3R - 127

REPORTS

DATE:
1996-1998

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505) 632-1199 Fax: (505) 632-3903

February 11, 1999

Mr. William C. Olson -Hydrogeologist
Environmental Bureau
New Mexico Oil Conservation Division
2040 Pacheco
State Land Building
Santa Fe, New Mexico 87505

RE: Cross Timbers Oil Co. Groundwater Monitoring (Amoco) 1996-1998 Reports
San Juan County, New Mexico

Dear Mr. Olson:

The attached reports on groundwater monitoring at eight (8) previously owned Amoco well locations is being submitted for your review. These well sites have been acquired by Cross Timbers Co. as of December, 1997. The well names are listed on the following page of this correspondence. The reports for each individual well site are laid out in the following order;

1) Brief description of all activities which occurred during the investigation, sampling procedures, and/or interpretations, conclusions, and possible recommendations.
2) A summary spreadsheet contains laboratory BTEX, general chemistry (if applicable), and any other pertinent information.. The latest quarter/annual sampling results are shown along with all previous sampling conducted at the specified locations for comparison purposes.
3) Site and groundwater gradient maps, boring logs, and monitor well detail schematics.
4) Laboratory reports for each quarter/annual sampling event and a field summary spreadsheet revealing well elevations, water elevations, depth to water information, etc.
5) Quality Assurance/Quality Control data.

A copy of this report is also being submitted to Mr. Denny Foust at the Aztec NMOCD office. If you have any questions or comments concerning this report, please contact Blagg Engineering at 632-1199.

Respectfully submitted,
Blagg Engineering, Inc.

Nelson Velez.
Staff Geologist

Attachments: Quarter/Annual Monitor Well Sampling Reports

xc: Denny Foust, NMOCD Aztec Office; Nina Hutton, Cross Timbers Oil Co.

NJV/njv FEB99-WO.COV

Cross Timbers Oil Company
Groundwater Monitoring Reports 1996-1998
Well Sites being submitted, February 1999

1)	Abrams J # 1	Unit I, Sec. 29, T29N, R10W
2)	Bergin GC # 1E	Unit F, Sec. 21, T29N, R11W
3)	Bruington GC # 1	Unit E, Sec. 14, T29N, R11W
4)	Rowland GC # 1	Unit P, Sec. 25, T30N, R12W
5)	State GC BS # 1	Unit K, Sec. 23, T29N, R11W
6)	Sullivan GC D # 1	Unit B, Sec. 26, T29N, R11W
7)	Valdez A # 1E	Unit G, Sec. 24, T29N, R11W

NJV/njv *FEB99-WO.COV*

CROSS TIMBERS OIL COMPANY

GROUNDWATER REMEDIATION REPORT

1996-1998

STATE GC BS #1
(F) SECTION 21, T29N, R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
MR. WILLIAM C. OLSON
NEW MEXICO OIL CONSERVATION DIVISION

FEBRUARY 1999

PREPARD BY:
BLAGG ENGINEERING, INC.

Consulting Petroleum / Reclamation Services
P.O. Box 87
Bloomfield, New Mexico 87413

STATE GC BS # 1 - Separator Pit
Se/4 Nw/4 Sec. 21, T29N, R11W

Site Assessment Date:	**Not Applicable**
Pit Closure Date:	**February 17, 1994 (Documentation Included)**
Monitor Well Installation Date:	**April 25, 1996**
Monitor Well Sampling Date:	**June 5, 1996**

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells following USEPA: SW-846 protocol. The samples were collected using new disposable bailers and placed in new laboratory supplied 40 ml glass vials with teflon septa caps. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per USEPA Method 8020. When applicable, additional groundwater was collected and place in laboratory supplied 250 or 500 ml plastic containers and analyzed for general water quality per USEPA Method 600/4-79-020. The samples were preserved cool (BTEX samples also preserved with mercuric chloride) and hand delivered to a qualified laboratory for testing. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Water Quality Information:

BTEX and general chemistry results for the 1996 quarterly sampling events are summarized in the following tables. Following Amoco's NMOCD approved groundwater plan, sampling of MW #1 and #3 were terminated after the initial BTEX results revealed non detectable levels for all constituents. MW # 2 showed benzene and total xylene levels exceeding the New Mexico Water Quality Control Commission's (NMWQCC) allowable concentration for groundwater (57.3 parts per billion [ppb] and 2,804 ppb respectively). MW #2 was then sampled the next quarterly event and revealed a decrease in benzene and total xylene (17.3 ppb and 197.23 ppb respectively). The general chemistry results indicate that the total dissolved solids for MW #1 (suspected up gradient) and MW #2 are statistically equivalent while MW #3 (expected down gradient direction of pit area) was approximately twice the level of MW #1 (4,660 and 9,190 mg/L respectively).

Summary and/or Recommendations:

Based on the enclosed documentation, the groundwater within the separator pit area appears to have reached steady state conditions. However, down gradient delineation does not appear to have been achieved. Therefore, it is advised that an additional monitor well be installed as to define the possible down gradient movement of the hydrocarbon plume.

Sampling of MW #2 will be conducted on an annual basis until results indicate otherwise. All aspects of the Amoco revised groundwater plan dated October 22, 1996 (approved by NMOCD with letter dated February 7, 1997) has been adhered to.

STATE GC BS # 1 - Separator Pit
Se/4 Nw/4 Sec. 21, T29N, R11W

Monitor Well Installation Dates: **Jun. 17th (MW #4) & Dec. 17th (MW #5), 1997**

Monitor Well Sampling Dates: **Jun. 23rd, Sept. 22nd, & Dec. 18, 1997**

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells following USEPA: SW-846 protocol. The samples were collected using new disposable bailers and placed in new laboratory supplied 40 ml glass vials with teflon septa caps. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per USEPA Method 8020. When applicable, additional groundwater was collected and place in laboratory supplied 250 or 500 ml plastic containers and analyzed for general water quality per USEPA Method 600/4-79-020. The samples were preserved cool (BTEX samples also preserved with mercuric chloride) and hand delivered to a qualified laboratory for testing. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Water Quality Information:

BTEX and general chemistry results for the 1997 annual and/or quarterly sampling events are summarized in the following tables. MW # 2 showed all BTEX constituents to be below the New Mexico Water Quality Control Commission's (NMWQCC) allowable concentration for groundwater during the 2nd, 3rd, and 4th quarter sampling events. To determine possible hydrocarbon migration in the groundwater, MW #4 was drilled in the suspected down gradient direction from the pit area on June 17, 1997 (refer to Figure 3). MW #4 initial sampling results showed benzene and total xylene exceeded the NMWQCC's allowable concentrations (26.4 parts per billion [ppb] and 1,062 ppb respectively). To further define the hydrocarbon migration, MW #5 was drilled in the expected down gradient direction from MW #4 on December 17, 1997 (refer to Figure 6). MW #5 initial sampling results presented non detectable levels for benzene and ethylbenzene while toluene and total xylene recorded levels slightly above laboratory detection limits. Following Amoco's NMOCD approved groundwater plan, sampling of MW #5 will be terminated unless future results from remaining sampled monitor wells suggest otherwise. The general chemistry results indicates that the total dissolved solids for MW #4 (4,119 mg/L) and MW #5 (1,870 mg/L) are below that of MW #1 which was sampled in June, 1996.

Summary and/or Recommendations:

Based on the enclosed documentation, the groundwater within the separator pit area appears to have migrated off site in the direction of MW #4 (southeast trend). Although MW #4 exceeded the NMWQCC's BTEX standards, the results lead us to believe that the hydrocarbon plume in groundwater does not appear to be substantial in size. It does not appear that delineation down gradient has been fully achieved due to the deviation in groundwater flow in the south and southwest direction (refer to Figures 4 through 7). Therefore, it is again advised that an additional monitor well be installed down gradient between MW #3 and #5 as to define the hydrocarbon plume area off site. Sampling of MW #2 will continue to be conducted on an quarterly basis until 4 consecutive quarters of below NMWQCC's standards has been attained. MW #4 will be placed on an annual schedule until results indicate otherwise.

STATE GC BS # 1 - Separator Pit
Se/4 Nw/4 Sec. 21, T29N, R11W

Monitor Well Installation Dates: **June 19, 1998 (MW #4R & #5R)**

Monitor Well Sampling Dates: **May 30th (MW #2), Jun. 26th (MW #4R), 1998**

Water Quality Information:

BTEX and general chemistry results for the 1998 annual sampling event are summarized in the following table. MW # 2 showed all BTEX constituents to be below the New Mexico Water Quality Control Commission's (NMWQCC) allowable concentration for groundwater during the May 30th sampling event. MW #4R and #5R were drilled on June 19, 1998 to replace the originally named monitor wells found destroyed during the May 30th sampling event. MW #4R BTEX results showed a decrease in all constituents, but benzene remains to exceed the NMWQCC's allowable concentrations for groundwater (17.1 parts per billion).

Summary and/or Recommendations:

Based on the enclosed documentation, the groundwater within the separator pit area appears to have been remediated by natural attenuation resulting from pit closure activities conducted in February, 1994. Following Cross Timber's verbally approved groundwater plan by NMOCD, sampling of MW #2 will be terminated due to the achievement of four (4) consecutive sampling events of below the NMWQCC's standards for BTEX.

Although MW #4R exceeded the NMWQCC's standards for benzene, the results lead us to believe that the hydrocarbon plume in groundwater appears to be remediating by natural attenuation or is in a steady state condition in the localized vicinity of the monitor well. It is still recommended to place an additional monitor well in between MW #3 and #5 as to determine if down gradient migration has taken place in the due south/south southwest direction from the pit area. Sampling of MW #4R will remain on an annual basis until results indicate otherwise.

AMOCO GROUNDWATER MONITOR WELL LABORATORY RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

STATE GC BS # 1 - SEPARATOR PITS
UNIT K, SEC. 23, T29N, R11W

REVISED DATE: June 26, 1998

FILENAME: (ST-2Q-98.WK3) NJV

SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. umhos	pH	PRODUCT (in)	BTEX EPA METHOD 8020 (PPB) Benzene	Toluene	Ethyl Benzene	Total Xylene
05-Jun-96	MW #1	5.60	8.43	4660	3200	6.8		ND	ND	ND	ND
05-Jun-96	MW #2	5.57	8.43	5120	4400	6.7		57.2	ND	277	2804
11-Sep-96		6.36	8.43		3800	7.4		17.3	19.7	177	197.23
23-Jun-97		5.82	8.42		4000	7.6		8.6	3.6	4.8	26.5
22-Sep-97		5.50	8.42		2900	7.4		0.4	4.4	ND	14.8
18-Dec-97		5.29	8.42		3300	6.9		ND	0.7	2.7	11.2
30-May-98		5.27	8.42		3200	7.2		1.2	1.9	2.7	5.5
05-Jun-96	MW #3	5.75	8.62	13000	6500	7.0		ND	ND	ND	ND
23-Jun-97	MW #4	6.74	8.95	4119	3800	7.2		26.4	86.5	186	1062
26-Jun-98	MW #4R	5.56	10.00		2600	7.7		17.1	10.2	8.7	47.0
18-Dec-97	MW #5	6.45	9.00	1870	3200	6.9		ND	0.4	ND	0.6

GENERAL WATER QUALITY

AMOCO PRODUCTION COMPANY

STATE GC BS # 1

SAMPLE DATE : JUNE 10, 1996

PARAMETERS		MW # 1	MW # 2	MW # 3	Units
GENERAL	LAB pH	7.1	6.9	7.3	s. u.
	LAB CONDUCTIVITY (25 DEG. CELCIUS)	5,640	6,230	12,800	umhos cm
	TOTAL DISSOLVED SOLIDS (180 DEG. CELCIUS)	4,660	5,120	13,000	mg / L
	TOTAL DISSOLVED SOLIDS (CALCULATED)	4,510	4,790	9,190	mg / L
ANIONS	TOTAL ALKALINITY AS CaCO3	549	1,240	1,150	mg / L
	BICARBONATE ALKALINITY (AS CaCO3)	549	1,240	1,150	mg / L
	CARBONATE ALKALINITY (AS CaCO3)	NA	NA	NA	mg / L
	HYDROXIDE ALKALINITY (AS CaCO3)	NA	NA	NA	mg / L
	CHLORIDE	35.0	175	430	mg / L
	SULFATE	2,780	2,380	5,180	mg / L
	NITRATE + NITRITE – N	NA	NA	NA	
	NITRATE – N	NA	NA	NA	
	NITRITE – N	NA	NA	NA	
CATIONS	TOTAL HARDNESS AS CaCO3	2,020	2,040	2,030	mg / L
	CALCIUM	769	615	494	mg / L
	MAGNESIUM	24.6	122	193	mg / L
	POTASSIUM	12.0	19.0	13.0	mg / L
	SODIUM	560	730	2,200	mg / L
DATA VALIDATION					ACCEPTANCE LEVEL
	CATION/ANION DIFFERENCE	3.57	4.26	2.28	+/– 5 %
	TDS (180):TDS (CALCULATED)	1.0	1.1	1.4	1.0 – 1.2

GENERAL WATER QUALITY

AMOCO PRODUCTION COMPANY

STATE GC BS #1

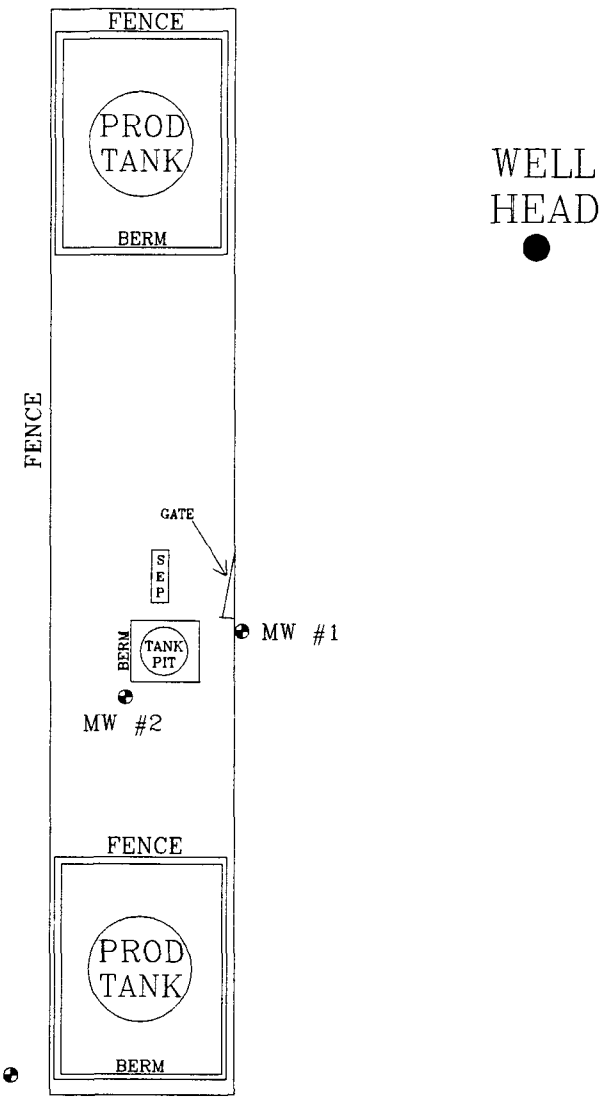
SAMPLE DATE : DECEMBER 31, 1997

PARAMETERS		MW # 5	Units
GENERAL	LAB pH	7.14	s. u.
	LAB CONDUCTIVITY (25 DEG. CELCIUS)	3,780	umhos cm
	TOTAL DISSOLVED SOLIDS (180 DEG. CELCIUS)	1,888	mg / L
	TOTAL DISSOLVED SOLIDS (CALCULATED)	1,870	mg / L
ANIONS	TOTAL ALKALINITY AS CaCO3	530	mg / L
	BICARBONATE ALKALINIT (AS HCO3)	530	mg / L
	CARBONATE ALKALINITY (AS CO3)	< 1	mg / L
	HYDROXIDE ALKALINITY (AS CaCO3)	< 1	mg / L
	CHLORIDE	848	mg / L
	SULFATE	48.9	mg / L
	PHOSPHATE	< 0.1	mg / L
	FLUORIDE	1.50	mg / L
	NITRATE NITROGEN	4.0	mg / L
	NITRITE NITROGEN	0.305	mg / L
CATIONS	TOTAL HARDNESS AS CaCO3	1,632	mg / L
	CALCIUM	560	mg / L
	MAGNESIUM	56.6	mg / L
	POTASSIUM	5.40	mg / L
	SODIUM	23.8	mg / L
DATA VALIDATION			ACCEPTANCE LEVEL
	CATION/ANION DIFFERENCE	0.01	+/- 5 %
	SODIUM ABSORPTION RATIO	0.3	

GENERAL WATER QUALITY
AMOCO PRODUCTION COMPANY
STATE GC BS #1
SAMPLE DATE : JUNE 24, 1997

PARAMETERS		MW # 4	Units
GENERAL	LAB pH	6.97	s. u.
	LAB CONDUCTIVITY (25 DEG. CELCIUS)	8,330	umhos cm
	TOTAL DISSOLVED SOLIDS (180 DEG. CELCIUS)	4,150	mg / L
	TOTAL DISSOLVED SOLIDS (CALCULATED)	4,119	mg / L
ANIONS	TOTAL ALKALINITY AS CaCO3	528	mg / L
	BICARBONATE ALKALINIT (AS HCO3)	528	mg / L
	CARBONATE ALKALINITY (AS CO3)	< 1	mg / L
	HYDROXIDE ALKALINITY (AS CaCO3)	< 1	mg / L
	CHLORIDE	22.9	mg / L
	SULFATE	2,480	mg / L
	PHOSPHATE	1.7	mg / L
	FLUORIDE	2.40	mg / L
	NITRATE NITROGEN	<0.1	mg / L
	NITRITE NITROGEN	<.001	mg / L
CATIONS	TOTAL HARDNESS AS CaCO3	1,350	mg / L
	CALCIUM	438	mg / L
	MAGNESIUM	62.0	mg / L
	POTASSIUM	6.2	mg / L
	SODIUM	785	mg / L
DATA VALIDATION			ACCEPTANCE LEVEL
	CATION/ANION DIFFERENCE	0.25%	+/- 5 %
	SODIUM ABSORPTION RATIO	9.3	

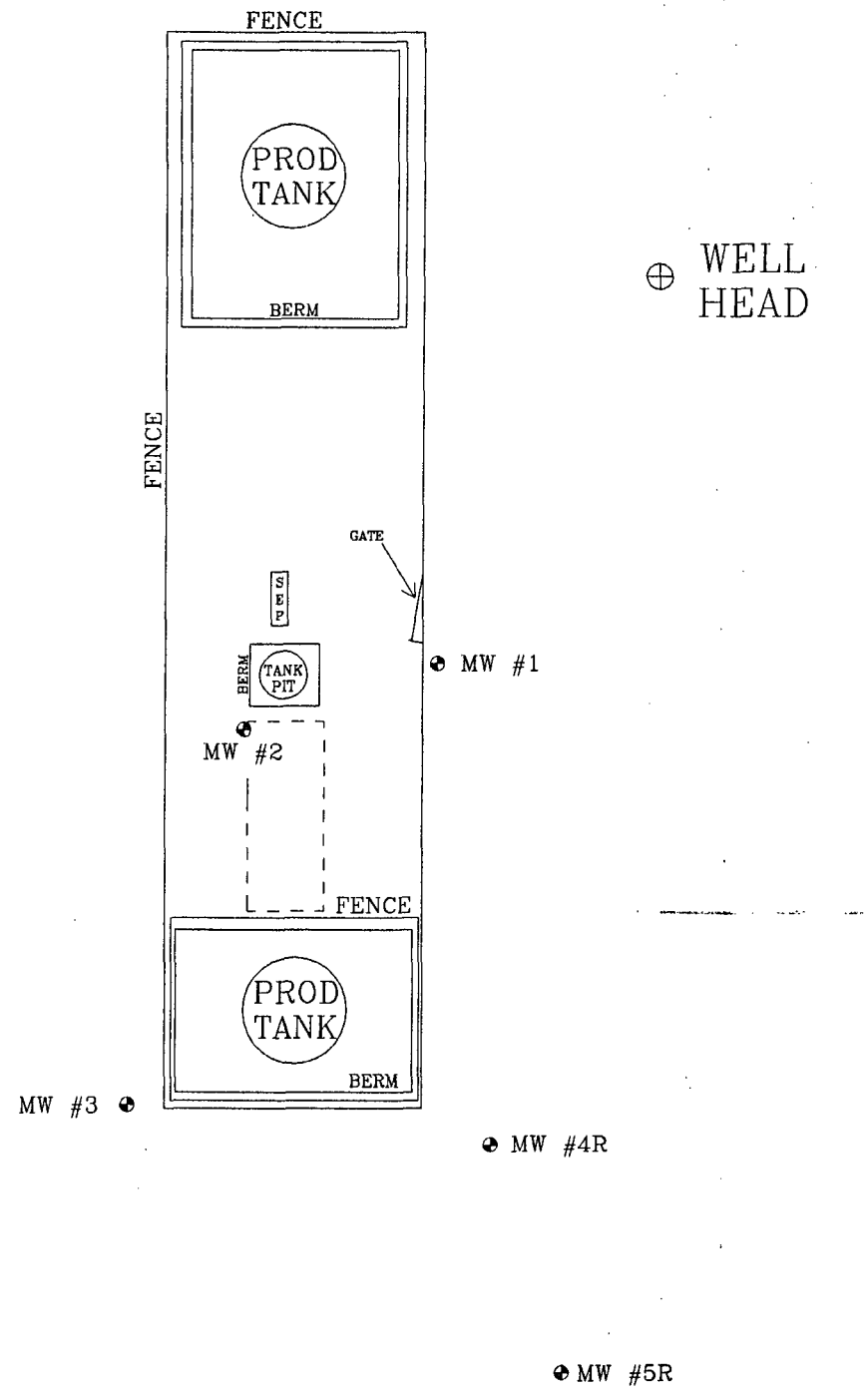
FIGURE 1



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND ARE NOT TO SCALE.

AMOCO PRODUCTION COMPANY STATE GC BS 1 NE/4 NW/4 SEC. 23, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW INSTALL. DRAWN BY: NJV FILENAME: STATE	SITE MAP 6/96

FIGURE 2



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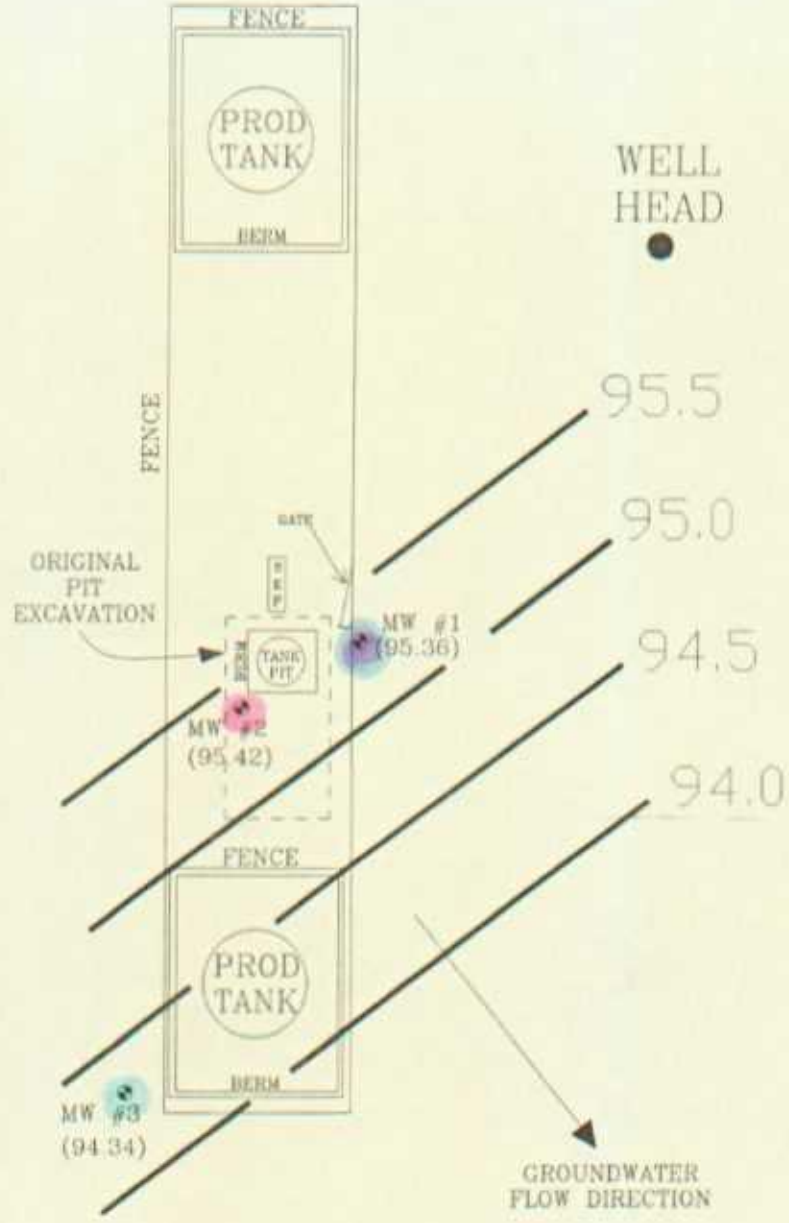
AMOCO PRODUCTION COMPANY STATE GC BS 1 NE/4 NW/4 SEC. 23, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: 1/4ly Monitor. DRAWN BY: NJV FILENAME: 12-18-SM.SKD REVISED: 12/23/97 NJV	SITE MAP 12/97

FIGURE 3
(2nd 1/4, 1996)



	Top of Well Elevation
MW #1	(100.96)
MW #2	(100.99)
MW #3	(100.09)

MW #1 (95.36) Groundwater Elevation as of 6/5/96.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND ARE NOT TO SCALE.

0 50 100 FT.

AMOCO PRODUCTION COMPANY

STATE GC BS 1

NE/4 NW/4 SEC. 23, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE (505) 632-1199

PROJECT: 1/4ly MONITOR

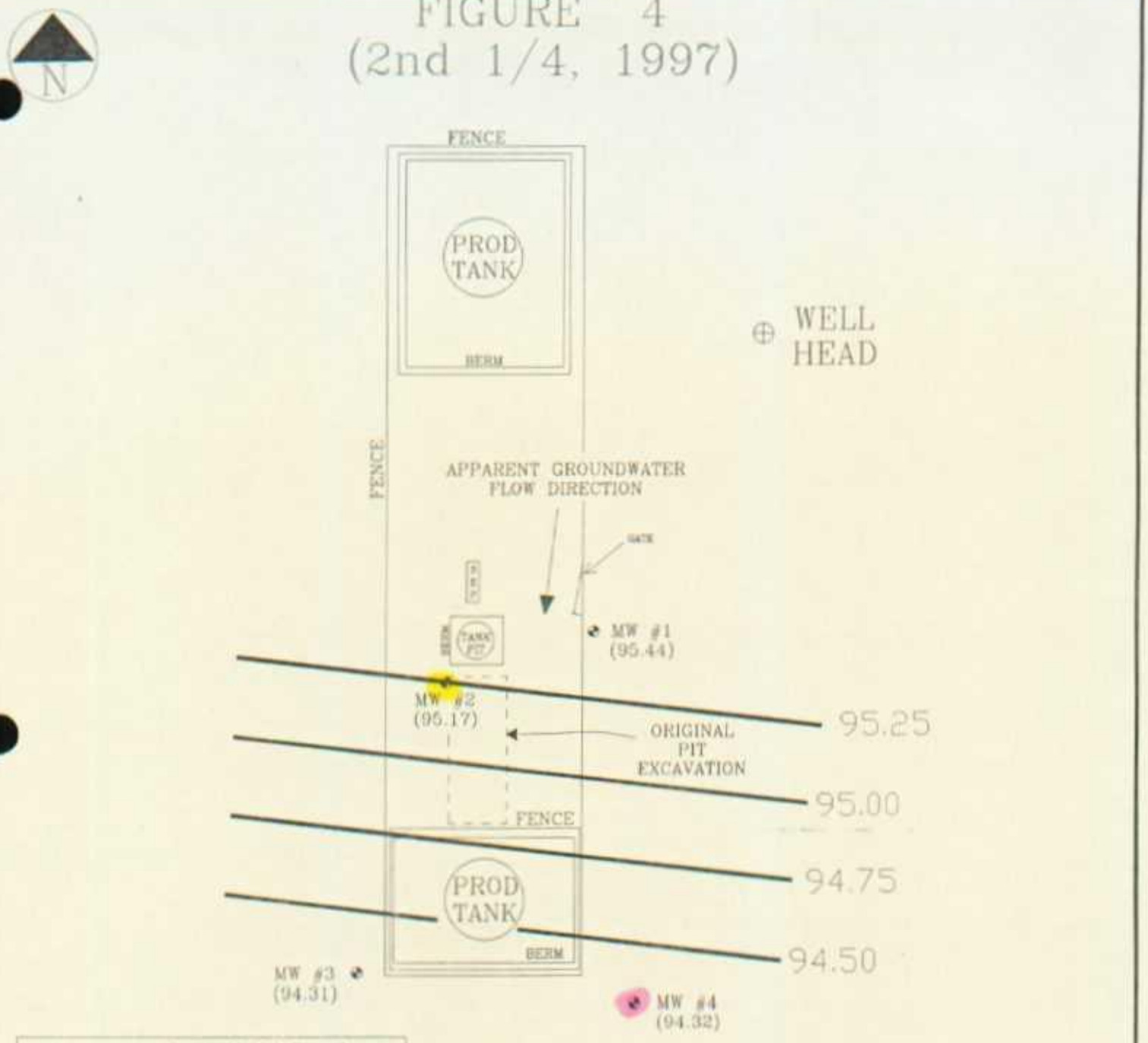
DRAWN BY: MJG

FILENAME: [illegible]-GW

REVISED: 3/07/97 NJV

GROUNDWATER GRADIENT MAP 6/96

FIGURE 4
(2nd 1/4, 1997)



	Top of Well Elevation
MW #1	(100.96)
MW #2	(100.99)
MW #3	(100.09)
MW #4	(101.06)

MW #1 (95.44) Groundwater Elevation as of 6/23/97.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND ARE NOT TO SCALE.

0 50 100 FT.

AMOCO PRODUCTION COMPANY

STATE GC BS 1

NE/4 NW/4 SEC. 23, T29N, R11W

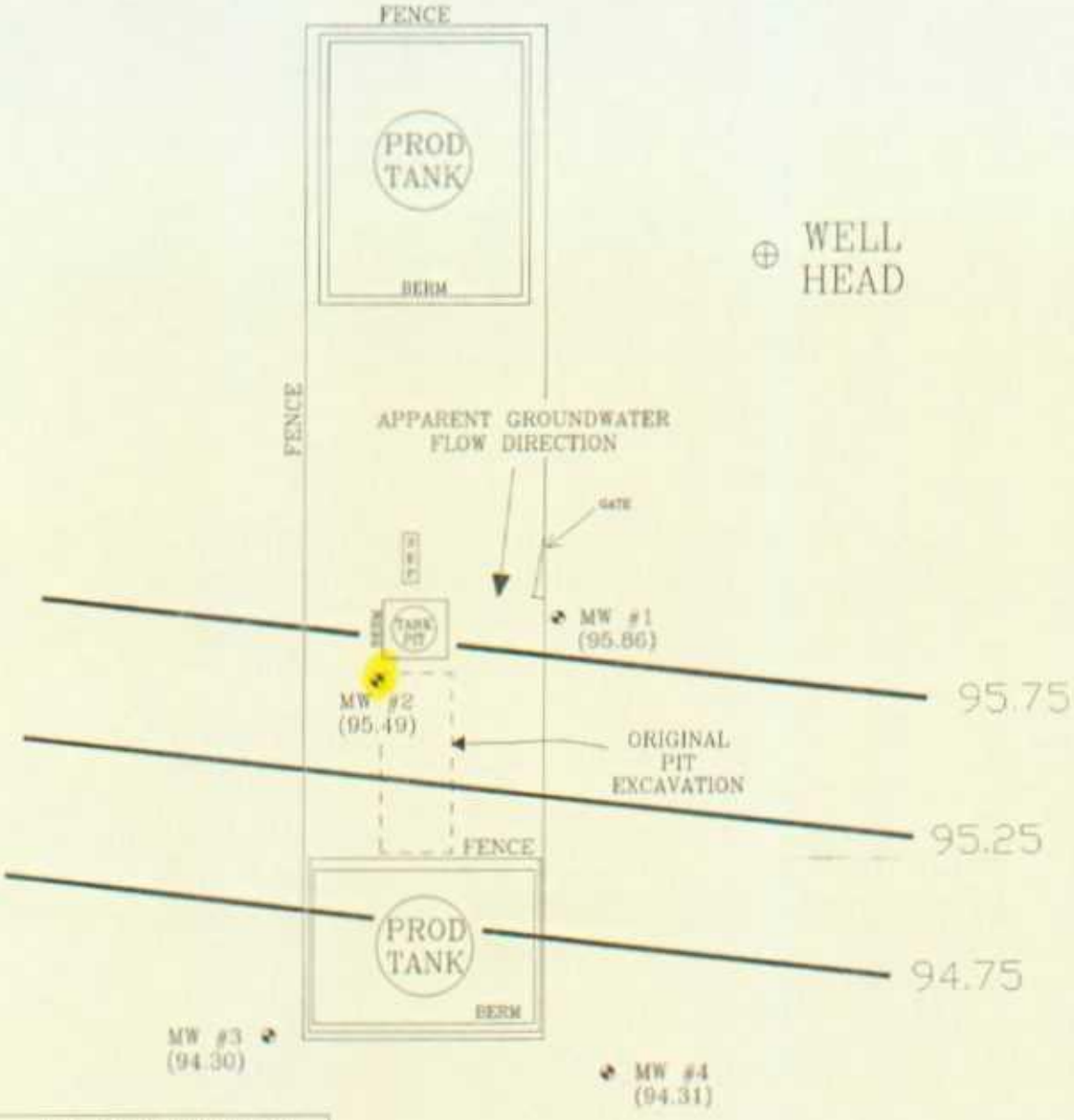
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE (505) 632-1199

PROJECT: 1-Yr Monitor
DRAWN: V
FILENA: 23-GW.SKD
REVISED: 5/97 NJV

GROUNDWATER GRADIENT MAP
06/97

FIGURE 5
(3rd 1/4, 1997)



	Top of Well Elevation
MW #1	(100.96)
MW #2	(100.99)
MW #3	(100.09)
MW #4	(101.06)

MW #1 (95.86) Groundwater Elevation as of 9/22/97.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND ARE NOT TO SCALE

0 50 100 FT.

AMOCO PRODUCTION COMPANY

STATE GC BS 1

NE/4 NW/4 SEC. 23, T29N, R11W

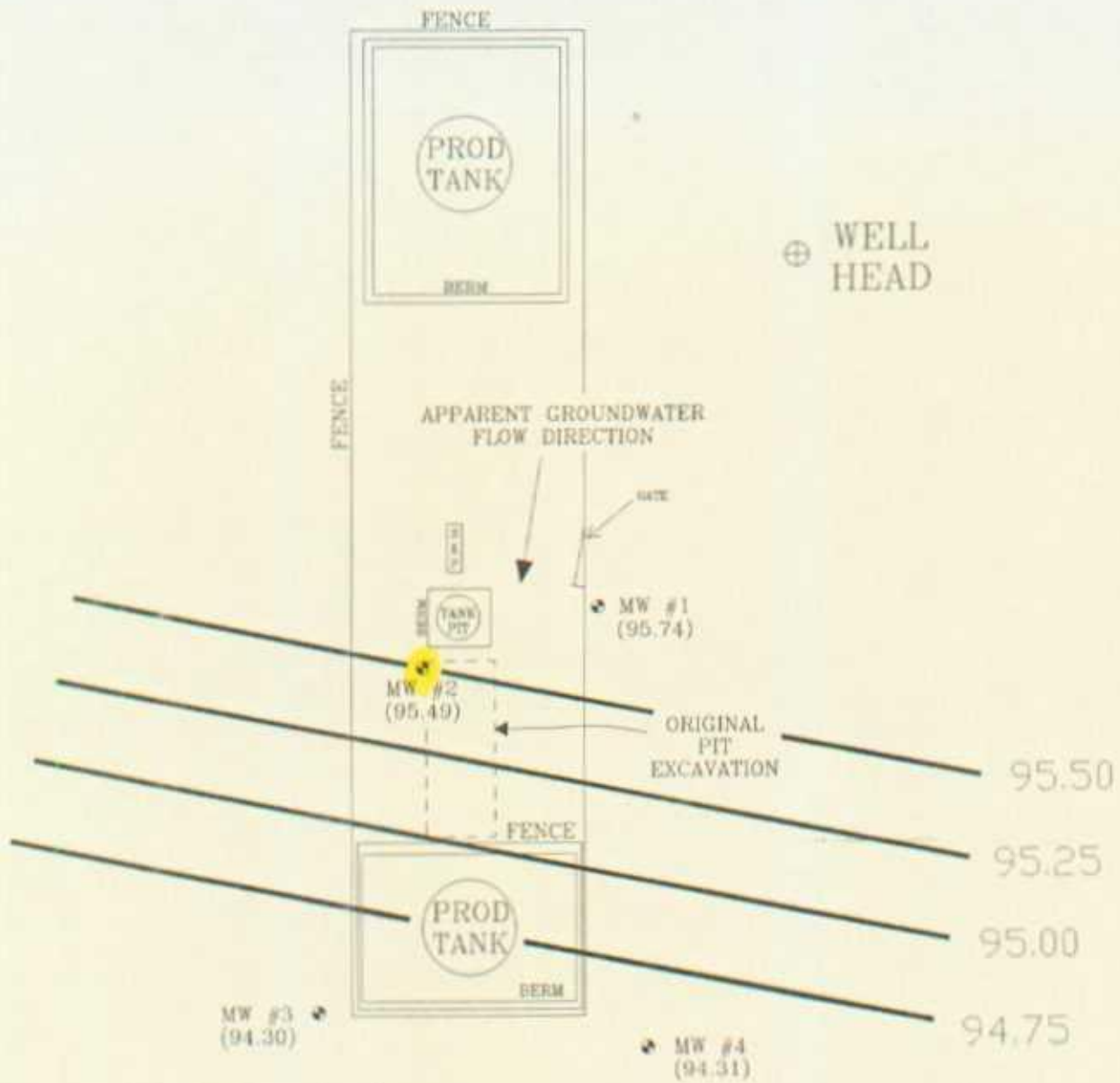
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE (505) 632-1199

PROJE: Monitor
DRAWN:
FILE: GW.SKD
REVISE: /97 NJV

GROUNDWATER GRADIENT MAP 09/97

FIGURE 6
(4th 1/4, 1997)



Top of Well Elevation	
MW #1	(100.96)
MW #2	(100.99)
MW #3	(100.09)
MW #4	(101.06)

MW #1 (95.74) Groundwater Elevation as of 12/18/97.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND ARE NOT TO SCALE.

0 50 100 FT.

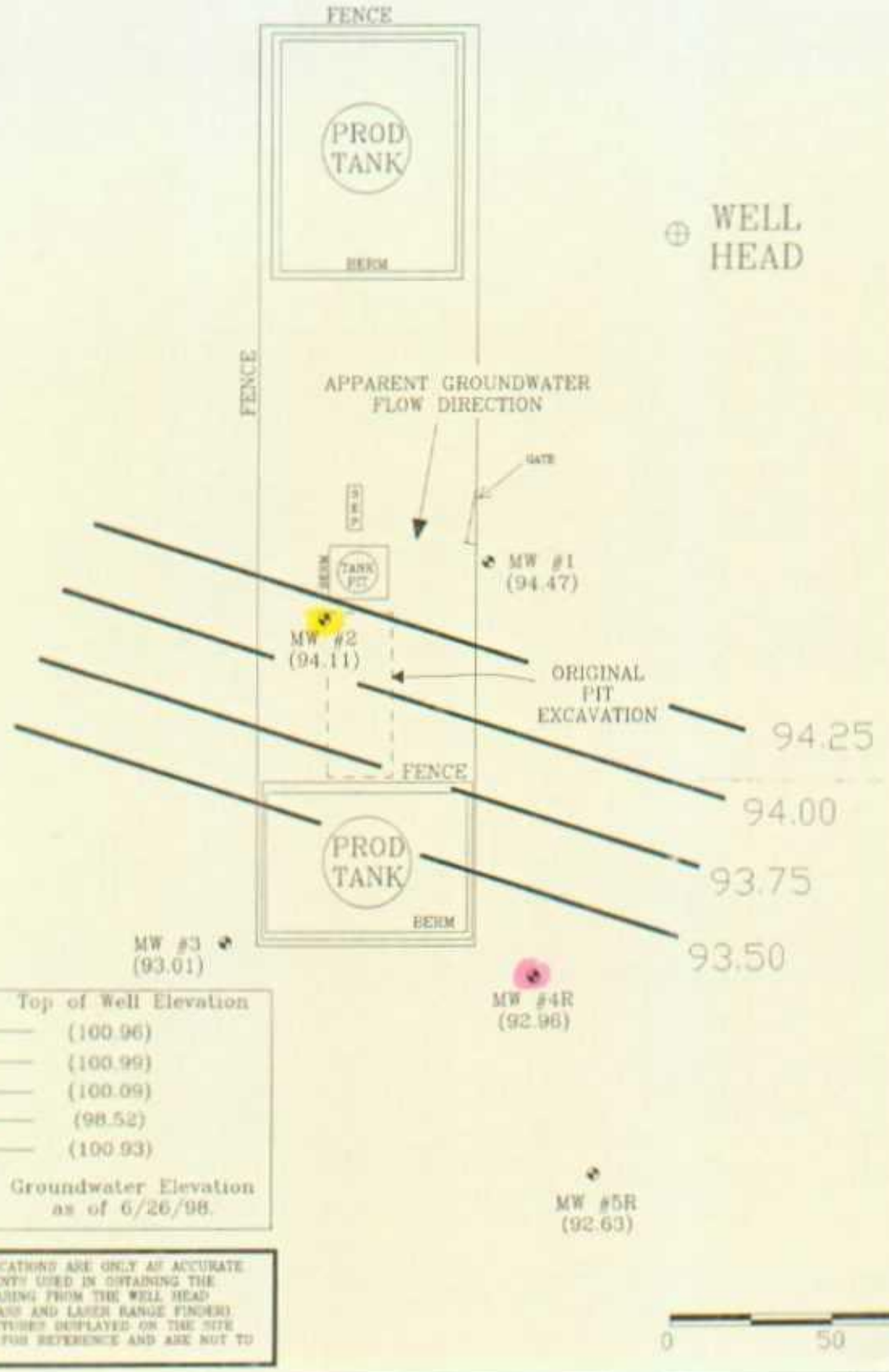
AMOCO PRODUCTION COMPANY
STATE GC BS 1
NE/4 NW/4 SEC. 23, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE (505) 632-1199

PROJECT: 1/4ly Monitor
DRAWN BY: NJV
FILENAME: 12-18-GW.SKD
REVISED: 12/23/97 NJV

GROUNDWATER GRADIENT MAP 12/97

FIGURE 7
(2nd 1/4, 1998)



AMOCO PRODUCTION COMPANY STATE GC BS 1 NE/4 NW/4 SEC. 23, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE (505) 632-1199	PROJECT: 1/4ly Monitor DRAWN BY: NJV FILENAME: -GW.SKD REVISED: 30/98 NJV	GROUNDWATER GRADIENT MAP 06/98

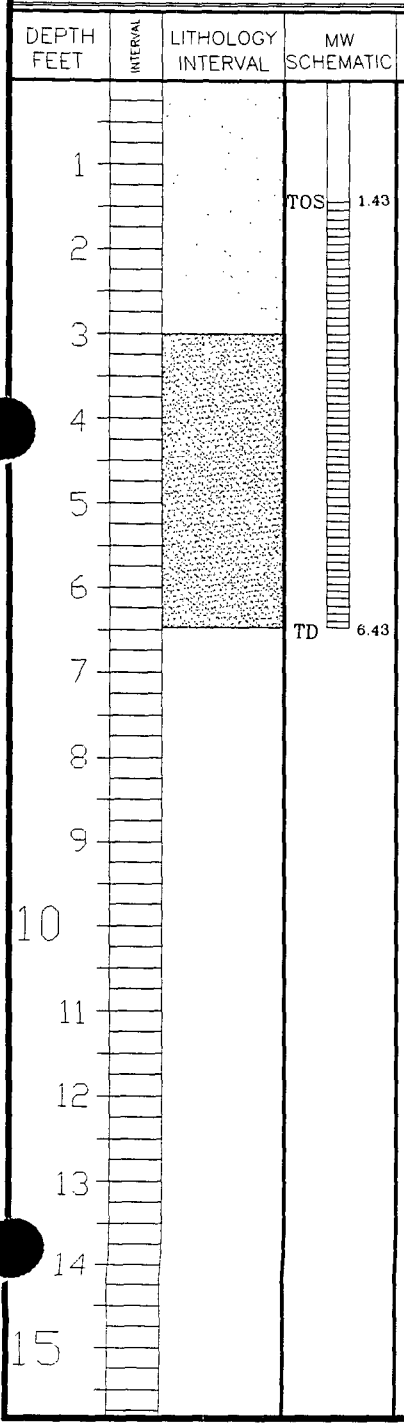
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC./PAUL & SONS
EQUIPMENT USED:	BACKHOE
BORING LOCATION:	S38W, 126 FEET FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	1
PAGE #.....	1
DATE STARTED	4/25/96
DATE FINISHED	4/25/96
OPERATOR.....	GG
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.

LIGHT OLIVE GRAY SAND WITH SOME GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.0 - 3.50 FT. INTERVAL).

▼ GW DEPTH ON 6/5/96 = 3.60 FT. (APPROX.) FROM GROUND SURFACE.

MED. GRAY TO BLACK SAND WITH MINOR AMOUNT OF GRAVEL, NON COHESIVE, SATURATED, LOOSE, STRONG APPARENT HYDROCARBON ODOR DETECTED (3.00 - 6.43 FT. INTERVAL).

NOTES:
- ▭ - SAND WITH MINOR AMOUNT OF GRAVEL.
- ▭ - SAND WITH MINOR AMOUNT OF GRAVEL.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: STAT-1	DATE: 06/03/96	DWN BY: NJV

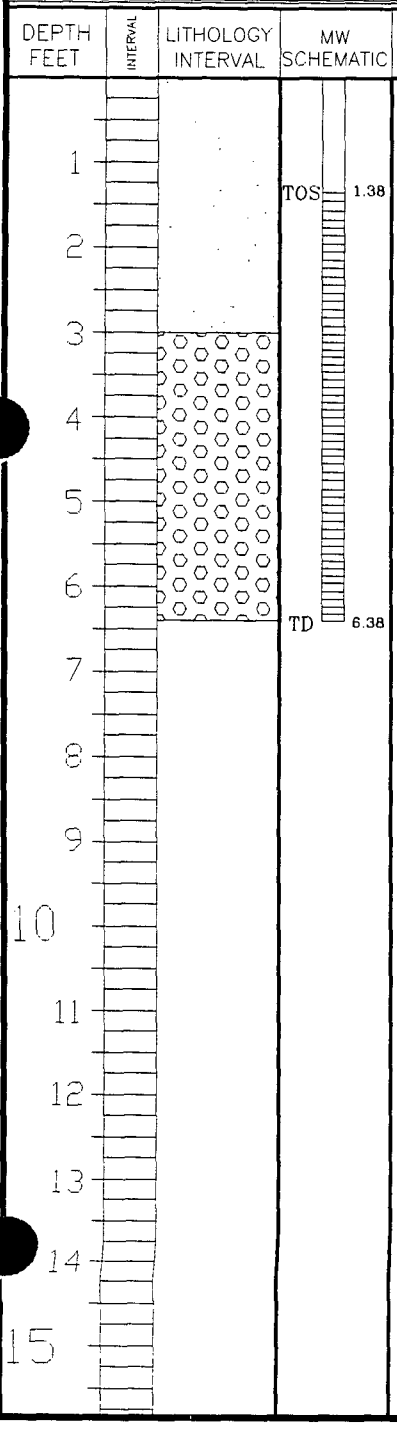
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC./PAUL & SONS
EQUIPMENT USED:	BACKHOE
BORING LOCATION:	S43W, 159 FEET FROM WELL HEAD.

BORING #.....	BH - 2
MW #.....	2
PAGE #.....	2
DATE STARTED	4/25/96
DATE FINISHED	4/25/96
OPERATOR.....	GG
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.05 FT. ABOVE GROUND SURFACE.

LIGHT OLIVE GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.00 - 3.00 FT. INTERVAL).

▼ GW DEPTH ON 6/5/96 = 3.52 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT OLIVE SAND WITH MINOR AMOUNT OF GRAVEL, NON COHESIVE, SATURATED, LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED (3.00 - 6.38 FT. INTERVAL).

NOTES:
- ▭ - SAND.
- ▭ - SAND WITH MINOR AMOUNT OF GRAVEL.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: STAT-2	DATE: 06/03/96	DWN BY: NJV

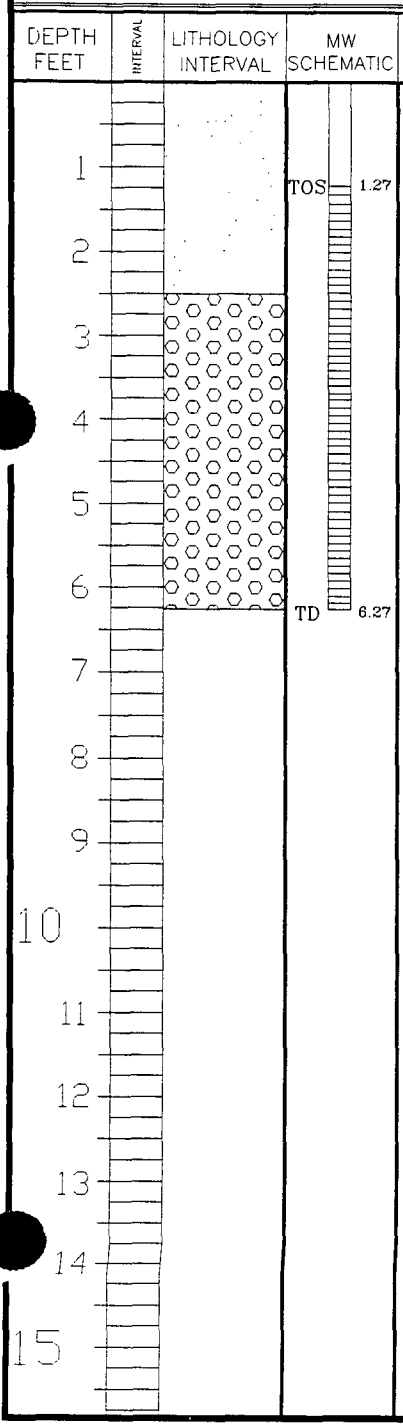
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC./PAUL & SONS
EQUIPMENT USED:	BACKHOE
BORING LOCATION:	S33W, 255 FEET FROM WELL HEAD.

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
DATE STARTED	4/25/96
DATE FINISHED	4/25/96
OPERATOR.....	GG
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.35 FT. ABOVE GROUND SURFACE.

LIGHT OLIVE GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM. NO APPARENT HYDROCARBON ODOR DETECTED (0.00 - 2.50 FT. INTERVAL).

▼ GW DEPTH ON 6/5/96 = 3.40 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT OLIVE SAND WITH MINOR AMOUNT OF GRAVEL, NON COHESIVE, SATURATED, LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED (2.50 - 6.27 FT. INTERVAL).

NOTES:
- SAND.
- SAND WITH MINOR AMOUNT OF GRAVEL.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: STAT-3	DATE: 06/03/96	DWN BY: NJV

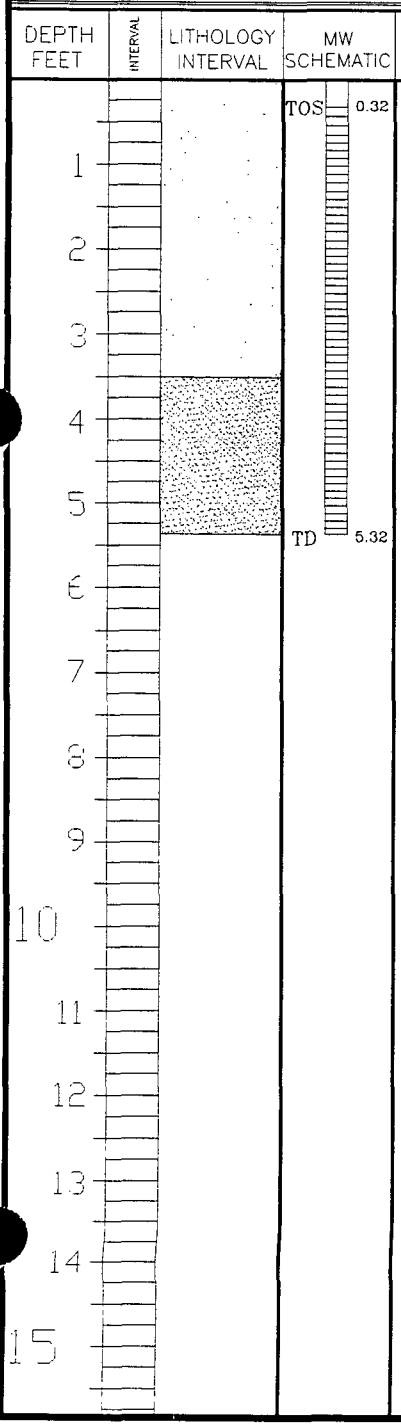
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	S12W, 228 FEET FROM WELL HEAD.

BORING #.....	BH - 4
MW #.....	4
PAGE #.....	4
DATE STARTED	6/17/97
DATE FINISHED	6/17/97
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.63 FT. ABOVE GROUND SURFACE.

LIGHT OLIVE GRAY SAND WITH SOME GRAVEL, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.0 - 3.50 FT. INTERVAL).

▼ GW DEPTH ON 6/23/97 = 3.11 FT. (APPROX.) FROM GROUND SURFACE.

MED. GRAY TO BLACK SAND, NON COHESIVE, SATURATED, LOOSE, STRONG APPARENT HYDROCARBON ODOR DETECTED (3.50 - 5.32 FT. INTERVAL).

GRAVEL ENCOUTNERED. DRILLING TERMINATED.

NOTES:
- SAND WITH MINOR AMOUNT OF GRAVEL.
- SAND.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING:	DATE:	DWN BY:
STAT-4	12/20/97	NJV

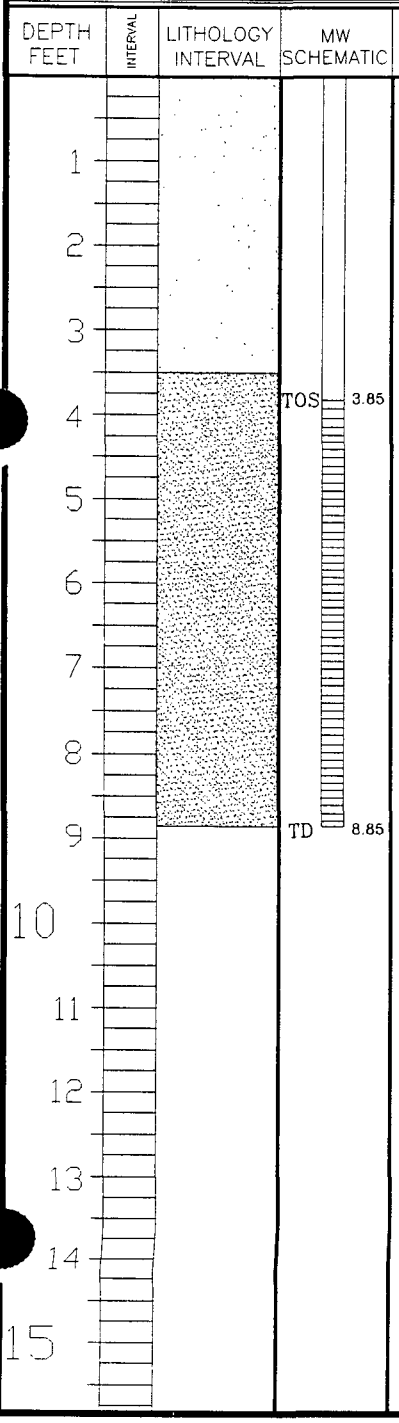
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	S12W, 228 FEET FROM WELL HEAD.

BORING #.....	BH - 4R
MW #.....	4R
PAGE #.....	4R
DATE STARTED	6/19/98
DATE FINISHED	6/19/98
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.15 FT. ABOVE GROUND SURFACE.

LIGHT OLIVE GRAY SAND WITH SOME GRAVEL, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.0 - 3.50 FT. INTERVAL).

▼ GW DEPTH ON 6/26/98 = 4.11 FT. (APPROX.) FROM GROUND SURFACE.

MED. GRAY TO BLACK SAND AND GRAVEL, NON COHESIVE, SATURATED, LOOSE, STRONG APPARENT HYDROCARBON ODOR DETECTED (3.50 - 8.85 FT. INTERVAL).

GRAVEL ENCOUTNERED. DRILLING TERMINATED.

NOTES:
- SAND WITH MINOR AMOUNT OF GRAVEL.
- SAND.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: STAT-4R	DATE: 12/20/97	DWN BY: NJV

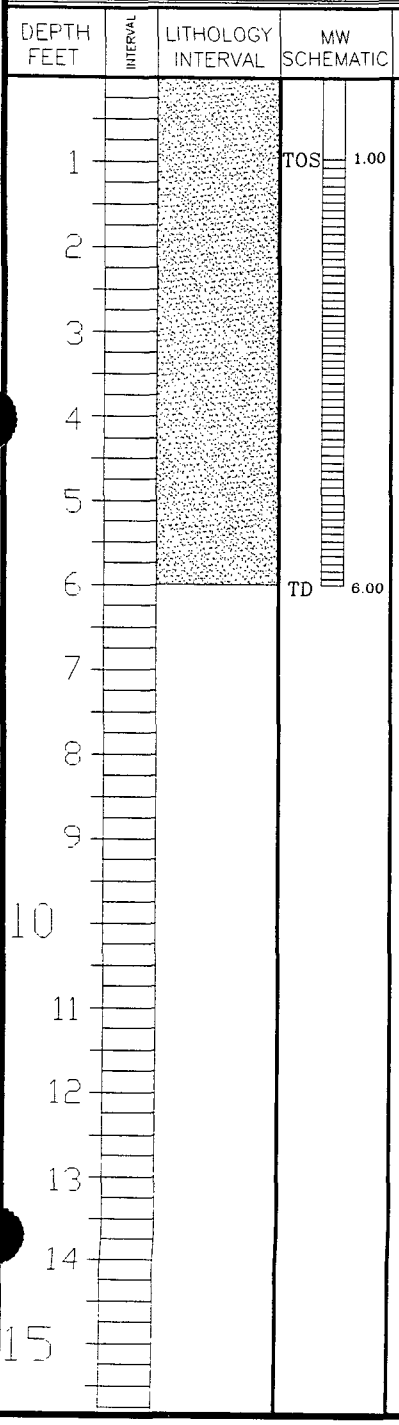
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	S5W, 285 FEET FROM WELL HEAD.

BORING #.....	BH - 5
MW #.....	5
PAGE #.....	5
DATE STARTED	12/17/97
DATE FINISHED	12/17/97
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.00 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND WITH SOME GRAVEL CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 6.00 FT. INTERVAL).

▼ GW DEPTH ON 12/18/97 = 3.45 FT. (APPROX.) FROM GROUND SURFACE.

GRAVEL ENCOUTNERED AT 6 FT. DRILLING TERMINATED.

NOTES:
- SAND.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: STAT-5	DATE: 12/20/97	DWN BY: NJV

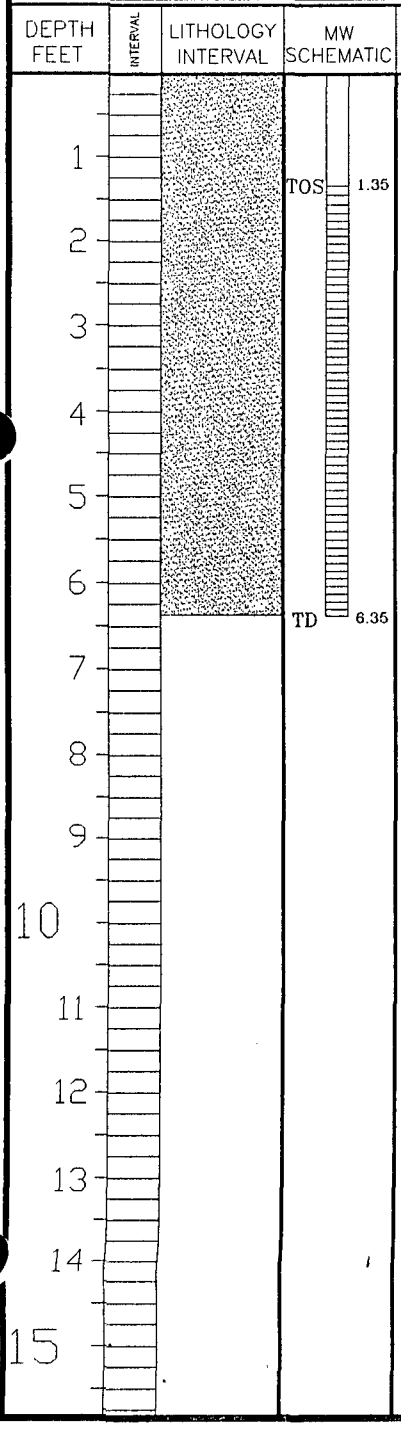
BLAGG ENGINEERING, Inc.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	STATE GC BS # 1
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	S5W, 285 FEET FROM WELL HEAD.

BORING #.....	BH - 5R
MW #.....	5R
PAGE #.....	5R
DATE STARTED	06/19/98
DATE FINISHED	06/19/98
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.65 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND WITH SOME GRAVEL CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 6.00 FT. INTERVAL).

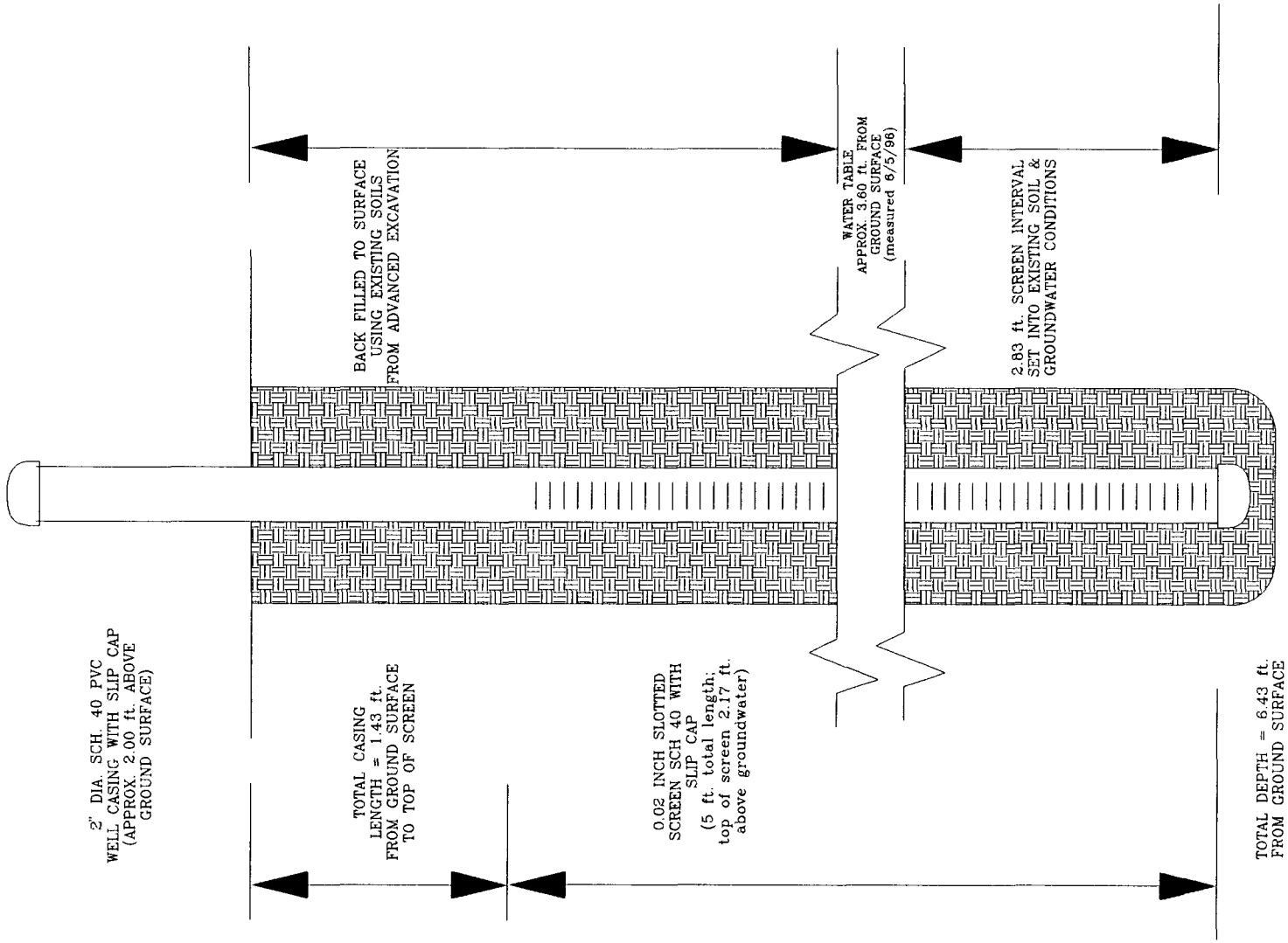
▼ GW DEPTH ON 6/26/98 = 4.65 FT. (APPROX.) FROM GROUND SURFACE.

GRAVEL ENCOUTNERED AT 6 FT. DRILLING TERMINATED.

NOTES:
- SAND.
- TOS – TOP OF SCREEN FROM GROUND SURFACE.
- TD – TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW – GROUND WATER.

DRAWING: STAT-5R	DATE: 06/23/98	DWN BY: NJV

MONITOR WELL #1



AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH BACKHOE

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '96

FILENAME: MW-

MONITOR WELL #2

AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH BACKHOE

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

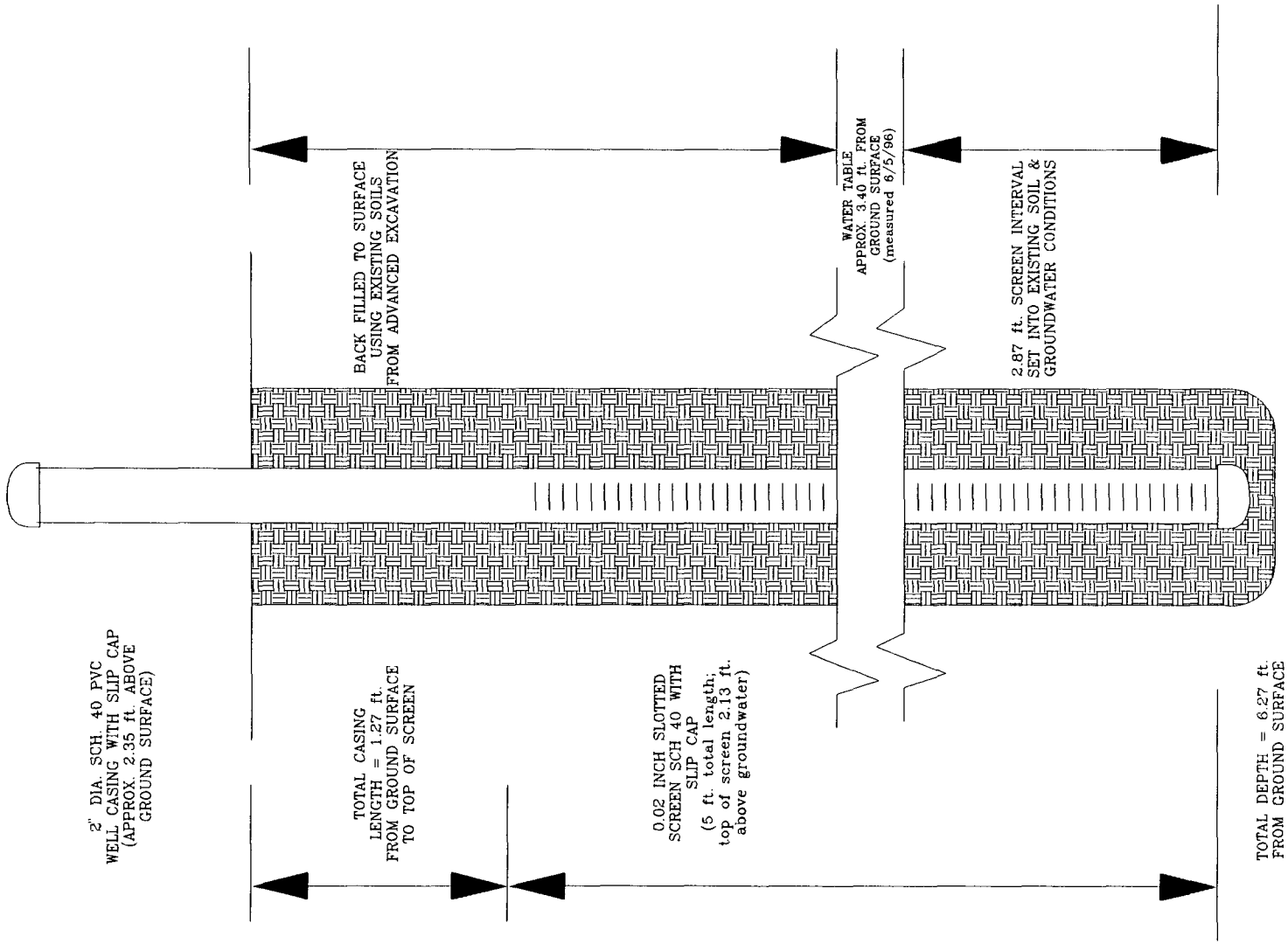
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '96

FILENAME: MW-

MONITOR WELL #3



AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH BACKHOE

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

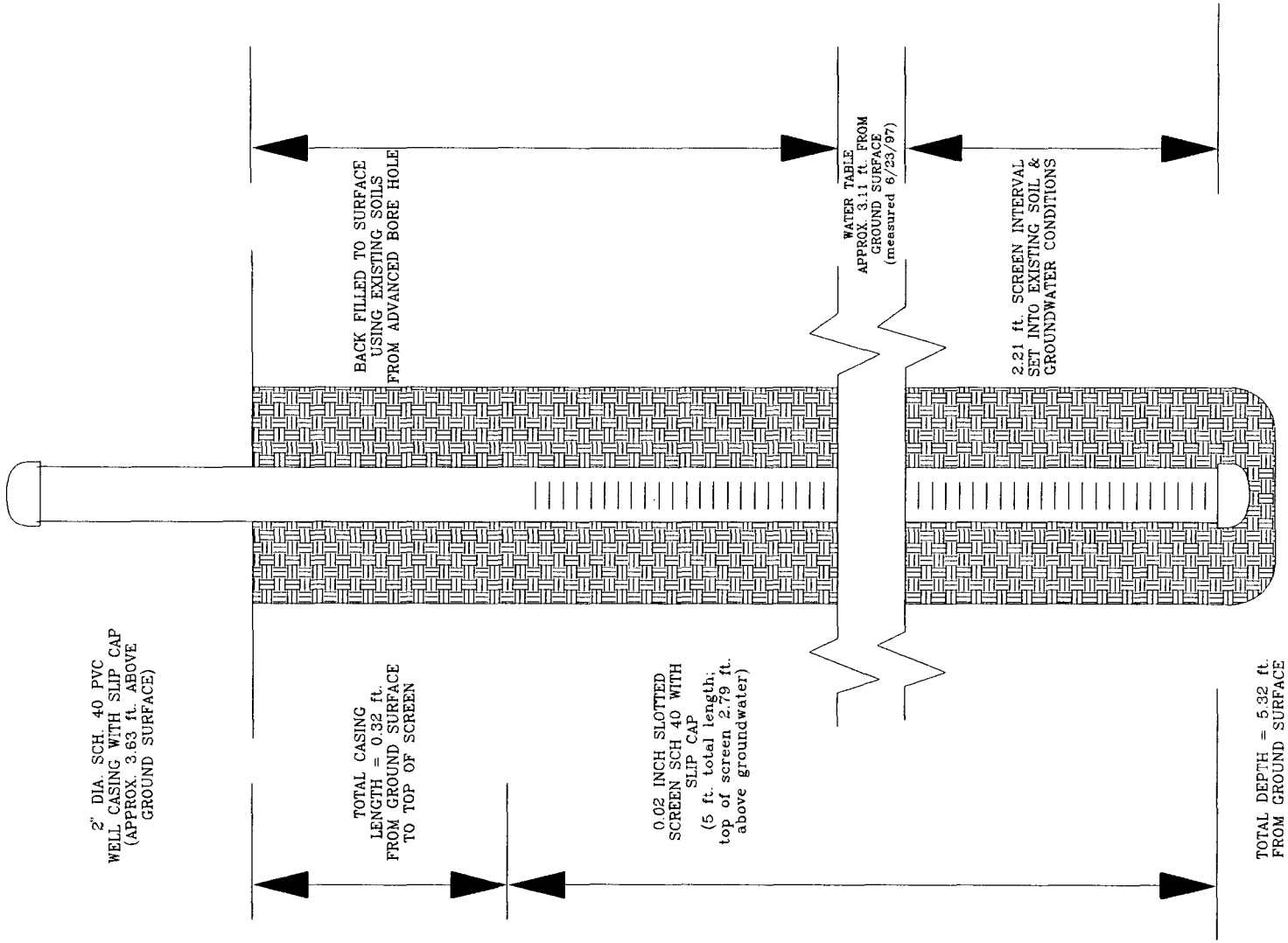
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '96

FILENAME: MW-

MONITOR WELL #4



AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH MOBILE DRILL RIG

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

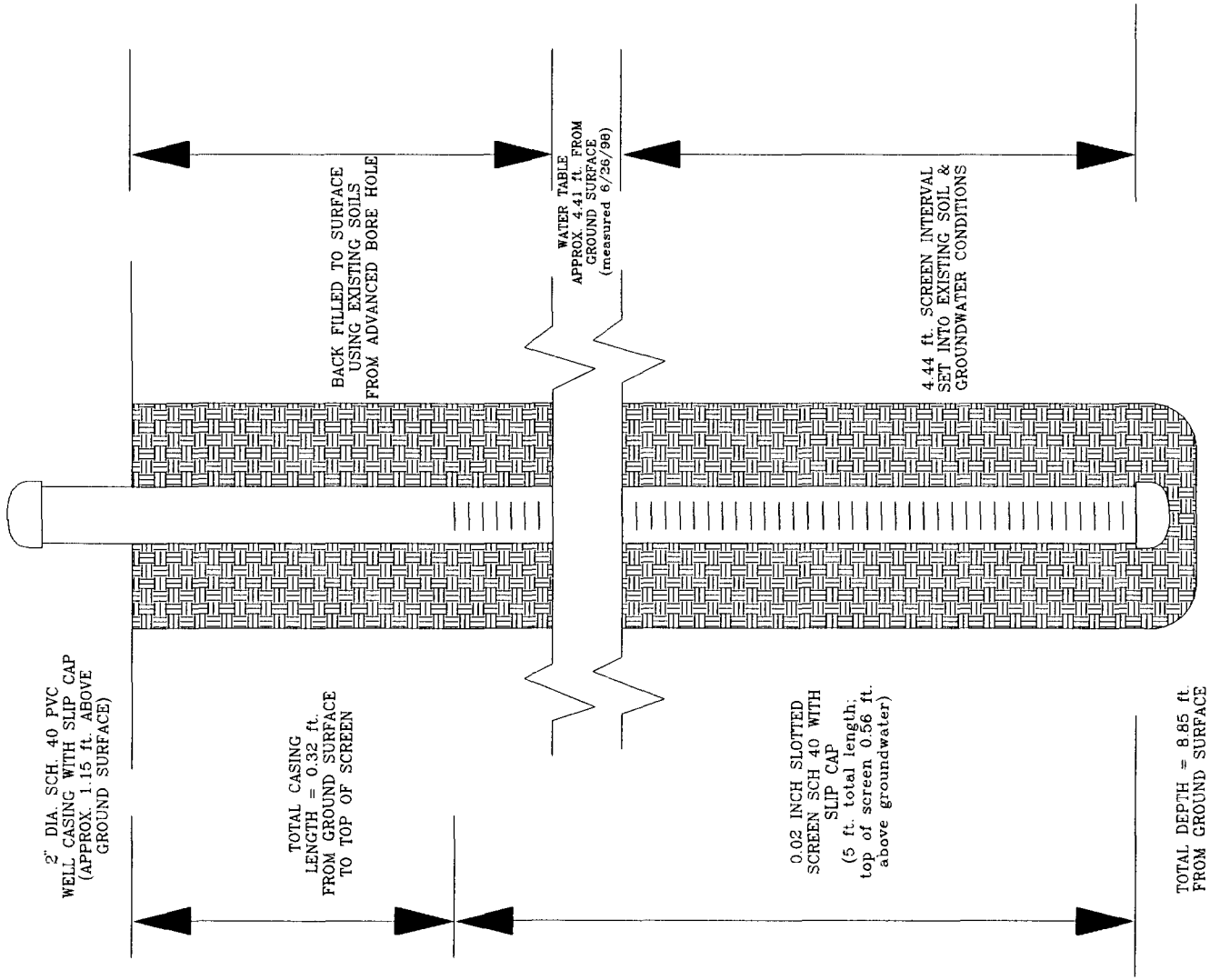
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '97

FILENAME: MW-

MONITOR WELL #4R



AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH MOBILE DRILL RIG

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '98

FILENAME: MW-

MONITOR WELL #5

AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH MOBILE DRILL RIG

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE (505) 632-1199

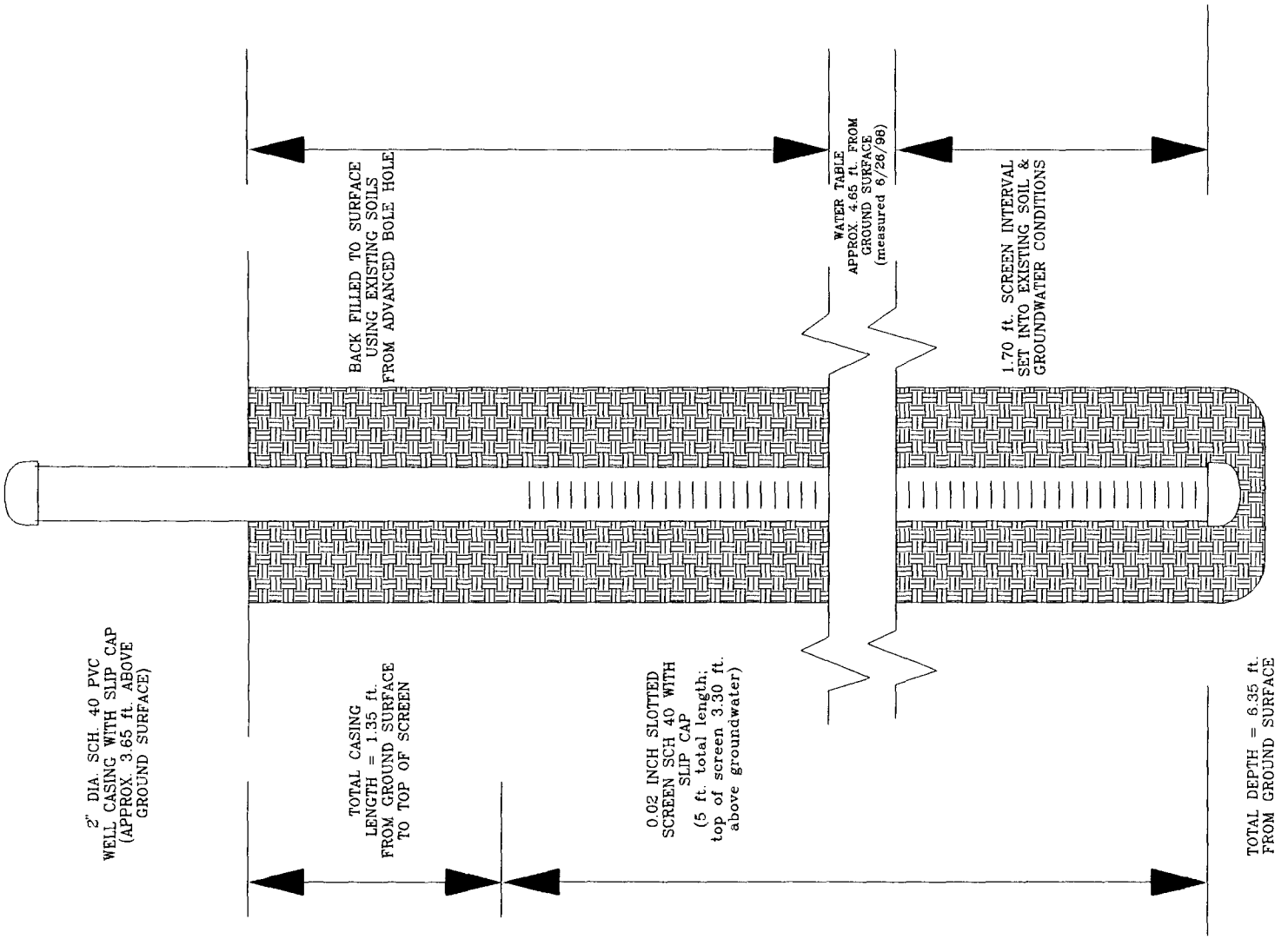
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: DEC. '97

FILENAME: MW-

MONITOR WELL #5R



AMOCO PRODUCTION COMPANY

STATE GC BS # 1

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH MOBILE DRILL RIG

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '98

FILENAME: MW-

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 2478
2484

STATE GC BS # 1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ANAITAS

Date : June 5 & 10, 1996

Filename : 06-05-96.WK3

SAMPLER : R E O

PROJECT MANAGER : R E O

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	100.96	95.36	5.60	8.43	1110	6.8	3,200	1.50	-
2	100.99	94.11	5.57	8.42	1130	6.7	4,400	1.50	-
3	100.09	94.34	5.75	8.62	1145	7.0	6,500	1.50	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Collected BTEX on all monitor wells 6 / 5 / 96 .

Collected Anion / Cation on all monitor wells 6 / 10 / 96 .

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	State GC BS 1	Report Date:	06/12/96
Sample ID:	MW - 1	Date Sampled:	06/05/96
Lab ID:	3785	Date Received:	06/05/96
Sample Matrix:	Water	Date Analyzed:	06/11/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

Total BTEX	ND

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	92	88 - 110%
Bromofluorobenzene	99	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	State GC BS 1	Report Date:	06/12/96
Sample ID:	MW - 2	Date Sampled:	06/05/96
Lab ID:	3786	Date Received:	06/05/96
Sample Matrix:	Water	Date Analyzed:	06/11/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	57.2	25.0
Toluene	ND	25.0
Ethylbenzene	277	25.0
m,p-Xylenes	2,540	50.0
o-Xylene	264	25.0

Total BTEX	3162

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	93	88 - 110%
Bromofluorobenzene	92	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	State GC BS 1	Report Date:	06/12/96
Sample ID:	MW - 3	Date Sampled:	06/05/96
Lab ID:	3787	Date Received:	06/05/96
Sample Matrix:	Water	Date Analyzed:	06/11/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

Total BTEX	ND

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	93	88 - 110%
Bromofluorobenzene	93	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

General Water Quality
Blagg Engineering, Inc.

Project ID:	State GC BS1	Date Reported:	06/21/96
Sample ID:	MW - 1	Date Sampled:	06/10/96
Laboratory ID:	3873	Time Sampled:	8:35
Sample Matrix:	Water	Date Received:	06/10/96

Parameter		Analytical Result	Units
General	Lab pH	7.1	s.u.
	Lab Conductivity @ 25° C	5,640	µmhos/cm
	Total Dissolved Solids @ 180°C	4,660	mg/L
	Total Dissolved Solids (Calc)	4,510	mg/L
Anions	Total Alkalinity as $CaCO_3$	549	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	549	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	35.0	mg/L
	Sulfate	2,780	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	2,020	mg/L
	Calcium	769	mg/L
	Magnesium	24.6	mg/L
	Potassium	12.0	mg/L
	Sodium	560	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	3.57	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANAITAS ENVIRONMENTAL LABS

General Water Quality
Blagg Engineering, Inc.

Project ID:	State GC BS1	Date Reported:	06/21/96
Sample ID:	MW - 2	Date Sampled:	06/10/96
Laboratory ID:	3874	Time Sampled:	8:40
Sample Matrix:	Water	Date Received:	06/10/96

Parameter		Analytical Result	Units
General	Lab pH	6.9	s.u.
	Lab Conductivity @ 25° C	6,230	µmhos/cm
	Total Dissolved Solids @ 180°C	5,120	mg/L
	Total Dissolved Solids (Calc)	4,790	mg/L
Anions	Total Alkalinity as $CaCO_3$	1,240	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	1,240	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	175	mg/L
	Sulfate	2,380	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	2,040	mg/L
	Calcium	615	mg/L
	Magnesium	122	mg/L
	Potassium	19.0	mg/L
	Sodium	730	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	4.26	+/- 5 %
	TDS (180):TDS (calculated)	1.1	1.0 - 1:2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANAITAS ENVIRONMENTAL LABS

General Water Quality
Blagg Engineering, Inc.

Project ID:	State GC BS1	Date Reported:	06/21/96
Sample ID:	MW - 3	Date Sampled:	06/10/96
Laboratory ID:	3875	Time Sampled:	8:50
Sample Matrix:	Water	Date Received:	06/10/96

Parameter		Analytical Result	Units
General	Lab pH	7.3	s.u.
	Lab Conductivity @ 25° C	12,800	µmhos/cm
	Total Dissolved Solids @ 180°C	13,000	mg/L
	Total Dissolved Solids (Calc)	9,190	mg/L
Anions	Total Alkalinity as $CaCO_3$	1,150	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	1,150	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	430	mg/L
	Sulfate	5,180	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	2,030	mg/L
	Calcium	494	mg/L
	Magnesium	193	mg/L
	Potassium	13.0	mg/L
	Sodium	2,200	mg/L

Data Validation			Acceptance Level
	Cation/Anion Difference	2.28	+/- 5 %
	TDS (180):TDS (calculated)	1.4	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANAITAS
ENVIRONMENTAL LABS

June 12, 1996

Bob O'Neill
Blagg Engineering, Inc.
PO Box 87
Bloomfield, NM 87413

Dear Mr. O'Neill:

Enclosed are the results for the analysis of the samples received June 5, 1996. The samples were from the State GC BS1 site. Analysis for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) was performed on the sample as per the accompanying chain of custody form.

Analysis was performed on the sample according to EPA Method 602, using a Hewlett-Packard 5890 gas chromatograph equipped with an OI Analytical purge and trap (model 4560) and a photoionization detector. Detectable levels of btex analytes were found in two of the samples, as reported.

Quality control reports appear at the end of the analytical package and can be identified by title. Should you have any questions regarding the analysis, feel free to call.

Sincerely,

Denise A. Bohemier
Lab Director

807 SOUTH CARLTON • FARMINGTON, NM 87401• (505) 326-2395 PH • 326-2486 FAX

PURGEABLE AROMATICS
Quality Control Report

Method Blank Analysis

Sample Matrix: Water
Lab ID: MB35227

Report Date: 06/12/96
Date Analyzed: 06/11/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	99	88 - 110%
Bromofluorobenzene	100	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID:	3783Dup	Report Date:	06/12/96
Sample Matrix:	Water	Date Sampled:	06/04/96
Preservative:	Cool, HgCl2	Date Received:	06/05/96
Condition:	Intact	Date Analyzed:	06/11/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	175	169	140 - 204
Toluene	ND	ND	NA
Ethylbenzene	ND	ND	NA
m,p-Xylenes	ND	ND	NE
o-Xylene	7.06	7.98	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

	Surrogate	Percent Recovery	Acceptance Limits
Quality Control:	Trifluorotoluene	101	88 - 110%
	Bromofluorobenzene	101	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct..1984.

Comments:

Analyst

Review

Purgeable Aromatics

Matrix Spike Analysis

Lab ID:	3784Spk	Report Date:	06/12/96
Sample Matrix:	Water	Date Sampled:	06/04/96
Preservative:	Cool, HgCl2	Date Received:	06/05/96
Condition:	Intact	Date Analyzed:	06/11/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	9.55	95%	39 -150
Toluene	10	ND	9.63	95%	46 - 148
Ethylbenzene	10	ND	9.57	96%	32 - 160
m,p-Xylenes	20	ND	19.1	95%	NE
o-Xylene	10	ND	9.54	95%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	90	88 - 110%
Bromofluorobenzene	92	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

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ANATTAS ENVIRONMENTAL LABS

807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Anaitas Lab I.D.:

Company: BLAGG
Address:

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs (BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
MW-1	6-5	1110	WATER					✓																						
MW-2	"	1130	"					✓																						
MW-3	"	1145	"					✓																						

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj. Name: AMOCO	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

STATE GC BS 1

Sampled By:	Relinquished By:	Relinquished By:
Signature: RGO Date: 6-5-96	Signature: RGO Date: 6-5-96	Signature: Date:
Company: BEI Time: —	Company: BEI Time: 1410	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: Date: 6/5/96
Company: Time:	Company: Time:	Company: Anaitas Time: 14:10

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Anaitas
Pink: Client

ANAITAS ENVIRONMENTAL LABS

807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF COUSTODY

PROJECT MANAGER:
Anaitas Lab I.D.:

Company: BLAGG
Address:

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	ORGANIC ANALYSES: Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	WATER ANALYSES: Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2– / NO3– / TKN	Oil and Grease	Other (specify):	METALS: Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
mw-1	6-10	0835	WATER															✓												
mw-2	"	0840	"															✓												
mw-3	"	0850	"															✓												

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj. Name: Amoco	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

STATE 6C BS1

Sampled By:	Relinquished By:	Relinquished By:
Signature: REO Date: 6-10-96	Signature: REO Date: 6-10-96	Signature: Date:
Company: BEI Time: —	Company: BEI Time: 1420	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: [signature] Date: 6/10
Company: Time:	Company: Time:	Company: Anaitas Time: 2:25

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Anaitas
Pink: Client

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 2266

STATE GC BS #1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ANAITAS

Date : Sept. 11, 1996

SAMPLER : R E O

Filename : 09-11-96.WK3

PROJECT MANAGER : R E O

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	-	-	-	-	-	-	-	-	-
2	100.99	94.11	6.36	8.42	1120	7.4	3,800	1.00	-
3	-	-	-	-	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

Collected BTEX in MW #2 only.

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	State GC BS 1	Report Date:	09/16/96
Sample ID:	MW - 2	Date Sampled:	09/11/96
Lab ID:	4970	Date Received:	09/12/96
Sample Matrix:	Water	Date Analyzed:	09/13/96
Preservative:	Cool, HgCl2		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	17.3	5.00
Toluene	19.7	5.00
Ethylbenzene	177	5.00
m,p-Xylenes	188	10.0
o-Xylene	9.23	5.00

Total BTEX	**411**

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%
Bromofluorobenzene	131	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments: High bromofluorobenzene recovery is due to hydrocarbon interference at the BFB retention times.

Analyst

Review

ANAITAS
ENVIRONMENTAL LABS

September 16, 1996

Bob O'Neill
Blagg Engineering, Inc.
PO Box 87
Bloomfield, NM 87413

Dear Mr. O' Neill:

Enclosed are the results for the analysis of the sample received September 12, 1996. The sample was from the State GC BS 1 location. Analysis for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) was performed on the sample, as per the accompanying chain of custody form.

Analysis was performed on the sample according to EPA Method 602, using a Hewlett-Packard 5890 gas chromatograph equipped with an OI Analytical purge and trap (model 4560) and a photoionization detector. Detectable levels of btex analytes were found in the sample, as reported.

Quality control reports appear at the end of the analytical package and can be identified by title. Should you have any questions regarding the analysis, feel free to call.

Sincerely,

Denise A. Bohemier
Lab Director

807 SOUTH CARLTON • FARMINGTON, NM 87401• (505) 326-2395 PH • 326-2486 FAX

PURGEABLE AROMATICS

Quality Control Report

Method Blank Analysis

Sample hydrocarbon: Water
Lab ID: MB35321

Report Date: 09/16/96
Date Analyzed: 09/13/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	97	88 - 110%
Bromofluorobenzene	100	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID:	4970Dup	Report Date:	09/16/96
Sample Matrix:	Water	Date Sampled:	09/11/96
Preservative:	Cool, HgCl2	Date Received:	09/12/96
Condition:	Intact	Date Analyzed:	09/13/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	17.3	17.1	12.9 - 21.4
Toluene	19.7	18.2	14.6 - 23.3
Ethylbenzene	177	170	114 - 234
m,p-Xylenes	188	183	NE
o-Xylene	9.23	9.90	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

	Surrogate	Percent Recovery	Acceptance Limits
Quality Control:	Trifluorotoluene	95	88 - 110%
	Bromofluorobenzene	118	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments: High bromofluorobenzene recovery is due to hydrocarbon interference at the BFB retention times.

Analyst

Review

Purgeable Aromatics

Matrix Spike Analysis

Lab ID:	4970Spk	Report Date:	09/16/96
Sample Matrix:	Water	Date Sampled:	09/11/96
Preservative:	Cool, HgCl2	Date Received:	09/12/96
Condition:	Intact	Date Analyzed:	09/13/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	100	17.3	118	101%	39 -150
Toluene	100	19.7	113	94%	46 - 148
Ethylbenzene	100	177	273	96%	32 - 160
m,p-Xylenes	200	188	373	93%	NE
o-Xylene	100	9.23	113	104%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	93	88 - 110%
Bromofluorobenzene	122	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

PROJECT MANAGER:
Anaitas Lab I.D.:

Company: BLM66
Address:

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs / BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
MW #2	9-11	1120	WATER					✓																						

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj. Name: AMOCO	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

STATE GC BS 1

Sampled By:	Relinquished By:	Relinquished By:
Signature: R. E. O'Neill	Signature: R. E. O'Neill	Signature:
Date: 9-11-96	Date: 9-12-96	Date:
Company: BEI	Company: BEI	Company:
Time: —	Time: 1105	Time:
Received By:	**Received By:**	**Received By:**
Signature:	Signature:	Signature:
Date:	Date:	Date: 9/12/96
Company:	Company:	Company: Anaitas
Time:	Time:	Time: 1105

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Anaitas
Pink: Client

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5111

STATE GC BS # 1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : *June 23, 1997*

SAMPLER : N J V

Filename : *06-23-97.WK3*

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	100.96	95.44	5.52	-	-	-	-	-	-
2	100.99	95.17	5.82	8.42	1010	7.6	4,000	1.30	-
3	100.09	94.31	5.78	-	-	-	-	-	-
4	101.06	94.32	6.74	8.95	1030	7.2	3,800	1.25	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

MW #'s 2 & 4 - poor recovery. Collected BTEX samples for MW's # 2 & 4.

Collected anion / cation MW # 4.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #2	Date Reported:	06-25-97
Chain of Custody:	5111	Date Sampled:	06-23-97
Laboratory Number:	B491	Date Received:	06-24-97
Sample Matrix:	Water	Date Analyzed:	06-24-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**8.6**	**1**	**0.2**
Toluene	**3.6**	**1**	**0.2**
Ethylbenzene	**4.8**	**1**	**0.2**
p,m-Xylene	**20.3**	**1**	**0.2**
o-Xylene	**6.2**	**1**	**0.1**
Total BTEX	**43.5**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**97 %**
	Bromofluorobenzene	**99 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **State GC BS #1.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #4	Date Reported:	06-25-97
Chain of Custody:	5111	Date Sampled:	06-23-97
Laboratory Number:	B492	Date Received:	06-24-97
Sample Matrix:	Water	Date Analyzed:	06-24-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**26.4**	**10**	**1.8**
Toluene	**86.5**	**10**	**1.7**
Ethylbenzene	**186**	**10**	**1.5**
p,m-Xylene	**910**	**10**	**2.2**
o-Xylene	**152**	**10**	**1.0**
Total BTEX	**1,360**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**98 %**
	Bromofluorobenzene	**99 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **State GC BS #1.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #4	Date Reported:	06-24-97
Laboratory Number:	B492	Date Sampled:	06-23-97
Sample Matrix:	Water	Date Received:	06-24-97
Preservative:	Cool	Date Analyzed:	06-24-97
Condition:	Cool & Intact	Chain of Custody:	5111

Parameter	Analytical Result	Units		Units
pH	**6.97**	s.u.		
Conductivity @ 25° C	**8,330**	umhos/cm		
Total Dissolved Solids @ 180C	**4,150**	mg/L		
Total Dissolved Solids (Calc)	**4,119**	mg/L		
SAR	**9.3**	ratio		
Total Alkalinity as CaCO3	**528**	mg/L		
Total Hardness as CaCO3	**1,350**	mg/L		
Bicarbonate as HCO3	**528**	mg/L	8.65	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**22.9**	mg/L	0.65	meq/L
Fluoride	**2.40**	mg/L	0.13	meq/L
Phosphate	**1.7**	mg/L	0.05	meq/L
Sulfate	**2,480**	mg/L	51.63	meq/L
Calcium	**438**	mg/L	21.86	meq/L
Magnesium	**62.0**	mg/L	5.10	meq/L
Potassium	**6.2**	mg/L	0.16	meq/L
Sodium	**785**	mg/L	34.15	meq/L
Cations			61.26	meq/L
Anions			61.11	meq/L
Cation/Anion Difference			**0.25%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **State GC BS #1.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	06-25-97
Laboratory Number:	06-24-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-24-97
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.2**
Toluene	**ND**	**0.2**
Ethylbenzene	**ND**	**0.2**
p,m-Xylene	**ND**	**0.2**
o-Xylene	**ND**	**0.1**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**96 %**
	Bromofluorobenzene	**99 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **QA/QC for samples B486 - B493.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	06-25-97
Laboratory Number:	B487	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	06-24-97
Condition:	Cool and Intact	Analysis Requested:	BTEX-8020

Parameter	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Diff.	Det. Limit (ug/L)	Dilution Factor
Benzene	**ND**	**ND**	**0.0%**	**0.2**	**1**
Toluene	**ND**	**ND**	**0.0%**	**0.2**	**1**
Ethylbenzene	**ND**	**ND**	**0.0%**	**0.2**	**1**
p,m-Xylene	**0.3**	**0.3**	**0.0%**	**0.2**	**1**
o-Xylene	**0.1**	**0.1**	**0.0%**	**0.1**	**1**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **QA/QC for samples B486 - B493.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	06-25-97
Laboratory Number:	B487	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	06-24-97
Condition:	Cool and Intact		

Parameter	Sample Result (ug/L)	Spike Added (ug/L)	Spiked Sample Result (ug/L)	Det. Limit (ug/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	**ND**	**50.0**	**50.2**	**0.2**	**100%**	**39-150**
Toluene	**ND**	**50.0**	**50.1**	**0.2**	**100%**	**46-148**
Ethylbenzene	**ND**	**50.0**	**51.3**	**0.2**	**102%**	**32-160**
p,m-Xylene	**0.3**	**100**	**100**	**0.2**	**100%**	**46-148**
o-Xylene	**0.1**	**50.0**	**50.8**	**0.1**	**101%**	**46-148**

ND - Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **QA/QC for samples B486 - B493.**

Analyst

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / AMOCO	STATE GC BS #1
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No. 04034-10

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)	ANION/ CATION				Remarks
MW #2	6/23/97	1010	B491	WATER	2	✓					BTEX'S - PRESERV. -
MW #4	6/23/97	1030	B492	WATER	3	✓	✓				COOL & $HgCl_2$
											ANION/CATION PRESERV.
											COOL

Samples received cool & intact on

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/24/97	0725	[signature]	6-24-97	0725
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Farmington, New Mexico 87401
(505) 632-0615

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5409

STATE GC BS # 1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : Sept. 22, 1997

Filename : 09-22-97.WK3

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING	pH TIME	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	100.96	95.86	5.10	-	-	-	-	-	-
2	100.99	95.49	5.50	8.42	0835	7.4	2,900	1.50	-
3	100.09	94.30	5.79	-	-	-	-	-	-
4	101.06	94.31	6.75	-	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

MW # 2 - poor recovery . Collected BTEX samples for MW # 2 only .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW #2	Date Reported:	09-23-97
Chain of Custody:	5409	Date Sampled:	09-22-97
Laboratory Number:	C110	Date Received:	09-22-97
Sample Matrix:	Water	Date Analyzed:	09-22-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**0.4**	**1**	**0.2**
Toluene	**4.4**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**11.3**	**1**	**0.2**
o-Xylene	**3.5**	**1**	**0.1**
Total BTEX	**19.6**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**99 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **STATE GC BS #1.**

Analyst

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5409

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / AMOCO	STATE GC 85 #1
Sampler: (Signature)	**Chain of Custody Tape No.**
Nelson Velez	04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
MW #2	9/22/97	0835	C110	WATER	2	✓						PRESERV. - COOL & $HgCl_2$

sample received cool & intact

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	9/22/97	1316	[signature] L. [signature]	9-22-97	1316
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC 5410

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	09-23-97
Laboratory Number:	09-22-PM-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-22-97
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.2**
Toluene	**ND**	**0.2**
Ethylbenzene	**ND**	**0.2**
p,m-Xylene	**ND**	**0.2**
o-Xylene	**ND**	**0.1**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**96 %**
	Bromofluorobenzene	**97 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
USEPA, Sept. 1994.

Comments: **QA/QC for samples C105 - C110.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	09-23-97
Laboratory Number:	C105	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	09-22-97
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Diff.	Det. Limit (ug/L)	Dilution Factor
Benzene	**ND**	**ND**	**0.0%**	**0.2**	**1**
Toluene	**0.6**	**0.6**	**0.0%**	**0.2**	**1**
Ethylbenzene	**0.6**	**0.6**	**0.0%**	**0.2**	**1**
p,m-Xylene	**8.5**	**8.4**	**1.4%**	**0.2**	**1**
o-Xylene	**3.1**	**3.1**	**1.0%**	**0.1**	**1**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **QA/QC for samples C105 - C110.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	09-23-97
Laboratory Number:	C105	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	09-22-97
Condition:	Cool and Intact		

Parameter	Sample Result (ug/L)	Spike Added (ug/L)	Spiked Sample Result (ug/L)	Det. Limit (ug/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	**ND**	**50.0**	**47.9**	**0.2**	**96%**	**39-150**
Toluene	**0.6**	**50.0**	**48.9**	**0.2**	**97%**	**46-148**
Ethylbenzene	**0.6**	**50.0**	**49.3**	**0.2**	**97%**	**32-160**
p,m-Xylene	**8.5**	**100**	**104**	**0.2**	**96%**	**46-148**
o-Xylene	**3.1**	**50.0**	**50.9**	**0.1**	**96%**	**46-148**

ND - Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **QA/QC for samples C105 - C110.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5659

STATE GC BS # 1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : *December 18, 1997*

Filename : *12-18-97.WK3*

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING	pH TIME	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	100.96	95.74	5.22	-	-	-	-	-	-
2	100.99	95.70	5.29	8.42	1115	6.9	3,300	1.50	-
3	100.09	94.42	5.67	-	-	-	-	-	-
4	101.06	94.31	6.75	-	-	-	-	-	-
5	100.37	93.92	6.45	9.00	1050	6.9	3,200	1.25	-

NOTES : Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

MW # 2 - poor recovery. Collected BTEX samples for MW # 2 & 5.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 2	Date Reported:	12-19-97
Chain of Custody:	5659	Date Sampled:	12-18-97
Laboratory Number:	C710	Date Received:	12-18-97
Sample Matrix:	Water	Date Analyzed:	12-19-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**ND**	**1**	**0.2**
Toluene	**0.7**	**1**	**0.2**
Ethylbenzene	**2.7**	**1**	**0.2**
p,m-Xylene	**9.4**	**1**	**0.2**
o-Xylene	**1.8**	**1**	**0.1**
Total BTEX	**14.6**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**101 %**
	Bromofluorobenzene	**101 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **State GC BS #1.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 5	Date Reported:	12-19-97
Chain of Custody:	5659	Date Sampled:	12-18-97
Laboratory Number:	C709	Date Received:	12-18-97
Sample Matrix:	Water	Date Analyzed:	12-19-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**ND**	**1**	**0.2**
Toluene	**0.4**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**0.5**	**1**	**0.2**
o-Xylene	**0.1**	**1**	**0.1**
Total BTEX	**1.0**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**101 %**
	Bromofluorobenzene	**101 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **State GC BS #1.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW #5	Date Reported:	12-22-97
Laboratory Number:	C709	Date Sampled:	12-18-97
Chain of Custody:	5659	Date Received:	12-18-97
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	12-19-97
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.14**	s.u.		
Conductivity @ 25° C	**3,780**	umhos/cm		
Total Dissolved Solids @ 180C	**1,888**	mg/L		
Total Dissolved Solids (Calc)	**1,870**	mg/L		
SAR	**0.3**	ratio		
Total Alkalinity as CaCO3	**530**	mg/L		
Total Hardness as CaCO3	**1,632**	mg/L		
Bicarbonate as HCO3	**530**	mg/L	8.69	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**4.0**	mg/L	0.06	meq/L
Nitrite Nitrogen	**0.305**	mg/L	0.01	meq/L
Chloride	**848**	mg/L	23.92	meq/L
Fluoride	**1.50**	mg/L	0.08	meq/L
Phosphate	**<0.1**	mg/L	0.00	meq/L
Sulfate	**48.9**	mg/L	1.02	meq/L
Calcium	**560**	mg/L	27.94	meq/L
Magnesium	**56.6**	mg/L	4.66	meq/L
Potassium	**5.40**	mg/L	0.14	meq/L
Sodium	**23.8**	mg/L	1.04	meq/L
Cations			33.78	meq/L
Anions			33.78	meq/L
Cation/Anion Difference			**0.01%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **State GC BS #1.**

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ENVIROTECH LABS

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	12-19-97
Laboratory Number:	12-19-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-19-97
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.2**
Toluene	**ND**	**0.2**
Ethylbenzene	**ND**	**0.2**
p,m-Xylene	**ND**	**0.2**
o-Xylene	**ND**	**0.1**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**100 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEP December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 199

Comments: **QA/QC for samples C709- C715.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	12-19-97
Laboratory Number:	C709	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	12-19-97
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Diff.	Det. Limit (ug/L)	Dilution Factor
Benzene	**ND**	**ND**	**0.0%**	**0.2**	**1**
Toluene	**0.4**	**0.4**	**0.0%**	**0.2**	**1**
Ethylbenzene	**ND**	**ND**	**0.0%**	**0.2**	**1**
p,m-Xylene	**0.5**	**0.5**	**0.0%**	**0.2**	**1**
o-Xylene	**0.1**	**0.1**	**0.0%**	**0.1**	**1**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **QA/QC for samples C709- C715.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	12-19-97
Laboratory Number:	C709	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	12-19-97
Condition:	Cool and Intact		

Parameter	Sample Result (ug/L)	Spike Added (ug/L)	Spiked Sample Result (ug/L)	Det. Limit (ug/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	**ND**	**50.0**	**50.0**	**0.2**	**100%**	**39-150**
Toluene	**0.4**	**50.0**	**50.8**	**0.2**	**101%**	**46-148**
Ethylbenzene	**ND**	**50.0**	**50.8**	**0.2**	**101%**	**32-160**
p,m-Xylene	**0.5**	**100**	**101**	**0.2**	**100%**	**46-148**
o-Xylene	**0.1**	**50.0**	**50.0**	**0.1**	**100%**	**46-148**

ND - Parameter not detected at the stated detection limit.
* - Administrative Recovery Acceptance Range = 80% - 115%

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **QA/QC for samples C709- C715.**

Analyst

Review

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5659

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG/AMOCO	STATE GC B5 #1

Sampler: (Signature)	Chain of Custody Tape No.
Nelson Velez	04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)	ANION/ CATION					Remarks
												ANION/CATION PRESERV. - COOL ONLY
MW #5	12/18/97	1050	C709	WATER	3	✓	✓					PRESERV. - $HgCl_2$ & COOL
MW #2	12/18/97	1115	C710	WATER	2	✓						PRESERV. - $HgCl_2$ & COOL
				SAMPLES RECEIVED COOL & INTACT OLHA								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	12/18/97	1453	Rhonda L. Spencer	12/18/97	14:53
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC's 5659 – 5661

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6008

STATE GC BS # 1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : May 30, 1998

Filename : 05-30-98.WK3

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	100.96	95.88	5.08	-	-	-	-	-	-
2	100.99	95.72	5.27	8.42	0945	7.2	3,200	1.50	-
3	100.09	94.87	5.22	-	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

MW # 4 & 5 destroyed by landowner cattle . Collected BTEX sample for MW # 2 only .

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6037

STATE GC BS #1 - SEPARATOR PIT
UNIT K, SEC. 23, T29N, R11W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : June 26, 1998

Filename : 06-26-98.WK3

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	100.96	94.47	6.49	-	-	-	-	-	-
2	100.99	94.11	6.88	8.42	-	-	-	-	-
3	100.09	93.01	7.08	-	-	-	-	-	-
4R	98.52	92.96	5.56	10.00	0810	7.7	2,600	2.25	-
5R	100.93	92.63	8.30	10.00	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).
2 bails per foot - small teflon bailer.
3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

Drilled MW # 4R & # 5R on 6 / 19 / 98 .

MW # 4R : Tot. Leng. = 10 ft., screen inveral = 5 ft., top of casing approx. 1.15 ft. above ground surface . TD @ 8.85 ft. below ground surface .

MW # 5R : Tot. Leng. = 10 ft., screen inveral = 5 ft., top of casing approx. 3.65 ft. above ground surface . TD @ 6.35 ft. below ground surface . Collected BTEX sample for MW # 4R only .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 2	Date Reported:	06-01-98
Chain of Custody:	6008	Date Sampled:	05-30-98
Laboratory Number:	D324	Date Received:	06-01-98
Sample Matrix:	Water	Date Analyzed:	06-01-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1.2**	**1**	**0.2**
Toluene	**1.9**	**1**	**0.2**
Ethylbenzene	**2.7**	**1**	**0.2**
p,m-Xylene	**4.8**	**1**	**0.2**
o-Xylene	**0.7**	**1**	**0.1**
Total BTEX	**11.3**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**99 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **State GC BS #1.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 4R	Date Reported:	06-30-98
Chain of Custody:	6037	Date Sampled:	06-26-98
Laboratory Number:	D518	Date Received:	06-26-98
Sample Matrix:	Water	Date Analyzed:	06-29-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**17.1**	**1**	**0.2**
Toluene	**10.2**	**1**	**0.2**
Ethylbenzene	**8.7**	**1**	**0.2**
p,m-Xylene	**26.4**	**1**	**0.2**
o-Xylene	**20.6**	**1**	**0.1**
Total BTEX	**83.0**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**100 %**
	Bromofluorobenzene	**100 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **State GC BS #1.**

Analyst

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CHAIN OF CUSTODY RECORD

6008

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / AMOCO	STATE GC B5 #1	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
												PRESERV. - $HgCl_2$ & COOL
MW # 2	5/30/98	0945	D324	WATER	2	✓						
~~MW #4~~	5/30/98	1015		~~WATER~~	~~2~~	~~✓~~	~~NV~~					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/1/98	0710	Glenn L. Spencer	6-1-98	0710
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

RP COC's 6004-6005
6007-6008

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Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

CHAIN OF CUSTODY RECORD

6037

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / AMOCO	STATE GC B5 #1	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW #4R	6/26/98	0810	0518	WATER	2	✓						PRESERV. - $HgCl_2$ & COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/26/98	1152	Donna L. Phillips	6-26-98	1153
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

RP COC's 6036-6039

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Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	06-01-BTEX QA/QC	Date Reported:	06-01-98
Laboratory Number:	D317	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-01-98
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	1.4863E-02	1.5028E-02	**1.11%**	**ND**	**0.2**
Toluene	2.2878E-02	2.2993E-02	**0.50%**	**ND**	**0.2**
Ethylbenzene	1.0578E-02	1.0663E-02	**0.81%**	**ND**	**0.2**
p,m-Xylene	8.4559E-03	8.5672E-03	**1.32%**	**ND**	**0.2**
o-Xylene	8.7385E-03	8.8357E-03	**1.11%**	**ND**	**0.1**
1,3,5-trimethylbenzene	6.2277E-03	6.2402E-03	**0.20%**	**ND**	**0.2**
1,2,4-trimethylbenzene	7.3319E-03	7.3687E-03	**0.50%**	**ND**	**0.2**

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	**3.4**	**3.3**	**2.9%**	**0 - 30%**
Toluene	**1.6**	**1.6**	**0.0%**	**0 - 30%**
Ethylbenzene	**3.0**	**3.0**	**0.0%**	**0 - 30%**
p,m-Xylene	**37.4**	**36.9**	**1.3%**	**0 - 30%**
o-Xylene	**6.7**	**6.7**	**0.0%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**3.4**	**50.0**	**53.2**	**100%**	**39 - 150**
Toluene	**1.6**	**50.0**	**51.5**	**100%**	**46 - 148**
Ethylbenzene	**3.0**	**50.0**	**52.9**	**100%**	**32 - 160**
p,m-Xylene	**37.4**	**100.0**	**135.2**	**98%**	**46 - 148**
o-Xylene	**6.7**	**50.0**	**56.4**	**99%**	**46 - 148**

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **QA/QC for samples D317 - D324.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	06-29-BTEX QA/QC	Date Reported:	06-30-98
Laboratory Number:	D517	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-29-98
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.4176E-01	2.4200E-01	0.10%	ND	1.8
Toluene	4.9646E-02	4.9795E-02	0.30%	ND	1.7
Ethylbenzene	4.1020E-02	4.1350E-02	0.81%	ND	1.5
p,m-Xylene	2.6433E-02	2.6620E-02	0.70%	ND	2.2
o-Xylene	3.0648E-02	3.0833E-02	0.60%	ND	1.0

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	5.7	5.7	0.0%	0 - 30%
Toluene	5.2	5.3	1.9%	0 - 30%
Ethylbenzene	9.9	10.1	2.0%	0 - 30%
p,m-Xylene	50.3	50.9	1.2%	0 - 30%
o-Xylene	5.5	5.5	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	5.7	50.0	55.4	99%	39 - 150
Toluene	5.2	50.0	54.9	99%	46 - 148
Ethylbenzene	9.9	50.0	59.4	99%	32 - 160
p,m-Xylene	50.3	100.0	147.3	98%	46 - 148
o-Xylene	5.5	50.0	55.2	99%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **QA/QC for samples D517 - D523.**

Analyst

Review

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Lab Results to MR Velasquez on 3/2/94 by RMY - No Recommendations

ENVIROTECH Inc.

5796 US HWY 64, FARMINGTON, NM 87401
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COC 3365
C4959

FIELD REPORT: CLOSURE VERIFICATION

JOB No 92140
PAGE No 1 of 1

LOCATION: LEASE STATE GC "B5" WELL No. 1 QD: NE/4 SW/4 (K)
SEC: 23 TWP: 29N RNG: 11W BM: NMPM CNTY: SJ ST: NM PIT: Sep
CONTRACTOR: VELASQUEZ
EQUIPMENT USED: TRACK HOE

DATE STARTED: 2/14/94
DATE FINISHED: 2/14/94
ENVIRONMENTAL SPECIALIST: RMY

SOIL REMEDIATION: QUANTITY:
DISPOSAL FACILITY: ON SITE
LAND USE: RANGE
SURFACE CONDITIONS: Pit Excavated upon Arrival.

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 50 YARDS S15°W FROM WELLHEAD.

DEPTH TO GROUNDWATER: 3'
NEAREST WATER SOURCE: ? >1000'
NEAREST SURFACE WATER: >1000'

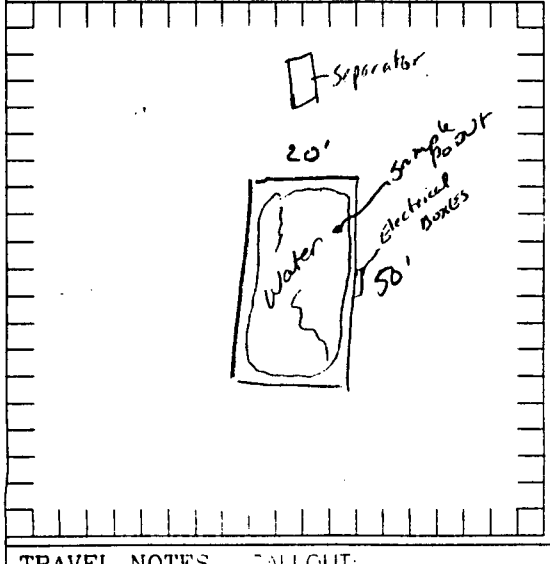
TRACE OF FREE PRODUCT ON GROUNDWATER
NO VISIBLE CONTAMINATION IN SOILS IN SIDEWALLS.
Lab Sample "Pit Water" taken for BTEX ANALYSIS
NO RECOMMENDATIONS

FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm

SCALE
0 FEET

PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)

PIT PROFILE

0'-1' GW/SW GRAVELS & Cobbles in Sand Matrix. Light GRAY, NVC, No HC ODOR. Abundant Roots

1'-3' ML Dark Brown Sandy Silt. Loose, SAT'D, NVC, No HC ODOR.

UNABLE TO SAMPLE SIDES

TRAVEL NOTES: CALLOUT: ONSITE

ENVIROTECH LABS

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit Water	Date Reported:	02-16-94
Laboratory Number:	6861	Date Sampled:	02-14-94
Sample Matrix:	Water	Date Received:	02-15-94
Preservative:	HgCl and Cool	Date Analyzed:	02-15-94
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	220	0.2
Toluene	382	0.4
Ethylbenzene	9.4	0.2
p,m-Xylene	560	0.5
o-Xylene	151	0.5

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	99 %
Bromofluorobenzene	101 %

Method: Method 5030A, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: State GC "BS" #1 Blow Pit C4959

Analyst

Review

1-27-94 LAB RESULTS TO PAUL VELASQUEZ.
WATER ABOVE STANDARDS.

P 2

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
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PIT NO: C4958
C.O.C. NO: 3338

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

LOCATION: LEASE: STATE GC "BS" WELL #1 QD. NE/4, SW/4 (K)
SEC. 23 TWP: 29N RNG: 11W BM: NM CNTY: S.J. ST. NM PIT SEP.
CONTRACTOR: PAUL VELASQUEZ
EQUIPMENT USED: —

DATE STARTED: 1-24-94
DATE FINISHED: 1-24-94

ENVIRONMENTAL SPECIALIST: REO

SOIL REMEDIATION: QUANTITY: ~185 CUBIC YARDS
DISPOSAL FACILITY: ON-SITE
LAND USE: RANGE / FARMING
SURFACE CONDITIONS: EXCAVATED ~ 20' x 50' x 5' DEEP

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 140 FEET S. 30°W. FROM WELLHEAD.

WATER @ 4' DEPTH -

SHEEN & VISIBLE ON WATER - DIRTY FILM.

DEFINITE HYDROCARBON ODOR + SHEEN.

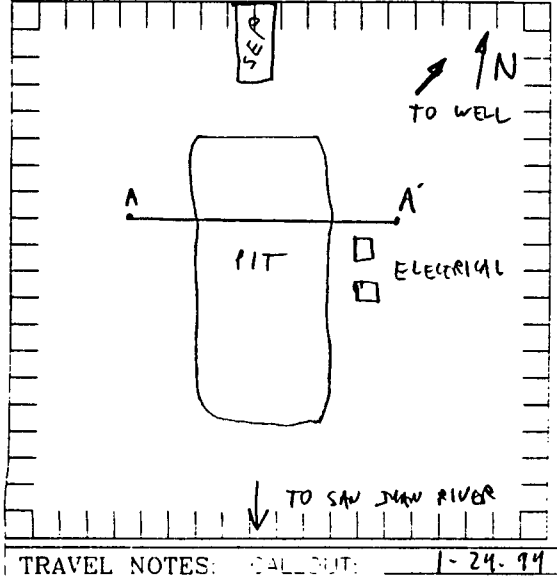
FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

DEPTH TO GROUNDWATER: 4'
NEAREST WATER SOURCE: >1000'
NEAREST SURFACE WATER: 71000'. SAN JUAN
NMOCD RANKING SCORE: >20
NMOCD TPH CLOSURE STD: 100 PPM TPH

SCALE
0 10 20 FEET

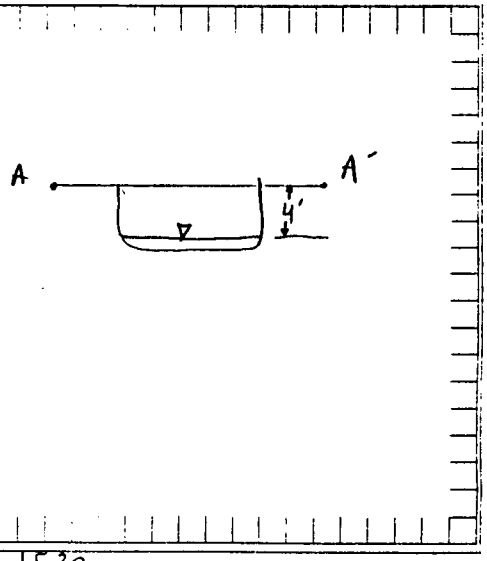
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
	WATER
PIT @ 4'	BTEX

PIT PROFILE



TRAVEL NOTES: CALLOUT: 1-24-94 ONSITE: 1-24-94 1530

ENVIROTECH LABS

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit @ 4'	Date Reported:	01-25-94
Laboratory Number:	6784	Date Sampled:	01-24-94
Sample Matrix:	Water	Date Received:	01-25-94
Preservative:	HgCl and Cool	Date Analyzed:	01-25-94
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	730	1.0
Toluene	2,020	2.5
Ethylbenzene	163	1.0
p,m-Xylene	1,620	1.5
o-Xylene	392	1.0

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	100 %
Bromofluorobenzene	97 %

Method: Method 5030A, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: State GC "BS" #1 Separator Pit C4958

Analyst

Review