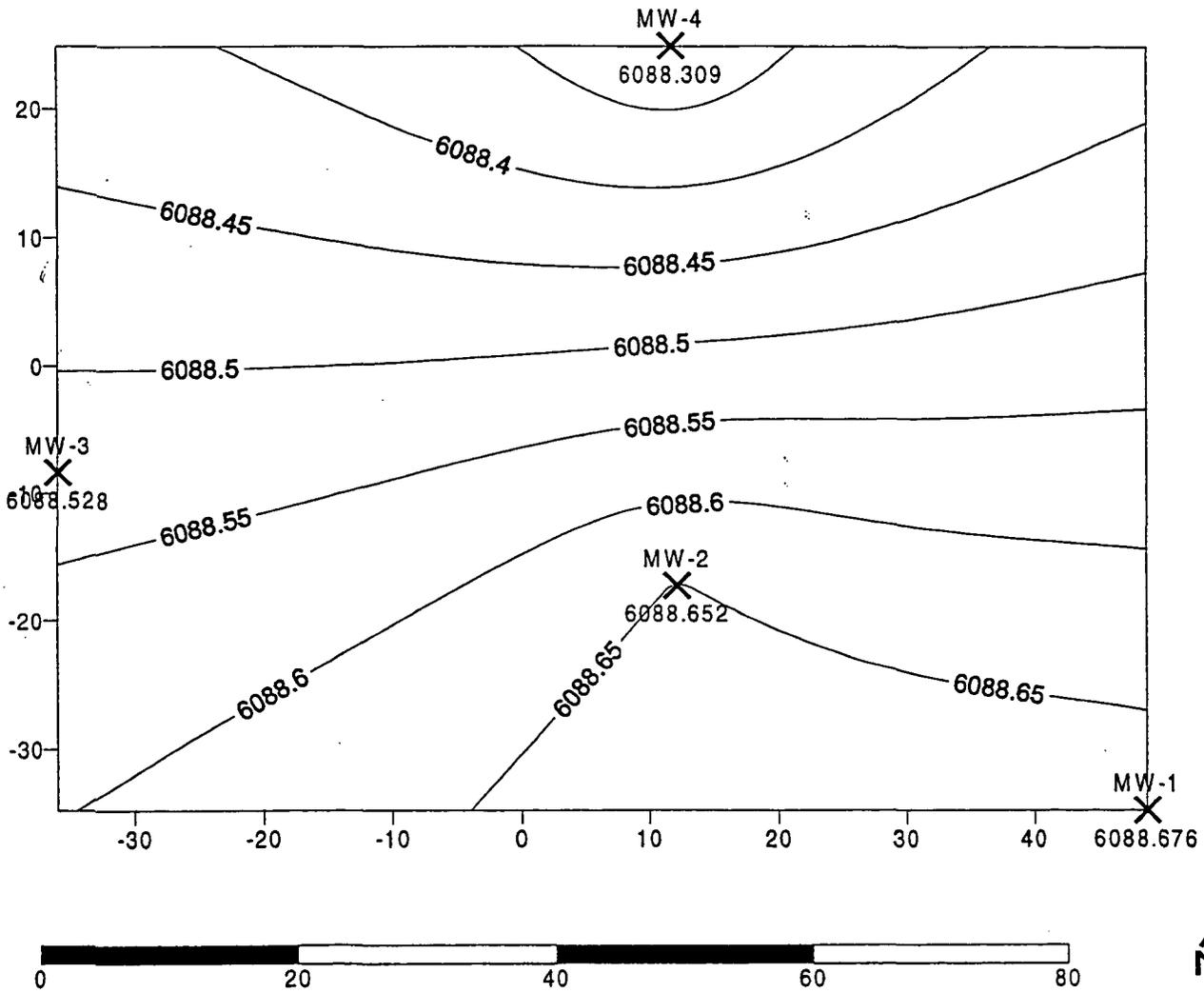


Figure 4.
Blanco Wash Drip
Groundwater Contour Map
(September 28, 1999)

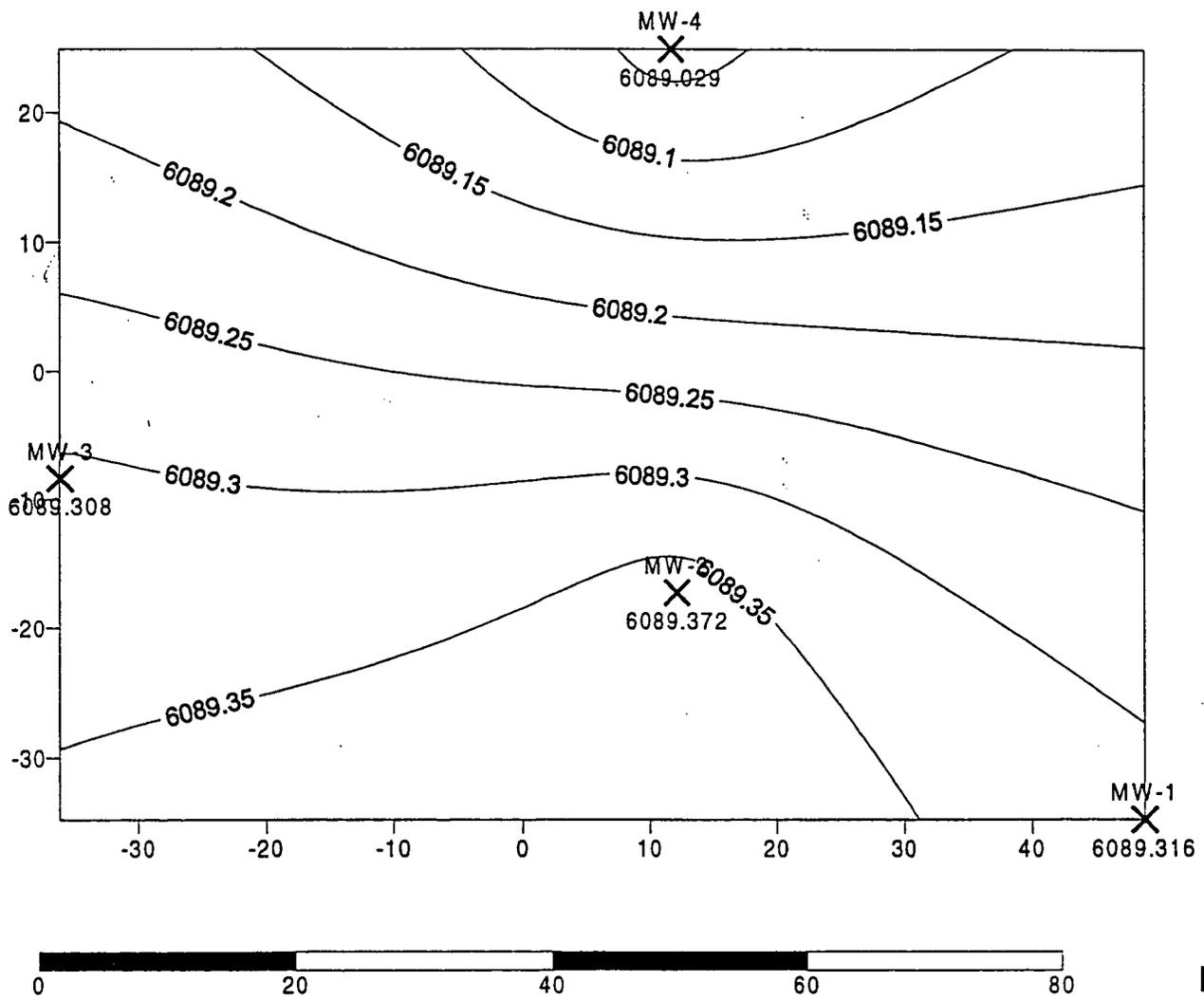


Figure 5.
Blanco Wash Drip
Groundwater Contour Map
(December 6, 1999)

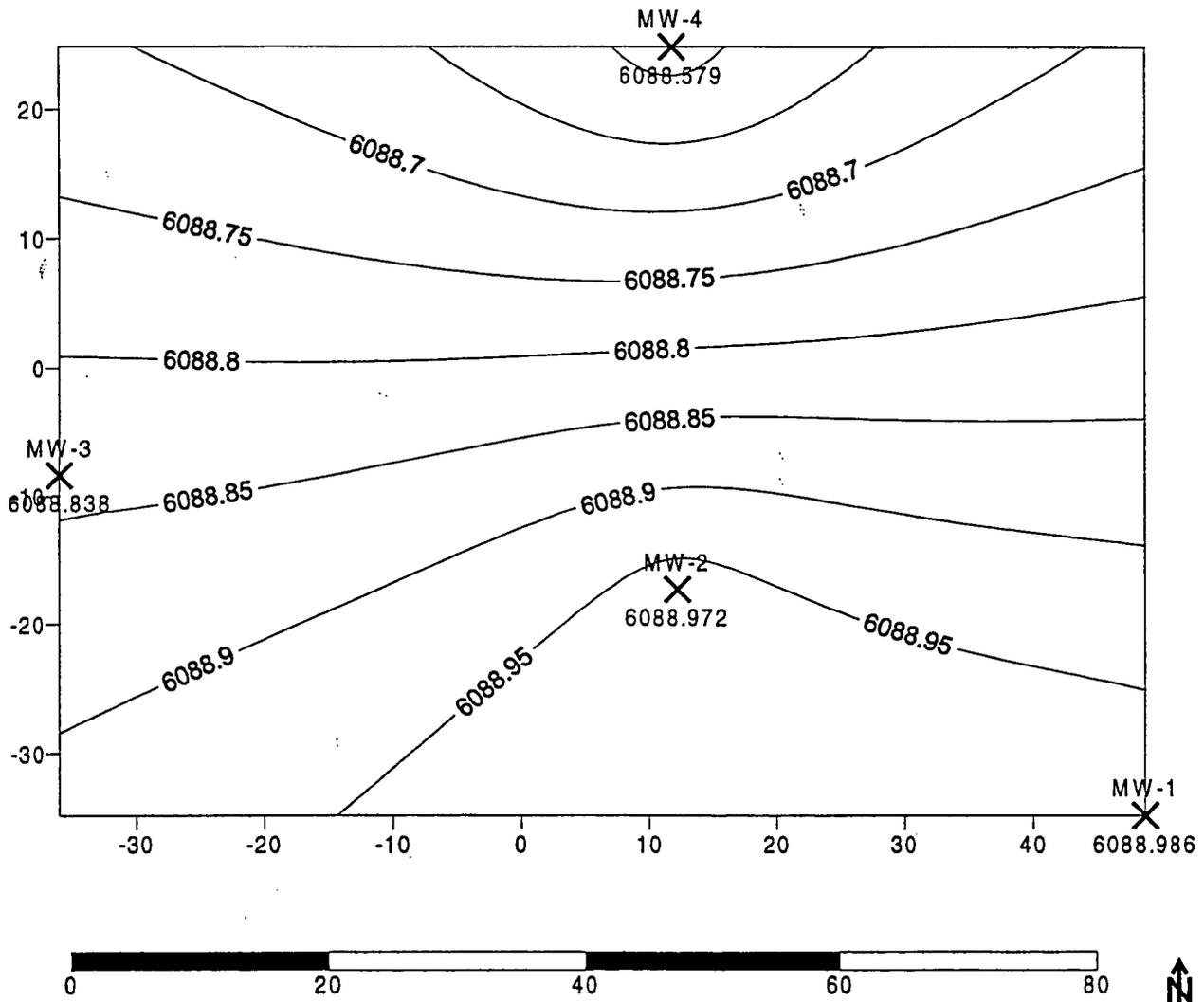


EXHIBIT C

Analytical Data
Blanco Wash Drip

Analytical Data Summary

Site Name:
Blanco Wash Drip

Reporting Period:
4/1/99 To 4/1/02

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-1						
	4/28/99	9904281250	<0.5	<0.5	<0.5	<1.5
	9/28/99	9909281240	<0.5	<0.5	<0.5	<1.5
	12/6/99	9912060940	<0.5	0.8	<0.5	<1.5
	3/17/00	0003170955	<0.5	<0.5	<0.5	<1.5
	5/1/01	103201MAY01	<1	<1	<1	<1
	3/25/02	100925MAR02	<2.0	<2.0	<2.0	<5.0
MW-2						
	4/28/99	9904281320	110	93	9.2	72
	9/28/99	9909281350	37	8.2	4.2	15.4
	12/6/99	9912061112	63	97	9.4	74
	3/17/00	0003171012	12	10	2.9	19.3
	6/7/00	0006071030	19	4.3	3.7	25
	11/22/00	095222NOV00	<1	<1	<1	<1
	2/22/01	165022FEB01	<1	<1	<1	<1
	5/1/01	104001MAY01	<1	<1	<1	<1
	3/25/02	103025MAR02	<2.0	<2.0	<2.0	<5.0
MW-3						
	4/28/99	9904281340	<0.5	<0.5	<0.5	<1.5
	9/28/99	9909281300	<0.5	<0.5	<0.5	<1.5
	12/6/99	9912061030	<0.5	0.8	<0.5	1.2
	3/17/00	0003171036	<0.5	<0.5	<0.5	<1.5
	5/1/01	105101MAY01	<1	<1	<1	<1
	3/25/02	101525MAR02	<2.0	<2.0	<2.0	<5.0
MW-4						
	4/28/99	9904281400	<0.5	<0.5	1.6	3.8
	9/28/99	9909281325	<0.5	<0.5	<0.5	<1.5
	12/6/99	9912061000	0.8	0.9	3.2	4.1
	3/17/00	0003171051	1.1	<0.5	4.1	6.5
	5/1/01	110401MAY01	<1	<1	<1	2.42
	3/25/02	102225MAR02	<2.0	<2.0	<2.0	<5.0

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9905002	Client Sample ID:	9904281250; MW-1
Lab ID:	9905002-01A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	4/28/99 12:50:00 PM
		COC Record:	7536

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DC
Benzene	ND	0.5		µg/L	1	5/7/99
Toluene	ND	0.5		µg/L	1	5/7/99
Ethylbenzene	ND	0.5		µg/L	1	5/7/99
m,p-Xylene	ND	1		µg/L	1	5/7/99
o-Xylene	ND	0.5		µg/L	1	5/7/99

Qualifiers:

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9905002	Client Sample ID:	9904281320; MW-2
Lab ID:	9905002-02A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	4/28/99 1:20:00 PM
		COC Record:	7536

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DC	
Benzene	110	0.5		µg/L	1	5/7/99
Toluene	93	0.5		µg/L	1	5/7/99
Ethylbenzene	9.2	0.5		µg/L	1	5/7/99
m,p-Xylene	57	1		µg/L	1	5/7/99
o-Xylene	15	0.5		µg/L	1	5/7/99

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

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



ANALYTICAL REPORT

Date: 23-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9905002	Client Sample ID:	9904281320; MW-2
Lab ID:	9905002-02C	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	4/28/99 1:20:00 PM
		COC Record:	7536

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
CALCIUM, DISSOLVED		E215.1				Analyst: HR
Calcium	1.35	0.25		mg/L	1	5/13/99
POTASSIUM, DISSOLVED		E258.1				Analyst: HR
Potassium	2.23	0.25		mg/L	1	5/12/99
MAGNESIUM, DISSOLVED		E242.1				Analyst: HR
Magnesium	ND	0.25		mg/L	1	5/13/99
SODIUM, DISSOLVED		E273.1				Analyst: HR
Sodium	276	31		mg/L	125	5/12/99
ALKALINITY, TOTAL		M2320 B				Analyst: HR
Alkalinity, Bicarbonate (As CaCO3)	460	5		mg/L CaCO3	1	5/17/99
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	5/17/99
Alkalinity, Hydroxide	ND	5		mg/L CaCO3	1	5/17/99
Alkalinity, Total (As CaCO3)	460	5		mg/L CaCO3	1	5/17/99
CHLORIDE		E325.3				Analyst: HR
Chloride	5	1		mg/L	1	5/3/99
CONDUCTIVITY @ 25C		E120.1				Analyst: HR
Specific Conductance	1120	2		uS/cm	1	5/3/99
HARDNESS, TOTAL		M2340 B				Analyst: HR
Hardness (As CaCO3)	4	1		mg/L	1	5/13/99
PH		E150.1				Analyst: HR
pH	7.95	2		pH units	1	5/3/99
SULFATE		M4500-SO4 D				Analyst: HR
Sulfate	180	8		mg/L	1	5/4/99
TOTAL DISSOLVED SOLIDS		E160.1				Analyst: DM
Total Dissolved Solids (Residue, Filterable)	890	40		mg/L	1	5/24/99
TOTAL DISSOLVED SOLIDS		CALC				Analyst: HR
Total Dissolved Solids (Calculated)	930	40		mg/L	1	5/13/99

Qualifiers:

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9905002	Client Sample ID:	9904281340; MW-3
Lab ID:	9905002-03A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	4/28/99 1:40:00 PM
		COC Record:	7536

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DC	
Benzene	ND	0.5		µg/L	1	5/7/99
Toluene	ND	0.5		µg/L	1	5/7/99
Ethylbenzene	ND	0.5		µg/L	1	5/7/99
m,p-Xylene	ND	1		µg/L	1	5/7/99
o-Xylene	ND	0.5		µg/L	1	5/7/99

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 23-Jun-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9905002	Client Sample ID:	9904281400; MW-4
Lab ID:	9905002-04A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	4/28/99 2:00:00 PM
		COC Record:	7536

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	5/7/99
Toluene	ND	0.5		µg/L	1	5/7/99
Ethylbenzene	1.6	0.5		µg/L	1	5/7/99
m,p-Xylene	3.8	1		µg/L	1	5/7/99
o-Xylene	ND	0.5		µg/L	1	5/7/99

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Oct-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9909080	Client Sample ID:	9909281240; MW-1
Lab ID:	9909080-01A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	09/28/1999 12:40:00 PM
		COC Record:	7826

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	09/30/1999
Toluene	ND	0.5		µg/L	1	09/30/1999
Ethylbenzene	ND	0.5		µg/L	1	09/30/1999
m,p-Xylene	ND	1		µg/L	1	09/30/1999
o-Xylene	ND	0.5		µg/L	1	09/30/1999

Qualifiers:

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

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ANALYTICAL REPORT

Date: 13-Oct-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9909080	Client Sample ID:	9909281350; MW-2
Lab ID:	9909080-02A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	09/28/1999 1:50:00 PM
		COC Record:	7826

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	37	0.5		µg/L	1	09/30/1999
Toluene	8.2	0.5		µg/L	1	09/30/1999
Ethylbenzene	4.2	0.5		µg/L	1	09/30/1999
m,p-Xylene	14	1		µg/L	1	09/30/1999
o-Xylene	1.4	0.5		µg/L	1	09/30/1999

Qualifiers:

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

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ANALYTICAL REPORT

Date: 13-Oct-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9909080	Client Sample ID:	9909281300; MW-3
Lab ID:	9909080-03A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	09/28/1999 1:00:00 PM
		COC Record:	7826

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DM	
Benzene	ND	0.5		µg/L	1	09/30/1999
Toluene	ND	0.5		µg/L	1	09/30/1999
Ethylbenzene	ND	0.5		µg/L	1	09/30/1999
m,p-Xylene	ND	1		µg/L	1	09/30/1999
o-Xylene	ND	0.5		µg/L	1	09/30/1999

Qualifiers:

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

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 13-Oct-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9909080	Client Sample ID:	9909281325; MW-4
Lab ID:	9909080-04A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	09/28/1999 1:25:00 PM
		COC Record:	7826

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DM	
Benzene	ND	0.5		µg/L	1	09/30/1999
Toluene	ND	0.5		µg/L	1	09/30/1999
Ethylbenzene	ND	0.5		µg/L	1	09/30/1999
m,p-Xylene	ND	1		µg/L	1	09/30/1999
o-Xylene	ND	0.5		µg/L	1	09/30/1999

Qualifiers:

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

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TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT

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LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Dec-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9912009	Client Sample ID:	9912060940; MW-1
Lab ID:	9912009-01A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	12/6/1999 9:40:00 AM
		COC Record:	7744

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/15/1999
Toluene	0.8	0.5		µg/L	1	12/15/1999
Ethylbenzene	ND	0.5		µg/L	1	12/15/1999
m,p-Xylene	ND	1		µg/L	1	12/15/1999
o-Xylene	ND	0.5		µg/L	1	12/15/1999

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

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OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Dec-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9912009	Client Sample ID:	9912061112; MW-2
Lab ID:	9912009-04A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	12/6/1999 11:12:00 AM
		COC Record:	7744

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DM	
Benzene	63	0.5		µg/L	1	12/15/1999
Toluene	97	0.5		µg/L	1	12/15/1999
Ethylbenzene	9.4	0.5		µg/L	1	12/15/1999
m,p-Xylene	60	1		µg/L	1	12/15/1999
o-Xylene	14	0.5		µg/L	1	12/15/1999

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

1 of 1

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Dec-99

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	9912009	Client Sample ID:	9912061030; MW-3
Lab ID:	9912009-03A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	12/6/1999 10:30:00 AM
		COC Record:	7744

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	12/15/1999
Toluene	0.8	0.5		µg/L	1	12/15/1999
Ethylbenzene	ND	0.5		µg/L	1	12/15/1999
m,p-Xylene	1.2	1		µg/L	1	12/15/1999
o-Xylene	ND	0.5		µg/L	1	12/15/1999

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 22-Dec-99

Client: PNM - Public Service Company of NM	Client Sample Info: Blanco Wash Drip
Work Order: 9912009	Client Sample ID: 9912061000; MW-4
Lab ID: 9912009-02A Matrix: AQUEOUS	Collection Date: 12/6/1999 10:00:00 AM
Project: Blanco Wash Drip	COC Record: 7744

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DM	
Benzene	0.8	0.5		µg/L	1	12/15/1999
Toluene	0.9	0.5		µg/L	1	12/15/1999
Ethylbenzene	3.2	0.5		µg/L	1	12/15/1999
m,p-Xylene	4.1	1		µg/L	1	12/15/1999
o-Xylene	ND	0.5		µg/L	1	12/15/1999

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

TECHNOLOGY SERVING INDUSTRY AND THE ENVIRONMENT

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 27-Mar-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	0003031	Client Sample ID:	0003170955; MW 1
Lab ID:	0003031-01A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	3/17/2000 9:55:00 AM
		COC Record:	7665

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: DM	
Benzene	ND	0.5		µg/L	1	3/22/2000
Toluene	ND	0.5		µg/L	1	3/22/2000
Ethylbenzene	ND	0.5		µg/L	1	3/22/2000
m,p-Xylene	ND	1		µg/L	1	3/22/2000
o-Xylene	ND	0.5		µg/L	1	3/22/2000

Qualifiers:

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 27-Mar-00

Client: PNM - Public Service Company of NM	Client Sample Info: Blanco Wash Drip
Work Order: 0003031	Client Sample ID: 0003171012; MW 2
Lab ID: 0003031-02A Matrix: AQUEOUS	Collection Date: 3/17/2000, 10:12:00 AM
Project: Blanco Wash Drip	COC Record: 7665

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
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AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	12	0.5		µg/L	1	3/22/2000
Toluene	10	0.5		µg/L	1	3/22/2000
Ethylbenzene	2.9	0.5		µg/L	1	3/22/2000
m,p-Xylene	15	1		µg/L	1	3/22/2000
o-Xylene	4.3	0.5		µg/L	1	3/22/2000

Qualifiers:

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 27-Mar-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	0003031	Client Sample ID:	0003171036; MW 3
Lab ID:	0003031-03A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	3/17/2000 10:36:00 AM
		COC Record:	7665

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	3/22/2000
Toluene	ND	0.5		µg/L	1	3/22/2000
Ethylbenzene	ND	0.5		µg/L	1	3/22/2000
m,p-Xylene	ND	1		µg/L	1	3/22/2000
o-Xylene	ND	0.5		µg/L	1	3/22/2000

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

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 27-Mar-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	0003031	Client Sample ID:	0003171051; MW 4
Lab ID:	0003031-04A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	3/17/2000 10:51:00 AM
		COC Record:	7665

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	1.1	0.5		µg/L	1	3/22/2000
Toluene	ND	0.5		µg/L	1	3/22/2000
Ethylbenzene	4.1	0.5		µg/L	1	3/22/2000
m,p-Xylene	6.5	1		µg/L	1	3/22/2000
o-Xylene	ND	0.5		µg/L	1	3/22/2000

Qualifiers:

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

OFF: (505) 325-5667
FAX: (505) 327-1496



LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 20-Jun-00

Client:	PNM - Public Service Company of NM	Client Sample Info:	Blanco Wash Drip
Work Order:	0006019	Client Sample ID:	0006071030; MW-2
Lab ID:	0006019-01A	Matrix:	AQUEOUS
Project:	Blanco Wash Drip	Collection Date:	6/7/2000 10:30:00 AM
		COC Record:	7887

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	19	0.5		µg/L	1	6/14/2000
Toluene	4.3	0.5		µg/L	1	6/14/2000
Ethylbenzene	3.7	0.5		µg/L	1	6/14/2000
m,p-Xylene	20	1		µg/L	1	6/14/2000
o-Xylene	5	0.5		µg/L	1	6/14/2000

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

QUAL LABORATORIES, N.C.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0011656

SENT WILLIAMS GAS PIPELINE
 TO: 187 COUNTY ROAD # 4980
 BLOOMFIELD, NM 87413
 JIM STRUHS
 PROJECT:WES/BLANCO WASH DRIP

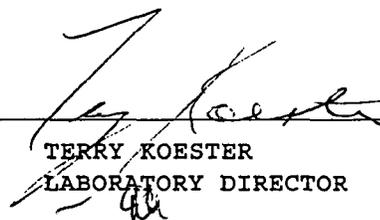
DATE REPORTED: 12/01/00
 DATE COLLECTED: 11/22/00
 DATE RECEIVED: 11/28/00
 P.O. #: JPS-112700-01

Sample ID: BLNC-SAMW2
 Collection Date: 11/22/00 09:52:00

Sample Matrix: WATER

TEST	METHOD-CAS #	RESULT	UNITS	PQL	ANALYZED	EXTRACTED
BTEX	OA1/8021B			3.0		
BENZENE	71-43-2	ND	UG/L	1.0	11/30/00MB	
TOLUENE	108-88-3	ND	UG/L	1.0	11/30/00MB	
ETHYLBENZENE	100-41-4	ND	UG/L	1.0	11/30/00MB	
TOTAL XYLENES	1330-20-7	ND	UG/L	1.0	11/30/00MB	
BFB (SURROGATE)	-	92	125	75		

ND=NONE DETECTED
 PQL=PRACTICAL QUANTITATION LIMIT
 SU=STANDARD UNITS
 *BACKGROUND CONTAMINATION
 SUR=SURROGATE
 Q=OUTSIDE LIMITS
 B=DETECTED IN METHOD BLANK

APPROVED BY: 
 TERRY KOESTER
 LABORATORY DIRECTOR

QUAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT: REFERENCE #: 0102613

SENT WILLIAMS GAS PIPELINE DATE REPORTED: 02/27/01
 TO: 187 COUNTY ROAD # 4980 DATE COLLECTED: 02/22/01
 BLOOMFIELD, NM 87413 DATE RECEIVED: 02/24/01
 JIM STRUHS P.O. #: SWA-022301-02
 PROJECT: WES/BLANCO WASH DRIP

Sample ID: BLNC-SA-MW2 Sample Matrix: WATER
 Collection Date: 02/22/01 16:50:00

TEST	METHOD-CAS #	RESULT	UNITS	PQL	ANALYZED	EXTRACTED
BTEX	OA1/8021B			3.0		
BENZENE	71-43-2	ND	UG/L	1.0	02/26/01KKL	
TOLUENE	108-88-3	ND	UG/L	1.0	02/26/01KKL	
ETHYLBENZENE	100-41-4	ND	UG/L	1.0	02/26/01KKL	
TOTAL XYLENES	1330-20-7	ND	UG/L	1.0	02/26/01KKL	
BFB (SURROGATE)	-	101	125	75		

ND=NONE DETECTED
 PQL=PRACTICAL QUANTITATION LIMIT
 SU=STANDARD UNITS
 *BACKGROUND CONTAMINATION
 SUR=SURROGATE
 Q=OUTSIDE LIMITS
 B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER
 TERRY KOESTER
 LABORATORY DIRECTOR

Q W L L A B O R A T O R I E I N C.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0105064

SENT WILLIAMS GAS PIPELINE
 TO: 187 COUNTY ROAD #4980
 BLOOMFIELD, NM 87413
 JIM STRUHS

DATE REPORTED: 05/09/01
 DATE COLLECTED: 05/01/01
 DATE RECEIVED: 05/02/01

PROJECT: WES/BLANCO WASH DRIP

Reference Fraction: 0105064-04A

Sample ID: BLNC-UG-MW1

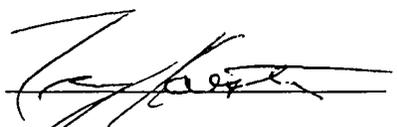
Sample Matrix: WATER

Sample Date Collected: 05/01/01 10:32:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	05/07/01	MB
TOLUENE		ND	UG/L	1.0	05/07/01	MB
ETHYLBENZENE		ND	UG/L	1.0	05/07/01	MB
TOTAL XYLENES		ND	UG/L	1.0	05/07/01	MB
BFB (SURROGATE)		117	125	75		

ND=NONE DETECTED
 PQL=PRACTICAL QUANTITATION LIMIT
 SU=STANDARD UNITS
 B=DETECTED IN METHOD BLANK

APPROVED BY:


 TERRY KOESTER
 LABORATORY DIRECTOR


Q W L L A B O R A T O R I E , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0105064

SENT WILLIAMS GAS PIPELINE
 TO: 187 COUNTY ROAD #4980
 BLOOMFIELD, NM 87413
 JIM STRUHS

DATE REPORTED: 05/09/01
 DATE COLLECTED: 05/01/01
 DATE RECEIVED: 05/02/01

PROJECT: WES/BLANCO WASH DRIP

Reference Fraction: 0105064-03A

Sample ID: BLNC-SA-MW2

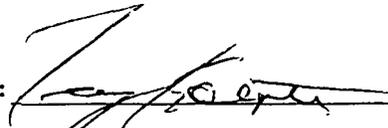
Sample Matrix: WATER

Sample Date Collected: 05/01/01 10:40:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	05/07/01	MB
TOLUENE		ND	UG/L	1.0	05/07/01	MB
ETHYLBENZENE		ND	UG/L	1.0	05/07/01	MB
TOTAL XYLENES		ND	UG/L	1.0	05/07/01	MB
BFB (SURROGATE)		113	125	75		

ND=NONE DETECTED
 PQL=PRACTICAL QUANTITAION LIMIT
 SU=STANDARD UNITS
 B=DETECTED IN METHOD BLANK

APPROVED BY:


 TERRY KOESTER
 LABORATORY DIRECTOR


Q W L L A B O R A T O R I E , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0105064

SENT WILLIAMS GAS PIPELINE
 TO: 187 COUNTY ROAD #4980
 BLOOMFIELD, NM 87413
 JIM STRUHS

DATE REPORTED: 05/09/01
 DATE COLLECTED: 05/01/01
 DATE RECEIVED: 05/02/01

PROJECT: WES/BLANCO WASH DRIP

Reference Fraction:0105064-02A

Sample ID: BLNC-DG-MW3

Sample Matrix: WATER

Sample Date Collected: 05/01/0110:51:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	05/07/01	MB
TOLUENE		ND	UG/L	1.0	05/07/01	MB
ETHYLBENZENE		ND	UG/L	1.0	05/07/01	MB
TOTAL XYLENES		ND	UG/L	1.0	05/07/01	MB
BFB (SURROGATE)		120	125	75		

ND=NONE DETECTED
 PQL=PRACTICAL QUANTITAION LIMIT
 SU=STANDARD UNITS
 B=DETECTED IN METHOD BLANK

APPROVED BY: 
 TERRY KOESTER
 LABORATORY DIRECTOR


Q W L L A B O R A T O R I E , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0105064

SENT WILLIAMS GAS PIPELINE
 TO: 187 COUNTY ROAD #4980
 BLOOMFIELD, NM 87413
 JIM STRUHS

DATE REPORTED: 05/09/01
 DATE COLLECTED: 05/01/01
 DATE RECEIVED: 05/02/01

PROJECT: WES/BLANCO WASH DRIP

Reference Fraction:0105064-01A

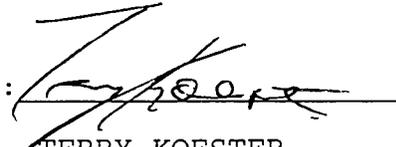
Sample ID: BLNC-CG-MW4

Sample Matrix: WATER

Sample Date Collected: 05/01/0111:04:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	05/08/01	MB
TOLUENE		ND	UG/L	1.0	05/08/01	MB
ETHYLBENZENE		ND	UG/L	1.0	05/08/01	MB
TOTAL XYLENES		2.42	UG/L	1.0	05/08/01	MB
BFB (SURROGATE)		102	125	75		

ND=NONE DETECTED
 PQL=PRACTICAL QUANTITAION LIMIT
 SU=STANDARD UNITS
 B=DETECTED IN METHOD BLANK

APPROVED BY: 
 TERRY KOESTER
 LABORATORY DIRECTOR




Pace Analytical Services, Inc.
 9608 Loiret Blvd.
 Lenexa, KS 66219
 Phone: 913.599.5665
 Fax: 913.599.1759

MILE HIGH ENVIRONMENTAL
 187 C.R. 4980
 Bloomfield, NM 87413

Lab Project Number: 6057811
 Client Project ID: SJB-GW BLNC

Attn: Mr. Jim Struhs
 Phone: (505)632-4457

Lab Sample No: 605034487 Project Sample Number: 6057811-001 Date Collected: 03/25/02 10:15
 Client Sample ID: 101525MAR02 Matrix: Water Date Received: 03/27/02 09:40

Parameters	Results	Units	Report Limit	Analyzed	by	CAS No.	Ftnote	Reg	Limit
GC Volatiles									
Aromatic Volatile Organics	Prep/Method: EPA 8021 / EPA 8021								
Benzene	ND	ug/l	2.0	03/30/02 00:21	SHF	71-43-2			
Ethylbenzene	ND	ug/l	2.0	03/30/02 00:21	SHF	100-41-4			
Toluene	ND	ug/l	2.0	03/30/02 00:21	SHF	108-88-3			
Xylene (Total)	ND	ug/l	5.0	03/30/02 00:21	SHF	1330-20-7			
a,a,a-Trifluorotoluene (S)	104	%		03/30/02 00:21	SHF	2164-17-2			

Date: 04/09/02

Page: 1

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057811
Client Project ID: SJB-GW BLNC

Lab Sample No: 605034495 Project Sample Number: 6057811-002 Date Collected: 03/25/02 10:09
Client Sample ID: 100925MAR02 Matrix: Water Date Received: 03/27/02 09:40

Parameters	Results	Units	Report Limit	Analyzed by	CAS No.	Fnote	Req	Limit
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GC Volatiles

Aromatic Volatile Organics		Prep/Method: EPA 8021 / EPA 8021						
Benzene	ND	ug/l	2.0	03/30/02 04:03	SHF	71-43-2		
Ethylbenzene	ND	ug/l	2.0	03/30/02 04:03	SHF	100-41-4		
Toluene	ND	ug/l	2.0	03/30/02 04:03	SHF	108-88-3		
Xylene (Total)	ND	ug/l	5.0	03/30/02 04:03	SHF	1330-20-7		
a,a,a-Trifluorotoluene (S)	93	%		03/30/02 04:03	SHF	2164-17-2		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057811
Client Project ID: SJB-GW BLNC

Lab Sample No: 605034503 Project Sample Number: 6057811-003 Date Collected: 03/25/02 10:22
Client Sample ID: 102225MAR02 Matrix: Water Date Received: 03/27/02 09:40

Parameters	Results	Units	Report Limit	Analyzed	by	CAS No.	Ftnote	Reg Limit
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GC Volatiles

Aromatic Volatile Organics		Prep/Method: EPA 8021 / EPA 8021						
Benzene	ND	ug/l	2.0	03/30/02	04:32	SHF	71-43-2	
Ethylbenzene	ND	ug/l	2.0	03/30/02	04:32	SHF	100-41-4	
Toluene	ND	ug/l	2.0	03/30/02	04:32	SHF	108-88-3	
Xylene (Total)	ND	ug/l	5.0	03/30/02	04:32	SHF	1330-20-7	
a,a,a-Trifluorotoluene (S)	93	%		03/30/02	04:32	SHF	2164-17-2	

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 6057811
Client Project ID: SJB-GW BLNC

Lab Sample No: 605034511 Project Sample Number: 6057811-004 Date Collected: 03/25/02 10:30
Client Sample ID: 103025MAR02 Matrix: Water Date Received: 03/27/02 09:40

Parameters	Results	Units	Report Limit	Analyzed	by	CAS No.	Ftnote	Req	Limit
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GC Volatiles

Aromatic Volatile Organics		Prep/Method: EPA 8021 / EPA 8021							
Benzene	ND	ug/l	2.0	03/30/02	05:01	SHF	71-43-2		
Ethylbenzene	ND	ug/l	2.0	03/30/02	05:01	SHF	100-41-4		
Toluene	ND	ug/l	2.0	03/30/02	05:01	SHF	108-88-3		
Xylene (Total)	ND	ug/l	5.0	03/30/02	05:01	SHF	1330-20-7		
a,a,a-Trifluorotoluene (S)	94	%		03/30/02	05:01	SHF	2164-17-2		

REPORT OF LABORATORY ANALYSIS

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