3R - 151

REPORTS

DATE:

2000 - 1988

EL PASO FIELD SERVICES

Certified Mail: # 7099 3400 0018 9756 8857

October 3, 2000

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

RE: Notification of Abandonment of Groundwater Remediation / Monitoring Wells and the Passive Soil Vapor Extraction System at the Blanco Field Office

Dear Mr. Olson:

El Paso Field Services Company (EPFS) hereby submits notification of the abandonment of all groundwater remediation / monitoring wells and the passive soil vapor extraction system at the Blanco Field Office, located in Blanco, New Mexico. The abandonment's were performed in response to the June 30, 2000 "GROUNDWATER CLOSURE REPORT BLANCO FIELD OFFICE" letter from the New Mexico Oil Conservation Division approving closure of the site.

Attached is a letter report from Philip Environmental Services Corporation, which details the above-mentioned abandonment's. All remediation and monitoring well abandonment's were performed in accordance with EPFS's approved "MONITOR WELL ABANDONMENT PLAN" dated March 26, 1998.

If you have any questions or require any additional information, please contact me at (505) 599-2124.

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

Enclosures: as stated

xc: Mr. Denny Foust, NMOCD – Aztec – Certified Mail # 7099 3400 0018 9756 8437

PHILIP SERVICES CORP.
Industrial Services Group
Central Region

September 13, 2000

Mr. Scott Pope
El Paso Field Services Company
614 Reilly Avenue
Farmington, NM 87499

RE: Blanco Field Office Groundwater Site Closure Report

Dear Mr. Pope:

Philip Environmental Services Corp. (Philip) is pleased to submit this letter report to El Paso Field Services Company (EPFS) documenting closure activities at El Paso's Blanco Field Office.

On August 31, 2000 Philip mobilized a drill rig, backhoe, dump truck, and personnel to the Blanco Field Office location for site closure operations. The following facilities associated with past groundwater remediation/monitoring were abandoned.

3	2-inch groundwater monitoring wells
3	4-inch groundwater monitoring wells
3	groundwater sparge wells
1	vadose zone monitoring point
1	temporary piezometer
1	passive venting system (160-feet of 4" diameter piping with 4-inch stand pipes every 20 feet)

Mr. Denny Foust of the New Mexico Oil Conservation Division (NMOCD) visited the site during field activities.

The monitoring wells, sparge wells, vadose zone monitoring point and temporary piezometer were abandoned according to El Paso's monitoring well abandonment plan as approved by the NMOCD. Philip removed the surface completions from each well as necessary. An attempt was made to pull the entire well casing from the ground. If the well did not come out during pulling, the casing broke beneath the ground. Each well location was grouted from the bottom of the open well hole to 5 inches above

4000 Monroe Road • Farmington, NM 87401 • (505) 326-2262 • Fax (505) 326-2388

ground surface with cement slurry that contained approximately 12 per cent bentonite. Monitoring well abandonment forms are attached.

The passive venting system was excavated and removed, and the trench backfilled with on-site materials, graded, and compacted with the weight of the backhoe. Material that was not salvageable was disposed of at the San Juan County Landfill.

Philip appreciates this opportunity to provide these services to El Paso. If you have any questions or require additional information, please give me a call.

Sincerely,
Philip Environmental Services Corporation

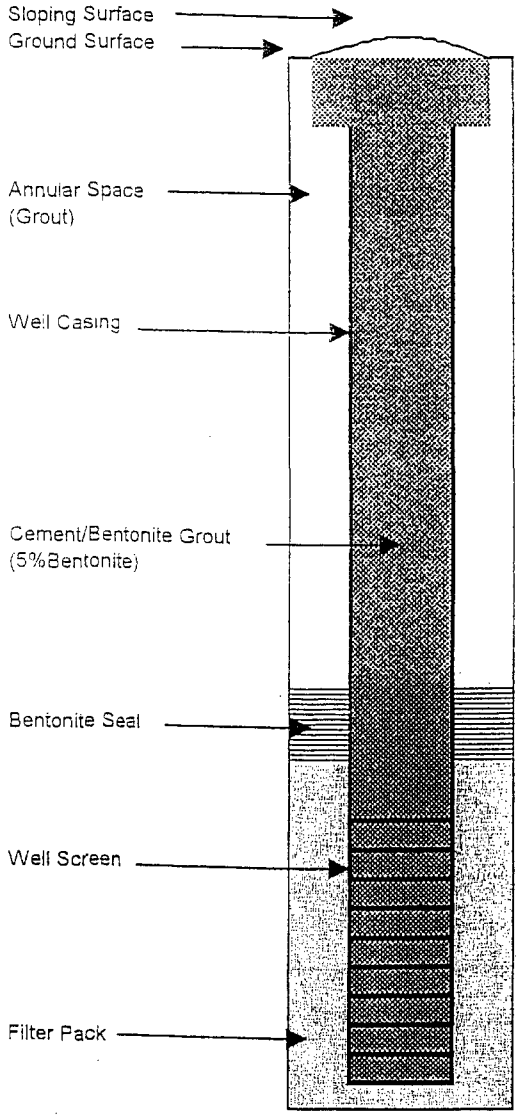
Martin Nee
closure letter report.DOC

MONITOR WELL ABANDONMENT FORM

PHILLIPS SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	MW-1
Project Number/Phase	11133 / 2000 Phase	Well Location	Blanco N.M.E.P.
Driller	Rodgers	Site Location	Blanco N.M.E.P.
Date/Time Started	8-31-00		
Date/Time Completed	8-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N.A
Bottom of Grout	7.0
Bottom of Well	7.0

Comments: All casing was pulled out

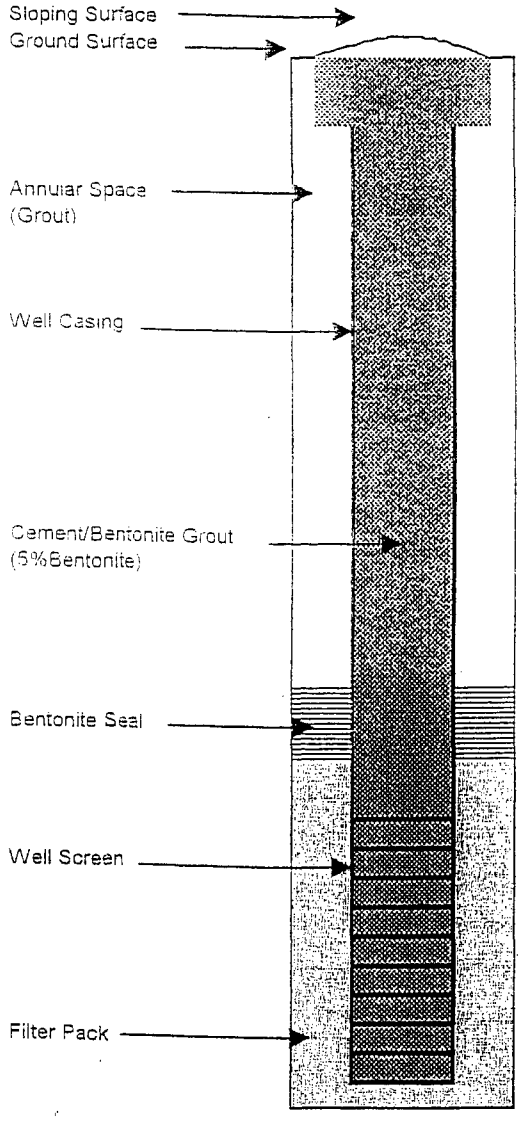
Drillers Signature

MONITOR WELL ABANDONMENT FORM

PHILLIPS SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	MW-2 4"
Project Number/Phase	11133.2	Well Location	Blanco N.MEX
Driller	Rodgers	Site Location	Blanco N.MEX
Date/Time Started	5-31-08		
Date/Time Completed	5-31-08		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	NA
Bottom of Grout	17.7"
Bottom of Well	17.7"

Comments: All but 10 FT of CASING wouldn't come out. It Broke off approx 3' under ground

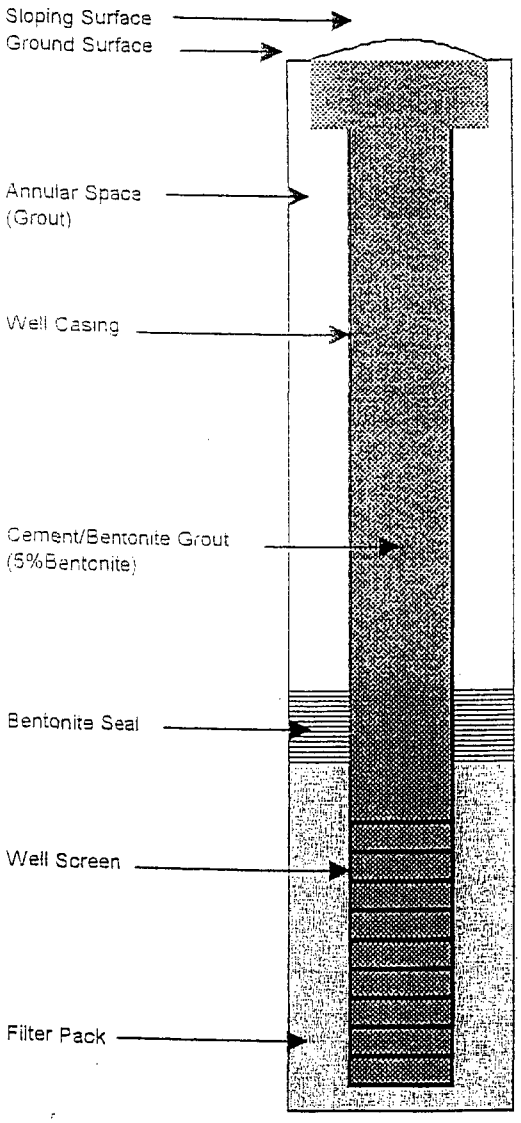
Drillers Signature

MONITOR WELL ABANDONMENT FORM

PHILLIPS SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	MW-3
Project Number/Phase	11332/12000 Phase	Well Location	Blanco Meter
Driller	Rodgers	Site Location	Blanco Meter
Date/Time Started	5-31-00		
Date/Time Completed	5-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	15'6"
Bottom of Well	15'6"

Comments: All casing was pulled out

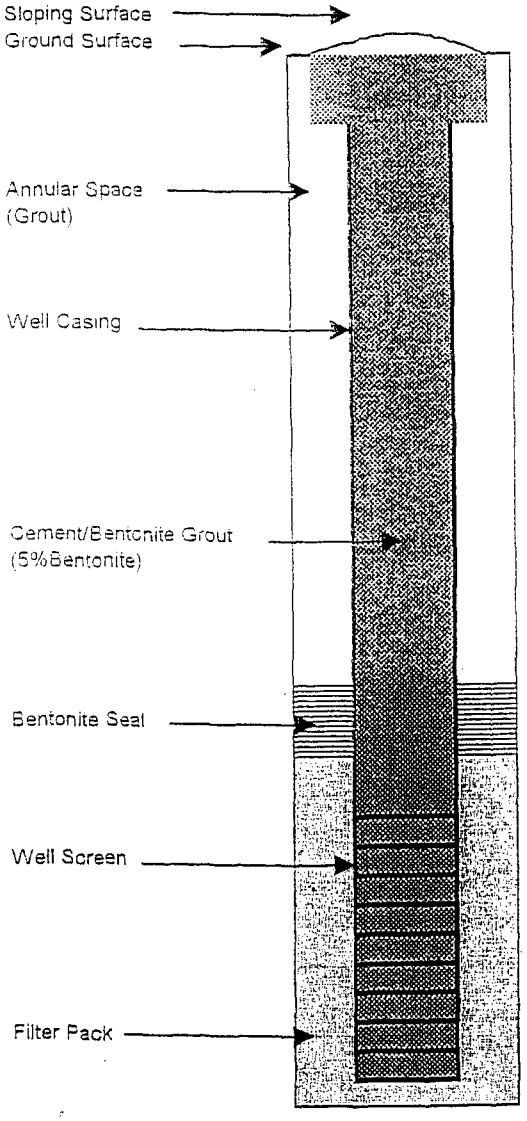
Drillers Signature: Danny Padilla

MONITOR WELL ABANDONMENT FORM

PHILLIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	MW-4 2"
Project Number/Phase	11133 / 2000 PHASE	Well Location	Blanco N.Mex
Driller	SERGENT, HASTIN, BECKNER H+ BE	Site Location	Blanco N.Mex
Date/Time Started	8-31-00		
Date/Time Completed	8-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	8'5"
Bottom of Well	8'5"

Comments: All CASING WAS PULLED OUT

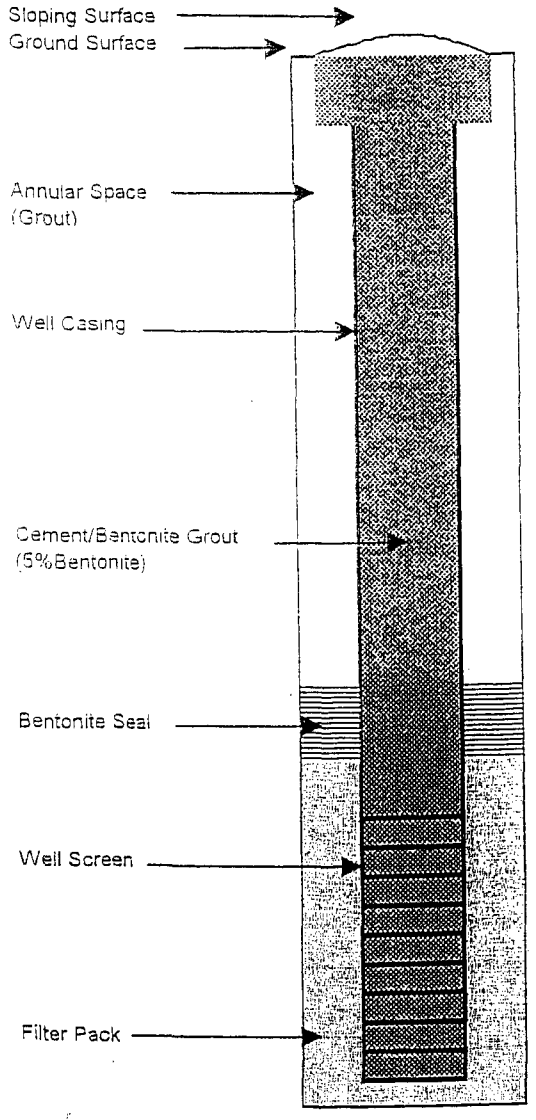
Drillers Signature: Danny Padilla

MONITOR WELL ABANDONMENT FORM

PHILIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco PIPELINE	Well #	MW-5 4"
Project Number/Phase	11133/2000 PHASE	Well Location	Blanco N.MEX
Driller	Boyce Eng. Inc.	Site Location	Blanco N.MEX
Date/Time Started	8-31-00		
Date/Time Completed	8-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	10'.2"
Bottom of Well	10'.2"

Comments: ALL CASING WAS PULLED OUT

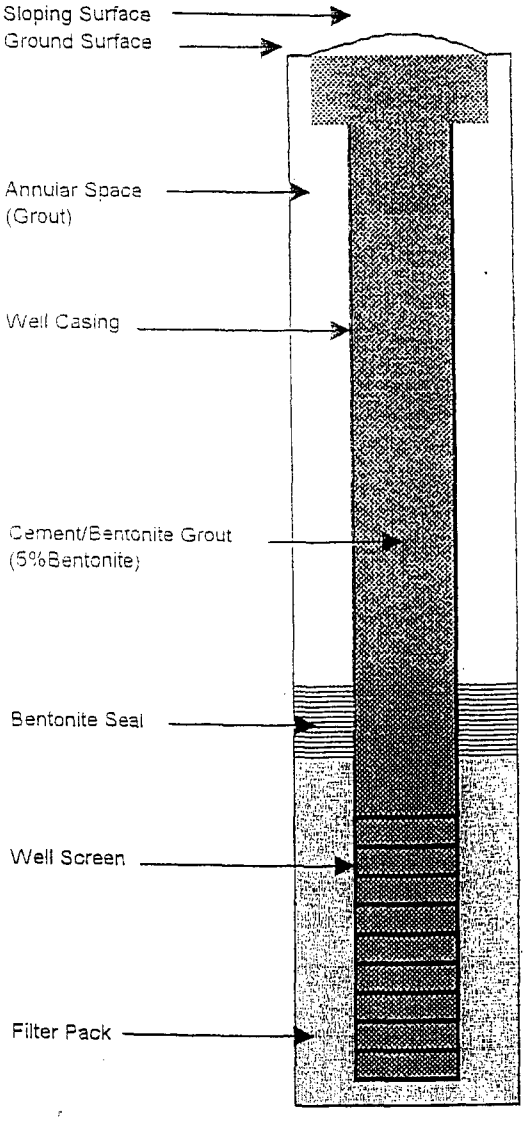
Drillers Signature: Timmy Boddie

MONITOR WELL ABANDONMENT FORM

PHILIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	MW-6 4"
Project Number/Phase	11133/2000 Phase F	Well Location	Blanco N. MEF
Driller	Rodgers	Site Location	Blanco N. MEF
Date/Time Started	8-31-00		
Date/Time Completed	8-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	18.0'
Bottom of Well	18.0'

Comments: Approx 6 FT of casing would'nt cement
Remainder was Approx 3' underground

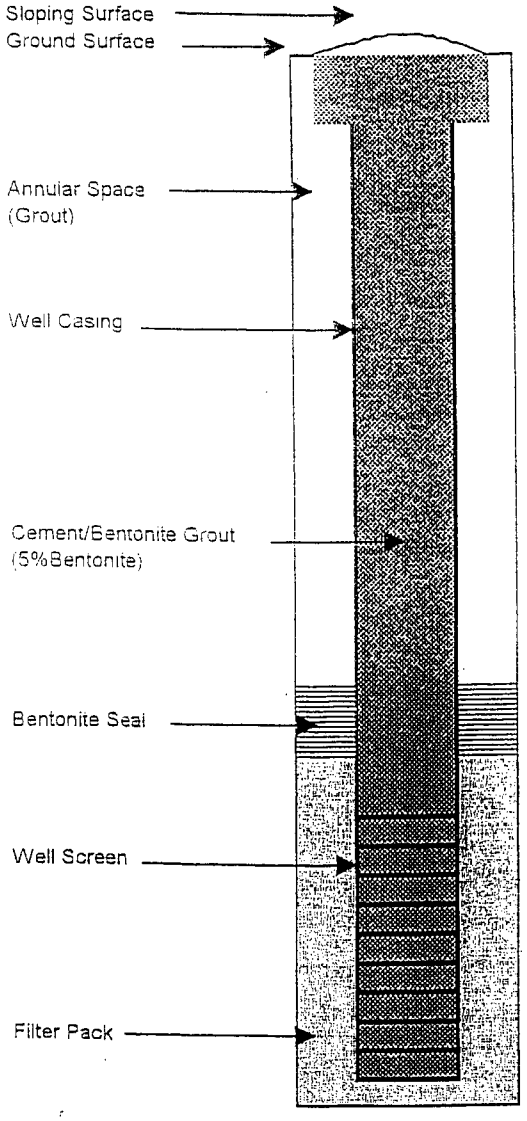
Drillers Signature

MONITOR WELL ABANDONMENT FORM

PHILIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	1-W-1 1.5"
Project Number/Phase	18917	Well Location	Blanco N.MEX
Driller	Philip Services	Site Location	Blanco N.MEX
Date/Time Started	8-31-00		
Date/Time Completed	8-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	10.0"
Bottom of Well	10.0"

Comments: All CASING WAS pulled

Drillers Signature Danny Padilla

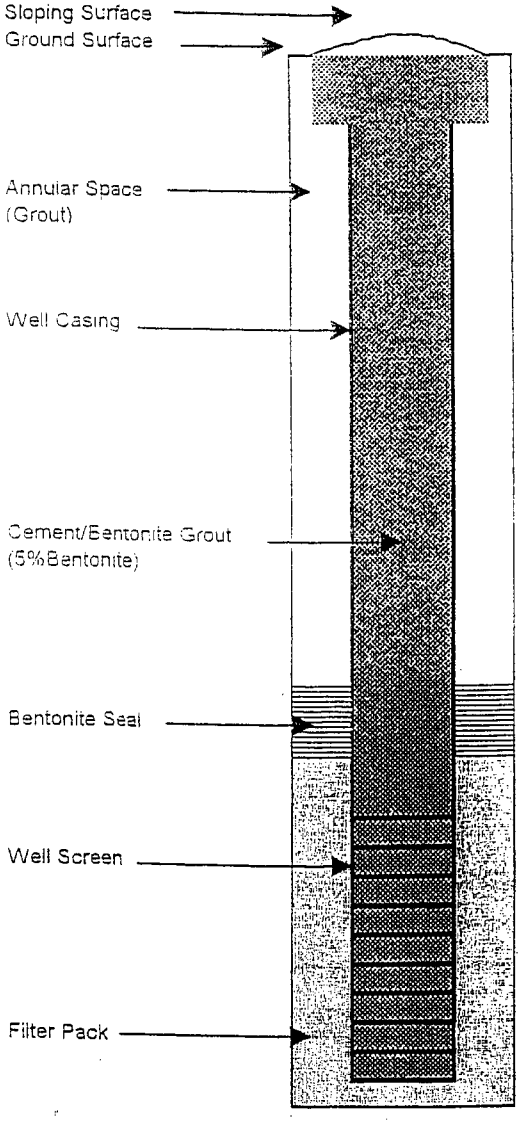
MONITOR WELL ABANDONMENT FORM

PHILIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

1-5"

Project Name	Blanco Pipeline	Well #	1-W-2
Project Number/Phase	18917	Well Location	Blanco N.M.E.X
Driller	Philip Environmental	Site Location	Blanco N.M.E.X
Date/Time Started	5-31-00		
Date/Time Completed	5-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	11.0"
Bottom of Well	11.0"

Comments: Pulled all casing out

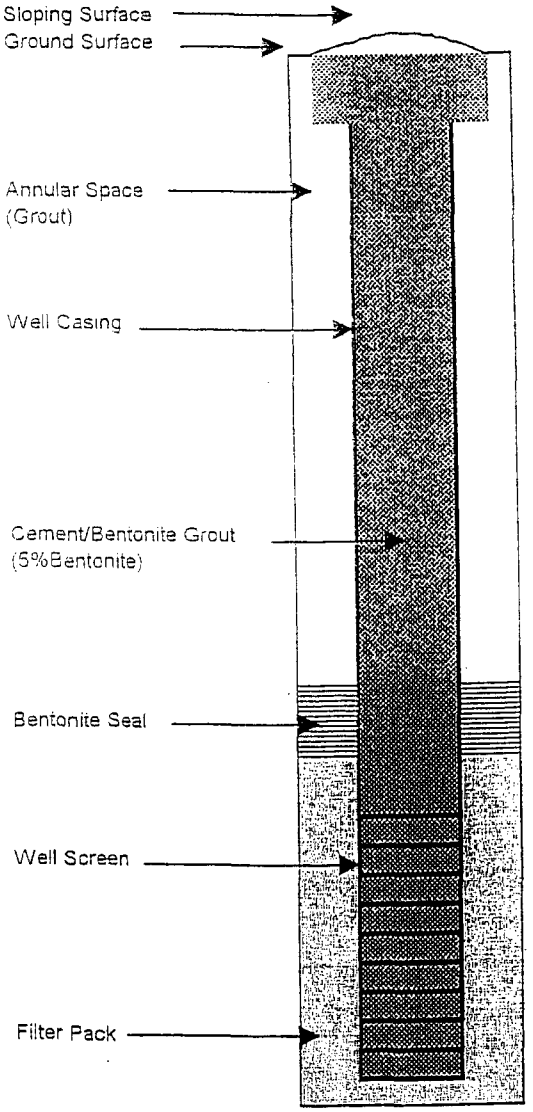
Drillers Signature: Casey Tebbs

MONITOR WELL ABANDONMENT FORM

PHILLIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	1-W-3 1-5"
Project Number/Phase	18917	Well Location	Blanco N.MEX
Driller	Phillips Environmental	Site Location	Blanco N.MEX
Date/Time Started	8-31-00		
Date/Time Completed	8-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	11.0"
Bottom of Well	11.0'

Comments: Well casing was pulled

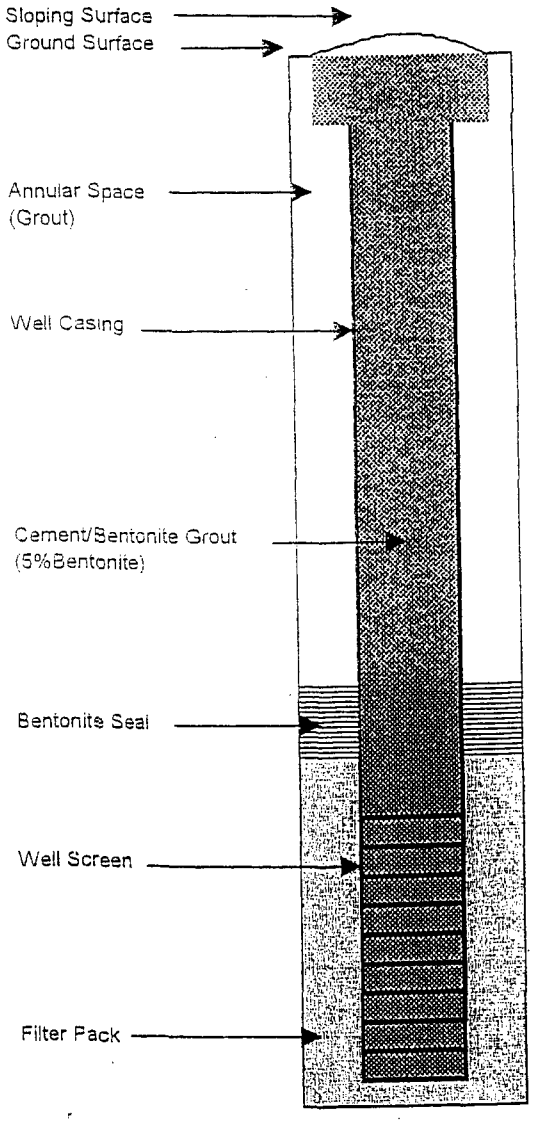
Drillers Signature: Danny Padilla

MONITOR WELL ABANDONMENT FORM

PHILLIP SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	SP-1 1-5"
Project Number/Phase	18917	Well Location	Blanco N. MEX
Driller	PHILLIP SERVICES	Site Location	Blanco N. M. EX
Date/Time Started	5-31-00		
Date/Time Completed	5-31-00		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	3.0"
Bottom of Well	3.0"

Comments: All casing was pulled out

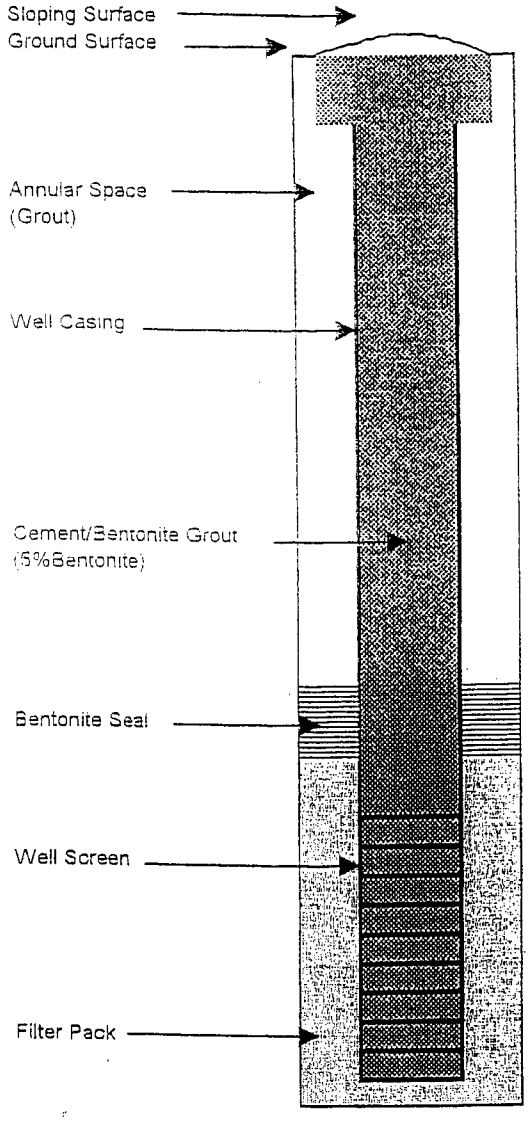
Drillers Signature

MONITOR WELL ABANDONMENT FORM

PHILLIPS SERVICES CORP.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name	Blanco Pipeline	Well #	1.5" Tem. Piezometer
Project Number/Phase	18917	Well Location	Blanco N. MEX
Driller	Philip Environmental	Site Location	Blanco N. MEX
Date/Time Started	5-31-01		
Date/Time Completed	5-31-01		

WELL DIAGRAM



Ground Surface	-0-
Top of Grout	5"
Top of Riser	N/A
Bottom of Grout	3'.0"
Bottom of Well	3'.0"

Comments: All casing was pulled out

Drillers Signature: Danny Padilla

EPFS
EL PASO FIELD SERVICES

September 16, 1996

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

Dear Mr. Olson:

As you are aware, El Paso Field Services Co. (EPFS) has for the past three years been operating a groundwater monitoring and passive remediation program at the Blanco, New Mexico Pipeline Office. While the bulk of the contaminants have been reduced to within acceptable levels since 1994, the past few quarters' analysis results have not shown any improvement in the level of benzene in monitoring well number 4.

EPFS is now proposing to use an elevated oxygen and nutrient treatment to augment the biological remediation of the remaining contamination. The treatment program will consist of:

1. Sample the ground water at the Blanco Field Office to determine the concentration of naturally occurring nutrients.

2. Prepare a 500 gallon batch of treatment water for each well. The water will contain nitrogen rich liquid fertilizer mixed in a ration of 7 parts water to 1 part of urea nitrate. Sufficient hydrogen peroxide will be added to the nutrient solution to bring the dissolved oxygen content up to 20 milligrams per liter (mg/L).

3. Inject the batch treatment water into each monitoring well.

4. Insert magnesium peroxide "socks" into each well to maintain an adequate dissolved oxygen concentration.

5. Leave the magnesium peroxide in the well for 10 weeks. At the end of 10 each week treatment period, remove the oxygen source and allow the well to stabilize for 2 weeks prior to sampling.

6. Sample each monitoring well and replace the magnesium peroxide into the well bore.

Since the only well currently exceeding any maximum contamination level is well number 4, and it exceeds the limit for only one constituent, benzene, EPFS is requesting approval to first, proceed with the enhanced remediation program as proposed above, and second, plug and abandon all monitoring wells at the Blanco Field Office after two consecutive calendar quarters of acceptable test results in well number 4. EPFS believes that two quarters of good results from this one well, coupled with the past eight quarters results on all other wells, should adequately demonstrate that the remediation program has been successfully completed.

For any additional information you made need regarding this proposed corrective action, please call me at (505) 599-2256.

Sincerely yours,

David Bays

David Bays, REM
Sr. Environmental Scientist

cc: Mr. Denny Foust, NMOCD, Aztec
R. D. Cosby/S. D. Miller/J. S. Sterrett/Blanco P/L Regulatory File

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

January 13, 1994

Mr. Bill Olson
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

Subject : El Paso Natural Gas Company's Blanco Field Office

To prevent offsite migration of contaminated groundwater , El Paso Natural Gas Company (EPNG) installed a passive air stripper system. The system consisted of approximately 160 feet of slotted PVC pipe installed in a gravel bed just above the water table. The system will be driven by a series of nine wind turbines. A schematic of the air stripper system is under Tab 1.

A letter sent to NMOCD dated October 1, 1993 summarized the results of soil and groundwater samples from a number of testholes. Fr.m the investigation discussed in the October 1993 letter, the location of the passive air stripper system and monitor wells was selected.

In addition to the passive air stripper system, EPNG installed two monitor wells downgradient of the trench system to monitor the remediation system and further define the extent of contamination, if any. One well was located on the south property line due south of Testhole #5 and one monitor well was located on the south property line southwest of Testhole #3. A drawing with the locations of the air stripper trench and monitor wells, and numbered testholes is under Tab 2.

A lithologic log, well construction log, and well development records for the two new monitor wells are under Tab 3. The wells were constructed with at least ten feet of well screen below the water table and two feet of well screen above the water table.

Groundwater from the old and new monitor wells were sampled and analyzed for BETX and polynuclearlaromatic hydrocarbons (PNA) using EPA approved methods. A summary of the analytical results is under Tab 4. Hydrocarbon concentrations in all wells were below WQCC standards except the benzene concentration in MW-3 and MW-4. A copy of the PNA results from the new monitor wells is also included under Tab 4.

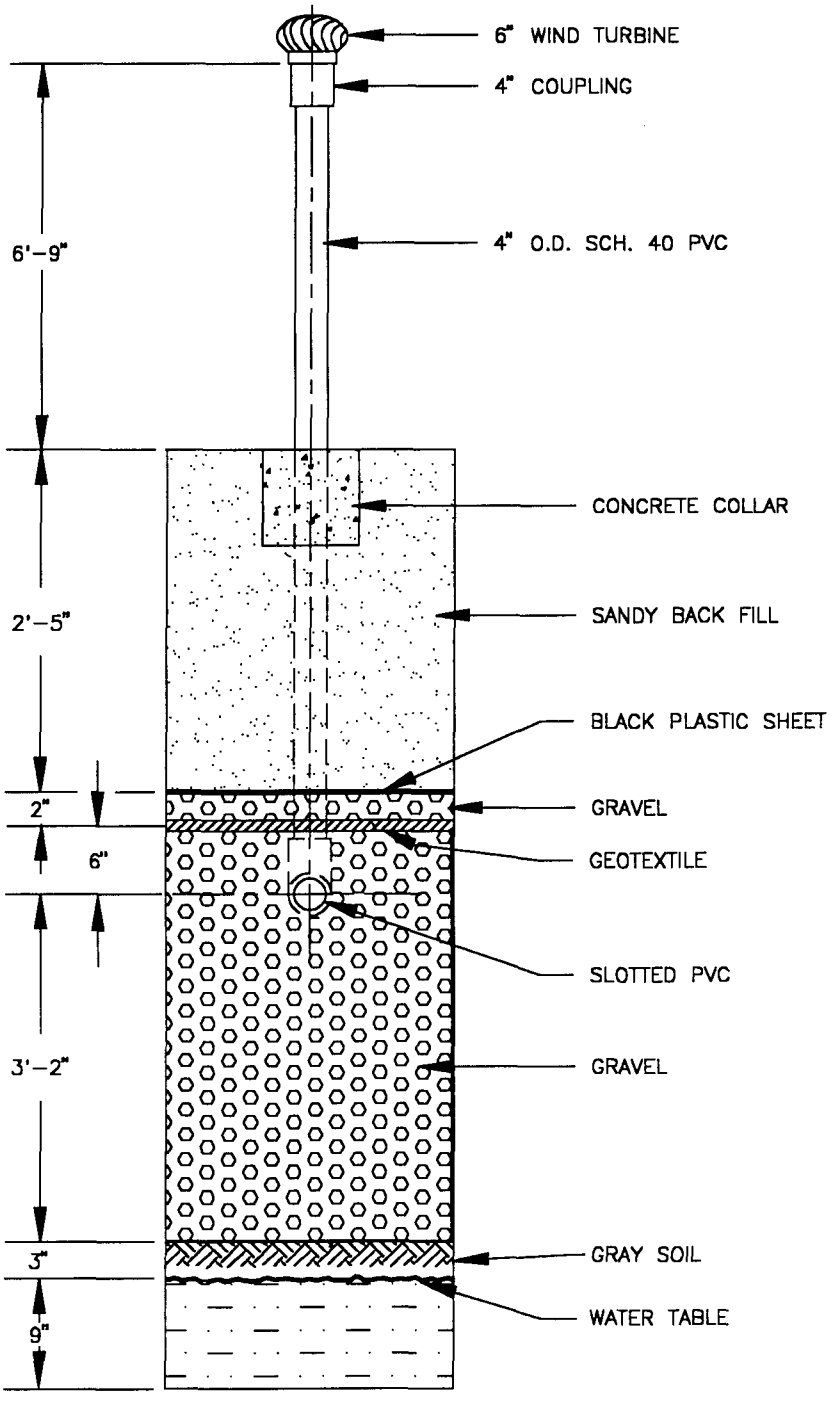
Recently, MW-2 and MW-3 were destroyed due to a pipeline expansion project construction activities. This year, EPNG will repair or replace the two damaged wells. EPNG proposes to continue monitoring MW -1 , MW - 4 , MW - 5 , and MW-6 for BETX on a quarterly basis. Once MW-2 and MW-3 are repaired, they will be monitored with the other wells. After one year of monitoring, the project will be reviewed to determine if a revised monitoring schedule (i.e. accelerated or decelerated) is needed and if any further action is required at the site.

If you need additional information or have any questions please call me at 599-2176.

Anu Pundari

Anu Pundari
Sr. Compliance Engineer

cc: Mr. David Hall (EPNG)



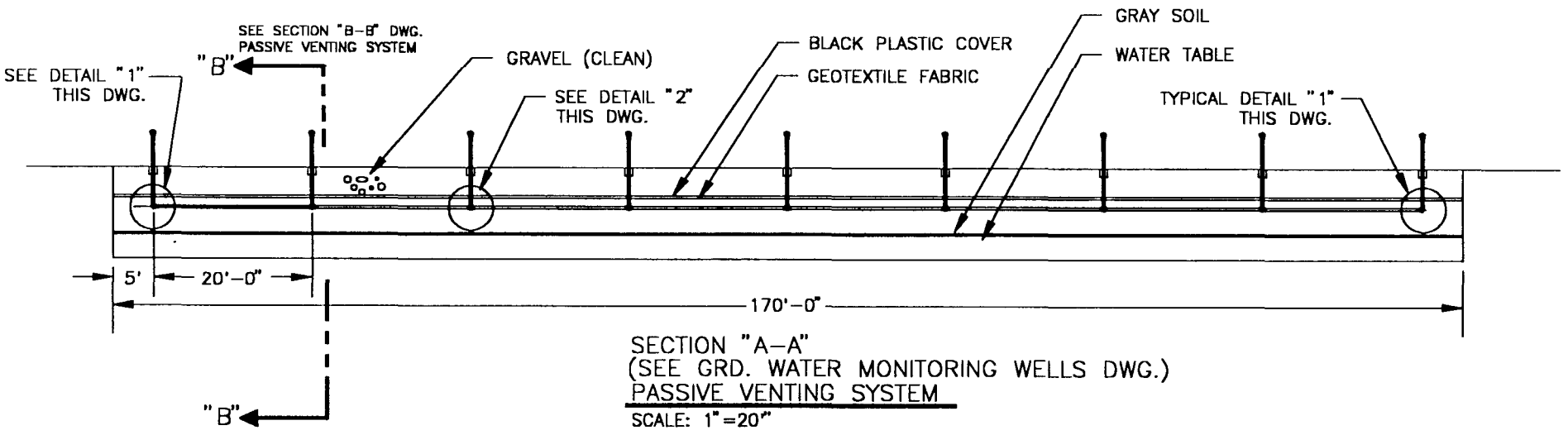
NOTE: THIS IS A TYPICAL SECTION NEAR THE AREA OF MW-5. THE DEPTH OF SANDY BACKFILL VARIED FROM 2 1/2 FEET TO 3 FEET ALONG THE TRENCH LENGTH.

					ENG.RECORD		DATE
					DRAWN	MD	12/08/93
					CHECK		
					CHECK		
					PROJ.		
PRT.	SEP.	DATE	TO	W.O.	DESIGN		
			PRINT RECORD		CAD NO.	SP3183	

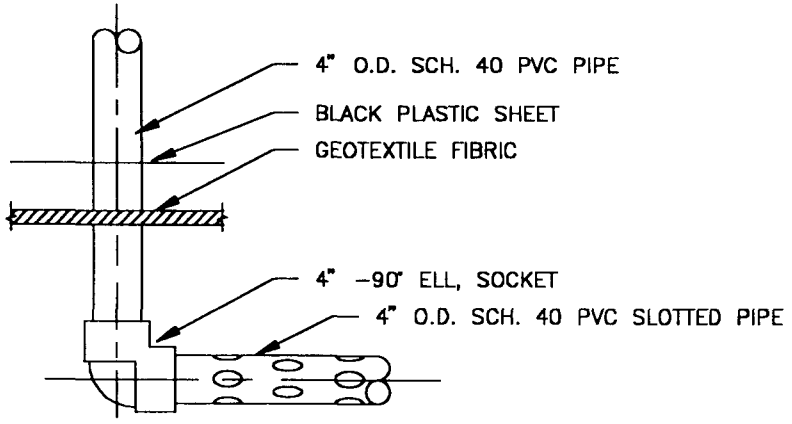
El Paso NATURAL GAS COMPANY

BLANCO FIELD OFFICE
SECTION "B-B"
PASSIVE VENTING SYSTEM

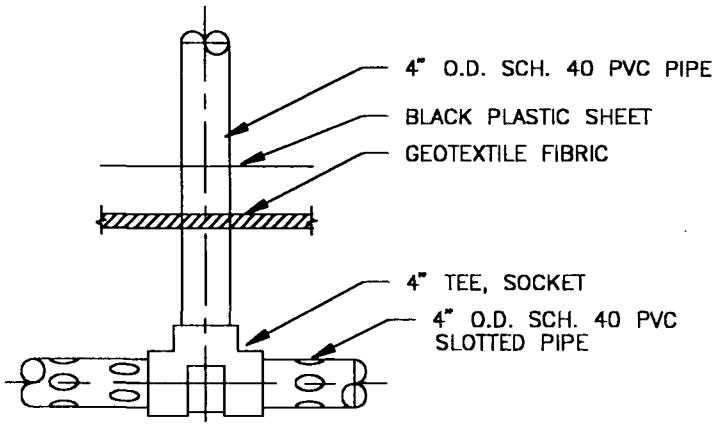
SCALE	NONE	DWG. NO.	REV.
W.O.			



SECTION "A-A"
(SEE GRD. WATER MONITORING WELLS DWG.)
PASSIVE VENTING SYSTEM
SCALE: 1"=20"



DETAIL "1" (TYP. 2)
PASSIVE VENTING SYSTEM
SCALE: 3/4"=1'-0"



DETAIL "2" (TYP. 7)
PASSIVE VENTING SYSTEM
SCALE: 3/4"=1'-0"

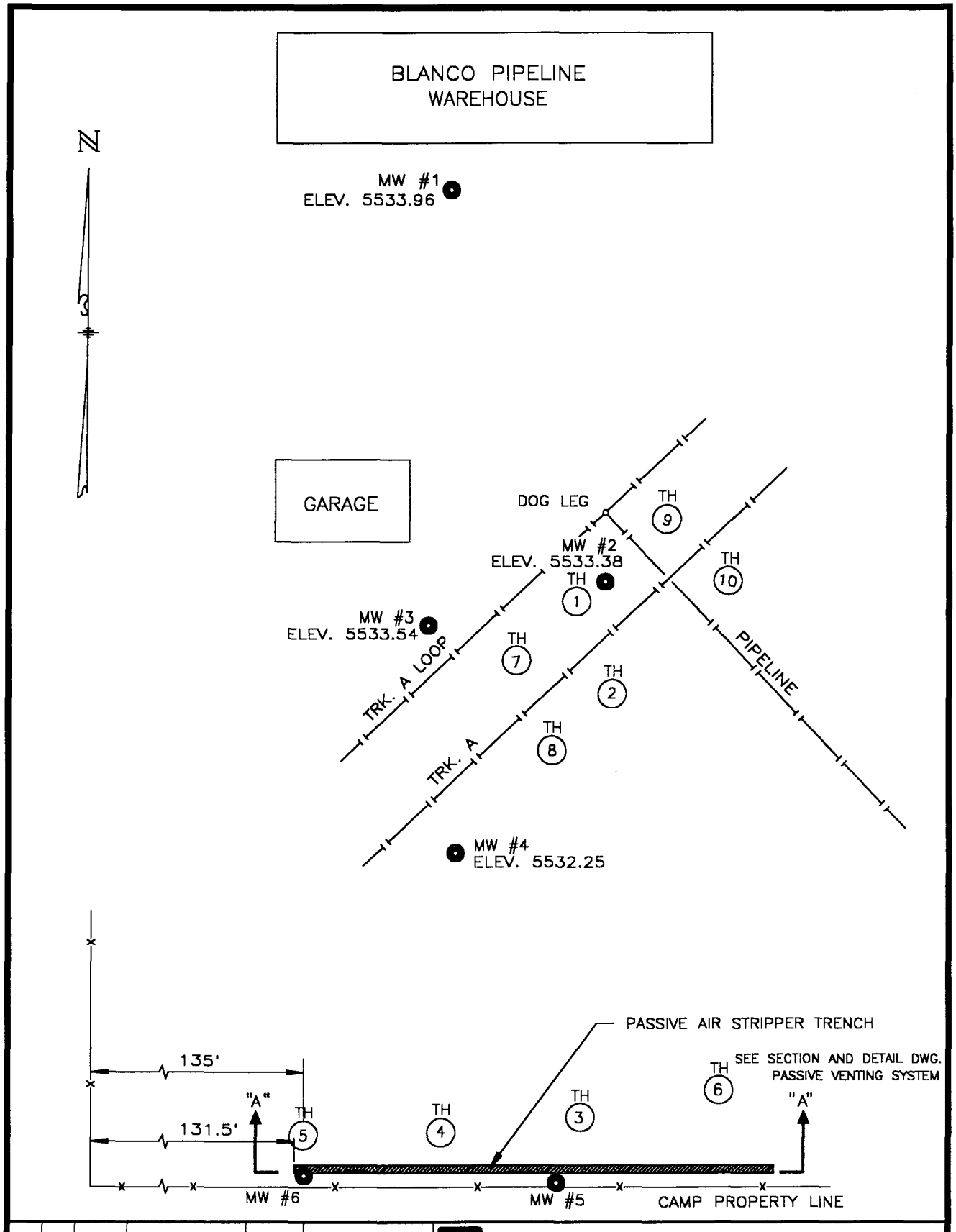
PRT.	SEP.	DATE	TO PRINT RECORD	W.O.

ENG. RECORD		DATE
DRAWN	MD	12/08/93
CHECK		
CHECK		
PROJ.		
DESIGN		
CAD NO. SP3184		

El Paso NATURAL GAS COMPANY

BLANCO FIELD OFFICE
SECTION AND DETAIL DWG.
PASSIVE VENTING SYSTEM

SCALE SHOWN	DWG. NO.	REV.
W.O.		



					ENG.RECORD	DATE	
					DRAWN	MD	12/90
					CHECK		
					CHECK		
					PROJ.		
PRT.	SEP.	DATE	TO	W.O.	DESIGN		
PRINT RECORD					W.O. K-5492		

El Paso NATURAL GAS COMPANY

BLANCO FIELD
GROUND WATER MONITORING WELLS
SEC. 18, T-29-N, R-9-W, N.M.P.M.

SCALE	DWG. NO.	REV.
1"=50'	CGC NO.SP3142	3

1/11/94/MD

3

RECORD OF SUBSURFACE EXPLORATION

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

Borehole # MW - 5
Well # MW - 5
Page 1 of 1

Project Name Blanco Pipeline
Project Number 11133 Phase 2000
Project Location Blanco, NM

Elevation
Borehole Location MW - 5
GWL Depth 6.5'
Logged By S. Pope
Drilled By Rodgers Inc.
Date/Time Started 11-15-93 / 1245
Date/Time Completed 11-15-93 / 1400

Personnel On-Site Cory Chance
Contractors On-Site Rodgers Inc.
Client Personnel On-Site Gerry Garibay

Drilling Method HSA 6 1/4" ID, CME 75
Air Monitoring Method HNU, CGI

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 BZ	BH	S	Drilling Conditions & Blow Counts
0										- Extremely tough drilling. Encountering large cobbles and boulders.
		4		Brown Gravelly SAND, fine-medium Sand,	SW		0	0	0	
5	1		8	medium-coarse Gravel, subround-rounded						
		6		Sand and Gravel, trace Clay, loose, moist.						- Water @ ~6.5'.
										- Let borehole sit to allow water to accumulate.
		9				9.0				- Water came up to approx. 6.5'
10	2		12	Brown GRAVEL with fine-medium Sand,			0	0	0	BGS.
		11		medium-coarse Gravel, rounded-subrounded						- No aditional samples taken
				Sand and Gravel, loose, saturated.						below water table.
				Brown GRAVEL with fine-medium Sand,	GW					- Very tough drilling in cobbles.
15				medium-coarse Gravel with 2-4" Cobbles in						
				cuttings, hard, saturated.						
						17.0				
				Bluish Gray Gravelly CLAY, medium-coarse	CL					- Noted grayish blue clay on
				Gravel, medium plasticity, soft, saturated.						lead auger from bottom
20				TOB 18'						foot of borehole.
25										
30										
35										
40										

Comments: Will set well at 18'.

Geologist Signature Susan T. Pope

MONITORING WELL INSTALLATION RECORD

Borehole # MW-5
Well # MW-5
Page 1 of 1

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

Project Name BLANCO PIPELINE
Project Number 11133 Phase 2000
Project Location BLANCO, NM

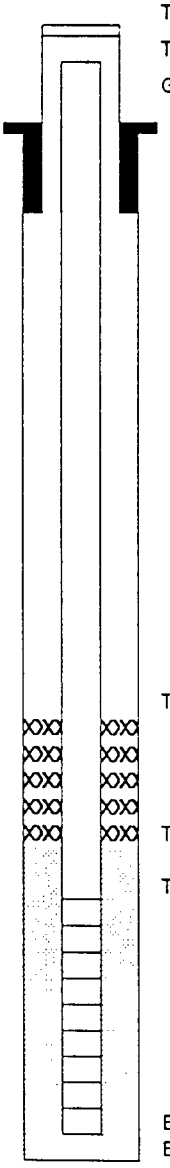
Elevation
Well Location MW-5
GWL Depth 6.5
Installed By RODGERS, INC.

Date/Time Started 11/15/93 1400
Date/Time Completed 11/15/93 1500

On-Site Geologist S. POPE
Personnel On-Site CORY CHANCE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site GERRY GARIBAY

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL	+2.3
Bottom of Protective Casing		-1.7
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete	PRE-MIX	+.3
Bottom of Concrete		0.0
Top of Grout		N/A
Bottom of Grout		N/A
Top of Well Riser	4" SCH 40 PVC	+2.1
Bottom of Well Riser		-2.9
Top of Well Screen	4" SCH 40 PVC	-2.9
Bottom of Well Screen	.010 SLOT	-18.0
Top of Peltonite Seal	1/8 BENTONITE CHIPS	0.0
Bottom of Peltonite Seal		-2.0
Top of Gravel Pack	10-20 SILICA	-2.0
Bottom of Gravel Pack		-18.0
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-6.5
Total Depth of Borehole		-18.0



Top of Protective Casing +2.3
Top of Riser +2.1
Ground Surface 0.0
Top of Seal 0.0
Top of Gravel Pack -2.0
Top of Screen -2.9
Bottom of Screen -18.0
Bottom of Borehole -18.0

Comments: NOTED APPROXIMATELY 4" OF HEAVE SAND AND GRAVEL IN HOLE. SEAL HYDRATED WITH 5 GALLONS WATER
11 (50 LB.) BAGS OF SAND, 2 (50 LB.) BAGS OF BENTONITE

Geologist Signature

WELL DEVELOPMENT & PURGING

BURLINGTON ENVIRONMENTAL

GENERAL DATA

SERIAL NO. WD _____
PAGE ___ OF ___

PROJECT NAME Blanco Pipeline WELL NO. MW-5
PROJECT NO. 11135 MAJOR TASK 2000 SUB TASK 00
DATE 11/18/93 FORM COMPLETED BY S. Pope

WELL CONSTRUCTION

TOTAL DEPTH (FT) 20.2 BOREHOLE DIAMETER (IN) 10"
GRAVEL PACK INTERVAL (FT) 16' WELL DIAMETER INSIDE (IN) 4"
WELL PROTECTOR: ✓ YES ___ NO PADLOCK NO. 2532
QUANTITY OF FLUID INJECTED DURING DRILLING (GALLONS) N/A

WATER VOLUME CALCULATION

DATE OF MEASUREMENT 11/18/93
MEASURING POINT TOR ELEV. _____
WATER LEVEL INSTRUMENT USED EWLI
INITIAL WATER LEVEL (FT) 8.5
LINEAR FEET OF WATER 11.7
LINEAR FEET SATURATED GRAVEL PACK 11.7

ITEM	WATER VOLUME	
	FT³	GAL
WELL CASING		7.6
GRAVEL PACK		7
DRILLING FLUIDS		
TOTAL		7.6

NOTE: QUANTITIES ARE TO BE CALCULATED PRIOR TO DEVELOPMENT.

DEVELOPMENT CRITERIA

METHOD OF DEVELOPMENT Teflon Bailer
WATER QUALITY MEASUREMENTS ✓ YES ___ NO
WELL VOLUME (ANNULUS) (GAL) 7.6 WELL CASING VOLUME (PIPE) (GAL) 7.6
WATER VOLUME TO BE REMOVED (GAL) MINIMUM 38.0 MAXIMUM 76.0

NOTE: DEVELOPMENT IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT-SPECIFIC WELL DEVELOPMENT PLAN.

WATER QUALITY INSTRUMENTS

DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMMENTS
11/18/93	Ph, Con, Temp		✓	C. Chance	

COMMENTS _____

RECORD OF SUBSURFACE EXPLORATION

Borehole # MW - 6
Well # MW - 6
Page 1 of 1

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

Project Name Blanco Pipeline
Project Number 11133 Phase 2000
Project Location Blanco, NM

Elevation
Borehole Location MW - 6
GWL Depth 6'
Logged By S. Pope
Drilled By Rodgers Inc.
Date/Time Started 11-15-93 / 1600
Date/Time Completed 11-16-93 / 0900

Personnel On-Site Cory Chance
Contractors On-Site Rodgers Inc.
Client Personnel On-Site Gerry Garibay

Drilling Method HSA 6 1/4" ID, CME 75
Air Monitoring Method HNU, CGI

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 BZ	BH	S	Drilling Conditions & Blow Counts
0										- Very tough drilling through cobbles.
		4		Brown Gravelly SAND, medium Sand,	SW		0	0	0	
5	1		12	medium-coarse Gravel with some large (2")						
		6		Cobbles, subrounded-round Gravel and						- Water @ 6.1' BGS.
				Sand, loose, moist.						
		9				9.0				
10	2		12	Gray-Dark Gray Sandy GRAVEL, fine-medium			0	0	0	- 1630 11/15/93 will stop for the day.
		11		Sand, Gravel medium-coarse, Gravel rounded-						
				subrounded, Sand subangular-subrounded,	GW					- 0900 11/16/93 WL 6.1 BGS resumes drilling.
				loose, saturated. SAA based on Cuttings.		14.0				- No additional samples taken below GW.
15				Bluish Gray Gravelly CLAY, medium-coarse						
				Gravel, medium plasticity, soft, saturated.	CL					- Will set well @ 18'.
										- Extremely slow drilling from 15' - 18'.
				TOB 18'						- Noted abundant gray clay on bottom 4' of augers.
20										- Will set well @ 18' BGS.
25										
30										
35										
40										

Comments:

Geologist Signature

11/29/93 /MW6.WK1

MONITORING WELL INSTALLATION RECORD

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

Borehole # MW-6
Well # MW-6
Page 1 of 1

Project Name BLANCO PIPELINE
Project Number 11133 Phase 2000
Project Location BLANCO, NM

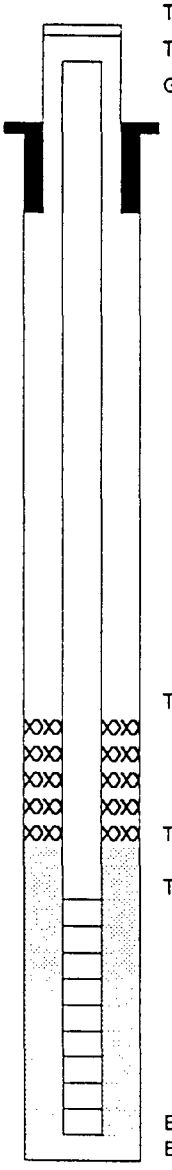
Elevation
Well Location MW-6
GWL Depth 6.1
Installed By RODGERS, INC.

Date/Time Started 11/16/93 0900
Date/Time Completed 11/16/93 0940

On-Site Geologist S. POPE
Personnel On-Site CORY CHANCE
Contractors On-Site RODGERS, INC.
Client Personnel On-Site GERRY GARIBAY

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" STEEL	+2.7
Bottom of Protective Casing		-1.3
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete	PRE-MIX	+.3
Bottom of Concrete		0.0
Top of Grout		N/A
Bottom of Grout		N/A
Top of Well Riser	4" SCH 40 PVC	+2.4
Bottom of Well Riser		-2.6
Top of Well Screen	4" SCH 40 PVC	-2.6
Bottom of Well Screen	.010 SLOT	-17.7
Top of Peltonite Seal	1/8 BENTONITE CHIPS	0.0
Bottom of Peltonite Seal		-1.8
Top of Gravel Pack	10-20 SILICA	-1.8
Bottom of Gravel Pack		-17.7
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		-6.1
Total Depth of Borehole		-17.7



Top of Protective Casing +2.7
Top of Riser +2.4
Ground Surface 0.0
Top of Seal 0.0
Top of Gravel Pack -1.8
Top of Screen -2.6
Bottom of Screen -17.7
Bottom of Borehole -17.7

Comments: 13 (50 LB.) BAGS SAND, 1 (50 LB.) BAG BENTONITE CHIPS. BENTONITE CHIPS HYDRATED WITH 5 GALLONS WATER.

Geologist Signature

JAL_MW2.WK1

WELL DEVELOPMENT & PURGING

BURLINGTON ENVIRONMENTAL

GENERAL DATA

SERIAL NO. WD _____
PAGE ___ OF ___

PROJECT NAME Blanco WELL NO. MW-6
PROJECT NO. 11133 MAJOR TASK 2000 SUB TASK 27
DATE 11/18/93 FORM COMPLETED BY CM Chance

WELL CONSTRUCTION

TOTAL DEPTH (FT) 20.25 BOREHOLE DIAMETER (IN) 10
GRAVEL PACK INTERVAL (FT) _____ WELL DIAMETER INSIDE (IN) 4
WELL PROTECTOR: √ YES ___ NO PADLOCK NO. 2532
QUANTITY OF FLUID INJECTED DURING DRILLING (GALLONS) N/A

WATER VOLUME CALCULATION

DATE OF MEASUREMENT 11/18/93
MEASURING POINT TOR ELEV. 2.4
WATER LEVEL INSTRUMENT USED EWL1
INITIAL WATER LEVEL (FT) 8.65
LINEAR FEET OF WATER 11.60
LINEAR FEET SATURATED GRAVEL PACK 11.60

ITEM	WATER VOLUME	
	FT³	GAL
WELL CASING		7.56
GRAVEL PACK		
DRILLING FLUIDS		
TOTAL		7.56

NOTE: QUANTITIES ARE TO BE CALCULATED PRIOR TO DEVELOPMENT.

DEVELOPMENT CRITERIA

METHOD OF DEVELOPMENT Teflon Bailer
WATER QUALITY MEASUREMENTS √ YES ___ NO
WELL VOLUME (ANNULUS) (GAL) _____ WELL CASING VOLUME (PIPE) (GAL) 7.56
WATER VOLUME TO BE REMOVED (GAL) MINIMUM 37.80 MAXIMUM 75.6

NOTE: DEVELOPMENT IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT-SPECIFIC WELL DEVELOPMENT PLAN.

WATER QUALITY INSTRUMENTS

DATE	INSTRUMENT	SERIAL NO.	CALIBRATION PERFORMED (/)	TECH	COMMENTS
11/18/93	pH/Cond.	920b	√	CMC	

COMMENTS _____

BLANCO FIELD OFFICE
MONITOR WELLS
OCTOBER 1993 AND NOVEMBER 1993

COMPONENT	MW-1 (ug/l)	MW-2 (ug/l)	MW-3 (ug/l)	MW-4 (ug/l)	MW-5 (ug/l)	MW-6 (ug/l)
BENZENE	<2.0	<2.0	13.5	388	<2.0	<2.0
TOLUENE	<2.0	<2.0	232	279	2.5	2.7
ETHYLBENZENE	<2.0	<2.0	9.9	29.6	<2.0	<2.0
TOTAL XYLENES	<2.0	<2.0	85.2	468	<2.0	<2.0
NAPHTHALENE	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
FLUORENE	<0.10	0.32	5	26	<0.10	<0.10
PHENANTHRENE	<0.05	<0.05	0.17	0.11	<0.05	<0.05
ANTHRACENE	<0.05	0.13	<0.05	<0.5	<0.05	<0.05
FLUORANTHENE	<0.10	0.47	<0.10	<0.10	<0.10	<0.10
PYRENE	<0.10	0.24	<0.10	<0.10	<0.10	<0.10
1-METHYLNAPHTHALENE	<0.30	<0.30	6.2	4.3	<0.30	<0.30
2-METHYLNAPHTHALENE	<0.30	<0.30	<0.30	4.7	<0.30	<0.30
STATIC LEVEL (Feet)	5.3	4	5.3	3.4	8.5	8.65

MW-1,2,3,4 SAMPLED ON OCTOBER 20, 1993
MW-5,6 SAMPLED ON NOVEMBER 18, 1993

Analytical Technologies, Inc.

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

ATI I.D. **311363**

December 14, 1993

El Paso Natural Gas Company
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: BLANCO FIELD M.W. A9563

Attention: John Lambdin

On **11/19/93**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Sample N31253 was used as the QC sample for EPA method 8310. For the matrix spike, the recoveries are outside of acceptability limits. The RPDs are also outside of acceptability limits. A matrix spike was re-extracted. Due to limited sample volume it was not possible to re-extract both a matrix and a matrix spike duplicate. The second matrix spike confirmed that the low recoveries in the original spike were due to spiking error and that the matrix spike duplicate represents the recoveries for this matrix. A blank spike/blank spike duplicate, which meets acceptance criteria, is also provided in this report.

noted
12/15/93

All analyses were performed by Analytical Technologies, Inc., 9830 S. 51st Street, Suite B-113, Phoenix, AZ.

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

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure

Analytical Technologies, Inc.

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : A9563
PROJECT NAME : BLANCO FIELD M.W
ATI I.D. : 311363

DATE RECEIVED : 11/19/93
REPORT DATE : 12/14/93

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	N31253 - mw #5	AQUEOUS	11/18/93
02	N31254 - mw #6	AQUEOUS	11/18/93

----- TOTALS -----

MATRIX	# SAMPLES
AQUEOUS	2

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31136301

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 11/18/93
PROJECT #	: A9563	DATE RECEIVED	: 11/19/93
PROJECT NAME	: BLANCO FIELD M.W.	DATE EXTRACTED	: 11/22/93
CLIENT I.D.	: N31253- mw#5	DATE ANALYZED	: 11/24/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	Qualifier
NAPHTHALENE	<0.50	J
ACENAPHTHYLENE	<1.0	
ACENAPHTHENE	<0.50	
FLUORENE	<0.10	
PHENANTHRENE	<0.05	
ANTHRACENE	<0.05	
FLUORANTHENE	<0.10	
PYRENE	<0.10	
BENZO(A)ANTHRACENE	<0.10	
CHRYSENE	<0.10	
BENZO(B)FLUORANTHENE	<0.10	
BENZO(K)FLUORANTHENE	<0.10	
BENZO(A)PYRENE	<0.10	
DIBENZO(a,h)ANTHRACENE	<0.20	
BENZO(g,h,i)PERYLENE	<0.10	
INDENO(1,2,3-CD)PYRENE	<0.10	
1-METHYLNAPHTHALENE	<0.30	
2-METHYLNAPHTHALENE	<0.30	

SURROGATE PERCENT RECOVERIES

2-CHLOROANTHRACENE (%)	78

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 31136302

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	DATE SAMPLED	: 11/18/93
PROJECT #	: A9563	DATE RECEIVED	: 11/19/93
PROJECT NAME	: BLANCO FIELD M.W.	DATE EXTRACTED	: 11/22/93
CLIENT I.D.	: N31254 - mw #6	DATE ANALYZED	: 11/24/93
SAMPLE MATRIX	: AQUEOUS	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS	Qualifier
NAPHTHALENE	<0.50	J
ACENAPHTHYLENE	<1.0	
ACENAPHTHENE	<0.50	
FLUORENE	<0.10	
PHENANTHRENE	<0.05	
ANTHRACENE	<0.05	
FLUORANTHENE	<0.10	
PYRENE	<0.10	
BENZO(A)ANTHRACENE	<0.10	
CHRYSENE	<0.10	
BENZO(B)FLUORANTHENE	<0.10	
BENZO(K)FLUORANTHENE	<0.10	
BENZO(A)PYRENE	<0.10	
DIBENZO(a,h)ANTHRACENE	<0.20	
BENZO(g,h,i)PERYLENE	<0.10	
INDENO(1,2,3-CD)PYRENE	<0.10	
1-METHYLNAPHTHALENE	<0.30	
2-METHYLNAPHTHALENE	<0.30	

SURROGATE PERCENT RECOVERIES

2-CHLOROANTHRACENE (%)	67

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT	: EL PASO NATURAL GAS CO.	ATI I.D.	: 311363
PROJECT #	: A9563	DATE EXTRACTED	: 11/22/93
PROJECT NAME	: BLANCO FIELD M.W.	DATE ANALYZED	: 11/24/93
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
NAPHTHALENE	<0.50
ACENAPHTHYLENE	<1.0
ACENAPHTHENE	<0.50
FLUORENE	<0.10
PHENANTHRENE	<0.05
ANTHRACENE	<0.05
FLUORANTHENE	<0.10
PYRENE	<0.10
BENZO(A)ANTHRACENE	<0.10
CHRYSENE	<0.10
BENZO(B)FLUORANTHENE	<0.10
BENZO(K)FLUORANTHENE	<0.10
BENZO(A)PYRENE	<0.10
DIBENZO(a,h)ANTHRACENE	<0.20
BENZO(g,h,i)PERYLENE	<0.10
INDENO(1,2,3-CD)PYRENE	<0.10
1-METHYLNAPHTHALENE	<0.30
2-METHYLNAPHTHALENE	<0.30

SURROGATE PERCENT RECOVERIES

2-CHLOROANTHRACENE (%)	84

Acceptable
JS
11/15/93

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 311363

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : A9563
PROJECT NAME : BLANCO FIELD M.W.
REF I.D. : 31136301

DATE ANALYZED : 11/24/93
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ACENAPHTHYLENE	<1.0	20	1.5	8*	14	70	161*
PHENANTHRENE	<0.05	2.5	0.22	9*	2.0	80	160*
PYRENE	<0.10	2.5	0.32	13*	1.7	68	137*
BENZO(K)FLUORANTHENE	<0.10	2.5	0.15	6*	1.4	56	161*
DIBENZ(a,h)ANTHRACENE	<0.20	5.0	0.24	5*	2.5	50	165*

Noted. Sample Results are only Estimates and are qualified as "J".
12/15/93
JS

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

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

* Result out of limits

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 311363

TEST : POLYNUCLEAR AROMATICS (EPA METHOD 8310)

CLIENT : EL PASO NATURAL GAS CO.
PROJECT # : A9563
PROJECT NAME : BLANCO FIELD M.W.
REF I.D. : 31249903

DATE ANALYZED : 11/24/93
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
ACENAPHTHYLENE	<1.0	20	16	80	16	80	0
PHENANTHRENE	<0.05	2.5	2.1	84	2.2	88	5
PYRENE	<0.10	2.5	2.5	100	2.6	104	4
BENZO(K)FLUORANTHENE	<0.10	2.5	2.2	88	2.3	92	4
DIBENZ(a,h)ANTHRACENE	<0.20	5.0	3.9	78	4.0	80	3

Acceptable.
12/15/93
JS

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

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque

CHAIN OF CUSTODY

DATE: 11-15-93 PAGE 1 OF 1

AT LAB I.D.: 311363

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: JOHN LAMBOIN

COMPANY: EL PASO NATURAL GAS CO.
ADDRESS: P.O. BOX 4990
FARMINGTON N.M. 87499
PHONE: 505-599-2144
FAX: 505-599-2261

BILL TO: SAME AS ABOVE
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
N 31253	11-15-93	1152	WATER	-1
N 31254	11-15-93	1204	WATER	-2

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)			Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.			Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)			SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal			The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)	NUMBER OF CONTAINERS
															X											2
															X											2

PROJECT INFORMATION

PROJ. NO.: A9563
PROJ. NAME: BLANCO FIELD M.V.
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	2
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:
107-A9563-01-0911-0058-51-1170

SAMPLED & RELINQUISHED BY: 1.
Signature: Dennis Bird Time: 1408
Printed Name: DENNIS BIRD Date: 11-15-93
Company: EL PASO NATURAL GAS Phone: 599-2144

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 3.
Signature: Time:
Printed Name: Date:
Company:

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

RECEIVED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY:(LAB) 3.
Signature: Time: 1030
Printed Name: Date: 11/16/93
Analytical Technologies, Inc.

ATI Labs: San Diego (619) 458-9141 • Phoenix (602) 496-4400 • Seattle (206) 228-8335 • Pensacola (904) 474-1001 • Portland (503) 684-0447 • Albuquerque (505) 344-3777 DISTRIBUTION: White, Canary - ATI • Pink - ORIGINATOR

Chain of Custody

DATE 11/19/93 PAGE 1 OF 1

NETWORK PROJECT MANAGER: BETH PROFFITT

COMPANY: Analytical Technologies, Inc.
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: [illegible]

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	632/632 MOD	619/519 MOD	610/8310	8240 (TCLP 1311) ZHE	Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)	NACE	ASBESTOS	BOD	TOTAL COLIFORM	FECAL COLIFORM	GROSS ALPHA/BETA	RADIUM 226/228	AIR - O2, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
311363-1	11/18/93	1152	AQ	1								X													2
-2	11/18/93	1204	AQ	2								X													2

PROJECT INFORMATION

PROJECT NUMBER: 311363
PROJECT NAME: EPN
QC LEVEL: (STD.) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

DUE DATE: 12/7/93 W.O. #HJ8780
RUSH SURCHARGE: ____
CLIENT DISCOUNT: 10 %

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	4
CHAIN OF CUSTODY SEALS	NA
INTACT?	Y
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	311363

SAMPLES SENT TO:

SAN DIEGO
FT. COLLINS
RENTON
PENSACOLA
PHOENIX X
BARRINGER
FIBERQUANT

RELINQUISHED BY: 1.
Signature: [signature] Time: 1730
Printed Name: Jerri Dettre Date: 11/19/93
Analytical Technologies, Inc.
Albuquerque

RECEIVED BY: (LAB) 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date
Company:

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 949
Printed Name: Linda Eshelman Date: 11/20/93
Company: ATI

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

October 14, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-397

Ms. A.N. Pundari
Senior Compliance Engineer
El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

RE: GROUND WATER REMEDIATION
EPNG BLANCO FIELD STATION
BLANCO, NEW MEXICO

Dear Ms. Pundari:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Natural Gas Company's (EPNG) October 4, 1993 correspondence documenting the results of EPNG's ground water investigation at their Blanco Field Station and recommending installation of a remediation system.

The remediation proposal contained in the above referenced document **is approved with the following conditions:**

1. EPNG will install two additional monitor wells downgradient of the trench system to monitor the remediation system and further define the extent of contamination.

   One well will be located on the south property line due south of test hole #5 and one monitor well will be located on the south property line due south of test hole #3. The monitor wells will be constructed in the same manner as the previously installed monitor wells with at least ten feet of well screen below the water table and 2 feet of well screen above the water table.

2. Ground water from the new monitor wells will be sampled and analyzed for benzene, toluene, ethylbenzene, xylene and polynuclear aromatic hydrocarbons using EPA approved methods.

3. A completion report containing all information related to construction of the remediation system and installation and sampling of the new monitor wells will be submitted to OCD by January 15, 1994. The report will include a proposal for monitoring the remediation system.

4. EPNG will notify OCD at least one week in advance of all scheduled activities such that OCD may have the opportunity to witness the events and/or split samples.

Please be advised that OCD approval does not relieve EPNG of liability should the proposed system fail to effectively contain and remediate contaminants related to EPNG's activities. In addition, OCD approval does not relieve EPNG of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-5885.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec District Office

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

RECEIVED
OCT 0 6 1993
OIL CONSERVATION DIV.
SANTA FE

October 4, 1993

Mr. Bill Olson
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

Subject : El Paso Natural Gas Company's Blanco Field

In December 1988, while installing a new pipeline, hydrocarbons were discovered in the shallow groundwater. The nearby underground storage tanks (USTs) at the Field Office Garage were suspected to be leaking and were integrity tested. The tanks were found to be " leak tight " in December 1988. In December 1988, groundwater samples were taken from bellholes along the south fence. All of the groundwater analytical results were below WQCC standards.

Although the USTs were not found to be leaking, EPNG decided to remove the tanks in April 1989. In addition, EPNG removed soil near the UST area which had a hydrocarbon odor. This may be due to historical overfilling of the USTs.

Upgradient of the field office, a local garage had a leaking UST. The owners of the garage contracted with Billing and Associates (B&A) to install monitor wells near the leaking UST site and downgradient of the UST on EPNG property. A drawing provided by B & A with monitor well locations is under Tab 1. It is our understanding that free floating product in the groundwater was discovered in a trench along Highway 64 near W-11. EPNG does not know of any current remediation activities associated with the leaking UST.

Mr. Roger Anderson of NMOCD toured the Blanco Field Office in May 1989. He suggested that EPNG install monitor wells within our property. In December 1990, EPNG installed four monitor wells at the site. The monitor well construction details is under Tab 2.

On August 25th, EPNG dug bellholes and obtained soil and groundwater samples. A drawing with the sample locations and a summary of the analytical results is under Tab 3. A tabulation of the 1993 BETX concentrations in groundwater is also under Tab 3.

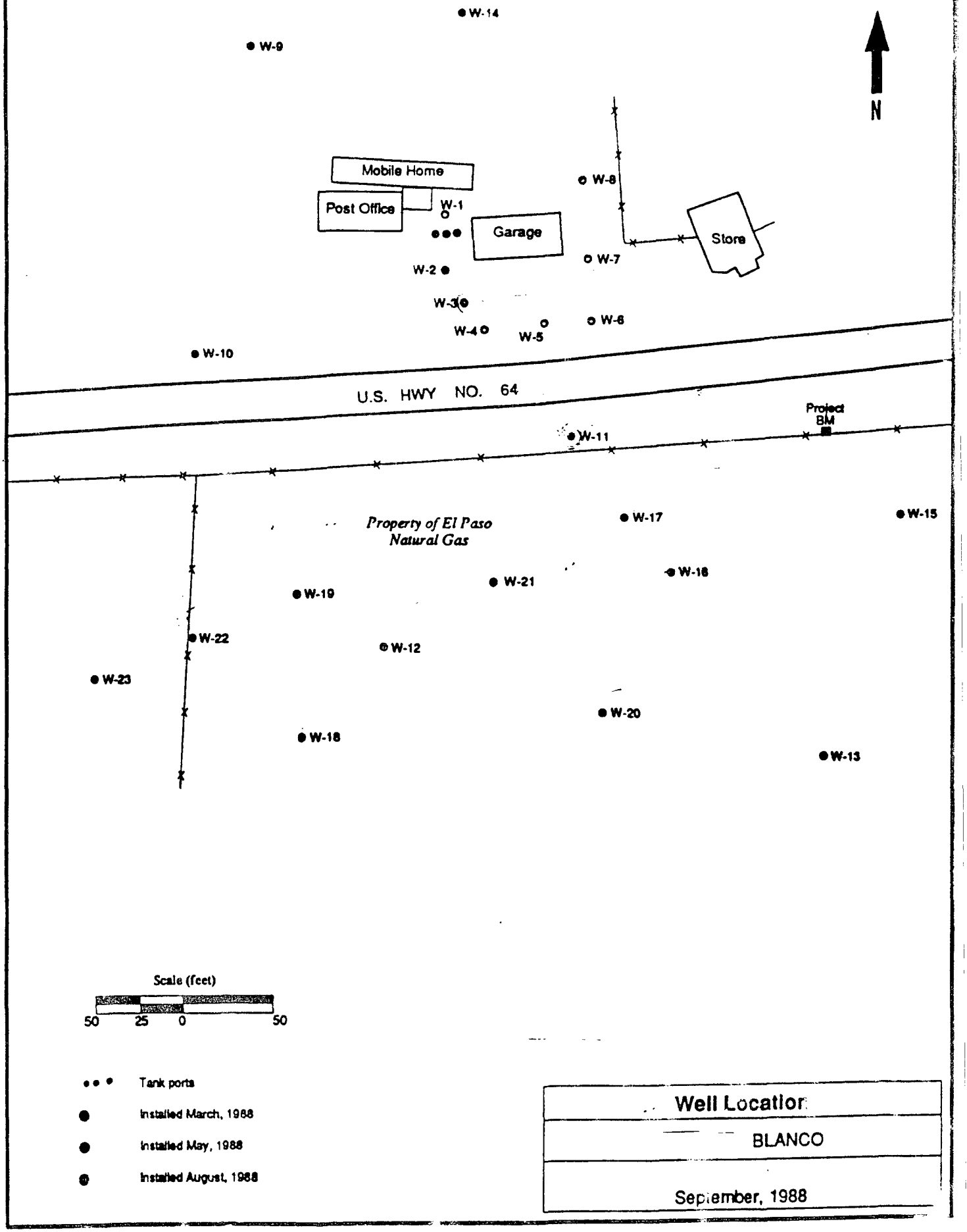
To prevent offsite migration of contaminated groundwater , EPNG proposes to install a passive air stripper system. The system will consist of approximately 150 feet of slotted PVC pipe installed in a gravel bed just above the water table. The system will be driven by a series of wind turbines. The PVC pipe will installed from Testpoint #5 to Testpoint #6.

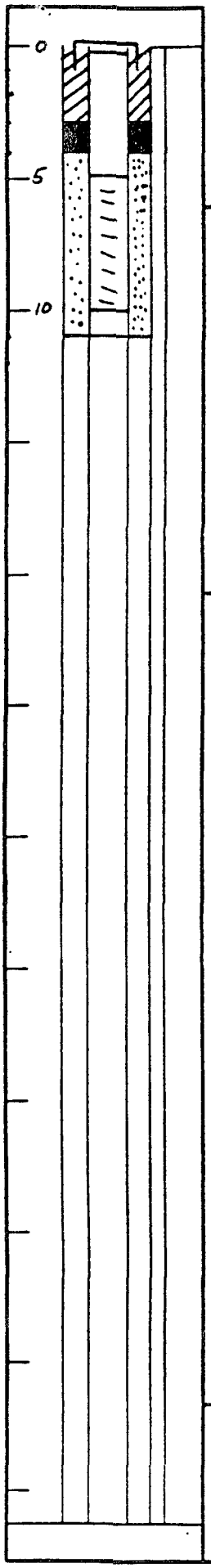
EPNG requests approval to install a passive air stripper system near the south property line. If you need additional information or have any questions please call me at 599-2176.

Anu Pundari

Anu Pundari
Sr. Compliance Engineer

cc: Mr. David Hall (EPNG)


W-14
W-9
N
Mobile Home
Post Office
W-1
Garage
W-8
Store
W-7
W-2
W-3
W-4
W-5
W-6
W-10
U.S. HWY NO. 64
Project BM
W-11
Property of El Paso Natural Gas
W-17
W-15
W-21
W-16
W-19
W-22
W-12
W-23
W-20
W-18
W-13
Scale (feet)
50 25 0 50
Tank ports
Installed March, 1988
Installed May, 1988
Installed August, 1988
Well Location
BLANCO
September, 1988



Well MW-1

Boring No. X-Ref: _____

MONITOR WELL CONSTRUCTION SUMMARY

Survey Coords: _____ Elevation Ground Level _____

Top of Casing _____

SITE NAME BLANCO FIELD OFFICE

LOCATION BLANCO, NM

Drilling Summary:

Total Depth 11 feet
Borehole Diameter 8-inch
Casing Stick-up Height: _____
Driller Sergent, Hauskins & Beckwith Albuquerque, NM
Rig CME-75 Hollow stem auger
Bit(s) N/A

Drilling Fluid NONE

Protective Casing 12-inch locking steel manhole cover

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling	12/6/90	1:15	12/6/90	2:00
Geophys. Logging:				
Casing:	12/6/90	2:05	12/6/90	2:20
Filter Placement:	12/6/90	2:25	12/6/90	2:35
Cementing:	12/7/90	1:35	12/7/90	1:45
Development:	12/7/90	2:15	12/7/90	4:30

Well Design & Specifications

Basis: Geologic Log ____ Geophysical Log ____
Casing String (s): C = Casing S = Screen.

Depth	String(s)	Elevation
0 - 1	C1	____ - ____
3 - 5	C2	____ - ____
5 - 10	S1	____ - ____
10 - 11	End Cap	____ - ____
____ - ____		____ - ____

Casing: C1 12-inch locking steel manhole cover
C2 2-inch SCH 40 PVC flush-threading blank
Screen: S1 2-inch SCH 40 PVC flushing threaded, .010 slot
S2 _____

Filter Pack: Colorado Silica Sand 10-20 mesh 3.8 - 11 feet

Grout Seal: Type II Portland cement 0-2.8 feet

Bentonite Seal: Pel-Plug ¼ inch bentonite pellets 2.8 -3.8 feet

Well Development:

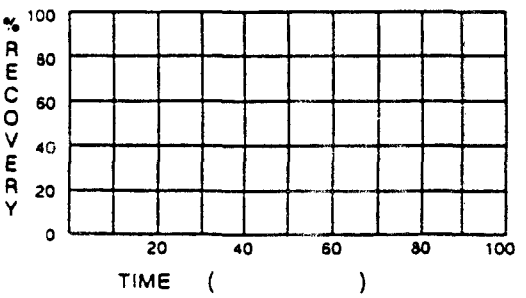
6 volumes were evacuated from the well with a disposable bailer and line.

Stabilization Test Data:

Time	pH	Spec. Cond.	Temp (C)

Recovery Data:

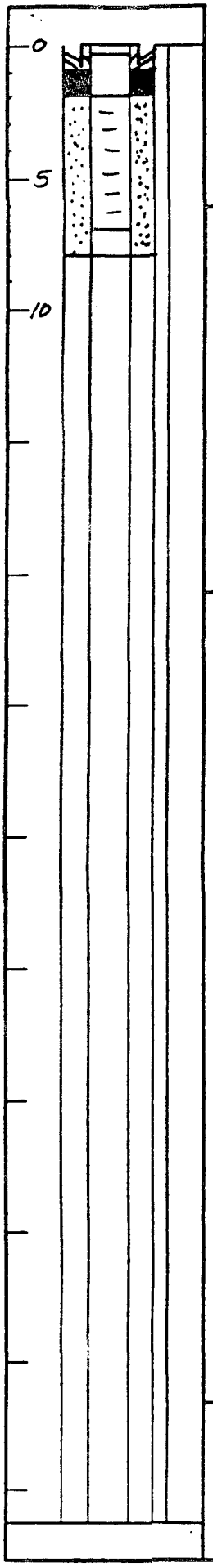
Q= S_o=



Comments:

SUPERVISED BY G GARDNER/A N PUNDARI

DATE 12/6/90



Well MW-2

Boring No. X-Ref:

MONITOR WELL CONSTRUCTION SUMMARY

Survey Coords: _____ Elevation Ground Level _____

Top of Casing _____

SITE NAME BLANCO FIELD OFFICE LOCATION BLANCO NM

SUPERVISED BY G. GALLEGOS/A.N. PUNDALI DATE 12/6/90

Drilling Summary:

Total Depth 8 feet
Borehole Diameter 8-inch
Casing Stick-up Height: _____
Driller Sergent, Hauskins & Beckwith Albuquerque, NM
Rig CME-75 Hollow Stem Auger
Bit(s) N/A
Drilling Fluid NONE
Protective Casing 12-inch locking steel manhole-cover

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling	12/6/90	3:05	12/6/90	3:25
Geophys. Logging:				
Casing:	12/6/90	3:30	12/6/90	3:45
Filter Placement:	12/6/90	3:55	12/6/90	4:05
Cementing:	12/7/90	1:55	12/7/90	2:05
Development:	12/7/90	3:30	12/7/90	6:00

Well Design & Specifications

Basis: Geologic Log ___ Geophysical Log ___
Casing String (s): C = Casing S = Screen.

Depth	String(s)	Elevation
0 - 1	C1	___ - ___
3 - 2	C2	___ - ___
2 - 7	S1	___ - ___
7 - 8	End Cap	___ - ___
___ - ___		___ - ___

Casing: C1 12-inch locking steel manhole cover
C2 2-inch SCH40 PVC flush-threading blank
Screen: S1 2-inch SCH40 PVC Flushing threaded, .010 slot
S2 _____

Filter Pack: Colorado Silica sand 10-20 mesh 2-8 feet
Grout Seal: Type I Portland cement 0-1 feet
Bentonite Seal: Pel-Plug 1/4 inch bentonite pellets 1-2 feet

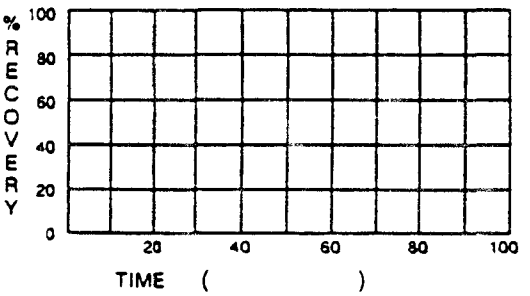
Well Development:

Stabilization Test Data:

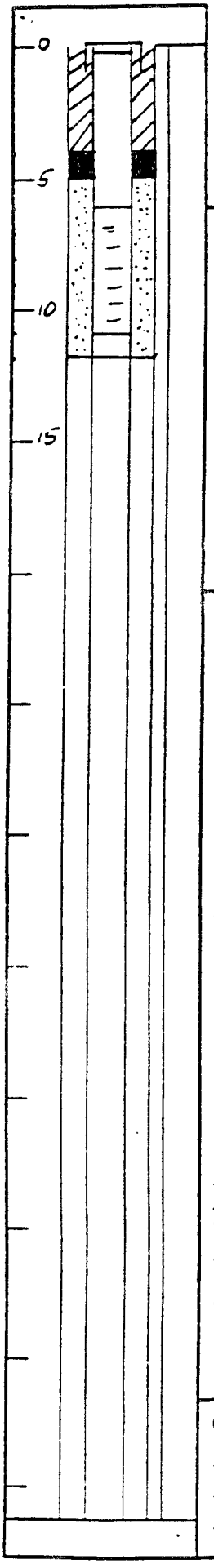
Time	pH	Spec. Cond.	Temp (C)

Recovery Data:

Q= S_o=



Comments:



Well No. MW-3

Boring No. X-Ref: _____

MONITOR WELL CONSTRUCTION SUMMARY

Survey Coords: _____ Elevation Ground Level _____

Top of Casing _____

SITE NAME BLANCO FIELD OFFICE

Drilling Summary:

Total Depth 12 feet
Borehole Diameter 8-inch
Casing Stick-up Height: _____
Driller Sergent, Hauskins & Beckwith
Albuquerque, NM
Rig CME-75 Hollow stem auger
Bit(s) N/A

Drilling Fluid NONE

Protective Casing 12-inch locking steel manhole cover

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling	12/7/90	9:00	12/7/90	9:30
Geophys. Logging:				
Casing:	12/7/90	9:38	12/7/90	9:45
Filter Placement:	12/7/90	10:00	12/7/90	10:10
Cementing:	12/7/90	1:20	12/7/90	1:30
Development:	12/7/90	2:30	12/7/90	5:00

Well Design & Specifications

Basis: Geologic Log ___ Geophysical Log ___
Casing String (s): C = Casing S = Screen.

Depth	String(s)	Elevation
0 - 1	C1	___ - ___
3 - 6	C2	___ - ___
6 - 11	S1	___ - ___
11 - 12	End Cap	___ - ___
___ - ___	___	___ - ___

Casing: C1 12-inch locking steel manhole cover
C2 2-inch SCH 40 PVC flush-threading blank
Screen: S1 2-inch SCH 40 PVC Flushing threaded, .010 slot
S2 _____

Filter Pack: Colorado silica sand 10-20 mesh 5-12 feet

Grout Seal: Type II Portland cement 0-4 feet

Bentonite Seal: Pel-Plug 1/4 inch bentonite pellets 4-5 feet

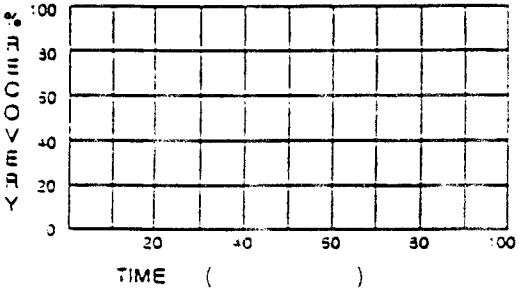
Well Development:

Stabilization Test Data:

Time	pH	Spec. Cond.	Temp (°C)

Recovery Data:

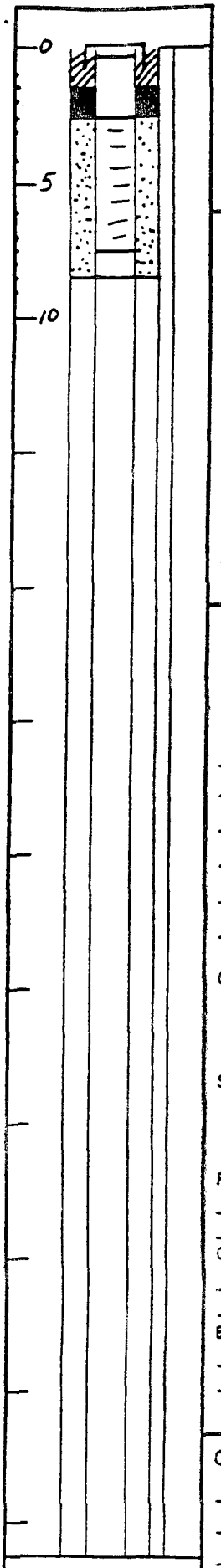
Q= S_o=



Comments:

SUPERVISED BY G. GARIBAY/A.N. LUNDAE

DATE 12/7/90



Well No. MW-4

Boring No. X-Ref: _____

MONITOR WELL CONSTRUCTION SUMMARY

Survey Coords: _____ Elevation Ground Level _____

_____ Top of Casing _____

SITE NAME BLANCO FIELD OFFICE

Drilling Summary:

Total Depth 8.5 feet
Borehole Diameter 8-inch
Casing Stick-up Height: _____
Driller Sergent, Hauskins & Beckwith, Albuquerque, NM
Rig CME-75 Hollow stem auger
Bit(s) N/A
Drilling Fluid NONE
Protective Casing 12-inch locking steel manhole cover

Construction Time Log:

Task	Start Date	Start Time	Finish Date	Finish Time
Drilling	12/7/90	11:00	12/7/90	12:00
Geophys. Logging:				
Casing:	12/7/90	12:30	12/7/90	12:45
Filter Placement:	12/7/90	12:50	12/7/90	12:56
Cementing:	12/7/90	1:00	12/7/90	1:15
Development:	12/7/90	3:00	12/7/90	5:30

Well Design & Specifications

Basis: Geologic Log ___ Geophysical Log ___
Casing String (s): C = Casing S = Screen.

Depth	String(s)	Elevation
0 - 1	C1	___ - ___
.3 - 2.5	C2	___ - ___
2.5 - 8.5	S1	___ - ___
7.5 - 8.5	End Cap	___ - ___
___ - ___		___ - ___

Casing: C1 12-inch locking steel manhole cover
C2 2-inch SCH 40 PVC flush-threading blank
Screen: S1 2-inch SCH 40 PVC flushing threaded, .010 slot
S2 _____
Filter Pack: Colorado silica sand 10-20 mesh 2.5-8.5 feet
Grout Seal: Type II Portland cement 0-1.5 feet
Bentonite Seal: Pel-Plug 1/4 inch Bentonite pellets 1.5-2.5 feet

Well Development:

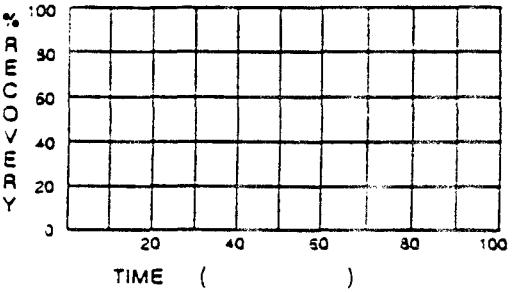
6 volumes were evacuated from the well with a disposable bailer and line.

Stabilization Test Data:

Time	pH	Spec. Cond.	Temp (C)

Recovery Data:

Q= S_o=

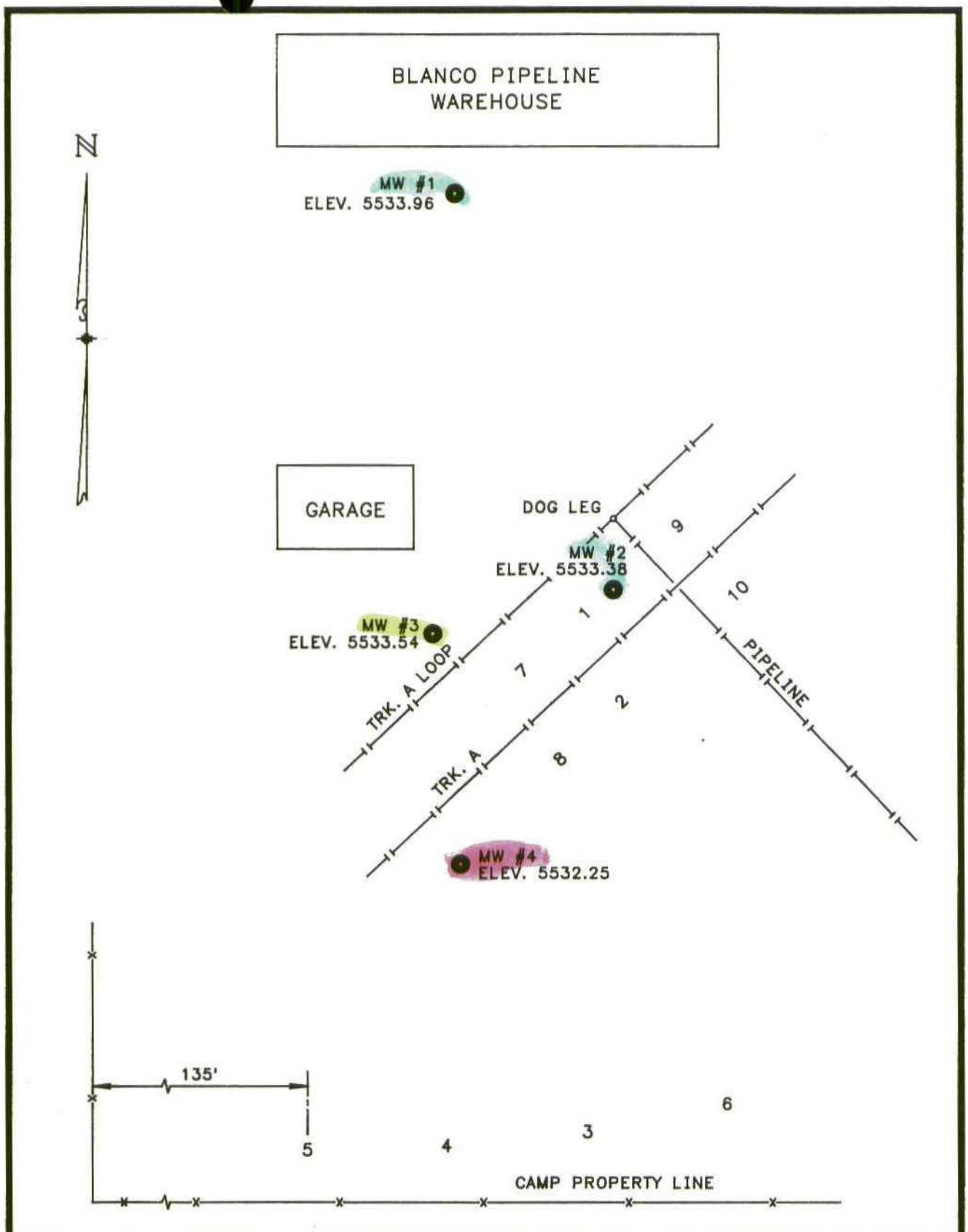


Comments:

_____

SUPERVISED BY G. GARLOCK / A.N. HINDAL

DATE 12/7/90



					ENG.RECORD	DATE		
					DRAWN	MD	12/90	
					CHECK			
					CHECK			
					PROJ.			
PRT.	SEP.	DATE	TO	W.O.	DESIGN			
PRINT RECORD					W.O.	K-5492		

El Paso NATURAL GAS COMPANY

BLANCO FIELD
GROUND WATER MONITORING WELLS

SEC. 18, T-29-N, R-9-W, N.M.P.M.

SCALE 1"=50'	DWG. NO.	REV. 1
CGC NO. SP3142		

9/28/93

Blanco Field Office

Groundwater Analytical Results
August 1993

Test Hole	Depth (Feet)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)
#1	5	<12	<12	850	<12
#2	5	<12	<12	1400	3900
#3	3.5	<5	<5	<5	76
#5	8	16	<2.5	190	99
#7	6	<25	<25	480	330
#8	5.5	<12	36	1500	4300
#10	5	<0.5	<0.5	<0.5	<0.5
Trip Blank	N/A	<0.5	<0.5	<0.5	4.2

Soil Analytical Results
August 1993

Test Hole	Depth (feet)	TPH by Mod.418.1 (mg/kg)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)
#1	4	49	<0.025	<0.025	<0.025	<0.025
#2	2	<10	<0.025	<0.025	0.63	0.26
#2	3.5	44	<0.12	<0.12	1.5	3.9
#3	4	3764	<0.12	<0.12	0.4	1.3
#4	4	<10	<0.025	<0.025	<0.025	<0.025
#5	7	<10	<0.025	<0.025	0.14	0.16
#6	4	<10	<0.025	<0.025	<0.025	<0.025
#7	5	<10	<0.025	<0.025	<0.025	<0.025
#8	5.5	<10	<0.025	<0.025	1.4	4.9
#9	6	<10	<0.025	<0.025	<0.025	<0.025
#10	1.5	11179	<0.025	<0.025	0.037	0.27
#10	6	<10	<0.025	<0.025	<0.025	<0.025

Monitor Wells
1993 Summary

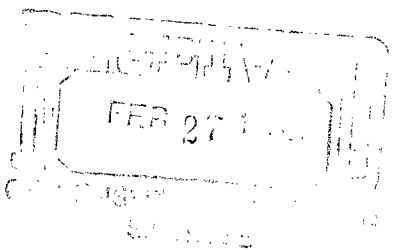
Well Number	Sample Date	Static Level (feet)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)
1	1/25/93	3.8	<5	<5	<5	<5
2	1/25/93	2.7	<5	<5	<5	<5
3	1/25/93	3.8	7.1	8.7	85.7	122
4	1/25/93	2.2	447	76	298	657
1	4/30/93	4.1	<2	<2	<2	<2
2	4/30/93	2.55	<2	<2	<2	<2
3	4/30/93	3.9	7.2	6.8	234	146
4	4/30/93	1.9	172	27.2	183	294
1	7/21/93	5.6	<2	<2	<2	<2
2	7/21/93	4.2	<2	<2	<2	<2
3	7/21/93	5.5	7.9	<2	97	10
4	7/21/93	3.6	63	4.4	68	92

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978

PHONE: 915-541-2600

February 17, 1989



Mr. David Boyer, Chief
Environmental Bureau
Energy and Mineral Department
New Mexico Oil Conservation Division
310 Old Santa Fe Trail, 206
Sante Fe, New Mexico 87504

Reference: **Underground Storage Tanks**
at Blanco Field and Kutz Field

Dear Mr. Boyer:

During our meeting in your offices yesterday, you inquired about the situation with the referenced tanks. I am enclosing copies of the information sent to Ms. Helen Shumway at the New Mexico Environmental Improvement Division.

If you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph.D., C.E.P.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

Enclosures

cc: Helen Shumway, NMEID
File: 5206 h/w
5216 h/w

Chron

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

January 30, 1989

Ms. Helen Shumway
Underground Storage Tank Division
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

Reference: **Blanco Field Underground Storage Tanks**

Dear Ms. Shumway:

Enclosed for your review are the following documents comprising the groundwater quality evaluation report which documents the leaking underground tank incident at the Blanco Field facility:

- Sample Location Map
- Groundwater and Soil Analyses
- Tabulated Analytical Results
- Tank Integrity Test Results

Both tanks passed the integrity test. The gasoline tank (EPNG No. 5206-1) had a small leak in the fill neck. The fill neck was repaired.

If you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph.D., C.E.P.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

Enclosures

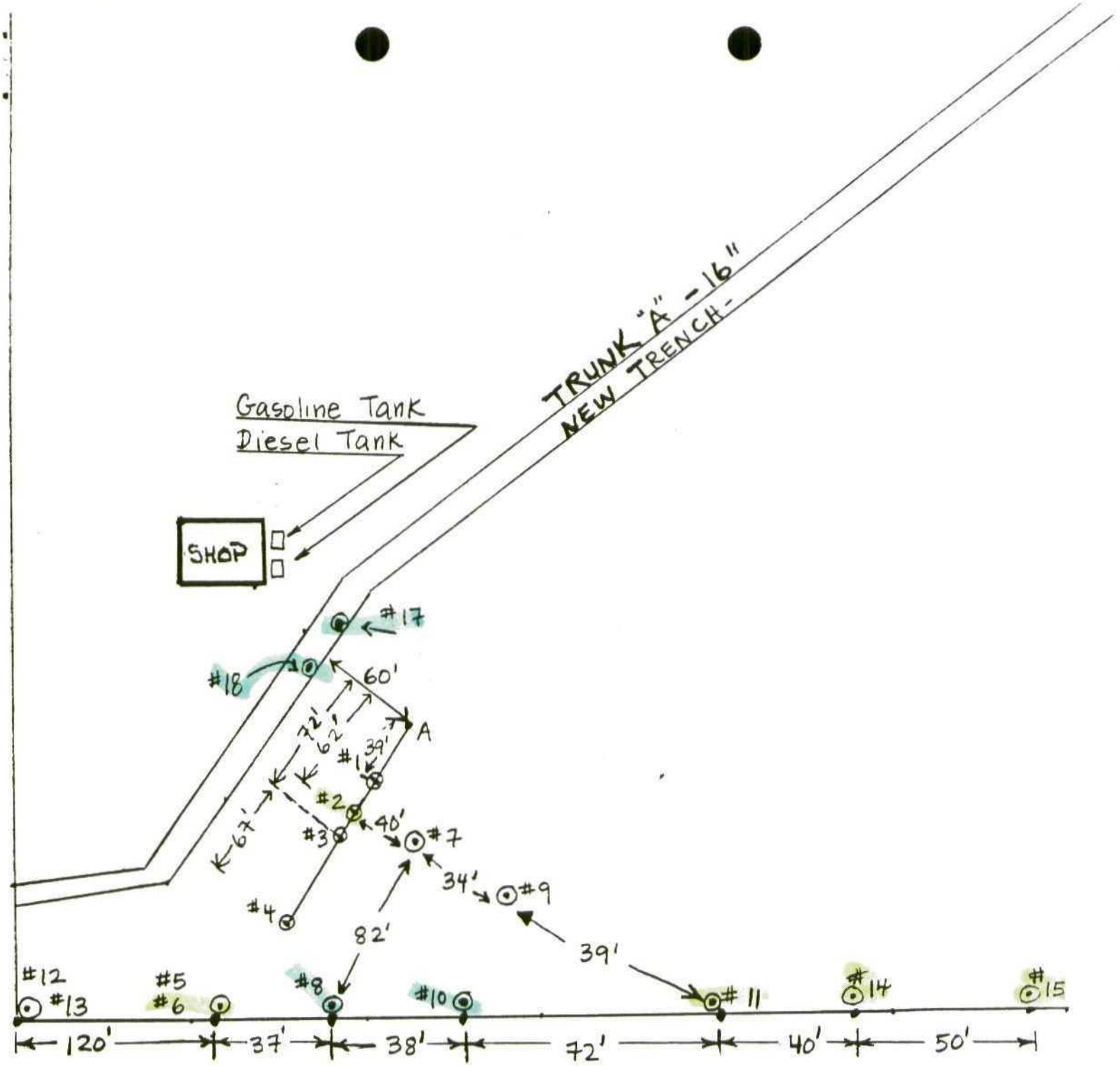
cc: A. N. Pundari

BLANCO FIELD
GROUNDWATER QUALITY
EVALUATION

SAMPLE LOCATION MAP

El Paso Natural Gas Co.

January 30, 1989



Not to Scale

⊙: Sample Locations

BLANCO FIELD GROUNDWATER QUALITY EVALUATION

BY: ANIL PUNDARI
Compliance Engr.

EL PASO NATURAL GAS CO.
DEC. 5, 1988

BLANCO FIELD
GROUNDWATER QUALITY EVALUATION

GROUNDWATER AND SOIL ANALYSES

El Paso Natural Gas Co.

January 30, 1989

EL PASO NATURAL GAS COMPANY

ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Water Sample No. F88353 Time ☐☐☐☐ 24 Hr

Sample Location Blanco Field - 120 ft from SW corner Charge ____

Sampling Site Description #6 on field notes

Date of Collection (MMDDYY) 120588 Collection Method ☒ Grab ☐ Comp. ____

Sample Collected By A. Pundari Phone ____

Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(P(
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TC
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS ____

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30			Turbidity
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)	
A. Pundari 12/9/88			Flow
(Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	
EPNG			Chlorine, Total
(Company)	(Company)	(Company)	
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen
Ron Richardson 16:45			
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
RON RICHARDSON 12-9-88			
(Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88353	Date Sampled:	12/05/88
Laboratory Number:	F2309	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	1.4	(0.2)	ug/l
	ETHYLBENZENE	5.7	(0.2)	ug/l
	TOLUENE	0.6	(0.2)	ug/l
*	m,p-XYLENE	ND	(0.2)	ug/l
	o-XYLENE	ND	(0.2)	ug/l
	NAPHTHALENE	ND	(1.0)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS COMP
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Water Sample No. F88354 Time ☐☐☐☐ 24 Hr.

Sample Location Blanco Field - 157 ft from SW corner Charge

Sampling Site Description #8 on field notes

Date of Collection (MMDDYY) 120588 Collection Method ☒ Grab ☐ Comp.

Sample Collected By A. Pundari Phone 325-2841

Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PC
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TCE
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30			Turbidity
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)	
A. Pundari 12/5/88			Flow
(Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	
EPNG			Chlorine, Total
(Company)	(Company)	(Company)	
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen
Ron Kirkendall 1645			
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
Ron Kirkendall 12-9-88			
(Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
TML			

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88354	Date Sampled:	12/05/88
Laboratory Number:	F2310	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.2)	ug/l
	ETHYLBENZENE	ND	(0.2)	ug/l
	TOLUENE	ND	(0.2)	ug/l
*	m,p-XYLENE	ND	(0.2)	ug/l
	o-XYLENE	ND	(0.2)	ug/l
	NAPHTHALENE	ND	(1.0)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS COMP
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Water Sample No. F88355 Time ☐☐☐☐ 24 Hr.
Sample Location Blanco Field - 195 feet from SW corner Charge
Sampling Site Description #10 on field notes
Date of Collection (MMDDYY) 120588 Collection Method ☒ Grab ☐ Comp.
Sample Collected By A. Pundari Phone 325-2841
Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PC
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TCE
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30			Turbidity
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)	
A. Pundari 12/5/88			Flow
(Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	
EPNG			Chlorine, Total
(Company)	(Company)	(Company)	
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen
Ron Richardson 1645			
(Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
Ron Richardson 12-9-88			
(Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
IML			

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88355	Date Sampled:	12/05/88
Laboratory Number:	F2311	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.2)	ug/l
	ETHYLBENZENE	ND	(0.2)	ug/l
	TOLUENE	ND	(0.2)	ug/l
*	m,p-XYLENE	ND	(0.2)	ug/l
	o-XYLENE	ND	(0.2)	ug/l
	NAPHTHALENE	ND	(1.0)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

** Spike Analysis

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID: : F88355
Laboratory Number: F2311
Analysis Requested: Purgable Aromatics
Sample Matrix: Water

Date Sampled: 12/05/88
Date Received: 12/09/88
Date Extracted: NA
Date Analyzed: 12/19/88

Parameter	Spike	Concentration	(Recovery)	Units
BENZENE	10.0	9.7 (0.2)	97.0 %	ug/l
ETHYLBENZENE	10.0	9.0 (0.2)	90.0 %	ug/l
TOLUENE	10.0	10.2 (0.2)	102 %	ug/l
m,p-XYLENE	10.0	7.4 (0.2)	74.0 %	ug/l
o-XYLENE	15.0	13.4 (0.2)	95.7 %	ug/l
NAPHTHALENE		ND (1.0)		ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS COM.

ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Water Sample No. F88356 Time ☐☐☐☐ 24 Hr.

Sample Location Blanco Field - 267 feet from SW corner Charge ____

Sampling Site Description #11 on field notes

Date of Collection (MMDDYY) 121588 Collection Method ☒ Grab ☐ Comp. ____

Sample Collected By A. Pundari Phone 325-2841

Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PC
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TCE
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS ____

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	Turbidity
A. Pundari 12/5/88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Flow
EPNG (Company)	(Company)	(Company)	Chlorine, Total m
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen m
Ron Richardson 1645 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH u
Ron Richardson 12-9-88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
IML			

903

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88356	Date Sampled:	12/05/88
Laboratory Number:	F2312	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.2)	ug/l
	ETHYLBENZENE	ND	(0.2)	ug/l
	TOLUENE	0.5	(0.2)	ug/l
*	m,p-XYLENE	1.1	(0.2)	ug/l
	o-XYLENE	ND	(0.2)	ug/l
	NAPHTHALENE	ND	(1.0)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemis

EL PASO NATURAL GAS COM
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Water Sample No. F88357 Time ☐☐☐☐ 24 Hr.

Sample Location Blanco Field - 307 feet from SW corner Charge

Sampling Site Description # 14 on field notes

Date of Collection (MMDDYY) 120888 Collection Method ☒ Grab ☐ Comp.

Sample Collected By A. Pundari Phone 325-2841

Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PC
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TC
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	Turbidity
A. Pundari 12/9/88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Flow
EPNG (Company)	(Company)	(Company)	Chlorine, Total
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen
Ron Richardson 1645 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
RON RICHARDSON 12 9 88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
+ ML			

083

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88357	Date Sampled:	12/08/88
Laboratory Number:	F2313	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	1.1	(0.2)	ug/l
	ETHYLBENZENE	ND	(0.2)	ug/l
	TOLUENE	0.3	(0.2)	ug/l
*	m,p-XYLENE	ND	(0.2)	ug/l
	o-XYLENE	ND	(0.2)	ug/l
	NAPHTHALENE	ND	(1.0)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS COMP
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix water Sample No. F88358 Time ☐☐☐☐ 24 Hr.

Sample Location Blanco Field - 357 ft from SW corner Charge

Sampling Site Description #15 on field notes

Date of Collection (MMDDYY) 120888 Collection Method ☒ Grab ☐ Comp.

Sample Collected By A. Pundari Phone 325-2841

Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-I
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PCI
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TCE
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	Turbidity
A. Pundari 12/9/88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Flow
EPNG (Company)	(Company)	(Company)	Chlorine, Total
RECEIVED BY 1.	RECEIVED BY 2.	RECEIVED BY 3.	Dissolved, Oxygen
Ron Richardson 16:45 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
RON RICHARDSON 12-9-88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
IML			

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88358	Date Sampled:	12/08/88
Laboratory Number:	F2314	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.2)	ug/l
	ETHYLBENZENE	ND	(0.2)	ug/l
	TOLUENE	0.4	(0.2)	ug/l
*	m,p-XYLENE	ND	(0.2)	ug/l
	o-XYLENE	ND	(0.2)	ug/l
	NAPHTHALENE	ND	(1.0)	ug/l

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS CO
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Soil Sample No. F88359 Time ☐☐☐☐ 24 Hr
Sample Location Blanco Field - Trench parrelled to pipline Charge
Sampling Site Description # 2 on field notes
Date of Collection (MMDDYY) 120588 Collection Method ☒ Grab ☐ Comp.
Sample Collected By A. Pundari Phone 325-2841
Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(P
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TC
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	Turbidity
A. Pundari 12/9/88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Flow
EPNG (Company)	(Company)	(Company)	Chlorine, Total
RECEIVED BY 1.	RECEIVED BY 2.	RECEIVED BY 3.	Dissolved, Oxygen
Ron Richardson 11:45 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
Ron Richardson 12988 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
IML			

03

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88359	Date Sampled:	12/05/88
Laboratory Number:	F2315	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracte:	12/12/88
Sample Matrix:	Soil	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.5)	mg/kg
	ETHYLBENZENE	ND	(0.5)	mg/kg
	TOLUENE	ND	(0.5)	mg/kg
*	m,p-XYLENE	ND	(0.5)	mg/kg
	o-XYLENE	ND	(0.5)	mg/kg
	NAPHTHALENE	3.4	(0.5)	mg/kg

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS COMP.
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Soil Sample No. F88360 Time ☐☐☐☐ 24 Hr.

Sample Location Blanco Field - ~~Basin~~ In Pipeline Trench Charge

Sampling Site Description #17 on field notes

Date of Collection (MMDDYY) 120788 Collection Method ☒ Grab ☐ Comp.

Sample Collected By Jimmy Fee Phone 325-2841

Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-D
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PCE
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TCE
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pardan 14:30 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	Turbidity
A. Pardan 12/9/88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Flow
EPNG (Company)	(Company)	(Company)	Chlorine, Total
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen
Ron Richardson 1645 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
RON RICHARDSON 12-9-88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
IML			

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88360	Date Sampled:	12/07/88
Laboratory Number:	F2316	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracte:	12/12/88
Sample Matrix:	Soil	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.5)	mg/kg
	ETHYLBENZENE	ND	(0.5)	mg/kg
	TOLUENE	ND	(0.5)	mg/kg
*	m,p-XYLENE	ND	(0.5)	mg/kg
	o-XYLENE	ND	(0.5)	mg/kg
	NAPHTHALENE	ND	(0.5)	mg/kg

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

EL PASO NATURAL GAS COMP
ENVIRONMENTAL SAMPLING DATA

Facility No. ☐☐☐☐☐ Sample Matrix Soil Sample No. F83861 Time ☐☐☐☐ 24 Hr.
Sample Location Blanco Field - In pipeline trench Charge
Sampling Site Description #18 on field notes
Date of Collection (MMDDYY) 120788 Collection Method ☒ Grab ☐ Comp.
Sample Collected By Jimmy Fine Phone 325-2841
Laboratory Conducting Analysis IML

ANALYSIS REQUESTED *(check appropriate blocks)*

	GROUP A		Hardness		Residue, Nonfilterable		GROUP T
	Ammonia		Iron		Residue, Settleable	X	Benzene
	Chemical Oxygen Demand		Lead		Residue, Volatile		Benzo-a-pyrene
	Kjeldahl Nitrogen		Magnesium		Silica		Bromoform
	Nitrate		Manganese		Sulfate		Bromodichloromethane
	Nitrite		Mercury		Sulfite		Carbon Tetrachloride
	Oil & Grease		Molybdenum		Surfactants-MBAS		Chloroform
	Organic Carbon		Nickel				Chloromethane
	Orthophosphate		Potassium		GROUP H		Dibromochloromethane
	Phosphorus, Total		Selenium		BHC Isomers		1,1-Dichloroethene (DCE)
			Silver		Chlordane		1,2-Dichloroethane (EDC)
	GROUP D		Sodium		DDT Isomers		1,1-Dichloroethylene (1,1-
	Cyanide, Total		Thallium		Dieldrin	X	Ethylbenzene
			Zinc		Endrin		Ethylene Dibromide
	GROUP E				Heptachlor		Methylene Chloride
	Phenols		GROUP G		Heptachlor Epoxide		Monomethylnapthalenes
			Acidity, Total		Lindane	X	Naphthalene, Total
	GROUP F		Alkalinity, Total		Methoxychlor		PAH
	Aluminum		Alkalinity, Bicarbonate		Toxaphene		PCBs
	Arsenic		Bromide		2,4-D		1,1,2,2Tetrachloroethane(PC
	Barium		Carbon Dioxide		2,4,5-TP-Silvex		1,1,1-Trichloroethane
	Beryllium		Chloride		2,4,5-T		1,1,2 Trichloroethane
	Boron		Color				1,1,2 Trichloroethylene (TCE
	Cadmium		Fluoride		GROUP J		Trihalomethanes
	Calcium		Iodide		Sulfides		TOX
	Chromium, Total		Odor			X	Toluene
	Cobalt		Residue, Total		Asbestos		Vinyl Chloride
	Copper		Residue, Filterable (TDS)		Ignitability	X	Xylenes, Total

COMMENTS/SPECIAL INSTRUCTIONS

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.	ON SITE ANALYSES
A. Pundari 16:30 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	Turbidity
A. Pundari 12/9/88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Flow
EPNG (Company)	(Company)	(Company)	Chlorine, Total
RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY 3.**	Dissolved, Oxygen
Ron Richardson 1145 (Signature) (Time)	(Signature) (Time)	(Signature) (Time)	pH
RON RICHARDSON 12 9 88 (Print Name) (Date)	(Print Name) (Date)	(Print Name) (Date)	Temperature
IML			

Report Date: 01/03/89

Client: El Paso Natural Gas

Sample ID:	F88361	Date Sampled:	12/07/88
Laboratory Number:	F2317	Date Received:	12/09/88
Analysis Requested:	Purgable Aromatics	Date Extracte:	12/12/88
Sample Matrix:	Soil	Date Analyzed:	12/19/88

	Parameter	Concentration		Units
	BENZENE	ND	(0.5)	mg/kg
	ETHYLBENZENE	ND	(0.5)	mg/kg
	TOLUENE	ND	(0.5)	mg/kg
*	m,p-XYLENE	ND	(0.5)	mg/kg
	o-XYLENE	ND	(0.5)	mg/kg
	NAPHTHALENE	ND	(0.5)	mg/kg

Method: 8020 Aromatic Volatile Organics, SW-846, USEPA (1982)
602 Purgable Aromatics, 40 CFR Part 136, USEPA (1984)

(Detection limit in parenthesis.)
ND - Parameter not detected at the stated detection limit.

* Meta and para xylene coelute on the capilary system.

Jack M. Morgan
Senior Organic Chemist

BLANCO FIELD
GROUNDWATER QUALITY
EVALUATION

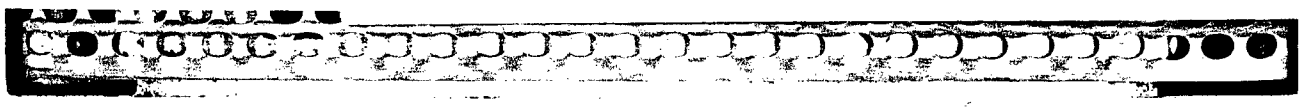
TABULATED
ANALYTICAL RESULTS

El Paso Natural Gas Co.

January 30,1989

SAMPLE
F88353
F88354
F88355
F88356
F88357
F88358
F88359
F88360
F88361

* Concentra
ND: Parameter
NOTE: This g



BLANCO FIELD
GROUNDWATER QUALITY EVALUATION

TANK INTEGRITY TEST RESULTS

El Paso Natural Gas Co.

January 30, 1989

SAN JUAN ENGINEERS

2101 SAN JUAN BOULEVARD FARMINGTON, NEW MEXICO 87401 TELEPHONE 505-325-7535

December 30, 1988

El Paso Natural Gas
P. O. Box 4990
Farmington, NM 87499

72861

ATTN: Anu Pundari

Dear Ms. Pundari:

Enclosed are the tank integrity testing results for two fuel tanks located at your Blanco field installation. Both tanks were tested with water and had an indicated leak rate of less than 0.05 gph. The tanks that were tested are as follows:

Location	Contents	Volume	Registry No.
Blanco Camp	Gasoline	2,000 gal	EPNG 5206-1
Blanco Camp	Diesel	1,000 gal	EPNG 5206-2

I understand that both these tanks are scheduled for removal.

During the test I discovered what I believe to be a leak in the fill neck of the gasoline tank (EPNG 5206-1). I do not believe this leak would be of significant environmental concern since the tank tested as tight, and fuel does not normally stand in the filler neck. However, I would recommend that during demolition an inspection by a qualified person be made to determine the historical leakage, if any. This inspection would consist of looking for discolored soil and perhaps sampling.

If any questions remain on this matter, please call me.

Very truly yours,

SAN JUAN ENGINEERS

Robert B. Stannard

Robert B. Stannard, Jr., P.E.
Vice President

RBS/ig
Enclosures

SOILTEST

AINLAY TANK TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR

NAME / ADDRESS / PHONE

El Paso Natural Gas, P. O. Box 4990, Farmington, NM 87499 (505) 325-28-

2 TANKS TO BE TESTED

IDENTIFICATION	CAPACITY—GALS	MANUFACTURER	STEEL FIBRGLS	AGE—YRS
5206-1	1,000	Unknown	Unknown	20-
5206-2	1,000	Unknown	Unknown	20-

3 WATER TABLE

DISTANCE FROM GRADE TO WATER N/A INS. No groundwater detected.

4 TANK FILL-UP

TANK WILL BE FILLED _____ (TIME) ON / / Filled 36 hours prior to arrival with water.

EXTRA 5 GALS PRODUCT AVAILABLE FROM _____

FILL UP TO BE ARRANGED BY MR. _____ PHONE ( )

CONTACT AT STORAGE TERMINAL IS MR. _____ PHONE ( )

5 OUTSIDE CONTRACTORS

NAME	ADDRESS	PHONE
None		

6 OFFICIALS TO BE CONTACTED

NAME	AUTHORITY	PHONE
Jimmy Fine	EPNG	325-2841
Anu Pundari	EPNG	325-2841

7 SPECIAL NOTES OR PRECAUTIONS

TANK TESTED WITH WATER.

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G P H	TEST DATE
5206-1	XX		.00	12/9/88
5206-2	XX		.01	12/6/88

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE

SIGNED Jeffrey J Sowka CERTIFICATE NO. 1260

ISSUE DATE 12/28/88

FOR (TEST COMPANY) San Juan Engineers

ADDRESS 2101 San Juan Blvd.

Farmington, NM 87401

STATE ZIP

516 (REV 2-87)

AINLAY TANK TIGHTNESS TEST No. 1

10 TANK I.D.

INCLUDE ENOUGH INFO TO ACCURATELY IDENTIFY TANK (NUMBER CONTENTS POSITION, ETC

TANK DIAMETER 65 INS FILL PIPE LENGTH 29.5 INS

11 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS

(b) START WATER IN TANK 2,000 GALS (d) END WATER IN TANK 2,000 GALS

TANK TESTED WITH WATER.

12 PRODUCT VOLUME

(a) NOMINAL CAPACITY 2,000 GALS (c) DEDUCT WATER IN TANK N/A GALS

(b) ACTUAL CAPACITY N/A GALS (d) TOTAL PRODUCT VOL 2,000 GALS

(FROM TANK CHART)

13 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = N/A (h) INS

(b) DENSITY OF TANK PRODUCT = --- (w) LB/CU IN (FROM TABLES)

DENSITY OF EXTERNAL WATER = 0.036 LB/CU IN

(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)} = \frac{\times\ 0.036}{----} = $ ---- INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

14 PRELIM TEST DATA

(a) START TEMP CHECK 9:40 AM/~~PM~~ (d) A.P.I. GRAVITY N/A AT N/A °F

(b) END TEMP CHECK 11:00 AM/~~PM~~ (e) A.P.I. GRAVITY N/A AT 60°F

(c) TIME SINCE LAST LIQ. ADDED 24 HRS (f) COEFF. OF EXPANSION .00004887

15 TEST DATA

(a) START TEST 11:10 AM/~~PM~~ END TEST 12:30 ~~AM~~/PM. TEST TIME 80 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD AVG
11:10	49.9483	49.9844	51.1846	50.2778					
12:30	49.9191	49.9806	51.1749	50.2661					

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 50.2661 − 50.2778 = −.0117 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.

= 2,000 (12d) × −.0117 (15b) × .00004887 (14f) = −.0011 GALS.

(d) TOTAL LIQUID VOL. ADDED/~~SUBTRACTED~~ AT END OF TEST ..... = +/~~−~~.006 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = −.0011 + .006 = +/~~−~~.0049 GALS.

(f) LEAK RATE = $\frac{\text{(e)} \times 60}{\text{TIME OF TEST (MINS)}} = \frac{.0049 \times 60}{80}$ (15a) = .00 G.P.H.

THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB EPNG
ADDRESS Blanco Comp Gas Tank 5206-1
DATE 12/9 / 88
TESTER Robert B. Stannard
TEST COMPANY San Juan Engineers

AINLAY TANK TIGHTNESS TEST No. 2

JOB EPNG DATE 12 / 6 / 88
ADDRESS Blanco Camp Diesel Tank 5206-2 TEST COMPANY San Juan Engineers
TESTER Robert B. Stannard

16 TANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION. ETC.)

TANK DIAMETER 46 INS FILL PIPE LENGTH 27 INS

17 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 1,000 GALS (d) END WATER IN TANK 1,000 GALS
TANK TESTED WITH WATER

18 PRODUCT VOLUME

(a) NOMINAL CAPACITY 1,000 GALS (c) DEDUCT WATER IN TANK N/A GALS
(b) ACTUAL CAPACITY N/A GALS (d) TOTAL PRODUCT VOL. 1,000 GALS
(FROM TANK CHART)

19 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = N/A (h) INS
(b) DENSITY OF TANK PRODUCT = --- (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times\ 0.036}{----}$ = ---- IN

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

20 PRELIM TEST DATA

(a) START TEMP CHECK 10:10 AM/~~PM~~ (d) A.P.I. GRAVITY N/A AT N/A °F
(b) END TEMP CHECK 11:45 AM/~~PM~~ (e) A.P.I. GRAVITY N/A AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 24 HRS (f) COEFF. OF EXPANSION .00004887

21 TEST DATA

(a) START TEST 11:50 AM/~~PM~~ END TEST 12:55 ~~AM~~/PM TEST TIME 65 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD AVG	TIME	TEMP 1	TEMP 2	TEMP 3	WTD AVG
11:50	50.2986	50.2036	50.1943	50.2249					
12:55	50.2749	50.1983	50.2082	50.2207					

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 50.2207 − 50.2249 = ~~+~~ -.0042 °F

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 1,000 (18c) × -.004 (21b) × .00004887 (20f) = ~~+~~ - .00 GALS

(d) TOTAL LIQUID VOL. ADDED/~~SUBTRACTED~~ AT END OF TEST = ~~+~~ .01 GALS

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] = -.00 + .01 = ~~+~~ .01 GALS

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{.01 \times 60}{65}$ (21a) = .01 G.P.H

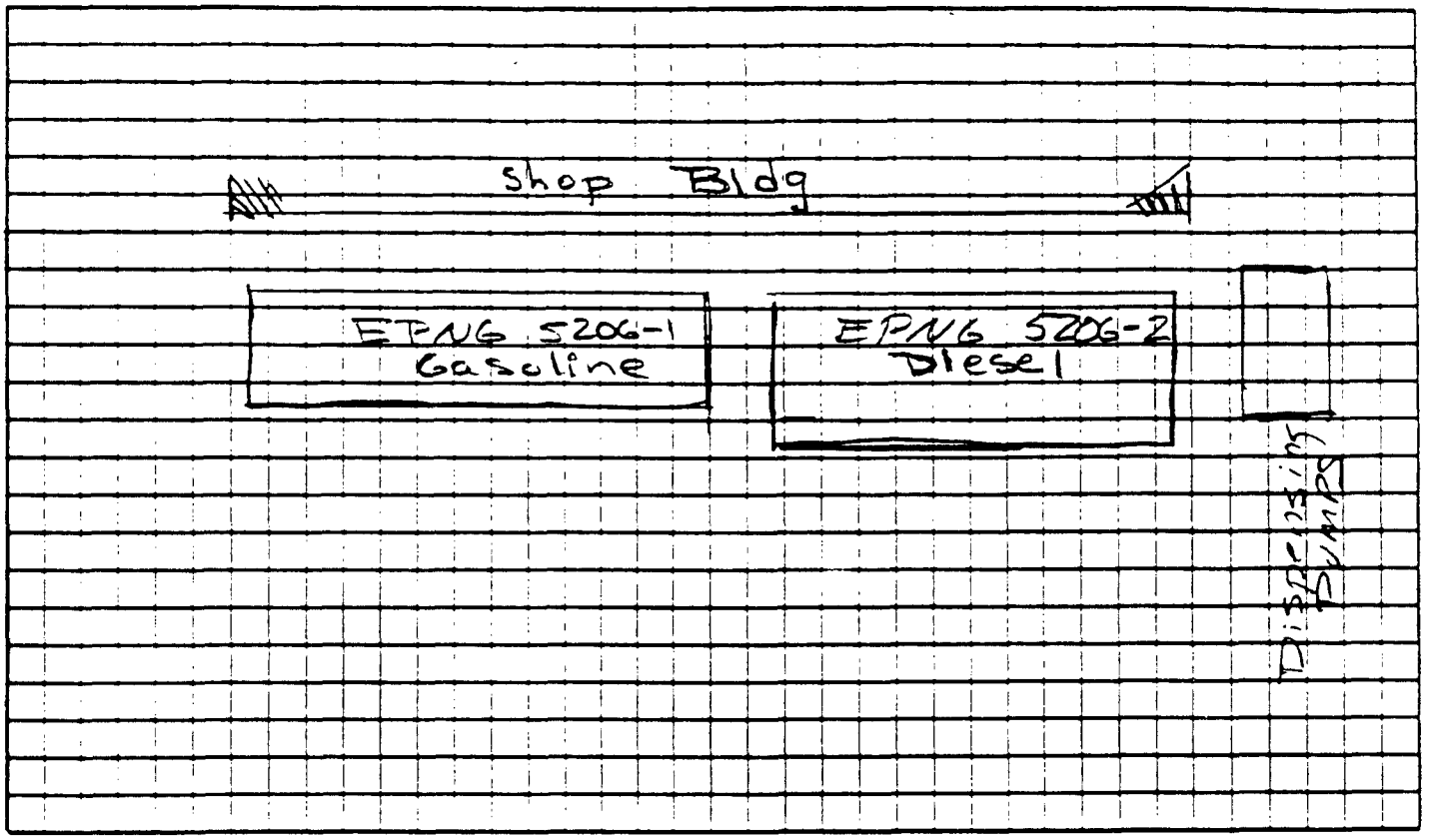
THIS LEAK RATE DOES/~~DOES NOT~~ EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT [X] / THE TANK IS NOT TIGHT [ ]

TEST SITE LAYOUT

22

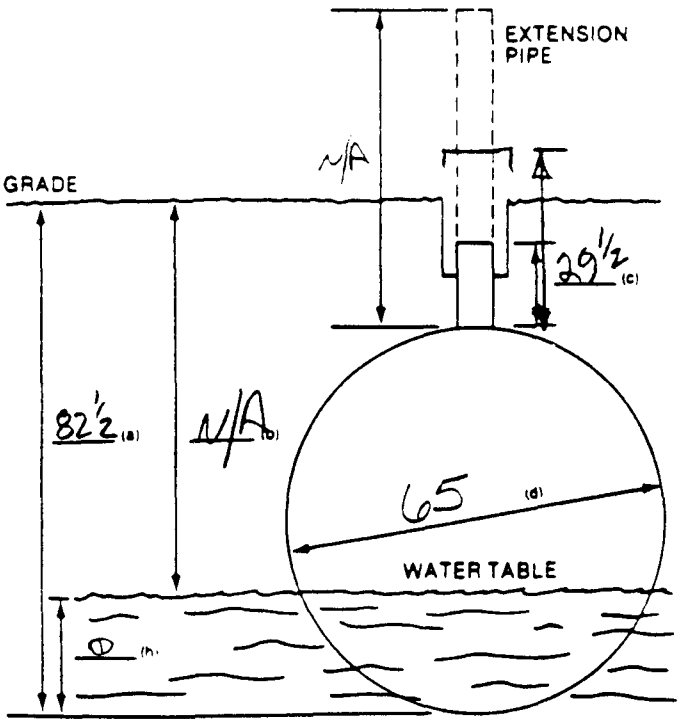
TESTER Robert B. Stannard
TEST COMPANY San Juan Engineers



23

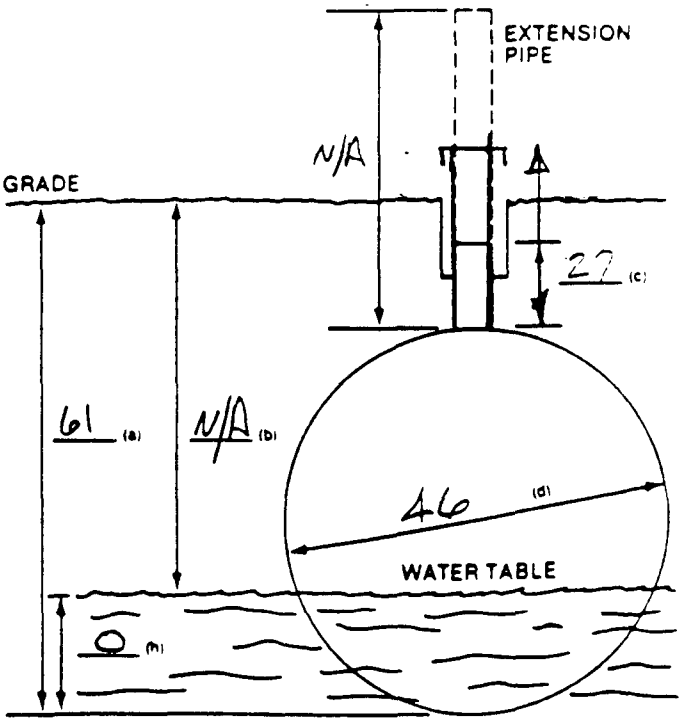
JOB EPNG
ADDRESS Blanco Camp Gas & Diesel Tanks 5206-1 & 5206-2
DATE 12/1689/88

TEST 1: TANK DIMENSIONS



TANK IDENT EPNG 5206-1

TEST 2: TANK DIMENSIONS



TANK IDENT. EPNG 5206-2

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

February 17, 1989

Mr. David Boyer, Chief
Environmental Bureau
Energy and Mineral Department
New Mexico Oil Conservation Division
310 Old Santa Fe Trail, 206
Sante Fe, New Mexico 87504

Reference: **Underground Storage Tanks**
at Blanco Field and Kutz Field

Dear Mr. Boyer:

During our meeting in your offices yesterday, you inquired about the situation with the referenced tanks. I am enclosing copies of the information sent to Ms. Helen Shumway at the New Mexico Environmental Improvement Division.

If you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph.D., C.E.P.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

Enclosures

cc: Helen Shumway, NMEID
File: 5206 h/w
5216 h/w

Chron

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

FEDERAL EXPRESS

January 25, 1989

Ms. Helen Shumway
Underground Storage Tank Section
New Mexico Environmental Improvement Division
1190 St. Francis Drive
Santa Fe, NM 87503

Reference: **Kutz Field at Aztec, New Mexico**
Underground Storage Tank

Dear Ms. Shumway:

Enclosed are copies of the tank integrity test results that San Juan Engineering sent to Ms. Anu Pundari, our compliance engineer in Farmington.

We indicated to Mr. Bruce Frederick in our letter of December 8, 1988, that we thought the problem with the 8,000 gallon unleaded gasoline tank (EPNG #5216-2) was the filler pipe. This was confirmed. The gasoline tank passed the integrity test after the filler pipe was replaced and the suction line and vent pipe were repaired. Also Tank No. 5216-3 was tested. This tank contains diesel and passed the integrity test. While Tank No. 5216-3 did not have problems, the integrity test was done as a safety measure.

If you have questions, please contact me at 915/541-2832.

Very truly yours,

Henry Van, Ph.D., C.E.P.
Senior Environmental Engineer
Environmental and Safety Affairs Department

HV:cds

Enclosure

cc: K. E. Beasley
A. N. Pundari

KUTZ FIELD
AT
AZTEC, NEW MEXICO

UNDERGROUND STORAGE TANKS INTEGRITY TESTS

El Paso Natural Gas Co.

January 25, 1989

AINLAY T[redacted]IK TIGHTNESS TEST No. [redacted]G 5216-3

10 TANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 108 INS FILL PIPE LENGTH 37 3/4 INS

11 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

12 PRODUCT VOLUME

(a) NOMINAL CAPACITY 10,000 GALS (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 9,900 GALS (d) TOTAL PRODUCT VOL. 9,900 GALS
(FROM TANK CHART)

13 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = --- (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times 0.036}{---}$ = ---- INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

14 PRELIM TEST DATA

(a) START TEMP CHECK 9:00 AM/~~PM~~ (d) A.P.I. GRAVITY 36.2 AT 70 °F
(b) END TEMP CHECK 12:55 ~~AM~~/PM (e) A.P.I. GRAVITY 35.4 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 12 HRS (f) COEFF. OF EXPANSION 0.00046368

15 TEST DATA

(a) START TEST 12:55 ~~AM~~/PM: END TEST 2:00 ~~AM~~/PM: TEST TIME 65 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.
12:55	65.8000	65.7596	65.7862	65.7773					
14:00	65.7617	65.6822	65.7101	65.7104					

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 65.7104 - 65.7773 = ~~±~~/-.067 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL x TEMP. CHANGE x COEFF. EXP.

= 9,900(12d) x -.067 (15b) x .00046368 (14f) = ~~±~~/-.31 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = +/~~-~~.28 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = -.31 + .28 = ~~±~~/-.03 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{-.03 \times 60\ (15a)}{65}$ = -.03 G.P.H.

THIS LEAK RATE DOES/~~DOES NOT~~ EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB 72866 DATE 12/14/88
ADDRESS Kutz Field Office, Aztec, NM
TESTER Robert B. Stannard, Jr.
TEST COMPANY San Juan Engineers

AIRWAY TANK TIGHTNESS TEST NO. EPNG 5216-2

16 TANK I.D.

INCLUDE ENOUGH INFO. TO ACCURATELY IDENTIFY TANK. (NUMBER/CONTENTS/POSITION, ETC.)

TANK DIAMETER 96 INS FILL PIPE LENGTH 61 3/4 INS

17 WATER IN TANK

(a) START WATER IN TANK 0 INS (c) END WATER IN TANK 0 INS
(b) START WATER IN TANK 0 GALS (d) END WATER IN TANK 0 GALS

18 PRODUCT VOLUME

(a) NOMINAL CAPACITY 8,000 GALS (c) DEDUCT WATER IN TANK 0 GALS
(b) ACTUAL CAPACITY 7,890 GALS (d) TOTAL PRODUCT VOL. 7,890 GALS
(FROM TANK CHART)

19 FILL PIPE EXTENSION

(a) HEIGHT OF WATER TABLE ABOVE TANK BOTTOM = 0 (h) INS
(b) DENSITY OF TANK PRODUCT = --- (w) LB/CU. IN. (FROM TABLES)
DENSITY OF EXTERNAL WATER = 0.036 LB/CU. IN.
(c) ADDITIONAL HEAD REQUIRED = $\frac{(h) \times 0.036}{(w)}$ = $\frac{\times\ 0.036}{---}$ = --- INS

NOTE:
TO AVOID POSSIBLE TANK DAMAGE THE ADDED PRESSURE FROM A FILL PIPE EXTENSION MUST NEVER EXCEED 5 P.S.I. AT THE WATER LEVEL.

20 PRELIM TEST DATA

(a) START TEMP CHECK 9:30 AM/~~PM~~ (d) A.P.I. GRAVITY 60.5 AT 45 °F
(b) END TEMP CHECK 1:30 ~~AM~~/PM (e) A.P.I. GRAVITY 62.4 AT 60°F
(c) TIME SINCE LAST LIQ. ADDED 19 HRS (f) COEFF. OF EXPANSION 0.00069650

21 TEST DATA

(a) START TEST 1:30 ~~AM~~/PM: END TEST 2:40 ~~AM~~/PM: TEST TIME 70 MINS.

TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.	TIME	TEMP 1	TEMP 2	TEMP 3	WTD. AVG.
13:30	45.2011	45.1146	43.6919	44.7833					
14:40	45.2161	45.1348	43.6701	44.7921					

(b) TOTAL TEMP. CHANGE (AVG END TEMP. — AVG START TEMP.) = 44.7921 − 44.7833 = +/~~x~~ .0088 °F.

(c) VOL. CHANGE DUE TO TEMP = PRODUCT VOL × TEMP. CHANGE × COEFF. EXP.
= 7,890 (18d) × .009 (21b) × 0.00069650 (20f) = +/~~x~~ .05 GALS.

(d) TOTAL LIQUID VOL. ADDED/SUBTRACTED AT END OF TEST ..... = ~~x~~ /− .08 GALS.

(e) VOL. CHANGE NOT DUE TO TEMP [(c) + (d)] ..... = .05 + −.08 = ~~x~~ /− .03 GALS.

(f) LEAK RATE = $\frac{(e) \times 60}{\text{TIME OF TEST (MINS)}}$ = $\frac{-.03 \times 60}{70}$ (21a) = −.03 G.P.H.

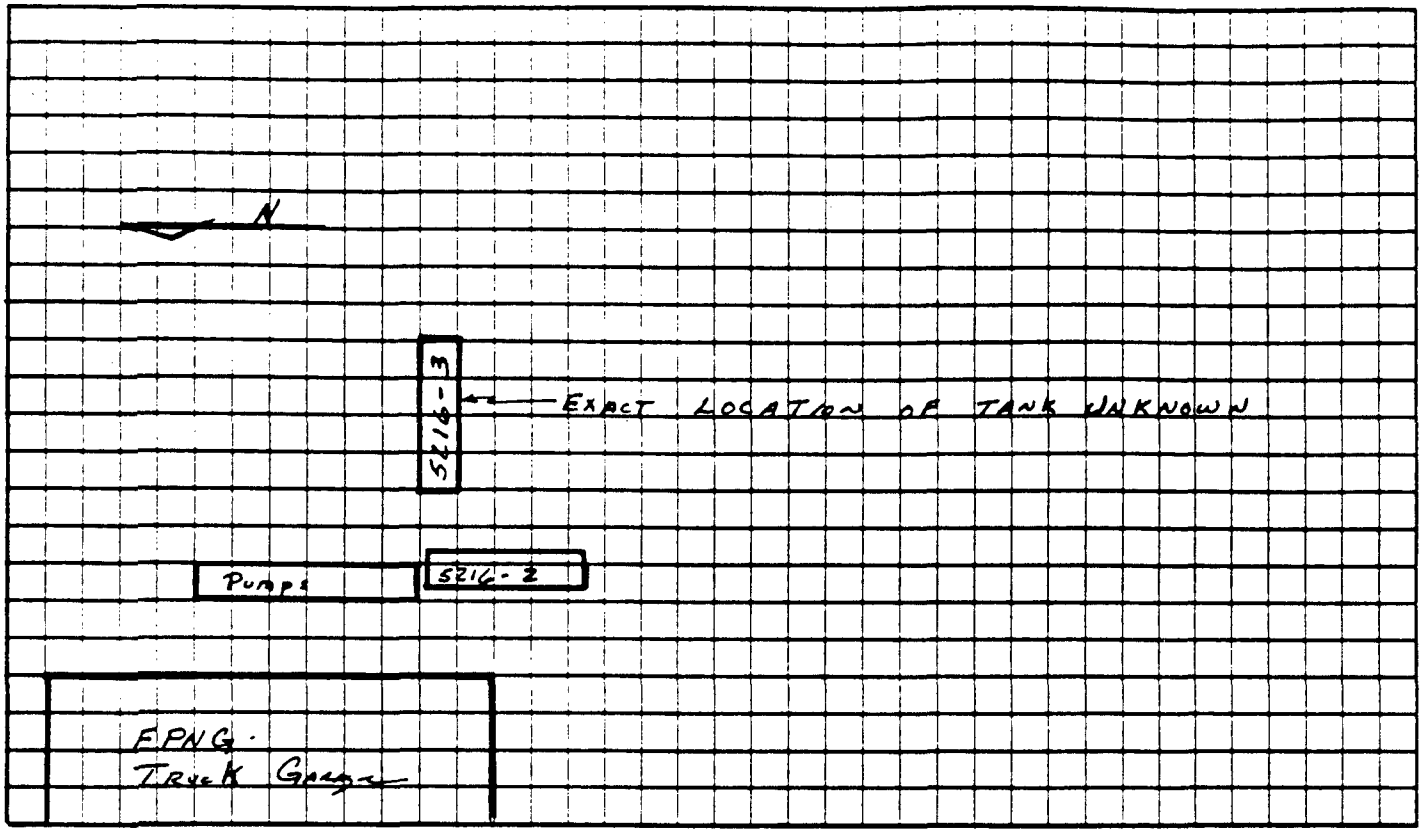
THIS LEAK RATE DOES/DOES NOT EXCEED THE STANDARD OF 0.050 G.P.H. DESCRIBED IN NATIONAL FIRE PROTECTION ASSOC., BULLETIN N.F.P.A. 329.

THE TANK IS TIGHT ☒ / THE TANK IS NOT TIGHT ☐

JOB 72866 DATE 1 /11 / 89
ADDRESS Kutz Field Office, Aztec, NM
TESTER Jeff Smaka TEST COMPANY San Juan Engineers

TEST SITE LAYOUT

22

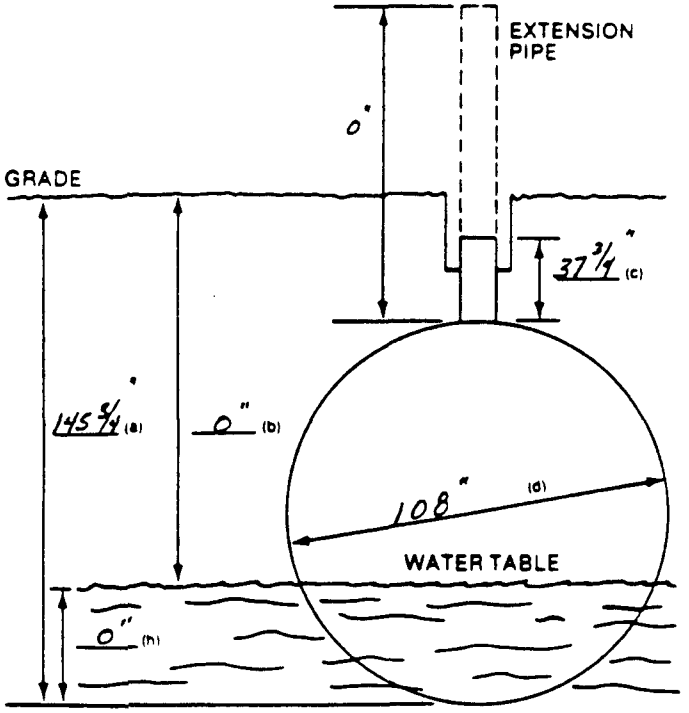


TESTER Robert B. Stannard, Jr./Jeff Smaka
TEST COMPANY San Juan Engineers
DATE 12/14/88 1/11/89
JOB 12866
ADDRESS Kutz Field Office, Aztec, NM

23

TEST 1: TANK DIMENSIONS

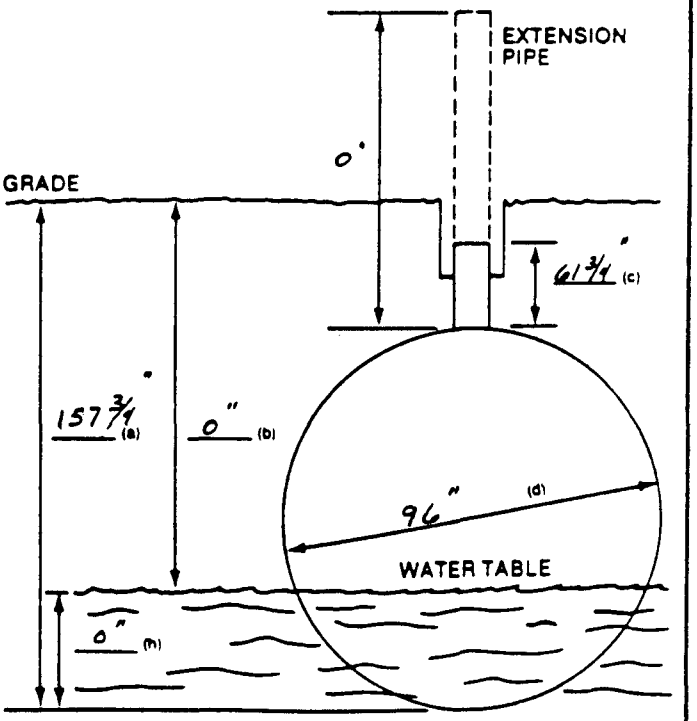
EPNG # 5216-3



TANK IDENT. EPNG # 5216-3
DIESEL

TEST 2: TANK DIMENSIONS

EPNG # 5216-2



TANK IDENT. EPNG # 5216-2
UN-LEADED GAS

SOILTEST®

AINLAY TANK 'TEGRITY TESTER™ FIELD TEST DATA

1 TANK OPERATOR

NAME / ADDRESS / PHONE: El Paso Natural Gas, Kutz Field Office, Aztec, NM 87410 (505) 334-7595

2 TANKS TO BE TESTED

IDENTIFICATION	CAPACITY—GALS.	MANUFACTURER	STEEL/FIBRGLS.	AGE—YRS.
EPNG 5216-3	10,000	American Tank and Steel	Steel	25+
EPNG 5216-2	8,000	"	"	25+

3 WATER TABLE

DISTANCE FROM GRADE TO WATER 160 INS.

4 TANK FILL-UP

TANK WILL BE FILLED _____ (TIME) ON 1 / 10 / 89

EXTRA 5 GALS PRODUCT AVAILABLE FROM Bob Sammons

FILL UP TO BE ARRANGED BY MR. Bob Sammons PHONE (505) 334-7595

CONTACT AT STORAGE TERMINAL IS MR. N/A PHONE ( )

5 OUTSIDE CONTRACTORS

NAME / ADDRESS / PHONE: None

6 OFFICIALS TO BE CONTACTED

NAME	AUTHORITY	PHONE
Neal Johnson	EPNG	334-7595
Bob Sammons	EPNG	334-7595

7 SPECIAL NOTES OR PRECAUTIONS

8 TEST RESULTS

ALL TESTS WERE PERFORMED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN SOILTEST'S INSTRUCTION BOOK. CRITERIA FOR TIGHTNESS IS ESTABLISHED BY NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN. N.F.P.A. 329.

TANK IDENT	TANK IS TIGHT	TANK IS NOT TIGHT	LEAK RATE G. P. H.	TEST DATE
EPNG 5216-3	XX		.03	12/14/88
EPNG 5216-2	XX		.03	1/11/89

9 CERTIFICATION

THIS CERTIFIES THAT THE TANKS DESCRIBED WERE TESTED BY THE UNDERSIGNED AND THAT THE STATED RESULTS REPRESENT THE TRUE STATE OF THE TANKS ON THIS DATE TO THE BEST OF MY KNOWLEDGE.

CERTIFICATE NO. 1260

SIGNED Jeffrey J Smaka ISSUE DATE 1/12/89

FOR (TEST COMPANY) San Juan Engineers

ADDRESS 2101 San Juan Blvd.

Farmington, NM 87401

STATE ZIP

ST 6 (REV 2/87)

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal | Time 2:30PM | Date 12/16/88

Originating Party: Henry Van / EPNG | Other Parties: Ken Beasley | DAVID Boyer - OCD

Subject: UST Leaks Bytes & Bloomfield

Discussion: They called to report a similar leak to that at Bloomfield occurred at the Bytes Field station. Will investigate and file report to UST w/copy to us. Fills pipe apparently breaks away from tank due to stress after placement in ground. However, at Bloomfield E/D thinks problem is leaky tank across street from EPNG

Conclusions or Agreements

Distribution: EPNG UST

Signed: D Boyer

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

December 13, 1988

Helen Shumway
Environmental Improvement Division
Underground Storage Tank Section
1190 Saint Francis Drive
Santa Fe, New Mexico 87503

Subject: Blanco Field Underground Storage Tanks

Dear Ms. Shumway:

The following is a chronology of events which occurred at El Paso Natural Gas Company's Blanco Field Office located in Blanco, New Mexico while investigating possible hydrocarbon contamination.

December 1, 1988

- Field discovered hydrocarbons odors and a sheen in pipeline trench while excavating for new pipeline
- Took samples of water from pipeline trench
- Checked for indications of leakage from pipeline
- Immediately asked Field Office to empty out diesel and gasoline tanks

December 2, 1988

- Both diesel and gasoline tanks were emptied and filled with water in preparation for tank integrity test but equipment for test was not available until December 6, 1988.
- Contacted New Mexico Oil Conservation Division in Aztec

December 5, 1988

- Began excavating area and taking samples in order to roughly delineate extent of contamination
- Contacted New Mexico Oil Conservation Division in Santa Fe

December 6, 1988

- Contractor tested diesel tank and stated that it was not leaking

- Contractor filled the neck of gasoline tank with water and prepared for test. Water level was going down too fast for the sensitive test equipment.

- Contacted New Mexico Oil Conservation Division in Santa Fe and provided them with status of situation

December 7, 1988

- Contacted New Mexico Environmental Improvement Division in Santa Fe to report findings

December 8, 1988

- Measured level of water in gasoline tank and it stabilized at 29 inches from the top of the fill pipe neck. The weld between the tank and neck is at around 30 inches from the top.

- Continued taking groundwater samples to roughly delineate extent of contamination

December 9, 1988

- Contractor tested gasoline tank and stated that it was not leaking

After EPNG obtains results from the groundwater investigation, we will then forward the information to your office. We plan to abandon these tanks and will send the required closure plan as soon as possible.

Since the neck of the gasoline tank is never completely filled with gasoline and it is used only for filling, we do not expect significant amounts of contaminated soil, if any , upon excavation of the tank.

If there are any further questions, please contact me at (505) 325-2841 Ext. 2176.

A. N. Pundari

A. N. Pundari

ANP/jlm

xc: D. Boyer - NMOCD, Santa Fe
F. Chavez - NMOCD, Aztec

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

October 19, 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Kenneth E. Beasley
North Region Compliance Engineer
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 7998

Re: Wash Rack Discharge at EPNG Blanco Field Camp.

Dear Mr. Beasley:

On October 7, the Oil Conservation Division (OCD) received your Notice of Intent, dated August 26, 1988, requesting authorization to discharge up to 750 gpd of vehicle wash water to an unlined pit at the EPNG Blanco Field Camp. The pit will be located in the NW/4 NE/4 of Section 8, T29N, R4W.

The Notice of Intent was submitted pursuant to Water Quality Control Commission (WQCC) Regulation 3-106.B, and the discharge is hereby allowed.

Pursuant to WQCC Regulation 3-105.A, a formal discharge plan will not be required as long as the discharge is consistent with the Notice of Intent, and the wastewater sampled at the Blanco wash rack by the OCD on August 5, 1987, conforms to the requirements of this regulation. Any changes in the quality or quantity of discharge may require EPNG submission of a discharge plan application.

In addition, all water discharged from the wash rack must be retained in the pit with adequate freeboard to prevent overtopping of the berm. No fluid will be allowed to be discharged on the surface in any manner so that it can enter a watercourse. If such surface discharges occur, they will subject EPNG to State and Federal surface water discharge regulations, including NPDES requirements under the Clean Water Act.

Please be advised that authorization of this discharge does not relieve you of liability should the operation result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

If there are any questions, please call Jami Bailey at (505) 827-5884.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/JB/sl

cc: OCD - Aztec

El Paso
Natural Gas Company

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-541-2600

August 26, 1988

Mr. David G. Boyer
Environmental Bureau Chief
Energy and Minerals Department
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501-2088

Dear Mr. Boyer:

Attached is a Notice of Intent to discharge for the vehicle wash rack discharge at El Paso Natural Gas Company's Blanco Field Camp. The discharge is essentially seasonal since the majority of the activity takes place during the cool months of the year. Samples of the discharge have been taken by your staff. Your cooperation in processing this application is appreciated.

Sincerely Yours,

Kenneth E. Beasley
Manager, North Region
Compliance Engineering

NOTICE OF INTENT TO DISCHARGE

1. Name and address of the person making the discharge.

El Paso Natural Gas Company

P.O. Box 4990

Farmington, New Mexico 87499

Telephone: (505)325-2841

2. Location of the discharge (in Township, Range and Section, ¼,¼,¼ if available).

NW¼ NE¼ Section 8, Township 29-N, Range 9-W

San Juan County, New Mexico

3. The means of discharge (To a Lagoon, Flowing Stream, Water Course, Arroyo, Septic Tank-Leach field, Other-Specify.

Unlined Pond

4. The estimated concentration of contaminants in the discharge.

NMOCD analyses on file

5. The type of operation from which the discharge is derived.

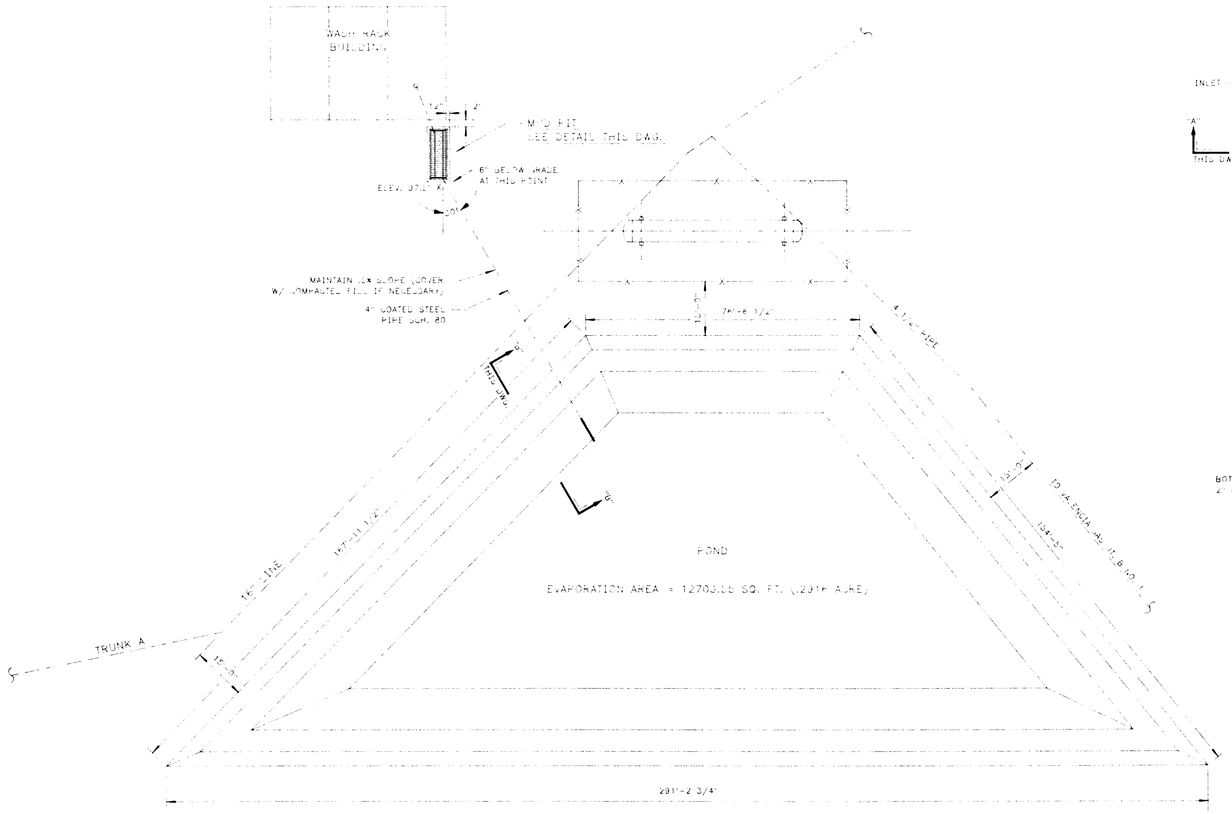
Vehicle Wash Rack

6. The estimated flow to be discharged per day. 750 gpd October through April

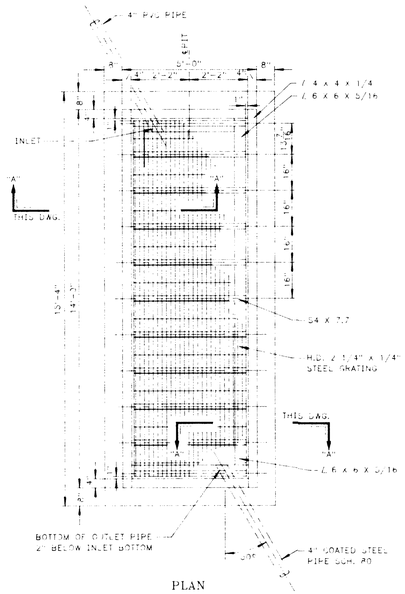
7. The estimated depth to ground water (if available). 15 feet

Signed: _____ Date: _____

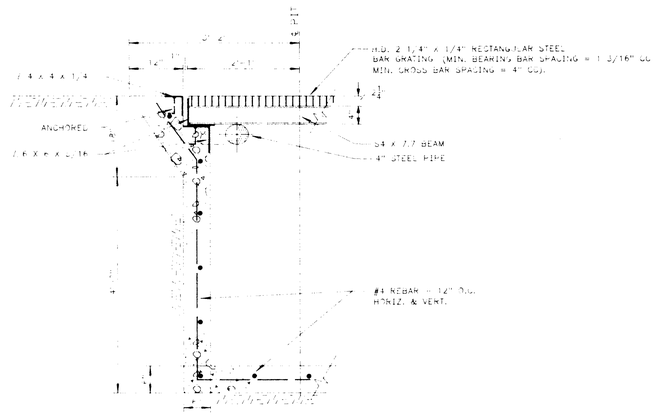
Manager, North Region Compliance Engr.



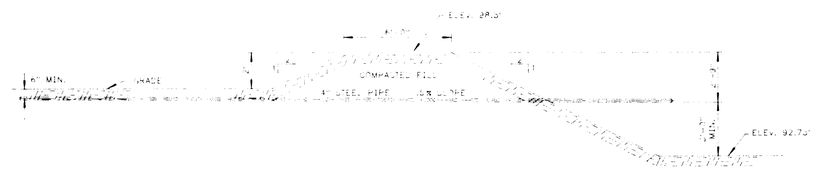
LOCATION
SCALE: 1"=20'



PLAN
MUD PIT
SCALE: 1"=1'-0"



MUD PIT
SECTION "A-A"
SCALE: 1"=1'-0"



POND
SECTION "B-B"
SCALE: 1"=10'

LEGEND	REFERENCE DRAWINGS		REVISIONS		PRINT RECORD		ENG. RECORD		DATE
	DWG. NO.	TITLE	NO. DATE BY	DESCRIPTION W.O. APP.	PRT. SEP. DATE	TO W.O.	DRAFTING DESIGN	JN	9/23/88
							COMPUTER GRAPHICS	MD	9/24/88
							CHECKED		
							PROJECT APPROVAL		
							DESIGN APPROVAL		
							COMPUTER DATA NAME	BF1001	

El Paso
NATURAL GAS COMPANY

BLANCO FIELD CAMP
WASH RACK BLDG. MUD PIT & POND
PLAN AND DETAILS

SCALE: NOTED
W.O.:
DWG. NO. 28FC-3-M10
REV.

LEGEND	REFERENCE DRAWINGS	REVISIONS	PRINT RECORD	ENG. RECORD	DATE
	DWG. NO. / TITLE	NO. / DATE / BY / DESCRIPTION / W.O. NO. / APP.	NO. / DATE / TO / W.O. NO.	DRAWN	
		Y — ADDED EVAPORATION P...		CHECKED	
				CHECKED	
				PROJ. APP.	
				DESIGN APP.	

EL PASO NATURAL GAS COMPANY

BLANCO FIELD CAMP
PLOT PLAN
CATHODIC PROTECTION
SAN JUAN CO. NEW MEXICO

SCALE:
W.O. NO.
DWG. NO.
REV. Y

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 23, 1987

Mr. Kenneth E. Beasley
El Paso Natural Gas Company
P. O. Box 4990
Farmington, New Mexico 87499

Dear Mr. Beasley:

Enclosed are copies of laboratory analyses of samples taken from the Aztec and Blanco wash rack drains on August 5, 1987. During the sampling trip we discussed modifications that El Paso could make to the drain systems to eliminate any discharges to watercourses. If those modifications are no longer being considered, the New Mexico Environmental Improvement Division should be contacted for a NPDES permit.

Sincerely,

Jami Bailey

Jami Bailey
Geologist

Enc.

JB:sl

xc: OCD-Aztec

We can discuss this further at our meeting scheduled for 12/2/87.

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

OF NEW MEXICO

87-1358-C

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1358 A,B
DATE REC. 8-14-87
must be purged
PRIORITY by 8/19/87

PHONE(S): 827-5812 USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 7 0 8 0 5 0 9 0 0 [illegible]

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER:_____ CODE: ___

COUNTY: SAN JUAN ; CITY: AZTEC CODE: ____

LOCATION CODE: (Township-Range-Section-Tracts) 3 0 N + 1 0 W + 1 0 + ___ (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: EPNG AZTEC WASH RACK

FIELD DATA:

pH=_____; Conductivity=_____umho/cm at _____°C; Chlorine Residual=_____mg/l

Dissolved Oxygen=_____mg/l; Alkalinity=_____mg/l; Flow Rate_____ ____/____

Depth to water _____ft.; Depth of well_____ft.; Perforation Interval ____-____ft.; Casing:_____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

END of PIPE from wash drain

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Jami Bailey Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, ____ Glass/Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on ____/____/____ - ____:____ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures _____ _____

For OCD Use: Date Owner Notified 11/23/87 Phone or Letter? _____ Initials JB

ANALYSES PERFORMED

LAB. No.: OR- 1358

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables *	N.D.		
halogenated purgeables *	N.D.		
* DETECTION LIMIT * ✳	25-99/c	+ DETECTION LIMIT + +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☑ Seal(s) broken by: not sealed date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 9/14/87. Analyst's signature: Mary C. Eden

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhein

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2553

FCP- 574

Date Received	Lab No.	User Code
8/14/87	~~#M 1091~~	☒ 82235 ☐ Other:

COLLECTION DATE & TIME: yy 87 mm 08 dd 05 hh 09 mm 00

COLLECTED BY: BAILEY /OCD

COLLECTION SITE DESCRIPTION: EPNG AZTEC WASH RACK END OF PIPE

TO:

NOV 17 1987

OWNER:

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

SITE LOCATION:
County: SAN JUAN

Township, Range, Section, Tract: (10N06E24342)
30N+11W+10+

ATTN: DAVID BOYER
TELEPHONE: 827-5812

STATION/ WELL CODE:

LATITUDE, LONGITUDE:

SAMPLING CONDITIONS:

☐ Bailed ☐ Pump ☒ Dipped ☐ Tap

Water Level:	Discharge:	Sample Type:
		GRAB

pH(00400)	Conductivity(Uncorr.) µmho	Water Temp.(00010) °C	Conductivity at 25°C (00094) µmho

FIELD COMMENTS: From end of wash drain pipe

SAMPLE FIELD TREATMENT
Check proper boxes:

☒ **WPN:** Water Preserved w/HNO_3 Non-Filtered

☐ **WPF:** Water Preserved w/HNO_3 Filtered

LAB ANALYSIS REQUESTED:

☒ **ICAP Scan**
Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE		AA VALUE
Aluminum	6.6		
Barium	0.2	☒	0.3
Beryllium	<0.1		
Boron	0.1		
Cadmium	<0.1	☒	0.004
Calcium	53.		
Chromium	<0.1	☐	
Cobalt	<0.05		
Copper	0.1		
Iron	7.7		
Lead	<0.1	☒	0.024
Magnesium	11.		
Manganese	0.98		
Molybdenum	<0.1		
Nickel	<0.1		

ELEMENT	ICAP VALUE		AA VALUE
Silicon	11.		
Silver	<0.1	☐	
Strontium	0.5		
Tin	<0.1		
Vanadium	<0.1		
Zinc	0.4		
Arsenic		☐	
Selenium		☐	
Mercury		☐	
		☐	
		☐	
		☐	
		☐	
		☐	
		☐	

LAB COMMENTS: Digest

For OCD Use:
Date Owner Notified: 11/23
Phone or Letter?
Initials: JB

ICAP Analyst JB
Date Analyzed 8/31/87

Reviewer Jim Ashby
Date Received 11/18/87

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

87-1353-C

754-I WPW

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1353 A48

DATE REC. 8-14-87

PRIORITY must be purged by Wed. 8/19/87

PHONE(S): 327-5812

USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer

CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 7 1 0 8 0 5 1 1 0 3 1 0 4 [illegible]

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER:_____ CODE: | | | |

COUNTY: SAN JUAN ; CITY: BLANCO CODE: | | | | |

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 0 9 W + 1 8 + 3 2 1 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: EPNG BLANCO WASH RACK

FIELD DATA:

pH=_____; Conductivity=_____umho/cm at _____°C; Chlorine Residual=_____mg/l

Dissolved Oxygen=_____mg/l; Alkalinity=_____mg/l; Flow Rate_____ ____/____

Depth to water _____ft.; Depth of well_____ft.; Perforation Interval _____-_____ft.; Casing:_____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

END OF PIPE from wash drain

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): [signature] Method of Shipment to the Lab:_____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on ____/____/____ - ____:____ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures _____ _____

For OCD Use: Date Owner Notified 11/23/87 Phone or Letter? C Initials [illegible]

ANALYSES PERFORMED

LAB. No.: OR- 1353

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	N.D.		
halogenated purgeables	N.D.		
* DETECTION LIMIT * ✳	1 ug/L	+ DETECTION LIMIT + +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☑ Seal(s) broken by: not sealed date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/17/87. Analyst's signature: Mary C. Klein

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: R M Meyerhofer

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2553

ICP-573

Date Received	8/14/87	Lab No. ~~HM1032~~	User Code	☒ 82235	☐ Other:

COLLECTION DATE & TIME: yy 87 | mm 08 | dd 05 | hh 10 | mm 30

COLLECTED BY: Bailey / DCB

COLLECTION SITE DESCRIPTION: EPNG BLANCO WASH RACK END OF PIPE

TO:

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

ATTN: DAVID BOYER
TELEPHONE: 827-5812

OWNER:

SITE LOCATION:
County: SAN JUAN

Township, Range, Section, Tract: (10N06E24342)
29N09W1832

STATION/ WELL CODE:

LATITUDE, LONGITUDE:

SAMPLING CONDITIONS:

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water Level:	Discharge:	Sample Type: GRAB

pH(00400)	Conductivity(Uncorr.) µmho	Water Temp.(00010) °C	Conductivity at 25°C (00094) µmho

FIELD COMMENTS: From end of wash drain pipe

SAMPLE FIELD TREATMENT
Check proper boxes:

- ☒ **WPN:** Water Preserved w/HNO_3 Non-Filtered
- ☐ **WPF:** Water Preserved w/HNO_3 Filtered

LAB ANALYSIS REQUESTED:

- ☒ **ICAP Scan** Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE		AA VALUE	ELEMENT	ICAP VALUE		AA VALUE
Aluminum	5.6			Silicon	11.		
Barium	0.2	☒	0.3	Silver	<0.1	☐	
Beryllium	<0.1			Strontium	0.4		
Boron	<0.1			Tin	<0.1		
Cadmium	<0.1	☒	<0.001	Vanadium	<0.1		
Calcium	41.			Zinc	0.1		
Chromium	<0.1	☐		Arsenic		☐	
Cobalt	<0.05			Selenium		☐	
Copper	<0.1			Mercury		☐	
Iron	5.5					☐	
Lead	<0.1	☒	0.018			☐	
Magnesium	8.8					☐	
Manganese	0.23					☐	
Molybdenum	<0.1					☐	
Nickel	<0.1					☐	

LAB COMMENTS:

Digest

For OCD Use:
Date Owner Notified: 11/23/87
Phone or Letter?
Initials: JB

ICAP Analyst JB
Date Analyzed 8/31/87

Reviewer Jim Ashby
Date Reveived 11/6/87

El Paso
Natural Gas Company

P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
PHONE: 505-325-2841

March 19, 1987

Mr. David G. Boyer
Hydrogeologist/Environmental Bureau Chief
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501-2088

Re: Discharge Permit Options for El Paso Natural Gas Company
Wash Racks at Blanco and Aztec Field Locations

Dear Mr. Boyer:

Per conversation with Henry Van in November, this letter is to inform you of the operational characteristics of our wash racks at Blanco and Aztec Field locations. Wastewater analysis for both locations will be included along with a material safety data sheet on the detergent used at these locations.

1. Blanco Field - This facility is essentially a supply office for our people working in Blanco Field Operations. The office supplies our people with a place to fill out paper work and offers vehicular, fuel, minor maintenance, and a wash rack.

   Raw water is taken from the San Juan River, pumped to a holding tank and used to wash our vehicles. The wastewater is then returned to the river. Mud covered vehicles are taken to a prewash area, hosed down to remove most of the mud then taken to the wash rack. The majority of vehicles washed are

1/2-3/4 ton 4x4 trucks, and seasonal variations prescribe the frequency on which these vehicles are cleaned. A commercial detergent 'Mean Red' (MSDS enclosed) is used and is not cut with any type solvents. Daily flows from the rack to the river average 60 bbl. (wastewater analysis enclosed)

2. Aztec Field - Operations at this office are essentially the same as that at Blanco with the exception of the water supply and disposal point for the wash rack.

   Water for the office and wash rack is supplied by the City of Aztec. Wash rack wastewater is then drained into a normally dry tributary of the Animas River. Wash rack wastewater flows into the tributary are again seasonal in frequency and volume with the average daily volume being 55 bbl. (wastewater analysis enclosed)

It is my impression that your department will visit the facilities listed, take samples of the wastewater for chemical analysis and review the data and operational procedures to decide on discharge permit options.

Please contact me or Ken Beasley to schedule a time to visit the facilities listed, or supply any additional information or clarify the information.

Yours very truly,

EL PASO NATURAL GAS COMPANY

David L. Wisdom
PROCEED Engineer

DLW:msv

Enclosure

cc: K. E. Beasley, III
W. H. Healy, Jr.
H. Van

Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers
Geologists, Scientists and Chemists

Raba-Kistner Consultants, Inc.
P.O. Box 690287, San Antonio, TX 78269-0287
12821 W. Golden Lane, San Antonio, TX 78249
(512) 699-9090

To: El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Attn: Mr. Kenneth E. Beasley

Project No.: SA0687-0003-004
Assignment No.: 6-10735
Date: 3/09/87

Subject: Chemical Analysis of Water Sample with High Suspended Solids Content

AZTEC

Background: Grab Sample of Wash Rack Discharge was Collected by David Wisdom/S. Aragon on 2/12/87. EPNG Sample J87-007

Test Method: Metals and General Parameters - EPA 600/4-79-020, Std. Metods;
Organics - VOA: EPA Method 624
Naphthalenes: HPLC
PCB: GC/ECD

Test Results:

I. Metals:	Concentration
Arsenic, mg/L	0.02
Barium, mg/L	1.2
Cadmium, mg/L	0.04
Calcium, mg/L	150
Copper, mg/L	0.13
Iron, mg/L	86
Lead, mg/L	0.12
Magnesium, mg/L	34

Raba-Kistner Consultants, Inc.

by _____
John C. Terry, Ph.D.
Director, Inorganic Chemistry

Project No.: SA0687-0003-004
Assignment No.: 6-10735
Date: 3/9/87

I. Metals (cont'd)	Concentration
Manganese, mg/L	2.0
Mercury, mg/L	<0.001
Potassium, mg/L	11
Selenium, mg/L	<0.01
Silver, mg/L	0.02
Sodium, mg/L	95
Zinc, mg/L	1.1
II. General Parameters:	
pH	7.3
TDS, mg/L	690
Total Residue, mg/L	5,200
COD, mg/L	910
Oil and Grease, mg/L	16
Phenolics, mg/L	0.053
TOC, mg/L	290
Chloride, mg/L	20
Fluoride, mg/L	0.9
Nitrate-N, mg/L	<0.1 (<0.4 as NO_3^-)
Orthophosphate-P, mg/L	4.5 (14 as PO_4^{-3})
Sulfate, mg/L	220
Cyanide, Total, mg/L	<0.005
Hardnesss, mg equiv. $CaCO_3$/L	510
Anion-Cation Balance, meg./meg.	22.1/19.5
Total Alkalinity, mg $CaCO_3$/L	820
III. Organics	
Volatile Organics	See Attached
Ethylene dibromide, ug/L	<5.0
Napthalene, ug/L	<1.0
Monomethylnaphthalen, ug/L	42
PCB's, ug/L	<0.5

CC: Mr. Loren Gearhart, EPNG, El Paso, Texas

Project No.: SA0687-0[redacted]-004
Sample No.: 6-10735-1

(PURGEABLES)
(EPA Method 624)

Compound	Concentration (ug/L)	Method Detection Limits (ug/L)
Chloromethane	N.D.	5.0
Bromomethane	N.D.	5.0
Vinyl Chloride	N.D.	10.0
Chloroethane	N.D.	5.0
Methylene Chloride	N.D.	2.8
Trichlorofluoromethane	N.D.	5.0
1,1-Dichloroethene	N.D	2.8
1,1-Dichloroethane	N.D.	4.7
Trans-1,2-Dichloroethene	N.D.	1.6
Chloroform	N.D.	1.6
1,2-Dichloroethane	N.D.	2.8
1,1,1-Trichloroethane	N.D.	3.8
Carbon Tetrachloride	N.D.	2.8
Bromodichloromethane	N.D.	2.2
1,2-Dichloropropane	N.D.	6.0
Trans-1,3-Dichloropropene	N.D.	5.0
Trichloroethene	N.D	1.9
Dibromochloromethane	N.D.	3.1
1,1,2-Trichloroethane	N.D	5.0
cis-1,3-Dichloropropene	N.D.	5.0
Benzene	N.D.	4.4
2-Chloroethylvinyl Ether	N.D.	5.0
Bromoform	N.D.	4.7
1,1,2,2-Tetrachloroethane	N.D.	6.9
Tetrachloroethene	N.D	4.1
Toluene	7.0	6.0
Chlorobenzene	N.D.	6.0
Ethylbenzene	N.D.	7.2
Xylenes	150	5.0

N.D.= Not Detected

Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers
Geologists, Scientists and Chemists

Raba-Kistner Consultants, Inc.
P.O. Box 690287, San Antonio, TX 78269-0287
12821 W. Golden Lane, San Antonio, TX 78249
(512) 699-9090

To: El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Attn: Mr. Kenneth E. Beasley

Project No: 686-003 J
Date Received: 10/21/86
Date Reported: 10/27/86
Submitted By: EPNG

Sample Description/Code: J86-119, Water, Wash Rack Discharge, Blanco Field, R-KCI 6-10457-1

SUMMARY OF ANALYSIS

Determination	Analytical Method	Results (mg/L)	Miscellaneous
Chrmical Oxygen Demand	HACH Tube[1]	81.5	
Nitrate-N	EPA 300.0	0.15	45
Oil and Grease	EPA 413.2	5.79	
Organic Carbon	EPA 415.1	47	
Orthophosphate	EPA 300.0[2]	<0.1	
Cyanide (total)	EPA 335.2	0.016	
Phenolics	EPA 420.1	<0.05	
Arsenic	EPA 206.2	<0.01	.1 max

Special Comments:

1. Federal Register, Vol. 45, April, 1980.
2. EPA 600/4-79-020, March, 1984.
3. Standards Methods, 16th Edition, 1985.
4. Federal Register, Vol. 49, October, 1984.
5. High Pressure Liquid Chromatography (HPLC).

C.C. Mr. Loren Gearhart, EPNG, El Paso, Texas

Raba-Kistner Consultants, Inc.
by

Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers
Geologists, Scientists and Chemists

Raba-Kistner
Consultants, Inc.
P.O. Box 690287, San Antonio, TX 78269-0287
12821 W. Golden Lane, San Antonio, TX 78249
(512) 699-9090

To: El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Attn: Mr. Kenneth E. Beasley

Project No: 686-003 J
Date Received: 10/21/86
Date Reported: 10/27/86
Submitted By: EPNG

Sample Description/Code: J86-119, Water, Wash Rack Discharge, Blanco Field, R-KCI 6-10457-1

SUMMARY OF ANALYSIS

Determination	Analytical Method	Results (mg/L)	Miscellaneous
Barium	EPA 208.1	0.45	1
Cadmium	EPA 208.1	<0.01	
Calcium	EPA 215.1	25.1	
Chromium (total)	EPA 218.1	<0.02	
Copper	EPA 220.1	<0.01	1
Hardness	St. Method 209[3]	81.9	as $CaCO_3$
Iron	EPA 236.1	0.35	.3 max
Lead	EPA 239.1	<0.05	.05

Special Comments:

Raba-Kistner Consultants, Inc.
by Francis Y. Huang
Francis Y. Huang, Ph.D., P.E.

Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers
Geologists, Scientists and Chemists

Raba-Kistner Consultants, Inc.
P.O. Box 690287, San Antonio, TX 78269-0287
12821 W. Golden Lane, San Antonio, TX 78249
(512) 699-9090

To: El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Attn: Mr. Kenneth E. Beasley

Project No: 686-003 J
Date Received: 10/21/86
Date Reported: 10/27/86
Submitted By: EPNG

Sample Description/Code: J86-119, Water, Wash Rack Discharge, Blanco Field, R-KCI 6-10457-1

SUMMARY OF ANALYSIS

Determination	Analytical Method	Results (mg/L)	Miscellaneous
Magnesium	EPA 242.1	4.67	
Manganese	EPA 243.1	0.02	.05
Mercury	EPA 245.1	0.002	
Potassium	EPA 258.±	0.97	—
Selenium	EPA 270.2	<0.01	
Silver	EPA 272.1	<0.01	
Sodium	EPA 273.1	2.31	
Zinc	EPA 289.1	0.09	5 mg

Special Comments:

Raba-Kistner Consultants, Inc.
by [signature]

Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers
Geologists, Scientists and Chemists

Raba-Kistner Consultants, Inc.
P.O. Box 690287, San Antonio, TX 78269-0287
12821 W. Golden Lane, San Antonio, TX 78249
(512) 699-9090

To: El Paso Natural Gas Company
P.O. Box 4990
Farmington, New Mexico 87499

Attn: Mr. Kenneth E. Beasley

Project No: 686-003 J
Date Received: 10/21/86
Date Reported: 10/27/86
Submitted By: EPNG

Sample Description/Code: J86-119, Water, Wash Rack Discharge, Blanco Field, R-KCI 6-10457-1

SUMMARY OF ANALYSIS

Determination	Analytical Method	Results (mg/L)	Miscellaneous
Alkalinity, total	Std. Method 403	78.4	
Alkalinity, Bicarbonate	Std. Method 403	95.6	as $CaCO_3$
Chloride	EPA 300.0	1.50	25 mg/L
Fluoride	EPA 300.0	0.24	1.5 - 2.5 mg/L
TDS	EPA 160.1	74	500
Total Residue	EPA 160.3	1,890	
Sulfate	EPA 300.0	53.6	250 mg/L
Volatile Organics	EPA 624[4]	See Attached	

Special Comments:

Raba-Kistner Consultants, Inc.
by Laura G. Chance

Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers
Geologists, Scientists and Chemists

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SUMMARY OF ANALYSIS

Determination	Analytical Method	Results (mg/L)	Miscellaneous
PCB's	EPA 608[4]	<0.0005	
Ethylene dibromide	EPA 624[4]	<0.005	
Naphthalene	EPA 610[5]	<0.001	
Monomethylnaphthalene	EPA 610[5]	<0.001	
Anion/Cation Balance	Calculation	2.73 meq/1.76 meq	

Special Comments:

Raba-Kistner Consultants, Inc.
by Louis G. Huera

Project No. 686-003 J
R-KCI Lab No. 6-10457-1

(PURGEABLES)
(EPA Method 624)

Compound	Concentration (ug/L)	Method Detection Limits (ug/L)
Chloromethane	N.D.	5.0
Bromomethane	N.D.	5.0
Vinyl Chloride	N.D.	10.0
Chloroethane	N.D.	5.0
Methylene Chloride	N.D.	2.8
Trichlorofluoromethane	N.D.	5.0
1,1-Dichloroethene	N.D	2.8
1,1-Dichloroethane	N.D.	4.7
Trans-1,2-Dichloroethene	N.D.	1.6
Chloroform	N.D.	1.6
1,2-Dichloroethane	N.D.	2.8
1,1,1-Trichloroethane	N.D.	3.8
Carbon Tetrachloride	N.D.	2.8
Bromodichloromethane	N.D.	2.2
1,2-Dichloropropane	N.D.	6.0
Trans-1,3-Dichloropropene	N.D.	5.0
Trichloroethene	N.D	1.9
Dibromochloromethane	N.D.	3.1
1,1,2-Trichloroethane	N.D	5.0
cis-1,3-Dichloropropene	N.D.	5.0
Benzene	N.D.	4.4
2-Chloroethylvinyl Ether	N.D.	5.0
Bromoform	N.D.	4.7
1,1,2,2-Tetrachloroethane	N.D.	6.9
Tetrachloroethene	N.D	4.1
Toluene	N.D.	6.0
Chlorobenzene	N.D.	6.0
Ethylbenzene	N.D.	7.2
Xylenes	N.D.	5.0

N.D.= Not Detected

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
LOBO SALES AND SUPPLY COMPANY, INC. (505) 325-7176	(817) 478-3221

ADDRESS (Number, Street, City, State, and ZIP Code)
118 Industrial Ct. Kennedale, TX 76060

CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
	570 - "MEAN RED"
CHEMICAL FAMILY: Multi-Purpose Liquid Cleaner	FORMULA: Proprietary

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS		NA	BASE METAL		NA
CATALYST		NA	ALLOYS		NA
VEHICLE		NA	METALLIC COATINGS		NA
SOLVENTS		NA	FILLER METAL PLUS COATING OR CORE FLUX		NA
ADDITIVES		NA	OTHERS		NA
OTHERS		NA			

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Product is a Non-Hazardous Blend of Water conditioning agents,		
Surfactants, Coupling Agents, and Emulsifiers.		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.) As Water		SPECIFIC GRAVITY (H_2O=1)	1.06
VAPOR PRESSURE (mm Hg.) As Water		PERCENT, VOLATILE BY VOLUME (%)	77%
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	NA
SOLUBILITY IN WATER Completely Soluble			

APPEARANCE AND ODOR: Clear Red Liquid with Synthetic Detergent Odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
None			

EXTINGUISHING MEDIA: N/A

SPECIAL FIRE FIGHTING PROCEDURES: N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/A

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: Non Established

EFFECTS OF OVEREXPOSURE: Not belived to be toxic - However, in case of ingestion, contact physician.

EMERGENCY AND FIRST AID PROCEDURES: If splashed in eyes, flush with water for 15 minutes.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*: Keep away from strong oxidizing materials

HAZARDOUS DECOMPOSITION PRODUCTS: If heated to decomposition, may emit nitrogen oxide fumes

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep or mop up - Rinse areas with water

WASTE DISPOSAL METHOD: Normal for mild detergents

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*: N/A

VENTILATION	LOCAL EXHAUST: Recommended	SPECIAL
	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES: Recommended	EYE PROTECTION: Recommended

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep from freezing

OTHER PRECAUTIONS: None