3R - 19

REPORTS

DATE:

Oct. 11, 1994

BLAGG ENGINEERING, INC.

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

October 11, 1994

Mr. William C. Olson
Hydrogeologist
Environmental Bureau
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504

RE: Groundwater Sampling
Amoco GCU-181 Well Location
San Juan County, New Mexico
Unit F, Section 34, T29N, R12W

Dear Mr. Olson:

On behalf of Mr. Buddy Shaw, Amoco Production Company, this report includes the latest quarterly groundwater sampling results for the above referenced site. Please refer to a June 28, 1994 Blagg Engineering report for the previous sampling results. Sampling has been completed per your instructions in a September 16, 1993 letter to Mr. Buddy Shaw, with modifications per your January 18, 1994 letter.

Please note that no remediation or sampling has been completed north of the access road as noted on the attached diagram. This is due to legal entanglements with the property owner.

We trust this information will be of assistance in evaluating the experimental remediation system at this site. If you have any further questions regarding this report, or we can be of assistance in any other matters, please contact Blagg Engineering at 632-0615.

Respectfully Submitted,
BLAGG ENGINEERING, INC.

Robert E. O'Neill

Robert E. O'Neill, M.S.
Civil engineering, Environmental

Attachments: Figure 1 - Sampling Results
Site Diagram
Laboratory Reports
QA/QC

xc: Buddy Shaw, Amoco
Denny Foust, NMOCD Aztec Office

REO/reo

SEP94-WO.RPT

Table 1
Amoco Production Company
GCU 181
Groundwater Sampling

Oct. 11, 1994

SAMPLE I.D.	DATE	pH	COND. umhos/cm	BENZENE PPB	TOLUENE PPB	E-BENZ. PPB	T-XYL. PPB	NITRATE NITROGEN mg/L	FCB/ 100 mls COLONIES
MW #5	2/9/94	7	6300	ND	0.5	ND	3.1		
	6/13/94	7	7800	< 1	< 1	< 1	< 1		
	9/26/94	7.1	5200	ND	ND	ND	ND		
MW #7	2/9/94	7	10100	12.9	16.7	580	1300.3		
	6/13/94	7	11000	< 1	10	< 1	1480		
	9/26/94	7.2	9000	12.8	ND	606	73.3		
T @ 10A	2/9/94	7	3200	41	37.7	0.4	325	0.08	0
	6/14/94	8	4400	< 1	< 1	132	118	0.109	< 1
	9/26/94	7.7	3800	6.7	12.2	61.5	502.9	1.05	0
MW #25	2/9/94	7	5500	ND	ND	0.3	1.8		
	6/13/94	7	5700	< 1	< 1	< 1	< 1		
	9/26/94	7.3	5100	ND	ND	ND	ND		
MW #28	2/9/94	7	3800	0.4	1.8	ND	8.8	0.07	0
	6/14/94	7	4000	< 1	< 1	< 1	< 1	0.18	< 1
	9/26/94	7.1	3900	ND	ND	0.4	ND	1.00	0
WP #31A	2/9/94	7	4800	ND	ND	ND	0.4		
	6/13/94	7	4500	< 1	< 1	< 1	< 1		
	9/26/94	6.8	4800	ND	0.5	ND	ND		
MW #32	2/9/94	7	3900	149	13.3	ND	408.2	0.04	0
T @ 32	6/14/94	8	4700	< 1	< 1	< 1	< 1	0.101	< 1
	9/26/94	7.9	4000	ND	ND	ND	ND	0.85	0
WP #34A	2/9/94	7	5000	21.4	17.2	1.9	143	0.22	0
	6/14/94	7	13800	452	206	7933	3324	0.873	< 1
	9/26/94	6.9	11000	0.9	ND	24.6	465.0	2.07	0
MW #36	2/9/94	7	5100	ND	ND	0.6	3.6		
	6/13/94	7	5600	< 1	< 1	< 1	< 1		
	9/26/94	7.2	4300	ND	ND	1.7	2.0		

Notes: MW = Monitor well
WP = Well point
FCB = Fecal Coliform Bacteria. EPA Method 600/4-79-020
T = Trench

Benzene, Toluene, Ethyl-benzene, Total xylenes, per EPA Method 8020

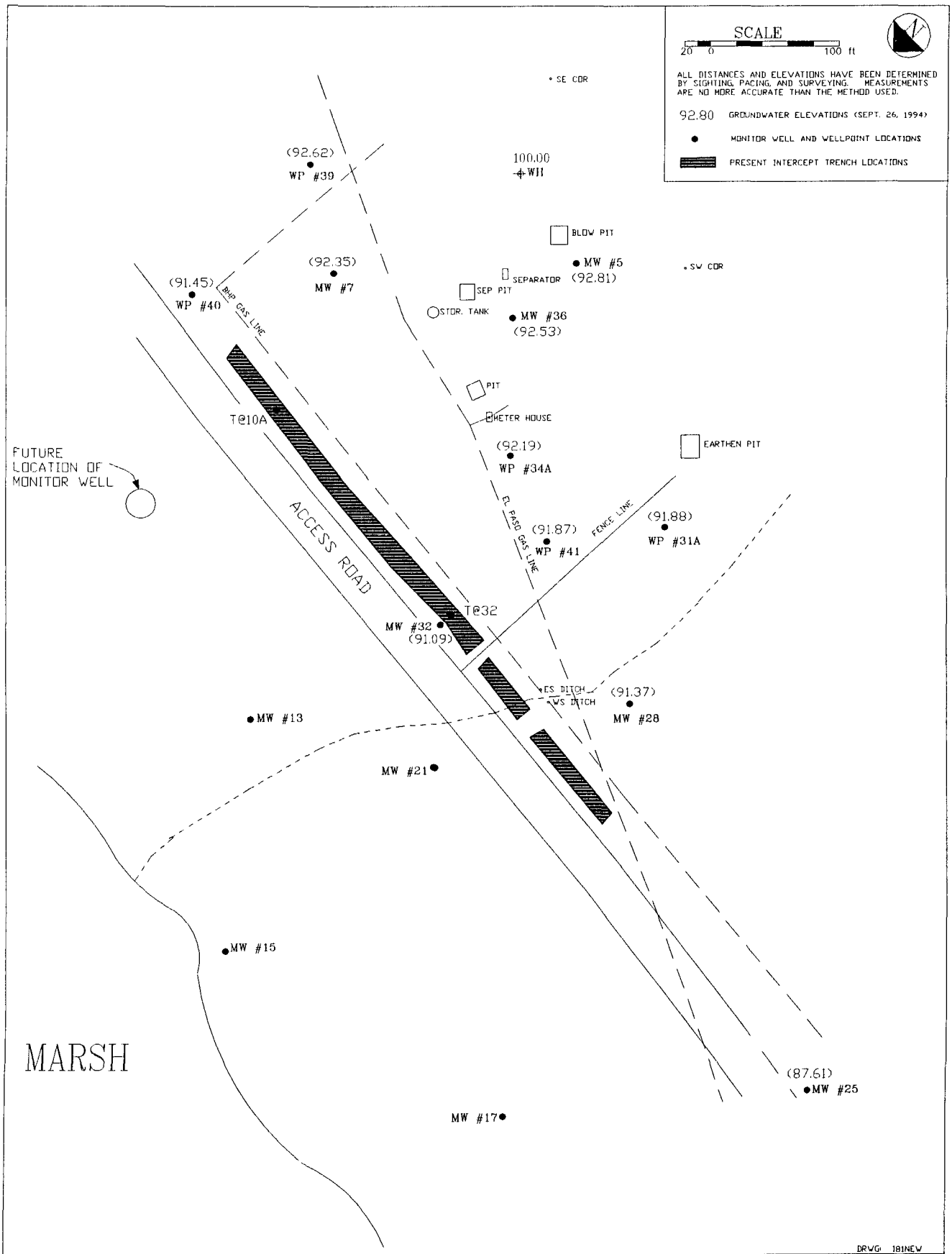
Table 1 continued
Amoco Production Company
GCU 181
Groundwater Sampling

Oct. 11, 1994

SAMPLE I.D.	DATE	pH	COND. umhos/cm	BENZENE PPB	TOLUENE PPB	E-BENZ. PPB	T-XYL. PPB	NITRATE NITROGEN mg/L	FCB/ 100 mls COLONIES
WP #39	2/9/94	7	3400	ND	ND	ND	0.2	0.05	0
	6/13/94	7	3400	< 1	< 1	< 1	< 1		
	9/26/94	7.1	3200	ND	0.2	ND	0.7		
WP #40	2/9/94	7	3700	ND	ND	ND	3.8		
	6/13/94	7	3900	< 1	< 1	< 1	< 1		
	9/26/94	6.9	3900	ND	0.4	ND	0.4		
WP #41	2/9/94	7	6900	171	7400	810	12060	0.88	0
	6/14/94	7	12200	1026	1061	14803	8939	11.8	< 1
	9/26/94	7.0	9500	83.5	18.3	414.0	7811	1.18	0

Notes: MW = Monitor well
WP = Well point
FCB = Fecal Coliform Bacteria. EPA Method 600/4-79-020
T = Trench

Benzene, Toluene, Ethyl-benzene, Total xylenes, per EPA Method 8020



AMOCO PRODUCTION COMPANY GCU COM I 181 SEC. 34 TWP 29N RNG 12W SAN JUAN COUNTY, NEW MEXICO	WELL LOCATIONS & GROUNDWATER ELEVATIONS	FIGURE: 1 DRAWN: 8/04/93 RMY REVISED: 9/27/94 REO PRJ MGR: REO	DRWG 181NEW BLAGG ENGINEERING, INC. P.O. BOX 87 BLOOMFIELD, NM 87413 PHONE: 632-1199 FAX: 632-3903

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU - 181	Report Date:	10/07/94
Sample ID:	MW - 5	Date Sampled:	09/26/94
Lab ID:	0138	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

Total BTEX	ND

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	97	88 - 110%
Bromofluorobenzene	87	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 - 181	Report Date:	10/07/94
Sample ID:	MW - 7	Date Sampled:	09/26/94
Lab ID:	0139	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	12.8	0.20
Toluene	ND	5.00
Ethylbenzene	606	5.00
m,p-Xylenes	64.9	10.0
o-Xylene	8.43	5.00
Total BTEX	692	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	97	88 - 110%
Bromofluorobenzene	93	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 - 181	Report Date:	10/07/94
Sample ID:	T @ 10A	Date Sampled:	09/26/94
Lab ID:	0140	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	6.71	0.20
Toluene	12.2	10.0
Ethylbenzene	61.5	10.0
m,p-Xylenes	404	20.0
o-Xylene	98.9	10.0

Total BTEX	584

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%
Bromofluorobenzene	89	86 - 115%

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

Comments:

Analyst

Review

Water Analysis

Blagg Engineering

Sample ID:	T @ 10A	Date Reported:	10/03/94
Laboratory ID:	0140	Date Sampled:	09/26/94
Sample Matrix:	Water	Time Sampled:	NA
Condition:	Cool/Intact	Date Received:	09/26/94

Parameter	Analytical Result	Units
Fecal Coliform	0	colonies/100mL
Nitrate as N	1.05	mg/L

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", 17th ed., 1989.

Comments:

Analyst

Reviewed

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc

Project ID:	GCU 181	Report Date:	10/07/94
Sample ID:	MW - 25	Date Sampled:	09/26/94
Lab ID:	0141	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

Total BTEX	ND

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	95	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 - 181	Report Date:	10/07/94
Sample ID:	MW - 28	Date Sampled:	09/26/94
Lab ID:	0142	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	0.41	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

Total BTEX	0.41

ND - Analyte not detected at the stated detection limit.

Quality Control:

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

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

Comments:

Analyst

Review

Water Analysis

Blagg Engineering

Sample ID:	MW-28	Date Reported:	10/03/94
Laboratory ID:	0142	Date Sampled:	09/26/94
Sample Matrix:	Water	Time Sampled:	NA
Condition:	Cool/Intact	Date Received:	09/26/94

Parameter	Analytical Result	Units
Fecal Coliform	0	colonies/100mL
Nitrate as N	1.00	mg/L

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", 17th ed., 1989.

Comments:

Gloria Bartlett
Analyst

Reviewed

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU - 181	Report Date:	10/07/94
Sample ID:	WP - 31A	Date Sampled:	09/26/94
Lab ID:	0143	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	0.45	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

Total BTEX	0.45

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%
Bromofluorobenzene	87	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 - 181	Report Date:	10/07/94
Sample ID:	T @ 32	Date Sampled:	09/26/94
Lab ID:	0144	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20
Total BTEX	ND	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	94	88 - 110%
Bromofluorobenzene	86	86 - 115%

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

Comments:

Analyst

Review

Water Analysis

Blagg Engineering

Sample ID:	T @ 32	Date Reported:	10/03/94
Laboratory ID:	0144	Date Sampled:	09/26/94
Sample Matrix:	Water	Time Sampled:	NA
Condition:	Cool/Intact	Date Received:	09/26/94

Parameter	Analytical Result	Units
Fecal Coliform	0	colonies/100mL
Nitrate as N	0.85	mg/L

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", 17th ed., 1989.

Comments:

Analyst

Reviewed

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU - 181	Report Date:	10/07/94
Sample ID:	WP @ 34A	Date Sampled:	09/26/94
Lab ID:	0145	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/05/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	0.92	0.20
Toluene	ND	10.0
Ethylbenzene	24.6	10.0
m,p-Xylenes	465	20.0
o-Xylene	ND	10.0
Total BTEX	491	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	99	88 - 110%
Bromofluorobenzene	91	86 - 115%

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

Comments:

Analyst

Review

Water Analysis

Blagg Engineering

Sample ID:	WP @ 34A	Date Reported:	10/03/94
Laboratory ID:	0145	Date Sampled:	09/26/94
Sample Matrix:	Water	Time Sampled:	NA
Condition:	Cool/Intact	Date Received:	09/26/94

Parameter	Analytical Result	Units
Fecal Coliform	0	colonies/100mL
Nitrate as N	2.07	mg/L

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", 17th ed., 1989.

Comments:

Gloria Barrett
Analyst

Vonnie Imel
Reviewed

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU - 181	Report Date:	10/07/94
Sample ID:	MW -36	Date Sampled:	09/26/94
Lab ID:	0147	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/06/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	1.69	0.20
m,p-Xylenes	1.96	0.40
o-Xylene	ND	0.20

Total BTEX	3.65

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	100	88 - 110%
Bromofluorobenzene	101	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 - 181	Report Date:	10/07/94
Sample ID:	WP - 39	Date Sampled:	09/26/94
Lab ID:	0146	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/06/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	0.24	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	0.71	0.40
o-Xylene	ND	0.20

Total BTEX	0.94

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	101	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 - 181	Report Date:	10/07/94
Sample ID:	WP - 40	Date Sampled:	09/26/94
Lab ID:	0148	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/06/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	0.41	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	0.42	0.40
o-Xylene	ND	0.20

Total BTEX	0.83

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	93	88 - 110%

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 - 181	Report Date:	10/07/94
Sample ID:	WP - 41	Date Sampled:	09/26/94
Lab ID:	0149	Date Received:	09/26/94
Sample Matrix:	Water	Date Analyzed:	10/06/94
Preservative:	Cool, HCl		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	83.5	10.0
Toluene	18.3	10.0
Ethylbenzene	414	10.0
m,p-Xylenes	7,220	100
o-Xylene	591	10.0
Total BTEX	8329	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	103	88 - 110%
Bromofluorobenzene	103	86 - 115%

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

Comments:

Analyst

Review

Water Analysis

Blagg Engineering

Sample ID:	WP-41	Date Reported:	10/03/94
Laboratory ID:	0149	Date Sampled:	09/26/94
Sample Matrix:	Water	Time Sampled:	NA
Condition:	Cool/Intact	Date Received:	09/26/94

Parameter	Analytical Result	Units
Fecal Coliform	0	colonies/100mL
Nitrate as N	1.18	mg/L

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", 17th ed., 1989.

Comments:

Gloria Bartlett
Analyst

Reviewed

QUALITY ASSURANCE / QUALITY CONTROL

Purgeable Aromatics

Duplicate Analysis

Lab ID:	139Dup	Report Date:	10/07/94
Sample Matrix:	Water	Date Sampled:	09/26/94
Preservative:	Cool, HCl	Date Received:	09/26/94
Condition:	Intact	Date Analyzed:	10/05/94

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	18.0	16.8	13.1 - 21.7
Toluene	ND	ND	NA
Ethylbenzene	606	600	397 - 809
m,p-Xylenes	64.9	60.2	NE
o-Xylene	8.43	6.52	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	96	88 - 110%
	Bromofluorobenzene	93	86 - 115%

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

Comments:

Analyst

Matrix Spike Analysis

Lab ID:	138Spk	Report Date:	10/07/94
Sample Matrix:	Water	Date Sampled:	09/26/94
Preservative:	Cool, HCl	Date Received:	09/26/94
Condition:	Intact	Date Analyzed:	10/05/94

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	9.75	97%	39 -150
Toluene	10	ND	9.80	98%	46 - 148
Ethylbenzene	10	ND	9.96	99%	32 - 160
m,p-Xylenes	20	ND	20.0	99%	NE
o-Xylene	10	ND	9.86	98%	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	96	88 - 110%
Bromofluorobenzene	91	86 - 115%

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

Comments:

Analyst

Review

Matrix Spike Analysis

Lab ID:	148Spk	Report Date:	10/07/94
Sample Matrix:	Water	Date Sampled:	09/26/94
Preservative:	Cool, HCl	Date Received:	09/26/94
Condition:	Intact	Date Analyzed:	10/06/94

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	9.67	96%	39 -150
Toluene	10	0.41	9.98	96%	46 - 148
Ethylbenzene	10	ND	9.71	96%	32 - 160
m,p-Xylenes	20	0.42	19.7	96%	NE
o-Xylene	10	ND	9.67	96%	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	92	88 - 110%
Bromofluorobenzene	88	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:	148Spkdup	Report Date:	10/07/94
Sample Matrix:	Water	Date Sampled:	09/26/94
Preservative:	Cool, HCl	Date Received:	09/26/94
Condition:	Intact	Date Analyzed:	10/06/94

Target Analyte	Spike Added (ug/L)	Sample Spike Recovery (%)	Duplicate Spike Recovery (%)	Acceptance Limits (%)
Benzene	10	96%	92%	76 - 112
Toluene	10	96%	94%	77 - 113
Ethylbenzene	10	96%	95%	62 - 129
m,p-Xylenes	20	96%	190%	NE
o-Xylene	10	96%	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	101	88 - 110%
Bromofluorobenzene	91	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 which is not applied to the spike added.

Analyst

Review

PURGEABLE AROMATICS

Quality Control Report

Method Blank Analysis

Sample Matrix:	Water	Report Date:	10/07/94
Lab ID:	MB34612	Date Analyzed:	10/05/94

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	93	88 - 110%
Bromofluorobenzene	86	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	Report Date:	10/07/94
Lab ID:	MB34613	Date Analyzed:	10/06/94

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	99	88 - 110%
Bromofluorobenzene	93	86 - 115%

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

Comments:

Analyst

Review

Water Analysis

Quality Control

Blagg Engineering

Laboratory ID: QC
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 10/03/94

Parameter	Analytical Result	True Value	Units
Fecal Coliform	0	0	colonies/100mL
Nitrate as N	1.82	2.00	mg/L

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", 17th ed., 1989.

Comments: Certified QC not available for all parameters so duplicate analysis done to verify numbers.

Gloria Bautista
Analyst

Vonnie Arnold
Reviewed

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ANALYTICA
ENVIRONMENTAL LABORATORY

CHAIN OF CUSTODY

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

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG ENGINEERING
Address: P.O. BOX 87, BLOOMFIELD, N.M. 87413
Phone: 632-1199
Fax: 632-3903

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	ORGANIC ANALYSES													WATER ANALYSES								METALS			
					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):
mw-5	9-26-94		WATER					✓																					
mw-7	"		"					✓																					
T@10A	"		"					✓													✓		✓						
mw-25	"		"					✓																					
mw-28	"		"					✓													✓		✓						
wp-31A	"		"					✓																					
T@32	"		"					✓													✓		✓						
wp@34A	"		"					✓													✓		✓						

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj Name:	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: R. E. O'Neill	Signature: R. E. O'Neill	Signature:
Date: 9-26-94	Date: 9-26-94	Date:
Company: BLAGG ENG.	Company: BLAGG ENG.	Company:
Time: 1349	Time: 1344	Time:
Received By:	**Received By:**	**Received By:**
Signature:	Signature:	Signature: Vonnie Imel
Date:	Date:	Date: 9/26/94
Company:	Company:	Company: Analytica
Time:	Time:	Time: 13:50

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ANALYTICA
ENVIRONMENTAL LABORATORY

CHAIN OF CUSTODY

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

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG ENGINEERING
Address: P.O. BOX 87, BLOOMFIELD, N.M. 87413

Phone: 632-1199
Fax: 632-3903

Bill To:
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):
MW-36								✓																					
WP-39								✓																					
WP-40								✓																					
WP-41								✓													✓		✓						

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj Name:	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: R. E. O'Neill	Signature:	Signature:
Date: 9-26-94	Date:	Date:
Company: BLAGG ENGR.	Company:	Company:
Time: 1345	Time:	Time:
Received By:	Received By:	Received By:
Signature:	Signature:	Signature: Donnie Ford
Date:	Date:	Date: 9/26/94
Company:	Company:	Company: Analytica
Time:	Time:	Time: 17:50