1R - 156

REPORTS

DATE:

01-05-1996

GPM GAS SERVICES COMPANY
A DIVISION OF PHILLIPS PETROLEUM COMPANY

4044 PENBROOK
ODESSA, TX 79762

January 5, 1996

Mr. William Olson - Hydrogeologist
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco
State Land Office Building
Santa Fe, New Mexico 87505

RE: FOURTH QUARTER 1995 SAMPLING EVENT AND MONITORING WELL INSTALLATION ACTIVITIES
MONUMENT BOOSTER STATION
LEA COUNTY, NEW MEXICO

Dear Mr. Olson:

GPM Gas Corporation (GPM) has completed the installation of two additional monitoring wells and the fourth quarter 1995 groundwater sampling and monitoring operations at the Monument Booster Station in accordance with the requirements specified in your letters dated August 24, 1995 and October 25, 1995. Monitoring well installation and sampling activities were conducted by Geoscience Consultants, Ltd. (GCL).

Originally, a SWAP[tm] product recovery system was proposed for this site as described in the Remedial Action Workplan submitted to and approved by the New Mexico Oil Conservation Commission (OCD). However, the SWAP system proved to be unfeasible during field trials in November. Therefore, a pneumatic product recovery system is being designed and evaluated for efficient and effective recovery of free product from groundwater.

Procedures

Additional Monitoring Well Locations

As described in the Remedial Action Workplan, the objective in the placement of monitoring well MW-6 during this investigation was to determine the areal extent of hydrocarbon-impacted groundwater near the southwest corner of the facility. Monitoring well MW-7 was installed to determine the downgradient extent of free product observed in MW-1 and to serve as a potential recovery well for product removal if free product was present. Monitoring well locations are depicted in Figure 1.

Soil Sampling Methods

Drilling and sampling operations for the two new monitoring wells were conducted by Environmental Spill Control, Inc. of Hobbs, New Mexico using an air-rotary drilling rig. Soil samples were collected with a split-spoon sampling tool at 5-foot intervals from 5 feet below ground surface to the top of the water table. Each soil sample was field-screened (headspace analysis) using a Century Model 128

organic vapor analyzer equipped with a flame ionization detector (FID). Field FID measurements were used to determine the presence of actionable soils (FID reading greater than 100 ppm) as defined in the OCD "Guidelines for Remediation of Leaks, Spills and Releases" (August 13, 1993). In each borehole, the soil sample that registered the highest FID reading, and/or samples with FID readings above 100 ppm, and the sample immediately above the groundwater table were submitted to Trace Analysis, Inc. of Lubbock, Texas, for analysis of total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) Method 8015 (gas and diesel range) and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020. Soil samples were placed in 125-milliliter (4-ounce) glass jars with teflon-lined lids sealed with quality assurance/quality control (QA/QC) seals, and preserved at 4°C with zero headspace according to EPA requirements (EPA 600/4-82-029). A chain-of-custody (COC) form documenting sample identification numbers, collection times, and delivery times to the laboratory was completed for each set of samples.

Monitoring Well Construction Methods

The monitoring wells were constructed of 4-inch diameter schedule 40 PVC well casing and and 20 feet of 0.020-inch slotted well screen. Approximately 5 to 7 feet of well screen was installed above the water table leaving approximately 13 to 15 feet of well screen below the water table. The screened portion of each monitoring well was surrounded with a filterpack consisting of 8/16 Brady sand that was capped with approximately 5 to 7 feet of bentonite. The remaining annular space in each monitoring well was sealed using a grout composed of portland cement with a 5 percent bentonite mixture, emplaced from the top of the bentonite plug to ground surface. A 4-foot by 4-foot concrete pad was constructed at the surface and the top of casing protected with a locked steel well cover. The monitoring well construction diagrams are provided in Appendix A.

Groundwater Sampling Methods

The monitoring wells were gauged for depth to groundwater using an electronic water level indicator. If free product (crude oil) was present in the well, an oil/water interface probe was used to measure product thickness. Wells with product (MW-1 and MW-5) were not sampled. Each of the two newly installed monitoring wells was developed using a decontaminated submersible pump to reduce the amount of fine sediments and improve well yield performance.

Immediately prior to collecting groundwater samples, each monitoring well was purged of a minimum of three well volumes of water using a decontaminated 2-inch diameter submersible pump, with the exception of MW-1D and MW-3, which were each hand-bailed with a clean, decontaminated bailer. A total of approximately 410 gallons was developed and purged from all the on-site monitoring wells. Field parameters, including pH, conductivity, temperature, and dissolved oxygen were measured during purging, and groundwater samples collected after these parameters stabilized over 3 successive readings. The pumping rate of the submersible sampling pump was reduced to approximately 100 milliliters per minute to minimize volatilization of organic constituents during sampling operations.

Water samples collected for laboratory analysis were transferred into air-tight, septum-sealed, 40-milliliter glass VOA sample vials with zero headspace for analysis of total BTEX (EPA Method 8020). Samples were also collected from MW-6 and MW-7 for analysis of total metals and major cations and anions analyses in accordance with EPA protocol (EPA 600/2-82-029) using EPA-approved methods (SW-846). Additional groundwater samples were collected from monitoring wells MW-1D, MW-6, and MW-7 for analysis of total aerobic heterotrophic plate count and total hydrocarbon-utilizing bacteria in order to assess the efficacy of intrinsic bioremedial activity currently taking place. For each set of samples, COC forms documenting sample identification numbers, collection times, and delivery times to the laboratory were completed. All water samples were placed in an ice-filled cooler immediately after collection and transported to Trace Analysis, Inc. in Lubbock, Texas.

Local Geology

The lithology of the subsurface soils in monitoring wells MW-6 and MW-7 was similar to that described during previous investigations (MW-1 through MW-5, and SB-1 through SB-7). The unsaturated zone is composed of weathered and fractured sandy caliche that overlays a very fine to fine-grained sand aquifer under the site. The aquifer is underlain by dry red clay. A detailed description of the subsurface soils is provided on the lithologic logs in Appendix A.

Soil Sample Analytical Results

FID readings in both borings (Appendix A) were generally less than 2 ppm. The only exception was the 25 to 26-foot interval in MW-7, which registered 260 ppm; however, this reading was obtained in the saturated zone.

Laboratory analyzed BTEX and TPH concentrations in MW-6 (20 to 21-foot interval) and MW-7 (15 to 16-foot interval) were below the laboratory detection limits of 0.05 mg/kg (BTEX) and 10 mg/kg (TPH). Based on a Category I ranking for the site (> 19 points), none of the samples exceeded the OCD recommended action level of 50 ppm for BTEX or 100 ppm for TPH. Soil sample analytical results are summarized in Table 1. Laboratory analytical reports and the COC documentation is provided in Appendix B.

Groundwater Analytical Results

Groundwater sample analytical results for the current and previous sampling events are presented in Tables 2 through 5. The WQCC standards are presented in Table 2, 3, and 4 for comparison. Those constituents that recorded concentrations above the WQCC standards are highlighted in boldface type on each table. The organic (BTEX), inorganic (metals and major cations and anions) and biological (nitrate, sulfate, total aerobic heterotrophic plate count, and total hydrocarbon utilizing bacteria) analytical results are presented in the following sections.

Organic Analytical Results

The most recent total dissolved BTEX concentrations are depicted graphically on Figure 1. During this sampling event, the groundwater samples obtained from monitoring wells MW-1D, MW-3, and MW-6 showed dissolved BTEX concentrations near or below the laboratory detection limit of 0.001 mg/l, and all below WQCC standards. Samples were not collected from MW-1 and MW-5 due to the presence of free product (crude oil). BTEX concentrations in monitoring wells MW-2 (upgradient) and MW-4 (downgradient) appear to have increased from non-detectable values during the previous sampling event; however, since there was no indication of measurable BTEX in these two wells during the drilling activities or previous sampling events, the apparent presence of BTEX in MW-2 and MW-4 may be the result of cross-contamination possibly due to insufficient decontamination of the submersible pump assembly during the sampling of these two wells. During future sampling events, samples will be taken using a new, decontaminated disposable bailer for each well rather than the submersible pump to ensure that cross-contamination will not take place from the submersible purge pump. In addition, a random rinsate sample of the decontaminated submersible pump assembly and a field blank sample will be analyzed for BTEX for QA/QC of field sampling procedures.

Table 1
Summary of Soil Sample Analytical Results for BTEX and TPH
Monument Booster Station

Monitoring Well/Boring No.	Date	Sample Interval	PID Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH^g (mg/kg)	TPH^d (mg/kg)
MW-6	11-15-95	20-21	< 1	<0.05	<0.05	<0.05	<0.05	<0.05	< 10	< 10
MW-7	05-09-95	15-16	2	<0.05	<0.05	<0.05	<0.05	<0.05	< 10	< 10

Analyses performed by Trace Analysis, Inc. of Lubbock, Texas.
BTEX indicates benzene, toluene, ethylbenzene, and xylenes and analyzed using EPA Method 8020. BTEX values rounded to two significant figures.
TPH^g indicates total petroleum hydrocarbons (gas range) and analyzed using EPA Method 8015 (purge method).
TPH^d indicates total petroleum hydrocarbons (diesel range) and analyzed using EPA Method 8015 (extraction method).
Values in **boldface** type indicate concentrations exceed remediation action levels as specified by the NMOCD in Guidelines For Remediation of Leaks, Spills and Releases (August 13, 1993) for sites with a NMOCD ranking score greater than 19 points.

Table 2
Summary of Dissolved BTEX Results
Monument Booster Station
Sampling Operations Conducted on May 16, 1995

Constituent	Date	Monitoring Well Number								NMWQCC Standards (mg/l)
		MW-1 (mg/l)	MW-1D (mg/l)	MW-2 (mg/l)	MW-3 (mg/l)	MW-4 (mg/l)	MW-5 (mg/l)	MW-6 (mg/l)	MW-7 (mg/l)	
Benzene	05-16-95 11-15-95	NA NA	**0.018** 0.003	<0.001 **0.044**	<0.001 <0.001	<0.001 **0.045**	**0.265** NA	--- 0.003	--- **0.465**	0.010
Toluene	05-16-95 11-15-95	NA NA	0.006 <0.001	<0.001 0.002	<0.001 <0.001	<0.001 0.002	0.009 NA	--- <0.001	--- <0.001	0.75
Ethylbenzene	05-16-95 11-15-95	NA NA	0.015 0.002	<0.001 0.006	<0.001 <0.001	<0.001 0.006	0.261 NA	--- 0.001	--- 0.205	0.75
Xylenes (Total)	05-16-95 11-15-95	NA NA	0.016 0.001	<0.001 0.009	<0.001 <0.001	<0.001 0.010	0.050 NA	--- 0.003	--- 0.163	0.62

Analyses performed by Trace Analysis, Inc., Lubbock, Texas.
Samples obtained on May 16, 1995 analyzed using EPA Method 8240.
Samples obtained on November 15 and 16, 1995 analyzed using EPA Method 8020.
New Mexico Water Quality Control Commission (NMWQCC) Standards are listed as specified in Regulation 3-103.
Values in **boldface** type indicate concentrations exceed NMWQCC groundwater standards.
NA indicates monitoring well was not analyzed (due to presence of free phase floating product).
--- indicates monitoring well was installed after this sampling date.

Table 3
Summary of Groundwater Analytical Results for Total Metals
Monument Booster Station
Sampling Operations Conducted on November 15 and 16, 1995

Constituent	Monitoring Well Number		NMWQCC Standards (mg/l)
	MW-6 (mg/l)	MW-7 (mg/l)	
Aluminum (Al)	1.1	1.6	5.0
Arsenic (As)	<0.1	<0.1	0.1
Barium (Ba)	<0.2	0.3	1.0
Boron (B)	0.27	0.57	0.75
Cadmium (Cd)	<0.001	<0.001	0.01
Cobalt (Co)	<0.03	<0.03	0.05
Copper (Cu)	0.24	<0.02	1.0
Chromium (Cr)	<0.05	<0.05	0.05
Iron (Fe)	0.79	**9.7**	1.0
Lead (Pb)	<0.1	<0.1	0.05
Manganese (Mn)	0.13	**0.33**	0.2
Mercury (Hg)	<0.001	<0.001	0.002
Molybdenum (Mo)	<0.01	<0.01	1.0
Nickel (Ni)	**1.9**	**1.1**	0.2
Selenium (Se)	<0.005	<0.005	0.05
Silver (Ag)	<0.01	<0.01	0.05
Zinc (Zn)	0.09	<0.02	10.0

Analyses performed by Trace Analysis, Inc. using EPA Methods 200.7, 239.2, 270.2, and 272.2
New Mexico Water Quality Control Commission (NMWQCC) Standards are listed as specified in Regulation 3-103.
Bold values indicate concentrations exceed NMWQCC groundwater standards.

Table 4
Summary of Groundwater Analytical Results for Major Ions and Field Parameters
Monument Booster Station
Sampling Operations Conducted on November 15 and 16, 1995

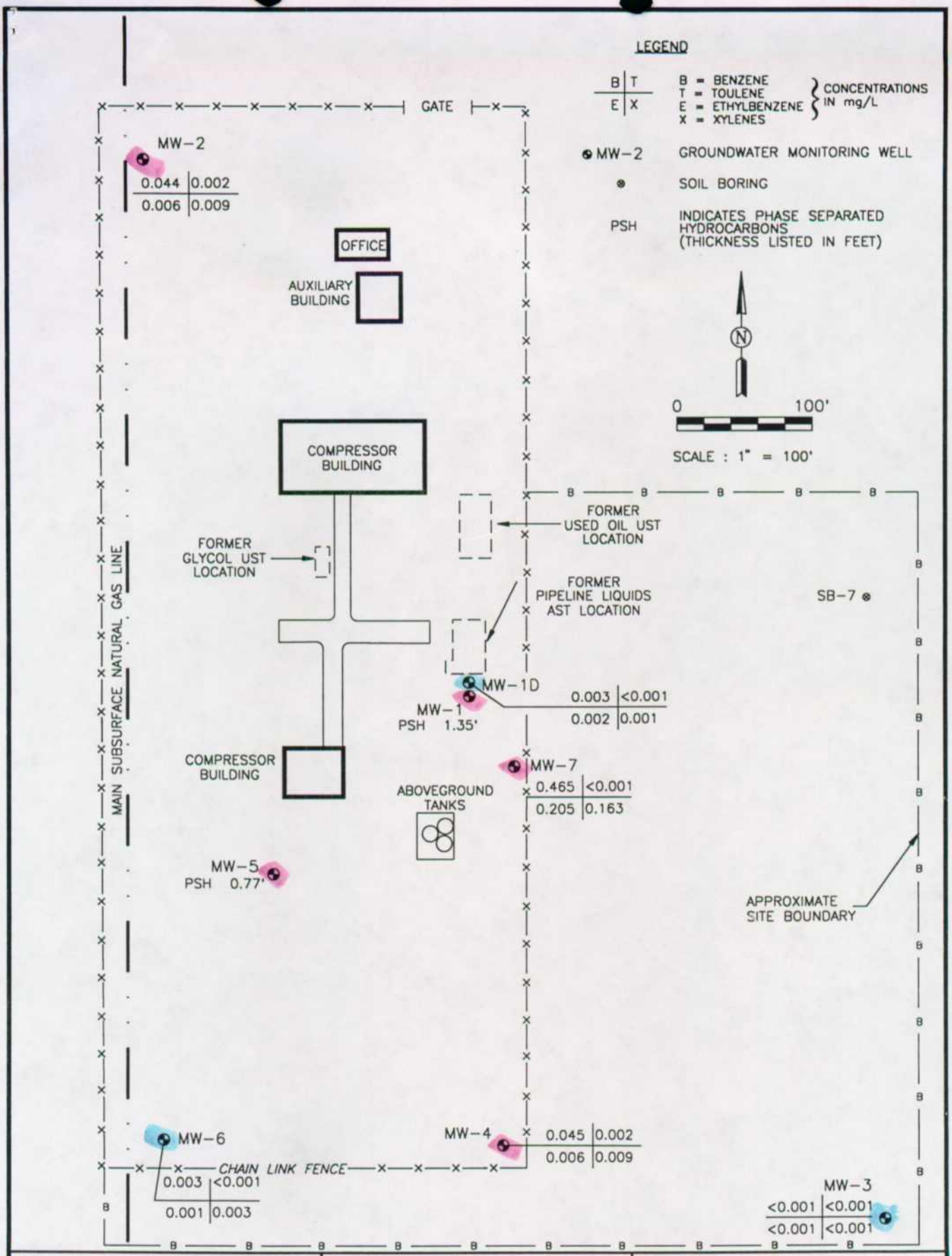
Constituent	Monitoring Well Number		NMWQCC Standards (mg/l)
	MW-6 (mg/l)	MW-7 (mg/l)	
Total Dissolved Solids (TDS)	916	**1,085**	1,000
Calcium (Ca)	236	436	NS
Fluoride	0.95	**1.88**	1.6
Magnesium (Mg)	46.6	58.6	NS
Sodium (Na)	227	229	NS
Bicarbonate (HCO_3)	564	1,307	NS
Chloride (Cl)	190	159	250
Nitrate (NO_3-N)	0.06	0.03	10.0
Sulfate (SO_4)	233	418	600
Field Parameters			
pH (standard units)	7.10	7.11	6 - 9
Conductivity (µS/cm)	1500	1720	NS
Temperature (°F)	67.8	64.9	NS
Dissolved Oxygen (mg/l)	5.4	1.60	NS

Analyses performed by Trace Analysis, Inc. using EPA Methods 160.1, 200.7, 340.2, 375.4, 353.3, 4500 C1-B, and 310.1
New Mexico Water Quality Control Commission (NMWQCC) Standards are listed as specified in Regulation 3-103.
NM Indicates parameter was not measured (due to presence of free phase floating product).
NS Indicates no standard established or applicable.
Values in **boldface** type indicate concentrations exceed NMWQCC groundwater standards.

Table 5
Summary of Groundwater Analytical Results for Bacterial Activity
Monument Booster Station

Constituent	Date	Monitoring Well Number				
		MW-1D (cfu/ml)	MW-2 (cfu/ml)	MW-5 (cfu/ml)	MW-6 (cfu/ml)	MW-7 (cfu/ml)
Total Aerobic Bacterial Populations	05-16-95 11-15-95	900,000 35,000	34,000 NA	1,550,00 0 NA	--- 41,000	--- 44,000
Total Hydrocarbon Degraders	05-16-95 11-15-95	61,000 3,000	28,000 NA	24,500 NA	--- 1,100	--- 990
Dissolved Oxygen (DO)	05-16-95 11-15-95	1.05 1.26	6.48 6.13	1.10 NA	--- 5.4	--- 1.60
Nitrate (NO_3)	05-16-95 11-15-95	1.37 <0.01	7.42 NA	0.56 NA	--- 0.06	--- 0.03
Sulfate (SO_4)	05-16-95 11-15-95	174 119	509 NA	67 NA	--- 233	--- 418

Total Aerobic Bacterial Populations equivalent to Total Aerobic Heterotrophic Plate Count.
Total Hydrocarbon Degraders equivalent to Total Hydrocarbon Utilizing Bacteria.
Analyses performed by Trace Analysis, Inc. with assistance from the Biological Sciences Department of Texas Tech University using modified standard plate count methods (Appendix D).
Units reported in colony forming units per milliliter (cfu/ml).
NA indicates sample was not analyzed for this constituent.
--- indicates monitoring well was installed after this sampling date.



GCL

CLIENT: GPM GAS CORPORATION	
DATE: 11/15/95	REV. NO.: 0
AUTHOR: GJV	DRN BY:MP010896
CK'D BY: LJM	FILE: MNUMNT02

FIGURE 1
MONUMENT
BOOSTER STATION
BTEX CONCENTRATION MAP

Biological Parameters

The results for dissolved oxygen (DO), nitrate (NO_3), sulfate (SO_4), total aerobic heterotrophic plate count (HPC), total hydrocarbon utilizing bacteria (HUB) are summarized in Table 3. Although the results may suggest that intrinsic bioremediation is occurring, additional monitoring and sampling data will be required to evaluate its effectiveness in limiting the migration or elimination of the dissolved hydrocarbon plume.

Inorganic Analytical Results

The results for total metals and major cations and anions analyses performed for newly installed monitoring wells MW-6 and MW-7 are presented in Tables 3 and 4. Total metals and major cations and anions for the existing wells (MW-1 through MW-5) were collected during the May 16, 1995 sampling event and are not presented in this report. The inorganic chemical analyses indicate that water samples from monitoring well MW-7 exceed the WQCC standards for fluoride, iron, manganese, and total dissolved solids (TDS). It should be noted that upgradient monitoring well MW-2 has anomalous concentrations of each of these inorganic constituents. These elevated constituents could represent natural conditions and/or off-site sources and are not believed to be contributed from on-site operations.

TDS and fluoride concentrations are only slightly elevated in MW-7, however elevated TDS and fluoride levels are a common natural occurrence in southeast New Mexico. Furthermore, fluoride is not a constituent for the natural gas production process on site, therefore, a remedial response by GPM to the fluoride levels in the groundwater is not warranted.

Since the water samples were not filtered prior to analysis, the elevated iron and manganese levels in MW-7 are likely the result of the natural content of these constituents in the native soils. During the annual sampling event (Second Quarter 1996), samples to be analyzed for metals will be filtered in the field prior to submission to to the analytical laboratory.

The water samples collected from MW-6 and MW-7 showed nickel concentrations above the WQCC standards. Since nickel is not a constituent used at this gas compressor facility and the nickel concentrations in the other on site wells (MW-1 through MW-5) were below the laboratory detection limit of 0.2 mg/l during the previous sampling event, it is possible that an internal component of the submersible pump was a source for the nickel. Future samples will be obtained with a decontaminated, disposable bailer and filtered prior to analysis to elimnate the possibility the pump being a source for the nickel.

Groundwater Gradient

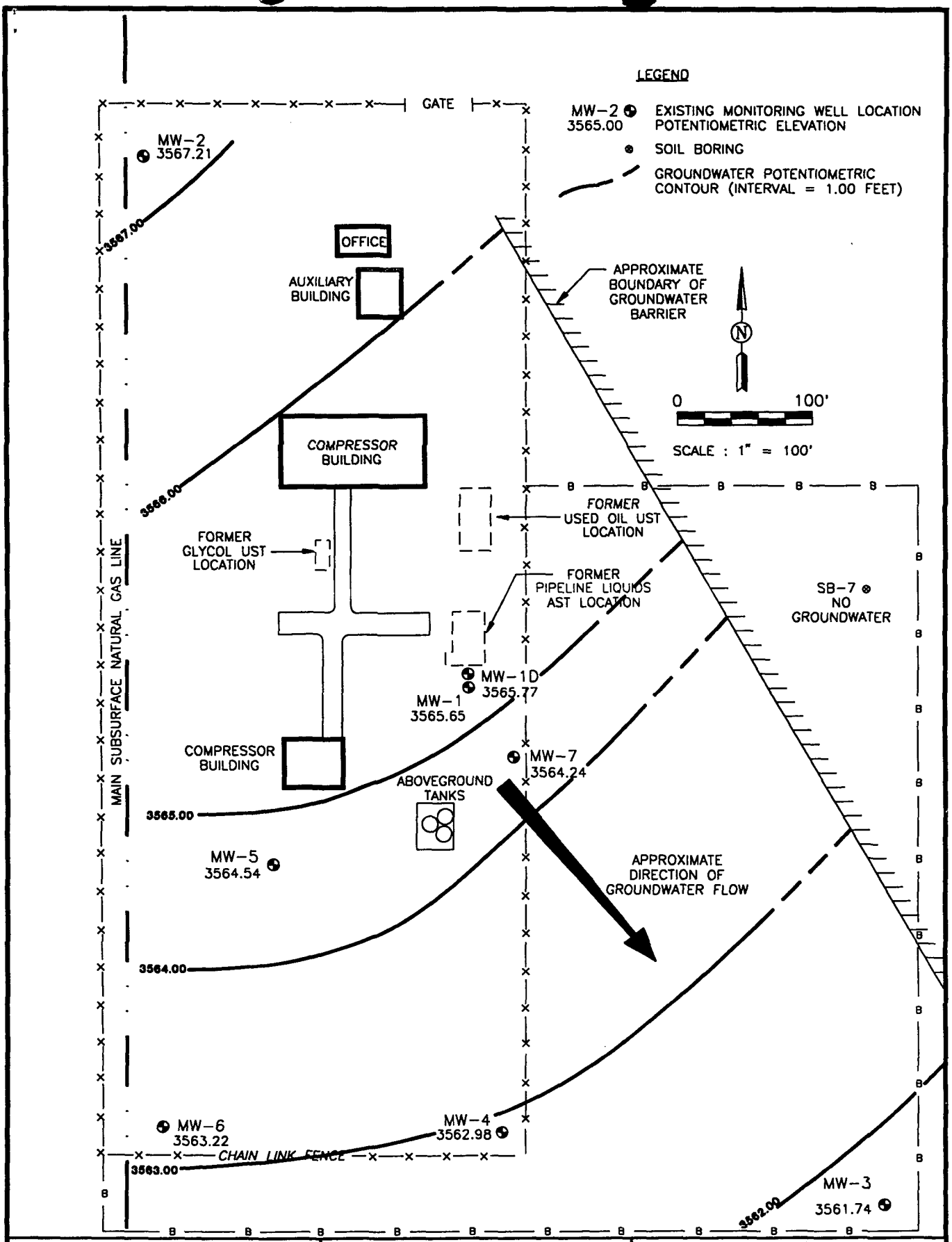
Depth to groundwater occurs at approximately 20 to 27 feet below ground surface at the site. Based on gauging measurements conducted on November 21, 1995, the water table elevation has risen up to 1 foot since the previous measurements obtained in May 1995. Groundwater elevations for the current and previous monitoring events are summarized in Table 6. A potentiometric surface (groundwater table) map and direction of groundwater flow is illustrated in Figure 2. The groundwater gradient direction is to the southeast with a hydraulic gradient of approximately 0.008 ft/ft, which is consistent with the previous gauging event in May.

Approximately 1.35 feet and 0.77 feet of free product (crude oil) was observed in monitoring wells MW-1 and MW-5 during sampling activities on November 15, 1995. On November 21, 1995, approximately 1.86 feet and 0.76 feet of free product (crude oil) was observed in monitoring wells MW-1 and MW-5. Free product was not observed in monitoring well MW-5 during previous monitoring event in May 1995.

Table 6
Summary of Groundwater Elevations
Monument Booster Station

Well	Date	Relative Ground Surface Elevations (feet)*	Relative Top of Casing Elevation (feet)*	Depth to Groundwater Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)**	Phase-Separated Hydrocarbon Thickness (feet)
MW-1	05-16-95	3588.85	3591.15	28.05	3565.17	2.52
	11-21-95	3588.85	3591.15	27.03	3565.65	1.86
MW-1D	05-16-95	3589.06	3591.31	26.04	3565.27	0.00
	11-21-95	3589.06	3591.31	25.54	3565.77	0.00
MW-2	05-16-95	3594.13	3596.30	29.28	3567.02	0.00
	11-21-95	3594.13	3596.30	29.09	3567.21	0.00
MW-3	05-16-95	3581.46	3583.86	22.72	3561.14	0.00
	11-21-95	3581.46	3583.86	22.12	3561.74	0.00
MW-4	05-16-95	3586.10	3588.77	26.45	3562.32	0.00
	11-21-95	3586.10	3588.77	25.79	3562.98	0.00
MW-5	05-16-95	3589.62	3592.16	28.10	3564.06	0.00
	11-21-95	3589.62	3592.16	28.24	3564.54	0.76
MW-6	11-21-95	3586.15	3587.93	24.71	3563.22	0.00
MW-7	11-21-95	3588.06	3589.40	25.16	3564.24	0.00

* Elevations initially surveyed by John W. West Engineering Company of Hobbs, New Mexico. The monitor well casings were marked on the north side to provide consistent reference points for future gauging operations.
** Correction Equation for Phase-Separated Hydrocarbons: Corrected Relative Groundwater Elevation = Top of Casing Elevation - [Depth to Groundwater Below Top of Casing - (SG) (PSH Thickness)]
Specific Gravity (SG) ≈ 0.82 for crude oil.
PSH indicates phase separated hydrocarbons (crude oil).



GCL

CLIENT: GPM GAS CORPORATION	
DATE: 11/21/95	REV. NO.: 0
AUTHOR: GJV	DRN BY:MP010896
CK'D BY: LJM	FILE: MNUMNT01

FIGURE 2
MONUMENT BOOSTER STATION POTENTIOMETRIC SURFACE MAP

Product Recovery

GPM has attempted product recovery operations from MW-1 using a gravity siphoning technique (SWAP^{tm}4) as proposed in the Remedial Action Workplan. To date, this technique has proven to be successful in passively collecting approximately 14 gallons of free product from MW-1. However, during attempts to permanently install the SWAP^{tm}4 system on November 13 and 14, 1995, it became evident that the system could not maintain continuous recovery because a substantial component of the product (crude oil) boiled off (vaporized) and thus compromised the integrity of the siphon. Only 0.7 gallons could be recovered at a time before it became necessary to manually empty the recovery tank and re-install the system. The SWAP^{tm}4 system is thus no more effective than manual bailing due to the manpower requirements that would be necessary to keep the system working. Therefore, GPM has elected to implement a more aggressive remediation system utilizing a pneumatic product recovery system that will recover free product (crude oil) from monitoring wells MW-1 and MW-5. Our consultant, GCL, is in the process of designing and procuring the necessary equipment for this system. We anticipate that the system will be installed in late January or early February. Results of the system recovery operations will be documented in the next quarterly monitoring and sampling report (First Quarter 1995).

Conclusions

- The WQCC standard of 0.010 mg/l for benzene was exceeded in MW-2, MW-4, and MW-7.
- The WQCC standard for nickel was exceeded in MW-6.
- The WQCC standards for fluoride, iron, manganese, nickel, and TDS were exceeded in MW-7.
- Free product (crude oil) was observed in monitoring wells MW-1 and MW-5.

GPM plans to conduct the first quarter sampling and monitoring operations in January 1996 at which time the groundwater quality in MW-2 and MW-4 will be re-evaluated. If you have any questions regarding this project call me at 915-368-1142.

Sincerely,

Scott Seeby
Environmental Analyst
New Mexico Region

Attachments

cc: Tony Canfield, GPM-Oil Center, NM
Jerry Sexton, OCD-Hobbs, NM
Gilbert J. Van Deventer, GCL-Midland,TX (w/o attachments)

APPENDICES

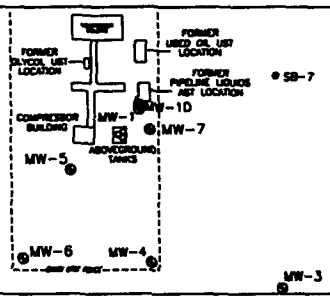
APPENDIX A

LITHOLOGIC LOGS AND

MONITORING WELL CONSTRUCTION DIAGRAMS

LITHOLOGIC LOG (SPLIT SPOON)

LOCATION MAP:



___1/4 ___1/4 NE 1/4 NW 1/4 S 33 T 19S R 37E

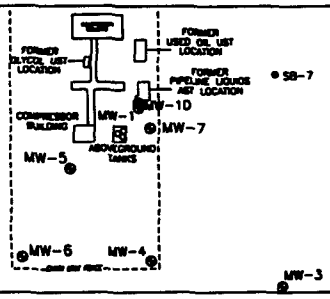
SITE ID: MONUMENT BOOSTER STATION LOCATION ID: MW-6
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): 3,590
STATE: NEW MEXICO COUNTY: LEA
DRILLING METHOD: AIR ROTARY
DRILLING CONTR.: ENVIRONMENTAL SPILL CONTROL, INC.
DATE STARTED: 11/15/95 DATE COMPLETED: 11/16/95
FIELD REP.: GIL VAN DEVENTER, (GCL)
COMMENTS: _____

LOCATION DESCRIPTION: LOCATED NEAR SOUTHWEST CORNER OF FACILITY

DEPTH	WELL CONST.	LITH.	SAMPLE USCS	FROM	TO	% REC	PID READING	LITHOLOGIC DESCRIPTION (LITH., USCS, GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SORT., CONSOL., DIST. FEATURES)
5				5	6	100	<1 ppm	SANDY CALICHE, GRAYISH ORANGE-PINK (5YR 7/2) HARD, WEATHERED AND FRACTURED (0-19 FEET), DRY.
10			CAL	10	11	100	<1 ppm	
15				15	16	100	<1 ppm	
								NO SAMPLE RECOVERY FROM 19-22 FEET DUE TO HARD FORMATION
20			SS	20	21	0		CALCAREOUS SANDSTONE, HARD, MODERATE YELLOWISH BROWN (10YR 5/4), DRY
25			SM					SAND, V. FINE TO FINE-GRAINED, LIGHT BROWN (5YR 6/4), MOIST GROUNDWATER ENCOUNTERED AT APPROXIMATELY 22 FEET BELOW GROUND SURFACE
30								
35			CL					CLAY, RED (5YR 3/4), DRY
40								BOTTOM OF BORING AT 37 FEET
45								
50								

LITHOLOGIC LOG (SPLIT SPOON)

LOCATION MAP:

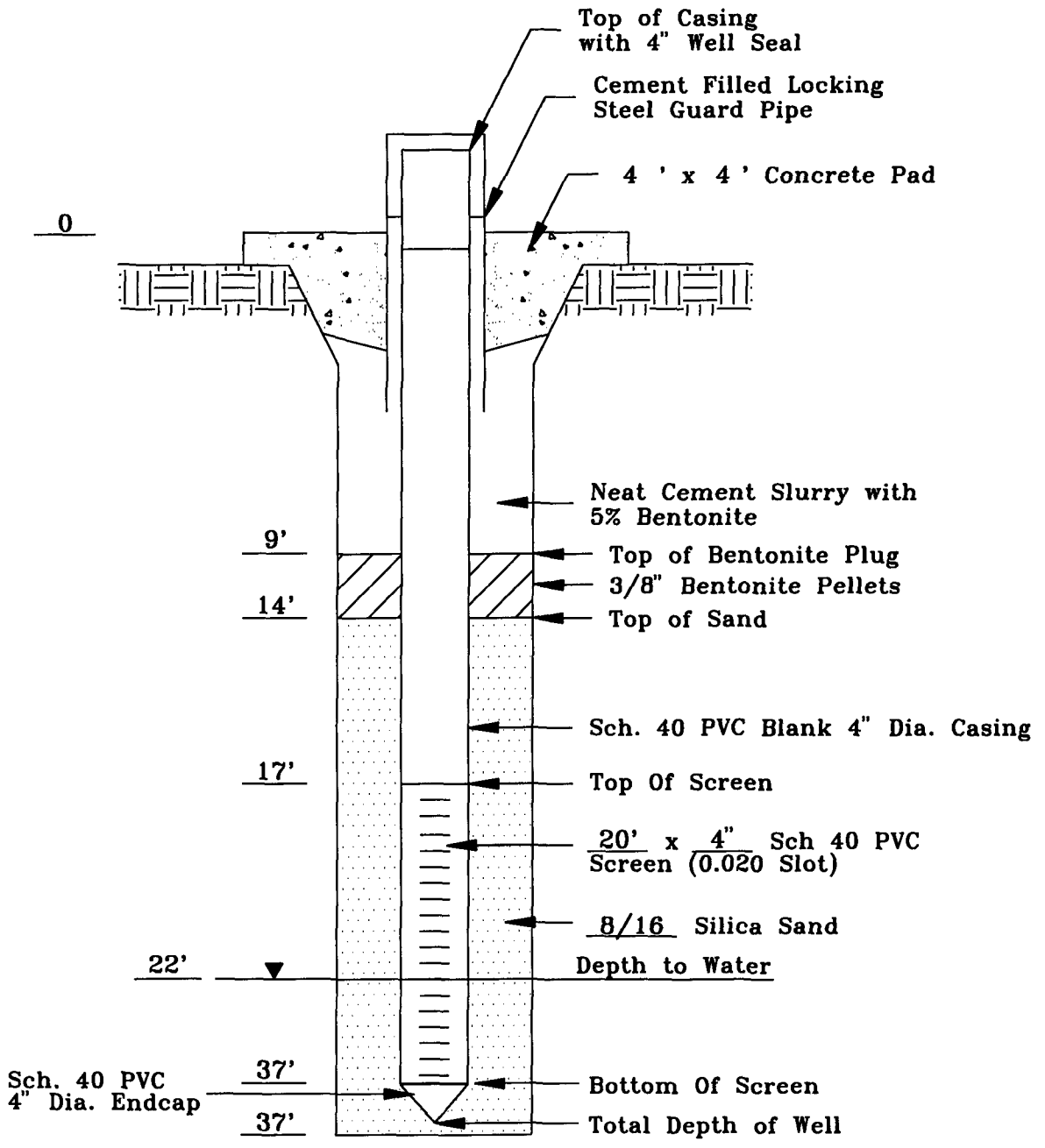


1/4 1/4 NE 1/4 NW 1/4 S 33 T 19S R 37E

SITE ID: MONUMENT BOOSTER STATION LOCATION ID: MW-7
SITE COORDINATES (ft.):
N _____ E _____
GROUND ELEVATION (ft. MSL): 3,590
STATE: NEW MEXICO COUNTY: LEA
DRILLING METHOD: AIR ROTARY
DRILLING CONTR.: ENVIRONMENTAL SPILL CONTROL, INC.
DATE STARTED: 11/14/95 DATE COMPLETED: 11/15/95
FIELD REP.: GIL VAN DEVENTER, (GCL)
COMMENTS: _____

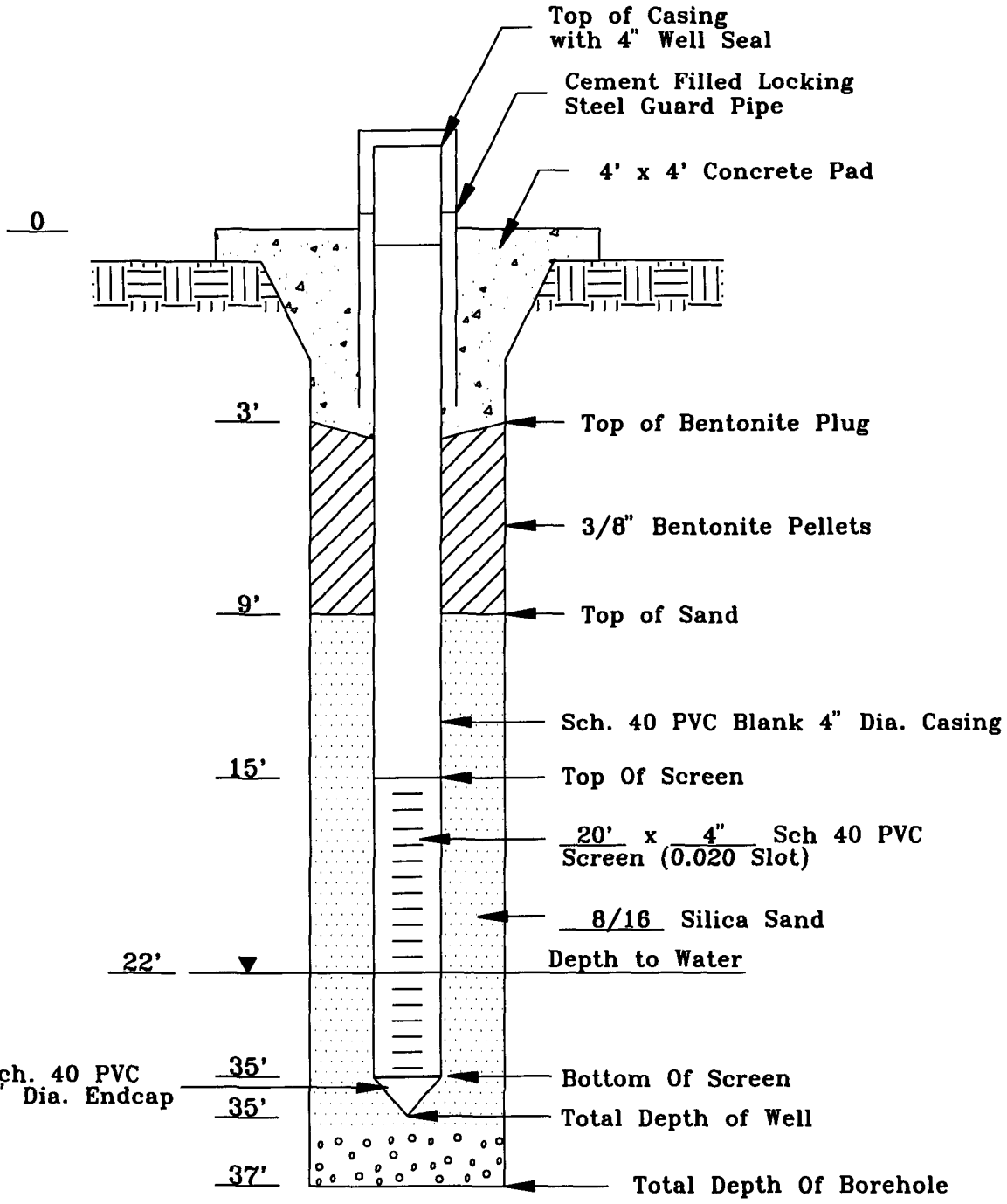
LOCATION DESCRIPTION: LOCATED APPROXIMATELY 65 FT. SOUTHEAST (DOWN GRADIENT) OF MW-1

DEPTH	WELL CONST.	LITH.	SAMPLE USCS	FROM	TO	% REC	PID READING	LITHOLOGIC DESCRIPTION (LITH., USCS, GRAIN SIZE PROPORTIONS, WET COLOR, RNDG., SORT., CONSOL., DIST. FEATURES)
5			CAL	5	6	100	<1 ppm	SANDY CALICHE, GRAYISH ORANGE-PINK (5YR 7/2) HARD, WEATHERED AND FRACTURED (0-18 FEET) DRY.
10				10	11	100	<1 ppm	
15				15	16	100	<1 ppm	
20			SS	20	21	100	2 ppm	CALCAREOUS SANDSTONE, HARD, MODERATE YELLOWISH BROWN (10YR 5/4), DRY
25			SM	25	26	100	260 ppm	SAND, V. FINE TO FINE-GRAINED, LIGHT BROWN (5YR 6/4), MOIST GROUNDWATER ENCOUNTERED AT APPROXIMATELY 22 FEET BELOW GROUND SURFACE
35			CL					CLAY, RED (5YR 3/4) DRY
								BOTTOM OF BORING AT 37 FEET
40								
45								
50								



GCL	CLIENT: GPM GAS CORPORATION	
	DATE: 11/16/95	REV. NO.: 0
	AUTHOR: GJV	DRAWN BY: MP
	CK'D BY: RTH	FILE: MTMW06CD

MONUMENT BOOSTER STATION
MONITORING WELL MW-6
COMPLETION DIAGRAM



GCL	CLIENT: GPM GAS CORPORATION		MONUMENT BOOSTER STATION MONITORING WELL MW-7 COMPLETION DIAGRAM
	DATE: 11/15/95	REV. NO.: 0	
	AUTHOR: GJV	DRAWN BY: MP	
	CK'D BY: RTH	FILE: MTMW07CD	

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL ENVIRONMENTAL
Attention: Annette Montoya
505 Marquette NW, Suit 1100
Albuquerque, NM 87102

December 05, 1995
Receiving Date: 11/18/95
Sample Type: Soil
Charge Code No: LRMONU-20-300
Project Location: Monument Booster Station
COC #9842

Prep Date: 11/20/95
Analysis Date: 11/20/95
Sampling Date: 11/14-15/95
Sample Condition: I & C
Sample Received by: McD
Project Name: Monument Booster Station

TA#	Field Code	Gasoline Range TRPHC (ug/kg)	Diesel Range TRPHC (ug/kg)	MTBE (ug/kg)	BENZENE (ug/kg)	TOLUENE (ug/kg)	ETHYL-BENZENE (ug/kg)	M,P,O XYLENE (ug/kg)	TOTAL BTEX (ug/kg)
T44493	9511141515 MW-7 (20-21')	<10,000	<10,000	<50	<50	<50	<50	<50	<50
T44494	9511151240 MW-6 (15-16')	<10,000	<10,000	<50	<50	<50	<50	<50	<50
QC	Quality Control	913	252,000	107	117	107	101	318	
Reporting Limit		10,000	10,000	50	50	50	50	50	
RPD		7	1	9	5	10	7	9	
% Extraction Accuracy		112	88	89	108	77	71	72	
% Instrument Accuracy		91	98	108	117	108	102	106	

METHODS: EPA SW 846-5030, 8020, 8015 Modified (Gasoline and Diesel Range).
MTBE/BTEX SPIKE: 2,500 ug/kg MTBE/BTEX.
TRPHC (Gasoline) SPIKE: 1,000 ug/kg Gasoline.
TRPHC (Diesel) SPIKE: 100,000 ug/kg Diesel.
MTBE/BTEX QC: 100 ug/L MTBE/BTEX.
TRPHC (Gasoline) QC: 1,000 ug/L Gasoline.
TRPHC (Diesel) QC: 250,000 ug/L Diesel.

BL

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-5-95
Date

Fax cy 12-6

GCL Environmental Science and Engineering
A BDM International Company

❑ Albuquerque
505 Marquette NW, Ste. 1100
Albuquerque, NM 87102
(505) 842-0001
FAX: (505) 842-0595

❑ Mid Atlantic Region
4221 Forbes Blvd., Ste. 240
Lanham, MD 20706-4325
(301) 459-9677
FAX: (301) 459-3064

❑ NASA-WSTF
PO Drawer MM
Las Cruces, NM 88004
(505) 524-5353
FAX: (505) 524-5315

№ 9842

Chain of Custody

Date 11-15-95 Page 1 Of 1

Lab Name TRACE ANALYSIS
Address 6701 ABERDEENE AVENUE
LUBBOCK, TEXAS 79424
Telephone (806) 794-1296

Samplers (SIGNATURES) Gil Van Deventer

Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 608/8080	Polynuclear Aromatic Hydrocarbons 610/8310	Volatile Compounds GC/MS 624/8240	Base/Neu/Acid Compounds GC/MS 625/8270	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1	TPH/BTEX Modified 8015 (G&D)	TCLP- Vol., Semi-Vol. Herbicides, Pesticides	TCLP- Metals	RCRA Metals(8)	Priority Pollutant Metals (13)	CAM Metals (18) TTLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)					Number of Containers
44493 9511141515	SOIL	MW-7(20'-21')		✓									✓																1
94 9511151240	SOIL	MW-6(15'-16')		✓									✓																1

322AH
322AH

Project Information		Sample Receipt	
Project	Monument Booster Station	Total No. of Containers	2
Project Director	Gil VanDeventer	Chain of Custody Seals	Y
Charge Code No.	LRMONU-20-300	Rec'd Good Condition/Cold	Y
Shipping ID. No.	—	Conforms to Record	Y
Via	PERSONAL CAR	Lab No.	32244

Special Instructions/Comments: Bill direct to GPM (Vince Bernard)
Send copies of analyses to GCL - Midland office

Relinquished By 1.	Relinquished By 2.	Relinquished By 3.
(Signature) 1105 (Time)	Helen Shelton 9:30 AM (Signature) (Time)	(Signature) (Time)
Gil Van Deventer 11-17-95 (Printed Name) (Date)	HELEN SHELTON 11-18-95 (Printed Name) (Date)	(Printed Name) (Date)
GCL (Company)	TRACE ANALYSIS (Company)	(Company)
Received By 1.	**Received By 2.**	**Received By (Laboratory) 3.**
Helen Shelton 11:05 AM (Signature) (Time)	(Signature) (Time)	(Signature) 20 (Time)
HELEN SHELTON 11-17-95 (Printed Name) (Date)	(Printed Name) (Date)	(Printed Name) (Date)
TRACE ANALYSIS (Company)	(Company)	(Laboratory)

Distribution: White, Canary-Laboratory • Pink, GCL

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL
Attention: Annette Montoya
505 Marquette NW, Ste. 1100
Albuquerque, NM 87102

November 24, 19915
Receiving Date: 11/18/95
Sample Type: Water
Charge Code: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

Prep Date: 11/19/95
Analysis Date: 11/19/95
Sampling Date: 11/15-16/95
Sample Condition: Intact & Cool
Sample Received by: McD
Project Name: Monument Booster

TA#	Field Code	MTBE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL-BENZENE (ug/L)	M,P,O XYLENE (ug/L)	TOTAL BTEX (ug/L)
T44486	9511150830 MW-2	<1	44	2	6	9	61
T44487	9511150945 MW-4	<1	45	2	6	10	63
T44488	9511151030 MW-3	<1	<1	<1	<1	<1	<1
T44489	9511151130 MW-1d	<1	3	<1	2	1	6
T44490	9511151245 MW-7	<1	465	<1	205	163	833
T44491	9511151300 MW-d	<1	408	1	188	158	755
T44492	9511161500 MW-6	<1	3	<1	1	3	7
QC	Quality Control	105	105	104	103	307	
Reporting Limit		1	1	1	1	1	
RPD		3	1	2	2	3	
% Extraction Accu		106	105	104	104	103	
% Instrument Accuracy		105	105	104	104	103	

NR = NOT RUN

METHODS: EPA SW 846-8020, 5030.
BTEX SPIKE AND QC: 100 ug/L BTEX.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

11-27-95
Date

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL
Attention: Annette Montoya
505 Marquette NW, Suite 1100
Albuquerque, NM 87102

December 06, 1995
Receiving Date: 11/18/95
Sample Type: Water
Charge Code: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

Prep Date: 11/21/95
Analysis Date: 11/21/95
Sampling Date: 11/15-16/95
Sample Condition: I & C
Sample Received by: McD
Project Name: Monument Booster

TA#	FIELD CODE	CHLORIDE (mg/L)	(NO3-NO2)-N (mg/L)	SULFATE (mg/L)	TDS (mg/L)	ALKALINITY (mg/L as CaCo3) HCO3	CO3
T44489	9511151130 MW-1d	NR	<0.01	119	NR	NR	NR
T44490	9511151245 MW-7	159	0.03	418	1,085	1,307	0
T44492	9511161500 MW-6	190	0.06	233	916	564	0
QC	Quality Control	505	0.90	9.3	---	---	---
RPD		0	4	6	0	0	0
% Extraction Accuracy		100	98	97	---	---	---
% Instrument Accuracy		101	95	92	---	---	---
REPORTING LIMIT		1.0	0.01	1.0	---	10	10

NR = NOT RUN

METHODS: EPA 353.3, SM 4500 Cl-B, 375.4, 160.1, 310.1.
CHLORIDE SPIKE AND QC: 500 mg/L CHLORIDE.
(NO3-NO2)-N SPIKE: 1.33 mg/L (NO3-NO2)-N.
(NO3-NO2)-N QC: 1.00 mg/L (NO3-NO2)-N.
SULFATE SPIKE AND QC: 10 mg/L SULFATE.

12-6-95

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

December 06, 1995
Receiving Date: 11/18/95
Sample Type: Water
Charge Code: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

ANALYTICAL RESULTS FOR
GCL
Attention: Annette Montoya
505 Marquette NW, Suite 1100
Albuquerque, NM 87192

Prep Date: 11/21/95
Analysis Date: 11/27/95
Sampling Date: 11/15/95
Sample Condition: Intact & Cool
Sample Received by: McD
Project Name: Monument Booster

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Se (mg/L)	Cr (mg/L)	Cd (mg/L)	Pb (mg/L)	Ba (mg/L)	Ag (mg/L)	B (mg/L)	Al (mg/L)	Mg (mg/L)	Ca (mg/L)
T44490	9511151245 MW-7	<0.1	<0.1	<0.05	<0.02	<0.1	0.3	<0.01	0.57	1.6	58.6	436.0
QC	Quality Control	4.8	4.7	4.7	4.6	4.7	4.6	1.1	4.9	4.9	3.9	19.8
REPORTING LIMIT		0.1	0.1	0.05	0.02	0.1	0.2	0.01	0.03	0.2	0.01	0.01
RPD		8	4	8	6	6	4	6	2	0	4	0
% Extraction Accuracy		81	82	75	106	80	81	103	97	102	80	93
% Instrument Accuracy		95	95	93	93	93	92	110	97	99	98	99

TA#	FIELD CODE	Hg (mg/L)	Mo (mg/L)	Co (mg/L)	Mn (mg/L)	Na (mg/L)	K (mg/L)	Zn (mg/L)	Fe (mg/L)	Ni (mg/L)	Cu (mg/L)
T44490	9511151245 MW-7	<0.001	<0.1	<0.03	0.33	229.0	95.8	<0.02	9.7	3.78	<0.02
QC	Quality Control	0.00515	4.9	5.0	4.8	24.5	4.2	4.7	4.8	4.9	4.4
REPORTING LIMIT		0.001	0.1	0.03	0.01	0.4	0.3	0.02	0.03	0.2	0.02
RPD		4	0	0	0	0	20	0	10	4	2
% Extraction Accuracy		98	89	75	81	89	110	115	105	97	78
% Instrument Accuracy		103	98	100	96	103	106	94	96	98	89

METHODS: EPA SW 846-3015, 6010, 7470.
TOTAL METALS SPIKE: 8.0 mg/L As, Se, Ba, Al; 0.8 mg/L Cr; 0.2 mg/L Cd, Ag, Fe; 2.0 mg/L Pb, B, Mo, Co, Mn, Zn, Ni, Cu; 100.0 mg/L Mg, Ca, Na, K; 0.0050 mg/L Hg.
TOTAL METALS QC: 5.0 mg/L As, Se, Cr, Cd, Pb, Ba, B, Al, Mo, Co, Mn, Zn, Fe, Ni, Cu; 1.0 mg/L Ag; 4.0 mg/L Mg, K; 20.0 mg/L Ca, Na; 0.0050 mg/L Hg.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-6-95
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL
Attention: Annette Montoya
505 Marquette NW, Suite 1100
Albuquerque, NM 87192

December 06, 1995
Receiving Date: 11/18/95
Sample Type: Water
Charge Code: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

Prep Date: 11/21/95
Analysis Date: 11/27/95
Sampling Date: 11/16/95
Sample Condition: Intact & Cool
Sample Received by: McD
Project Name: Monument Booster

TOTAL METALS

TA#	FIELD CODE	As (mg/L)	Se (mg/L)	Cr (mg/L)	Cd (mg/L)	Pb (mg/L)	Ba (mg/L)	Ag (mg/L)	B (mg/L)	Al (mg/L)	Mg (mg/L)	Ca (mg/L)
T44492	9511161500 MW-6	<0.1	<0.1	<0.05	<0.02	<0.1	<0.2	<0.01	0.27	1.1	46.6	236.0
QC	Quality Control	4.9	4.6	4.7	4.7	4.8	4.8	1.2	4.9	4.9	3.9	19.8
REPORTING LIMIT		0.1	0.1	0.05	0.02	0.1	0.2	0.01	0.03	0.2	0.01	0.01
RPD		8	4	8	6	6	4	6	2	0	4	0
% Extraction Accuracy		81	82	84	113	80	81	100	97	102	80	93
% Instrument Accuracy		97	92	95	95	95	95	115	97	99	98	99

TA#	FIELD CODE	Hg (mg/L)	Mo (mg/L)	Co (mg/L)	Mn (mg/L)	Na (mg/L)	K (mg/L)	Zn (mg/L)	Fe (mg/L)	Ni (mg/L)	Cu (mg/L)
T44492	9511161500 MW-6	<0.001	<0.1	<0.03	0.13	227.0	10.0	0.09	0.79	6.73	0.24
QC	Quality Control	0.00515	4.9	5.0	4.8	24.5	4.2	4.7	4.8	4.9	4.4
REPORTING LIMIT		0.001	0.1	0.03	0.01	0.4	0.3	0.02	0.03	0.2	0.02
RPD		4	0	0	0	0	20	0	10	4	2
% Extraction Accuracy		98	89	75	81	89	110	115	105	97	78
% Instrument Accuracy		103	98	100	96	103	106	94	96	98	89

METHODS: EPA SW 846-3015, 6010, 7470.
TOTAL METALS SPIKE: 8.0 mg/L As, Se, Ba, Al; 0.8 mg/L Cr; 0.2 mg/L Cd, Ag, Fe; 2.0 mg/L Pb, B, Mo, Co, Mn, Zn, Ni, Cu; 100.0 mg/L Mg, Ca, Na, K; 0.0050 mg/L Hg.
TOTAL METALS QC: 5.0 mg/L As, Se, Cr, Cd, Pb, Ba, B, Al, Mo, Co, Mn, Zn, Fe, Ni, Cu; 1.0 mg/L Ag; 4.0 mg/L Mg, K; 20.0 mg/L Ca, Na; 0.0050 mg/L Hg.

BF
Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-6-95
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL ENVIRONMENTAL
Attention: Annette Montoya
505 Marquette NW, Suite 1100
Albuquerque, NM 87102

December 27, 1995
Receiving Date: 11/18/95
Sample Type: Water
Charge Code No: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

Prep Date: 12/22/95
Analysis Date: 12/22/95
Sampling Date: 11/15-16/95
Sample Condition: I & C
Sample Received by: McD
Project Name: Monument Booster

TA#	FIELD CODE	FLUORIDE (mg/L)
T44490	9511151245 MW - 7	1.88
T44492	9511161500 MW - 6	0.95
QC	Quality Control	0.92
REPORTING LIMIT		0.1
RPD		18
Extraction Accuracy		92
Instrument Accuracy		92

METHODS: EPA 340.2.
FLUORIDE SPIKE AND QC: 1.0 mg/L FLUORIDE.

NOTE: Fluoride was requested 12-19-95 and consequently was analyzed 12/22/95 out of holding time.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-27-95
DATE

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL ENVIRONMENTAL
Attention: Annette Montoya
505 Marquette NW, Suite 1100
Albuquerque, NM 87102

December 30, 1995
Receiving Date: 11/18/95
Sample Type: Water
Charge Code No: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

Prep Date: 12/20/95
Analysis Date: 12/28/95
Sampling Date: 11/15-16/95
Sample Condition: I & C
Sample Received by: McD
Project Name: Monument Booster

TA#	FIELD CODE	TOTAL Se (mg/L)	TOTAL Cd (mg/L)
T44490	9511151245 MW - 7	<0.005	<0.001
T44492	9511161500 MW - 6	<0.005	<0.001
QC	Quality Control	0.0505	0.0024
REPORTING LIMIT		0.005	0.001
RPD		10	8
Extraction Accuracy		105	108
Instrument Accuracy		101	94

METHODS: EPA SW 846-3015, 7740, 7131.
TOTAL Se SPIKE: 0.010 mg/L TOTAL Se.
TOTAL Se QC: 0.050 mg/L TOTAL Se.
TOTAL Cd SPIKE: 0.00125 mg/L TOTAL Cd.
TOTAL Cd QC: 0.0025 mg/L TOTAL Cd.

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-30-95
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
806•794•1296
FAX 806•794•1298

ANALYTICAL RESULTS FOR
GCL ENVIRONMENTAL
Attention: Annette Montoya
505 Marquette NW, Suite 1100
Albuquerque, NM 87102

December 27, 1995
Receiving Date: 11/18/95
Sample Type: Water
Charge Code No: LRMONU-20-300
Project Location: Monument Booster
COC# 9841

Prep Date: 11/18/95
Analysis Date: 11/18-21/95
Sampling Date: 11/15-16/95
Sample Condition: I & C
Sample Received by: McD
Project Name: Monument Booster

TA#	FIELD CODE		HPC (CFU/ml)	HUB (CFU/ml)
T44489	9511151130	MW - 1d	3.5 x 10E5	3.0 x 10E3
T44490	9511151245	MW - 7	4.4 x 10E5	9.9 x 10E2
T44492	9511161500	MW - 6	4.1 x 10E5	1.1 x 10E3

Director, Dr. Blair Leftwich
Director, Dr. Bruce McDonell

12-27-95
DATE

44406 – 7L Bac

Ha K

un F, even though out of h.t., flag

Faxed 11-1 / Faxed more 11-27 / last 1-2

GCL Environmental Science and Engineering — A BDM International Company

☑ Albuquerque
505 Marquette NW, Ste. 1100
Albuquerque, NM 87102
(505) 842-0001
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(301) 459-9677
FAX: (301) 459-3064

☐ NASA-WSTF
PO Drawer MM
Las Cruces, NM 88004
(505) 524-5353
FAX: (505) 524-5315

Disk #2

№ 9841

Chain of Custody

Date 11/15/95 Page 1 Of 1

Lab Name TRACE ANALYSIS
Address 6701 ABERDEENE AVENUE
LUBBOCK, TEXAS 79424
Telephone (806) 794-1296

Samplers (SIGNATURES) D. Nee

Analysis Request

	Sample Number	Matrix	Location	Halogenated Volatiles 601/8010	Aromatic Volatiles 602/8020 BTEX	Phenols, Sub Phenols 604/8040	Pesticides/PCB 608/8080	Polynuclear Aromatic Hydrocarbons 610/8310	Volatile Compounds GC/MS 624/8240	Base/Neu/Acid Compounds GC/MS 625/8270	Total Organic Carbon (TOC) 415/9060	Total Organic Halides (TOX) 9020	Petroleum Hydrocarbons 418.1	TPH/BTEX Modified 8015	TCLP- Vol., Semi-Vol. Herbicides, Pesticides	~~TCLP Metals~~ F	RCRA Metals(8)	Priority Pollutant Metals (13)	CAM Metals (18) TTLC/STLC	Flash Point	Corrosivity	Reactivity	Oil & Grease	Cyanide Total/Amenable	Chemical Oxygen Demand (COD)	SO_4/NO_3	HPC/HUB	Metals	TDS Major Cat/Anion	Number of Containers
44486	9511150830	H_2O	MW-2		4.																									4
87	9511150945	H_2O	MW-4		4.																									4
88	9511151030	H_2O	MW-3		4.																									4
89	9511151130	H_2O	MW-1d		4.																					2	1.			7
90	9511151245	H_2O	MW-~~7~~ 0W		4.																					2.	1.	1.	✓.	8
91	9511151300	H_2O	MW-d		4.																									4
92	9511161500	H_2O	MW-6		3.																					1.	1.	1.	1	7

322AH ✓

322AH

Project Information	
Project	Monument Booster
Project Director	G. Van Deventer
Charge Code No.	LRMONU-20-300
Shipping ID. No.	—
Via:	PERSONAL CAR

Sample Receipt	
Total No. of Containers	38
Chain of Custody Seals	Y
Rec'd Good Condition/Cold	Y
Conforms to Record	Y
Lab No.	P08? 322 AH Tony Canfield

	1.	2.	3.
Relinquished By (Signature)	D. Nee	Gil Van Deventer	Helen Shelton
(Time)	1635	1105	9:30 AM
(Printed Name)	DAVID NEE	Gil Van Deventer	HELEN SHELTON
(Date)	11/15/95	11-17-95	11-18-95
(Company)	GCL	GCL	TRACE ANALYSIS
Received By (Signature)	Gil Van Deventer	Helen Shelton	(Laboratory) McDowell
(Time)	1636	11:05 AM	10
(Printed Name)	Gil Van Deventer	HELEN SHELTON	McDowell
(Date)	11/15/95	11/17/95	11/18/95
(Company)	GCL	TRACE ANALYSIS	(Laboratory) TRACE ANALYSIS

Special Instructions/Comments: Bill direct to GPM (~~Vince Bernard~~)
Metals: Al, As, Ba, B, Cd, Co, Cu, Cr, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag & Zn
Major Cations/Anions: Ca, Na, Mg, K, HCO_3, Cl, SO_4 & TDS A
Send copies of analyses to GCL - Midland - CC:

Distribution: White, Canary-Laboratory • Pink, GCL