3R - 23

REPORTS

DATE:

July 7, 1995

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

July 7, 1995

RECEIVED
AUG 2 1995
Environmental Bureau
Oil Conservation Division

Mr. William C. Olson, Hydrologist
New Mexico Oil Conservation Division
Environmental Bureau
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Re: Quarterly Monitoring Report
Amoco Production Company
Gallegos Canyon Unit (K) #162, Sec. 36-T29N-R12W
San Juan County, New Mexico

Dear Mr. Olson:

Amoco Production Company has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater reclamation at Gallegos Canyon Unit (K) Well No. 162 (Figure 1). Following are quarterly monitoring results as required by the New Mexico Oil Conservation Division (NMOCD), pursuant to reclamation plan approval by the NMOCD with letter dated January 27, 1994.

The groundwater pump-and-treat reclamation system at site has been temporarily abandoned and excavation of hydrocarbon contaminated soil is presently on-going. As of June 30, 1995 a total of 5,400 cubic yards of contaminated soil had been excavated and transported to the GCU Com I 181 well pad (located at (F) Sec. 34-T29N-R12W) for composting. Additionally, a soil vapor extraction system is currently under installation at the GCU 162 site for treatment of soils that cannot be excavated. A preliminary description of this vapor extraction system was presented in the previous quarterly report dated March 24, 1995. A conceptual schematic of the vapor extraction system is included herein.

Summary Laboratory Analytical Results

Groundwater monitor wells at the site were sampled on June 12, 1995. Certain wells have been abandoned during excavation of contaminated soil and laboratory analytical testing data is not available for those wells. A summary of available laboratory analytical results is included in Table 1 on the following page. Laboratory data reports are included in Appendix B.

TABLE 1

Summary Laboratory Analytical Results

Amoco Production Company GCU Com "F" No. 162

Sample ID	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylenes ug/L	Naptha-lene ug/L	Benzo(a) pyrene ug/L	Cations meq/L	Anions meq/L	As mg/L	Ba mg/L	Cd mg/L	Cr mg/L	Pb mg/L	Hg mg/L	Se mg/L	Ag mg/L
MW-3																
2/25/94	476	0.7	ND	1.9	ND	ND	15.80	15.49	ND	3.27	0.0001	ND	0.0034	ND	0.0011	ND
6/17/94	13.6	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/27/94	20.9	3.4	0.9	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/7/94	241.5	101.1	12.7	223.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4																
2/25/94	240	3.1	40.2	469	ND	ND	17.74	18.50	0.0022	5.09	0.0016	ND	0.0373	ND	0.0015	ND
6/17/94	273	2.2	34.7	113	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/27/94	355	0.7	59.4	352	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/7/94	1694	7.6	241.3	1575	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5																
2/25/94	ND	1.0	ND	2.2	ND	ND	34.59	33.50	0.0064	3.16	0.0034	ND	ND	ND	0.0037	ND
6/17/94	2.1	2.7	4.5	32.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/27/94	1.3	0.5	1.0	5.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/7/94	0.8	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/8/95	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/12/95	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6																
2/25/94	15.9	3.2	5.3	140	ND	ND	13.39	12.34	ND	2.68	0.0002	ND	ND	ND	0.0007	ND
6/17/94	15.3	1.9	2.6	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/27/94	70.1	3.7	1.9	109	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/7/94	154.8	44.9	0.2	212.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/8/95	7.0	ND	ND	8.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-9																
2/25/94	ND	1.1	ND	1.4	ND	ND	13.73	13.47	ND	1.17	0.0011	ND	ND	ND	0.0012	ND
6/17/94	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9/27/94	0.8	0.4	0.6	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/7/94	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/8/95	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-10																
2/25/94	ND	0.7	ND	1.7	ND	ND	15.04	15.45	ND	2.64	0.0140	ND	0.0012	ND	0.0018	ND
6/17/94	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
9/27/94	0.8	0.3	0.2	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12/7/94	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3/8/95	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WQCC LIMITS	10	750	750	620	30	0.7	------	------	0.1	1.0	0.01	0.05	0.05	0.002	0.05	0.05

ug/L = micrograms per liter, equivalent to parts per billion (ppb) mg/L= milligrams per liter, equivalent to parts per million (ppm) ND=not detected NA=not analyzed

Water Table Elevations

Depth to groundwater measurements in monitor wells was measured during the June 12, 1995 sample event. Table 2 includes water depth measurements, surface casing relative elevations and groundwater elevations. A contour map of relative water table elevations for this sample event is included in Figure 2.

TABLE 2

Relative Groundwater Elevations
Amoco Production Company GCU Com "F" No. 162
June 12, 1995

Monitor Well	Total Depth (feet)	Depth to Fluid (feet)	Relative Casing Elevation (feet)	Relative Groundwater Elevation (feet)
MW-1	Well	abandoned	during	excavation
MW-2	23.1	na	100.16	na
MW-3	Well	abandoned	during	excavation
MW-4	Well	abandoned	during	excavation
MW-5	25.1	22.76	102.50	79.74
MW-6	26.8	21.85	98.68	76.83
MW-7	25.3	na	97.39	na
MW-8	Well	abandoned	during	excavation
MW-9	19.6	12.34	88.50	76.16
MW-10	20.3	13.81	90.25	76.44

na = water table elevation not measured

Current and Proposed Activities

It is proposed to continue excavation of accessible contaminated soil within the confines of the well location and transport these soils to the Amoco GCU Com I 181 well site for composting operations. Inaccessible contaminated soils at the GCU 162 site are proposed to be remediated with an active soil vapor extraction system. Installation of this system is presently on-going. The groundwater pump-and-treat system may be reactivated depending on the results of active soil vapor extraction.

Proper regulatory agencies will be notified prior to any reactivation of the pump-and-treat system.

Summary

This report has been prepared by Blagg Engineering, Inc. on behalf of Amoco Production Company. Questions or comments may be directed to Jeff Blagg at (505)632-1199.

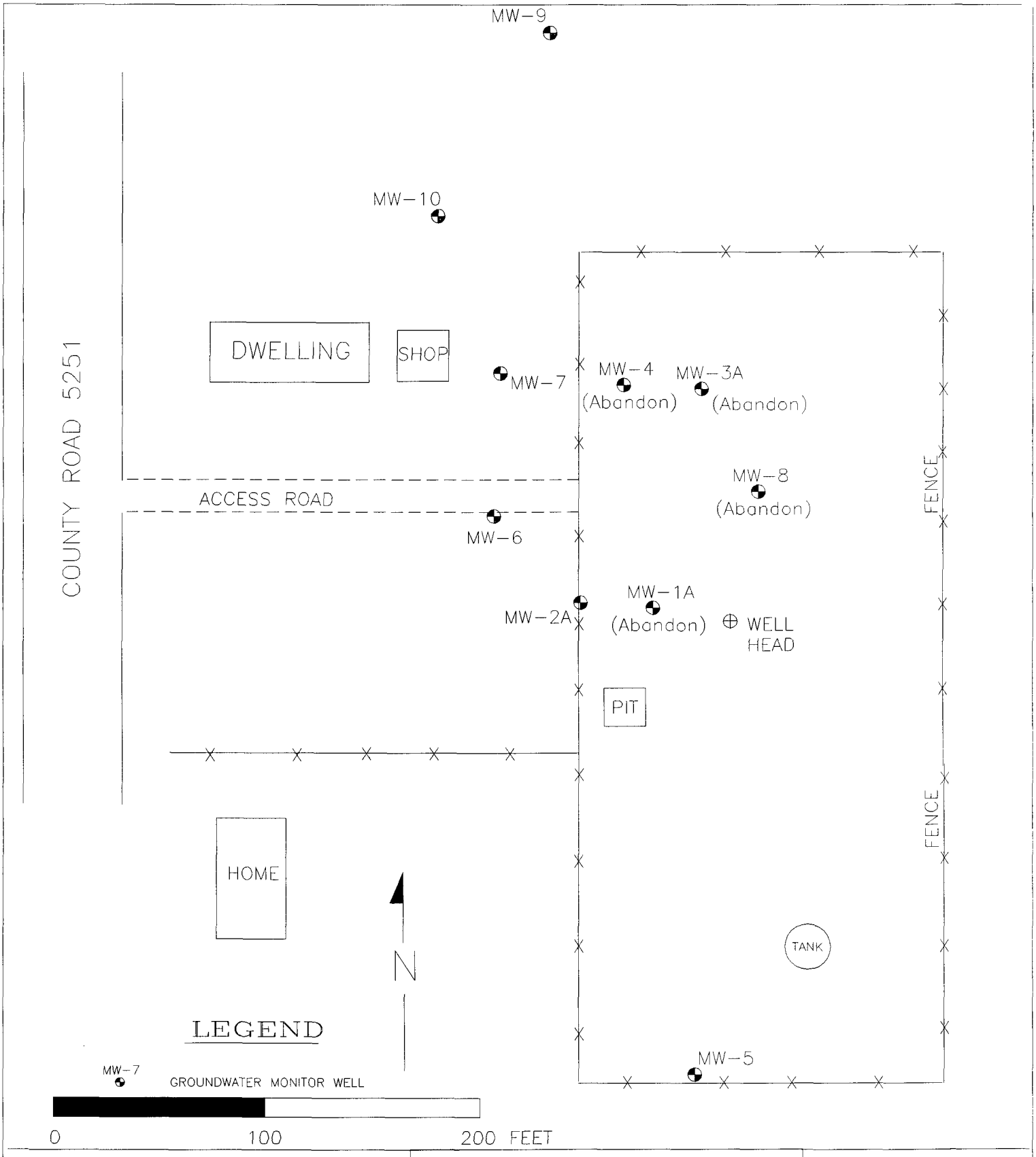
Respectfully submitted:
Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President

cc: Mr. Denny Foust, NMOCD
Mr. Wayne Cannon, NM State Engineers Office
Mr. Buddy Shaw, Amoco Production Company

APPENDIX A

FIGURES



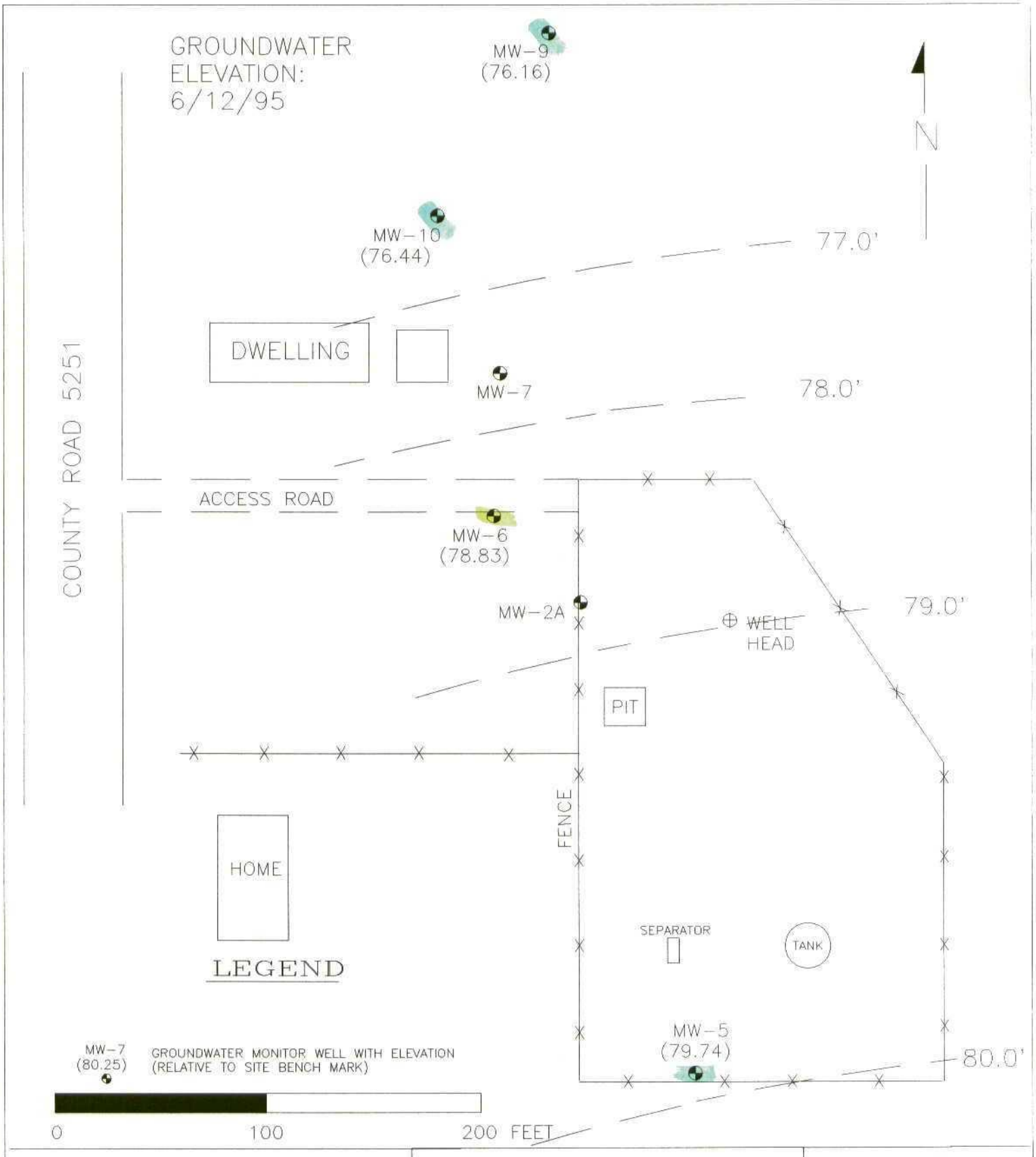
AMOCO PRODUCTION CO.
GCU 162 WELL SITE
SAN JUAN CO., NEW MEXICO

JUNE, 1995

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

SITE PLAN

FIGURE 1	DRWN BY: JCB
162REV	PROJ MGR: JCB



AMOCO PRODUCTION CO.
GCU 162 WELL SITE
SAN JUAN CO., NEW MEXICO

JUNE, 1995

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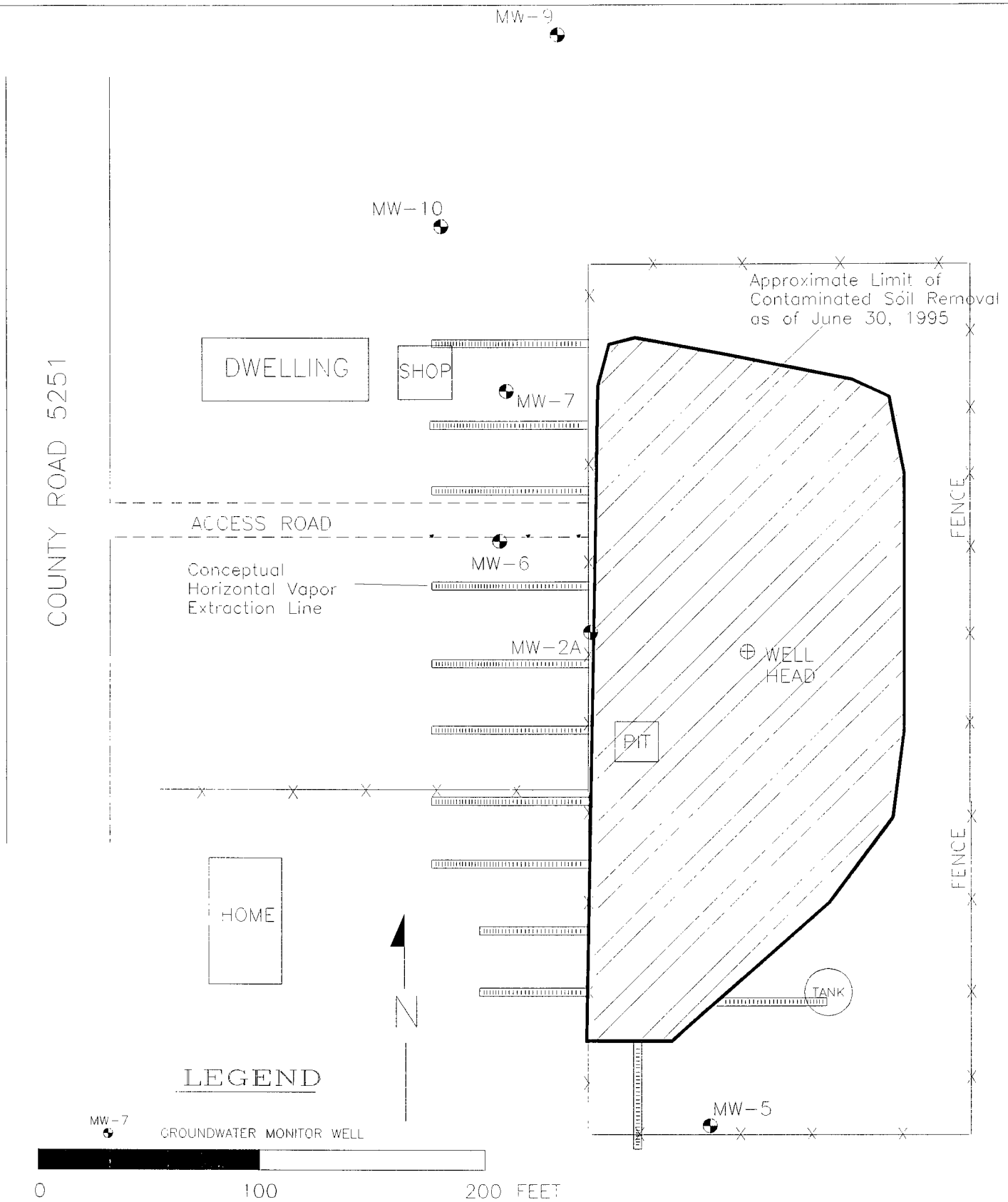
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

GROUNDWATER CONTOUR

FIGURE 2	DRWN BY: JCB
162GWE	PROJ. MGR: JCB



AMOCO PRODUCTION CO.
GCU 162 WELL SITE
SAN JUAN CO., NEW MEXICO

JUNE, 1995

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P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

CONCEPTUAL SITE
RECLAMATION PLAN

FIGURE 3	DRWN. BY: JCB
162REV	PROJ. MGR: JCB

APPENDIX B

LABORATORY ANALYTICAL DATA REPORTS

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU Com F 162	Report Date:	06/21/95
Sample ID:	MW - 5	Date Sampled:	06/12/95
Lab ID:	1125	Date Received:	06/12/95
Sample Matrix:	Water	Date Analyzed:	06/20/95
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	99	88 - 110%
Bromofluorobenzene	88	86 - 115%

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

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU Com F 162	Report Date:	06/21/95
Sample ID:	MW - 6	Date Sampled:	06/12/95
Lab ID:	1126	Date Received:	06/12/95
Sample Matrix:	Water	Date Analyzed:	06/20/95
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	2.38	0.50
Toluene	0.86	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	11.3	1.00
o-Xylene	1.30	0.50
Total BTEX	**16.0**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	109	88 - 110%
Bromofluorobenzene	102	86 - 115%

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

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU Com F 162	Report Date:	06/21/95
Sample ID:	MW - 9	Date Sampled:	06/12/95
Lab ID:	1127	Date Received:	06/12/95
Sample Matrix:	Water	Date Analyzed:	06/20/95
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	103	88 - 110%
Bromofluorobenzene	89	86 - 115%

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

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU Com F 162	Report Date:	06/21/95
Sample ID:	MW - 10	Date Sampled:	06/12/95
Lab ID:	1128	Date Received:	06/12/95
Sample Matrix:	Water	Date Analyzed:	06/20/95
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	96	88 - 110%
Bromofluorobenzene	83	86 - 115%

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

Comments:

Analyst

Review

PURGEABLE AROMATICS

Quality Control Report

Method Blank Analysis

Sample Matrix: Water
Lab ID: MB34870

Report Date: 06/21/95
Date Analyzed: 06/20/95

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	104	88 - 110%
Bromofluorobenzene	89	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:	1131Spk	Report Date:	06/21/95
Sample Matrix:	Water	Date Sampled:	06/15/95
Preservative:	Cool	Date Received:	06/15/95
Condition:	Intact	Date Analyzed:	06/20/95

Target Analyte	Spike Added (ug/L)	Original Conc (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	9.95	100%	39 -150
Toluene	10	ND	9.91	98%	46 - 148
Ethylbenzene	10	ND	9.94	99%	32 - 160
m,p-Xylenes	20	ND	19.7	98%	NE
o-Xylene	10	ND	9.86	99%	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	102	88 - 110%
Bromofluorobenzene	101	86 - 115%

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

Comments:

Analyst

Review

VOLATILE AROMATIC HYDROCARBONS

Matrix Spike Duplicate Analysis

Lab ID:	1131Spkdup	Report Date:	06/21/95
Sample Matrix:	Water	Date Sampled:	06/15/95
Preservative:	Cool	Date Received:	06/15/95
Condition:	Intact	Date Analyzed:	06/20/95

Target Analyte	Spike Added (ug/L)	Sample Spike Recovery (%)	Duplicate Spike Recovery (%)	Acceptance Limits (%)
Benzene	10	100%	99%	80 - 118
Toluene	10	98%	95%	78 - 114
Ethylbenzene	10	99%	98%	80 - 117
m,p-Xylenes	20	98%	96%	NE
o-Xylene	10	99%	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	93	88 - 110%
Bromofluorobenzene	93	86 - 115%

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

Comments: Calculation of spike recovery requires consideration of a sample dilution factor

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

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

CHAIN OF CUSTODY

PROJECT MANAGER: NJV
Analytica Lab I.D.:

Company: BLAGG ENGINEERING, INC.
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Aromatic HCs BTEX/MTBE (602/8020)
MW-5	6/12/95	0750	WATER		✓
MW-6	6/12/95	0720	WATER		✓
MW-9	6/12/95	0805	WATER		✓
MW-10	6/12/95	0820	WATER		✓

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):

MET: Priority Pollutants; RCRA Metals (Total); RCRA Metals TCLP (1311)

Project Information	Sample Receipt
Proj. #: –	No. Containers: 8
Proj Name: GCU com F 162	Custody Seals: Y / N / NA
P.O. No.	Received Intact:
Shipped Via:	Received Cold
Required Turnaround Time (Prior Authorization Required for Rush)	

Sampled by:	Relinquished by:	Relinquished by:
Signature: Nelson Velez	Signature: Nelson Velez	Signature:
Date: 6/12/95	Date: 6/12/95	Date:
Company: BEI	Company: BEI	Company:
Time: –	Time: 1536	Time:
Received By:	Received By:	Received By:
Signature:	Signature:	Signature:
Date:	Date:	Date:
Company:	Company:	Company: Analytica
Time:	Time:	Time: